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SPRAGUE[®]

THE MARK OF RELIABILITY

ELECTRONIC

COMPONENTS

FOR

**INDUSTRIAL, MILITARY,
COMMERCIAL ELECTRONICS**

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Nikola V. Vidovic

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NOTE: For complete information on the broad line of Sprague Semiconductors (molded plastic and metal-encased transistors, molded plastic diodes, linear integrated circuits, digital interface integrated circuits, refer to the latest issue of Sprague Catalog IND-844.

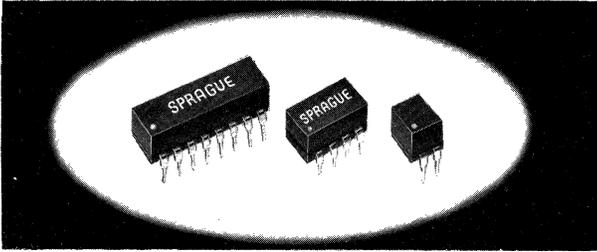
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★ ALPHA-NUMERIC INDEX ★

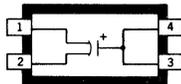
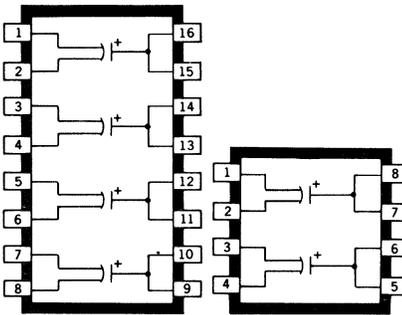
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SPB	Push-button Switches	104	96P	Vitamin Q® Paper Capacitors	70	926C	DIP Monolythic® Ceramics	3-7
STH	Toggle Switches	104	109D	Sintered-Anode Tantalums	29	929C	DIP Monolythic® Ceramics	3-7
STM	Toggle Switches	104	110D	85°C Foil Tantalums	23	935D	DIP Tantalum Capacitors	2
TE	Littl-lytic® Electrolytics	48	111D	85°C Foil Tantalums	23	936D	DIP Tantalum Capacitors	2
TG	Cera-mite® Ceramics	76	112D	85°C Foil Tantalums	23	936Z	DIP Tantalum/Ceramic Capacitors	2
TMS	Mounting Hardware	105	113D	85°C Foil Tantalums	23	939D	DIP Tantalum Capacitors	2
TU	Atom® Electrolytics	47	118P	Difilm® Metallized Capacitors	64	939Z	DIP Tantalum/Ceramic Capacitors	2
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SPRAGUE IN-LINE COMPONENTS

DIP TANTALEX® SOLID-TANTALUM CAPACITORS



- Compatible with popular microcircuits in similar molded packages.
- For noise bypass and signal coupling in high frequency signal or data processing applications.
- Molded dual in-line package offers superior mechanical protection during installation, plus excellent reliability under severe environmental conditions.
- 4-terminal Type 935D offers low impedance over side frequency ranges. Guaranteed range for 1Ω maximum impedance is as wide as 10 kHz to 50 MHz.
- Multi-section Type 936D and 939D save time and space.
- Standard capacitance tolerance, ±20%.
- Operating Temperature range, -55 C to +85 C.
- For complete technical data, refer to latest issue of Engineering Bulletins 3542 and 3542.3.



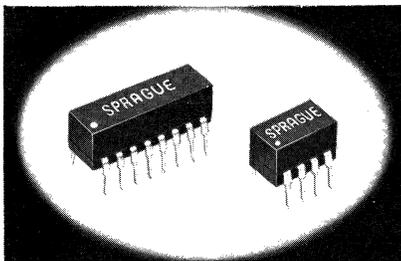
TYPE 935D
 .260"W. x .240"H.
 x .200"L.

TYPE 936D
 .260"W. x .275"H.
 x .850"L.

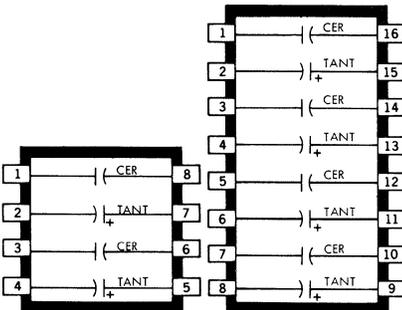
TYPE 939D
 .260"W. x .275"H.
 x .450"L.

μF	WVDC	SURGE VDC	Catalog Number		
			1 Cap. Sect.	2 Cap. Sect.	4 Cap. Sect.
6.8	35	46	935D685X0035SQ	939D685X0035SQ	936D685X0035SQ
15	20	26	935D156X0020SQ	939D156X0020SQ	936D156X0020SQ
22	15	20	935D226X0015SQ	939D226X0015SQ	936D226X0015SQ
33	10	13	935D336X0010SQ	939D336X0010SQ	936D336X0010SQ

DIP TANTALUM/CERAMIC CAPACITOR ASSEMBLIES



- Compatible with other popular microcircuits and components in similar molded packages.
- Parallel combination of solid-tantalum and ceramic capacitor sections present impedance of typically less than 1.0 ohm through 60 MHz. Tantalum sections exhibit low impedances at lower frequencies, ceramic sections exhibit low impedance at the higher frequencies.
- Molded DIP package offers superior mechanical protection and excellent stability under severe environmental conditions.
- Tantalum capacitor sections feature high-frequency performance, low leakage currents, low dissipation factor.
- Ceramic capacitor sections feature layer-built construction, with alternate layers of metallic electrodes and ceramic dielectric fired into a homogeneous block.
- Ceramic capacitors rated at 100 WVDC.
- Standard capacitance tolerance, ±20%.
- Operating temperature range, -55 C to +70 C.
- For complete technical data, refer to latest issue of Engineering Bulletin 6642.



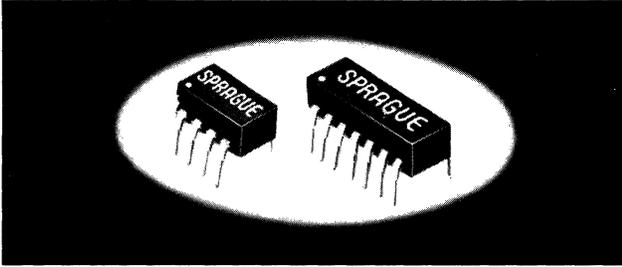
TYPE 939Z
 .260"W. x .275"H.
 x .450"L.

TYPE 936Z
 .260"W. x .275"H.
 x .850"L.

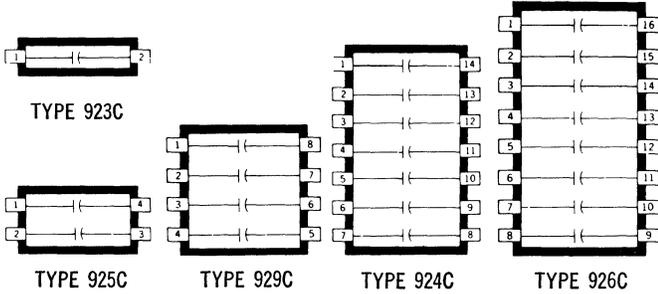
Tantalum Capacitors			Ceramic Capacitors μF	Catalog Number	
μF	WVDC	Surge V		2 Tant. Cap. Sects. 2 Ceramic Cap. Sects.	4 Tant. Cap. Sects. 4 Ceramic Cap. Sects.
6.8	35	46	0.010	939Z685X0035DA	936Z685X0035DA
			0.047	939Z685X0035DE	936Z685X0035DE
			0.10	939Z685X0035DG	936Z685X0035DG
15	20	26	0.010	939Z156X0020DA	936Z156X0020DA
			0.047	939Z156X0020DE	936Z156X0020DE
			0.10	939Z156X0020DG	936Z156X0020DG
22	15	20	0.010	939Z226X0015DA	936Z226X0015DA
			0.047	939Z226X0015DE	936Z226X0015DE
			0.10	939Z226X0015DG	936Z226X0015DG
33	10	13	0.010	939Z336X0010DA	936Z336X0010DA
			0.047	939Z336X0010DE	936Z336X0010DE
			0.10	939Z336X0010DG	936Z336X0010DG

SPRAGUE IN-LINE COMPONENTS

DIP MONOLITHIC® CERAMIC CAPACITORS



- Compatible with integrated circuits in similar DIP molded packages.
- Useful for noise by-passing and signal coupling applications in high-frequency signal or data processing systems.
- Molded DIP package offers superior mechanical protection during insertion into printed wiring boards as well as excellent reliability under severe environmental conditions.
- Manufactured by alternately depositing extremely thin layers of metallic electrodes and ceramic dielectric material, then fired into an almost indestructible homogenous block.
- Can be placed end-to-end in standard 14- or 16-pin DIP sockets, making them ideal for use in breadboarding.
- Standard pin spacing, .100".
- For complete technical data, see latest issue of Engineering Bulletin 6242.



NOTE: Capacitors listed below have 2 pins. For units with 4 pins, change 3rd character in cat. no. from 3 to 5; for 8 pins, change to 9; for 14 pins, change to 4; for 16 pins, change to 6.

DIMENSIONS (in inches)

Type No.	Width	Length (Max.)	Size Code	Body Height	Seated Height
923C	.260	.095	B	.135	.175
925C	.260	.195	B	.135	.175
929C	.260	.395	D	.165	.185
924C	.260	.695	F	.250	.275
926C	.260	.795	F	.250	.275

EIA CHARACTERISTIC COG (FORMERLY NPO) FOR 125°C OPERATION

pF	50 WVDC		100 WVDC		200 WVDC	
	Size Code	Catalog Number*	Size Code	Catalog Number*	Size Code	Catalog Number*
10	B	923CC0G100J050B★	B	923CC0G100J100B★	B	923CC0G100J200B★
11	B	923CC0G110J050B	B	923CC0G110J100B	B	923CC0G110J200B
12	B	923CC0G120J050B★	B	923CC0G120J100B★	B	923CC0G120J200B★
13	B	923CC0G130J050B	B	923CC0G130J100B	B	923CC0G130J200B
15	B	923CC0G150J050B★	B	923CC0G150J100B★	B	923CC0G150J200B★
16	B	923CC0G160J050B	B	923CC0G160J100B	B	923CC0G160J200B
18	B	923CC0G180J050B★	B	923CC0G180J100B★	B	923CC0G180J200B★
20	B	923CC0G200J050B	B	923CC0G200J100B	B	923CC0G200J200B
22	B	923CC0G220J050B★	B	923CC0G220J100B★	B	923CC0G220J200B★
24	B	923CC0G240J050B	B	923CC0G240J100B	B	923CC0G240J200B
27	B	923CC0G270J050B★	B	923CC0G270J100B★	B	923CC0G270J200B★
30	B	923CC0G300J050B	B	923CC0G300J100B	B	923CC0G300J200B
33	B	923CC0G330J050B★	B	923CC0G330J100B★	B	923CC0G330J200B★
36	B	923CC0G360J050B	B	923CC0G360J100B	B	923CC0G360J200B
39	B	923CC0G390J050B★	B	923CC0G390J100B★	B	923CC0G390J200B★
43	B	923CC0G430J050B	B	923CC0G430J100B	B	923CC0G430J200B
47	B	923CC0G470J050B★	B	923CC0G470J100B★	B	923CC0G470J200B★
51	B	923CC0G510J050B	B	923CC0G510J100B	B	923CC0G510J200B
56	B	923CC0G560J050B★	B	923CC0G560J100B★	B	923CC0G560J200B★
62	B	923CC0G620J050B	B	923CC0G620J100B	B	923CC0G620J200B

*Catalog numbers are for capacitance tolerance of ±5%. Numbers followed by star (★) also available as ±10% units; change 11th character of cat. no. from J to K.

SPRAGUE**IN-LINE
COMPONENTS****DIP MONOLITHIC® CERAMIC CAPACITORS, continued**

pF	50 WVDC		100 WVDC		200 WVDC	
	Size Code	Catalog Number*	Size Code	Catalog Number*	Size Code	Catalog Number*
68	B	923CCOG680J050B★	B	923CCOG680J100B★	B	923CCOG680J200B★
75	B	923CCOG750J050B	B	923CCOG750J100B	B	923CCOG750J200B
82	B	923CCOG820J050B★	B	923CCOG820J100B★	B	923CCOG820J200B★
91	B	923CCOG910J050B	B	923CCOG910J100B	B	923CCOG910J200B
100	B	923CCOG101J050B★	B	923CCOG101J100B★	B	923CCOG101J200B★
110	B	923CCOG111J050B	B	923CCOG111J100B	B	923CCOG111J200B
120	B	923CCOG121J050B★	B	923CCOG121J100B★	B	923CCOG121J200B★
130	B	923CCOG131J050B	B	923CCOG131J100B	B	923CCOG131J200B
150	B	923CCOG151J050B★	B	923CCOG151J100B★	B	923CCOG151J200B★
160	B	923CCOG161J050B	B	923CCOG161J100B	B	923CCOG161J200B
180	B	923CCOG181J050B★	B	923CCOG181J100B★	B	923CCOG181J200B★
200	B	923CCOG201J050B	B	923CCOG201J100B	B	923CCOG201J200B
220	B	923CCOG221J050B★	B	923CCOG221J100B★	B	923CCOG221J200B★
240	B	923CCOG241J050B	B	923CCOG241J100B	B	923CCOG241J200B
270	B	923CCOG271J050B★	B	923CCOG271J100B★	B	923CCOG271J200B★
300	B	923CCOG301J050B	B	923CCOG301J100B	B	923CCOG301J200B
330	B	923CCOG331J050B★	B	923CCOG331J100B★	B	923CCOG331J200B★
360	B	923CCOG361J050B	B	923CCOG361J100B	B	923CCOG361J200B
390	B	923CCOG391J050B★	B	923CCOG391J100B★	B	923CCOG391J200B★
430	B	923CCOG431J050B	B	923CCOG431J100B	B	923CCOG431J200B
470	B	923CCOG471J050B★	B	923CCOG471J100B★	D	923CCOG471J200D★
510	B	923CCOG511J050B	B	923CCOG511J100B	D	923CCOG511J200D
560	B	923CCOG561J050B★	B	923CCOG561J100B★	D	923CCOG561J200D★
620	B	923CCOG621J050B	B	923CCOG621J100B	D	923CCOG621J200D
680	B	923CCOG681J050B★	B	923CCOG681J100B★	D	923CCOG681J200D★
750	B	923CCOG751J050B	B	923CCOG751J100B	D	923CCOG751J200D
820	B	923CCOG821J050B★	B	923CCOG821J100B★	F	923CCOG821J200F★
910	B	923CCOG911J050B	B	923CCOG911J100B	F	923CCOG911J200F
1000	B	923CCOG102J050B★	B	923CCOG102J100B★	F	923CCOG102J200F★
1100	B	923CCOG112J050B	B	923CCOG112J100B	F	923CCOG112J200F
1200	B	923CCOG122J050B★	B	923CCOG122J100B★	F	923CCOG122J200F★
1300	B	923CCOG132J050B	B	923CCOG132J100B	-	-
1500	B	923CCOG152J050B★	B	923CCOG152J100B★	-	-
1600	B	923CCOG162J050B	B	923CCOG162J100B	-	-
1800	B	923CCOG182J050B★	D	923CCOG182J100D★	-	-
2000	B	923CCOG202J050B	D	923CCOG202J100D	-	-
2200	B	923CCOG222J050B★	D	923CCOG222J100D★	-	-
2400	B	923CCOG242J050B	D	923CCOG242J100D	-	-
2700	B	923CCOG272J050B★	D	923CCOG272J100D★	-	-
3000	B	923CCOG302J050B	D	923CCOG302J100D	-	-
3300	B	923CCOG332J050B★	F	923CCOG332J100F★	-	-
3600	B	923CCOG362J050B	F	923CCOG362J100F	-	-
3900	B	923CCOG392J050B★	F	923CCOG392J100F★	-	-
4300	B	923CCOG432J050B	F	923CCOG432J100F	-	-
4700	B	923CCOG472J050B★	F	923CCOG472J100F★	-	-
5100	D	923CCOG512J050D	F	923CCOG512J100F	-	-
5600	D	923CCOG562J050D★	F	923CCOG562J100F★	-	-
6200	D	923CCOG622J050D	-	-	-	-
6800	D	923CCOG682J050D★	-	-	-	-
7500	D	923CCOG752J050D	-	-	-	-
8200	F	923CCOG822J050F★	-	-	-	-
9100	F	923CCOG912J050F	-	-	-	-
10000	F	923CCOG103J050F★	-	-	-	-
11000	F	923CCOG113J050F	-	-	-	-
12000	F	923CCOG123J050F★	-	-	-	-

*Catalog numbers are for capacitance tolerance of $\pm 5\%$. Numbers followed by star (★) also available as $\pm 10\%$ units; change 11th character of cat. no. from J to K.

SPRAGUE**IN-LINE
COMPONENTS****DIP MONOLYTHIC® CERAMIC CAPACITORS, continued****EIA CHARACTERISTIC X5R — FOR 85°C OPERATION**

pF	100 WVDC		200 WVDC		400 WVDC	
	Size Code	Catalog Number*	Size Code	Catalog Number*	Size Code	Catalog Number*
10	B	923CX5R100K100B★	B	923CX5R100K200B★	B	923CX5R100K400B★
12	B	923CX5R120K100B	B	923CX5R120K200B	B	923CX5R120K400B
15	B	923CX5R150K100B★	B	923CX5R150K200B★	B	923CX5R150K400B★
18	B	923CX5R180K100B	B	923CX5R180K200B	B	923CX5R180K400B
22	B	923CX5R220K100B★	B	923CX5R220K200B★	B	923CX5R220K400B★
27	B	923CX5R270K100B	B	923CX5R270K200B	B	923CX5R270K400B
33	B	923CX5R330K100B★	B	923CX5R330K200B★	B	923CX5R330K400B★
39	B	923CX5R390K100B	B	923CX5R390K200B	B	923CX5R390K400B
47	B	923CX5R470K100B★	B	923CX5R470K200B★	B	923CX5R470K400B★
56	B	923CX5R560K100B	B	923CX5R560K200B	B	923CX5R560K400B
68	B	923CX5R680K100B★	B	923CX5R680K200B★	B	923CX5R680K400B★
82	B	923CX5R820K100B	B	923CX5R820K200B	B	923CX5R820K400B
100	B	923CX5R101K100B★	B	923CX5R101K200B★	B	923CX5R101K400B★
120	B	923CX5R121K100B	B	923CX5R121K200B	B	923CX5R121K400B
150	B	923CX5R151K100B★	B	923CX5R151K200B★	B	923CX5R151K400B★
180	B	923CX5R181K100B	B	923CX5R181K200B	B	923CX5R181K400B
220	B	923CX5R221K100B★	B	923CX5R221K200B★	B	923CX5R221K400B★
270	B	923CX5R271K100B	B	923CX5R271K200B	B	923CX5R271K400B
330	B	923CX5R331K100B★	B	923CX5R331K200B★	B	923CX5R331K400B★
390	B	923CX5R391K100B	B	923CX5R391K200B	B	923CX5R391K400B
470	B	923CX5R471K100B★	B	923CX5R471K200B★	B	923CX5R471K400B★
560	B	923CX5R561K100B	B	923CX5R561K200B	B	923CX5R561K400B
680	B	923CX5R681K100B★	B	923CX5R681K200B★	B	923CX5R681K400B★
820	B	923CX5R821K100B	B	923CX5R821K200B	B	923CX5R821K400B
.0010 μ F	B	923CX5R102K100B★	B	923CX5R102K200B★	B	923CX5R102K400B★
.0012	B	923CX5R122K100B	B	923CX5R122K200B	B	923CX5R122K400B
.0015	B	923CX5R152K100B★	B	923CX5R152K200B★	B	923CX5R152K400B★
.0018	B	923CX5R182K100B	B	923CX5R182K200B	B	923CX5R182K400B
.0022	B	923CX5R222K100B★	B	923CX5R222K200B★	B	923CX5R222K400B★
.0027	B	923CX5R272K100B	B	923CX5R272K200B	B	923CX5R272K400B
.0033	B	923CX5R332K100B★	B	923CX5R332K200B★	B	923CX5R332K400B★
.0039	B	923CX5R392K100B	B	923CX5R392K200B	B	923CX5R392K400B
.0047	B	923CX5R472K100B★	B	923CX5R472K200B★	B	923CX5R472K400B★
.0056	B	923CX5R562K100B	B	923CX5R562K200B	D	923CX5R562K400D
.0068	B	923CX5R682K100B★	B	923CX5R682K200B★	D	923CX5R682K400D★
.0082	B	923CX5R822K100B	B	923CX5R822K200B	D	923CX5R822K400D
.010	B	923CX5R103K100B★	B	923CX5R103K200B★	F	923CX5R103K400F★
.012	B	923CX5R123K100B	B	923CX5R123K200B	F	923CX5R123K400F
.015	B	923CX5R153K100B★	B	923CX5R153K200B★	F	923CX5R153K400F★
.018	B	923CX5R183K100B	B	923CX5R183K200B	F	923CX5R183K400F
.022	B	923CX5R223K100B★	D	923CX5R223K200D★	—	—
.027	B	923CX5R273K100B	D	923CX5R273K200D	—	—
.033	B	923CX5R333K100B★	D	923CX5R333K200D★	—	—
.039	B	923CX5R393K100B	D	923CX5R393K200D	—	—
.047	B	923CX5R473K100B★	F	923CX5R473K200F★	—	—
.056	B	923CX5R563K100B	F	923CX5R563K200F	—	—
.068	B	923CX5R683K100B★	F	923CX5R683K200F★	—	—
.082	B	923CX5R823K100B	—	—	—	—
.10	B	923CX5R104K100B★	—	—	—	—
.12	D	923CX5R124K100D	—	—	—	—
.15	D	923CX5R154K100D★	—	—	—	—
.18	F	923CX5R184K100F	—	—	—	—
.22	F	923CX5R224K100F★	—	—	—	—
.27	F	923CX5R274K100F	—	—	—	—

*Catalog numbers are for capacitance tolerance of $\pm 10\%$. Numbers followed by star (★) also available as $\pm 20\%$ units; change 11th character of cat. no. from K to M.

SPRAGUE**IN-LINE
COMPONENTS****DIP MONOLYTHIC® CERAMIC CAPACITORS, continued****EIA CHARACTERISTIC X7R — FOR 125°C OPERATION**

pF	50 WVDC		100 WVDC		200 WVDC	
	Size Code	Catalog Number*	Size Code	Catalog Number*	Size Code	Catalog Number*
10	B	923CX7R100K050B★	B	923CX7R100K100B★	B	923CX7R100K200B★
12	B	923CX7R120K050B	B	923CX7R120K100B	B	923CX7R120K200B
15	B	923CX7R150K050B★	B	923CX7R150K100B★	B	923CX7R150K200B★
18	B	923CX7R180K050B	B	923CX7R180K100B	B	923CX7R180K200B
22	B	923CX7R220K050B★	B	923CX7R220K100B★	B	923CX7R220K200B★
27	B	923CX7R270K050B	B	923CX7R270K100B	B	923CX7R270K200B
33	B	923CX7R330K050B★	B	923CX7R330K100B★	B	923CX7R330K200B★
39	B	923CX7R390K050B	B	923CX7R390K100B	B	923CX7R390K200B
47	B	923CX7R470K050B★	B	923CX7R470K100B★	B	923CX7R470K200B★
56	B	923CX7R560K050B	B	923CX7R560K100B	B	923CX7R560K200B
68	B	923CX7R680K050B★	B	923CX7R680K100B★	B	923CX7R680K200B★
82	B	923CX7R820K050B	B	923CX7R820K100B	B	923CX7R820K200B
100	B	923CX7R101K050B★	B	923CX7R101K100B★	B	923CX7R101K200B★
120	B	923CX7R121K050B	B	923CX7R121K100B	B	923CX7R121K200B
150	B	923CX7R151K050B★	B	923CX7R151K100B★	B	923CX7R151K200B★
180	B	923CX7R181K050B	B	923CX7R181K100B	B	923CX7R181K200B
220	B	923CX7R221K050B★	B	923CX7R221K100B★	B	923CX7R221K200B★
270	B	923CX7R271K050B	B	923CX7R271K100B	B	923CX7R271K200B
330	B	923CX7R331K050B★	B	923CX7R331K100B★	B	923CX7R331K200B★
390	B	923CX7R391K050B	B	923CX7R391K100B	B	923CX7R391K200B
470	B	923CX7R471K050B★	B	923CX7R471K100B★	B	923CX7R471K200B★
560	B	923CX7R561K050B	B	923CX7R561K100B	B	923CX7R561K200B
680	B	923CX7R681K050B★	B	923CX7R681K100B★	B	923CX7R681K200B★
820	B	923CX7R821K050B	B	923CX7R821K100B	B	923CX7R821K200B
.0010 μ F	B	923CX7R102K050B★	B	923CX7R102K100B★	B	923CX7R102K200B★
.0012	B	923CX7R122K050B	B	923CX7R122K100B	B	923CX7R122K200B
.0015	B	923CX7R152K050B★	B	923CX7R152K100B★	B	923CX7R152K200B★
.0018	B	923CX7R182K050B	B	923CX7R182K100B	B	923CX7R182K200B
.0022	B	923CX7R222K050B★	B	923CX7R222K100B★	B	923CX7R222K200B★
.0027	B	923CX7R272K050B	B	923CX7R272K100B	B	923CX7R272K200B
.0033	B	923CX7R332K050B★	B	923CX7R332K100B★	B	923CX7R332K200B★
.0039	B	923CX7R392K050B	B	923CX7R392K100B	B	923CX7R392K200B
.0047	B	923CX7R472K050B★	B	923CX7R472K100B★	B	923CX7R472K200B★
.0056	B	923CX7R562K050B	B	923CX7R562K100B	D	923CX7R562K200D
.0068	B	923CX7R682K050B★	B	923CX7R682K100B★	D	923CX7R682K200D★
.0082	B	923CX7R822K050B	B	923CX7R822K100B	D	923CX7R822K200D
.010	B	923CX7R103K050B★	B	923CX7R103K100B★	F	923CX7R103K200F★
.012	B	923CX7R123K050B	B	923CX7R123K100B	F	923CX7R123K200F
.015	B	923CX7R153K050B★	B	923CX7R153K100B★	F	923CX7R153K200F★
.018	B	923CX7R183K050B	B	923CX7R183K100B	F	923CX7R183K200F
.022	B	923CX7R223K050B★	D	923CX7R223K100D★	—	—
.027	B	923CX7R273K050B	D	923CX7R273K100D	—	—
.033	B	923CX7R333K050B★	D	923CX7R333K100D★	—	—
.039	B	923CX7R393K050B	D	923CX7R393K100D	—	—
.047	B	923CX7R473K050B★	F	923CX7R473K100F★	—	—
.056	B	923CX7R563K050B	F	923CX7R563K100F	—	—
.068	B	923CX7R683K050B★	F	923CX7R683K100F★	—	—
.082	B	923CX7R823K050B	—	—	—	—
.10	B	923CX7R104K050B★	—	—	—	—
.12	D	923CX7R124K050D	—	—	—	—
.15	D	923CX7R154K050D★	—	—	—	—
.18	F	923CX7R184K050F	—	—	—	—
.22	F	923CX7R224K050F★	—	—	—	—
.27	F	923CX7R274K050F	—	—	—	—

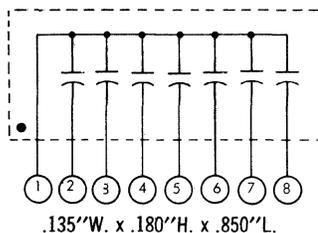
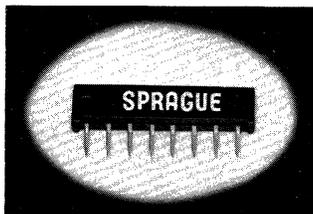
*Catalog numbers are for capacitance tolerance of $\pm 10\%$. Numbers followed by star (★) also available as $\pm 20\%$ units; change 11th character of cat. no. from K to M.

SPRAGUE**IN-LINE
COMPONENTS****DIP MONOLITHIC® CERAMIC CAPACITORS, continued****EIA CHARACTERISTIC Z5U****FOR 85°C OPERATION**

μF	50 WVDC		100 WVDC		200 WVDC	
	Size Code	Catalog Number*	Size Code	Catalog Number*	Size Code	Catalog Number*
.01	B	923CZ5U103M050B★	B	923CZ5U103M100B★	B	923CZ5U103M200B★
.015	B	923CZ5U153M050B	B	923CZ5U153M100B	B	923CZ5U153M200B
.022	B	923CZ5U223M050B★	B	923CZ5U223M100B★	B	923CZ5U223M200B★
.033	B	923CZ5U333M050B	B	923CZ5U333M100B	D	923CZ5U333M200D
.047	B	923CZ5U473M050B★	B	923CZ5U473M100B★	D	923CZ5U473M200D★
.068	B	923CZ5U683M050B	B	923CZ5U683M100B	F	923CZ5U683M200F
.1	B	923CZ5U104M050B★	B	923CZ5U104M100B★	F	923CZ5U104M200F★
.15	B	923CZ5U154M050B	D	923CZ5U154M100D	-	-
.22	B	923CZ5U224M050B★	D	923CZ5U224M100D★	-	-
.27	D	923CZ5U274M050D	F	923CZ5U274M100F	-	-
.33	D	923CZ5U334M050D	F	923CZ5U334M100F	-	-
.47	D	923CZ5U474M050D★	F	923CZ5U474M100F★	-	-
.56	F	923CZ5U564M050F	-	-	-	-
.68	F	923CZ5U684M050F	-	-	-	-
1.0	F	923CZ5U105M050F★	-	-	-	-

*Catalog numbers are for capacitance tolerance of $\pm 20\%$. Numbers followed by star (★) also available as $+80$, -20% units; change 11th character of cat. no. from M to Z.

MOLDED SINGLE IN-LINE PACKAGE MONOLITHIC® CERAMIC CAPACITOR NETWORKS

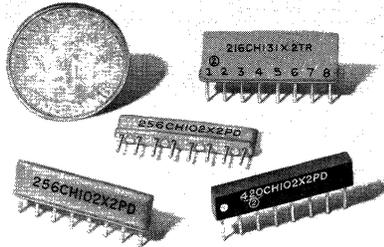


- For vertical installation on high-density printed wiring boards.
- Intended for use in signal and data processing equipment where repetitive capacitor values and patterns are required.
- Molded single-ended configuration results in rugged device with smallest possible dimensions.
- Proven layer-built construction.
- 7 capacitor sections in each 8-lead package.
- Rated at 100 WVDC over the temperature range of -55 C to $+85$ C.
- For complete technical data, refer to latest issue of Engineering Bulletin 6243.

pF	Catalog Number		pF	Catalog Number	
	$\pm 20\%$ Tol.	$\pm 10\%$ Tol.		$\pm 20\%$ Tol.	$\pm 10\%$ Tol.
18		460CH180X9PD	470	460CH471X0PD	460CH471X9PD
22	460CH220X0PD	460CH220X9PD	560		460CH561X9PD
27		460CH270X9PD	680	460CH681X0PD	460CH681X9PD
33	460CH330X0PD	460CH330X9PD	820		460CH821X9PD
39		460CH390X9PD	1000	460CH102X0PD	460CH102X9PD
47	460CH470X0PD	460CH470X9PD	1200		460CH122X9PD
56		460CH560X9PD	1500	460CH152X0PD	460CH152X9PD
68	460CH680X0PD	460CH680X9PD	1800		460CH182X9PD
82		460CH820X9PD	2200	460CH222X0PD	460CH222X9PD
100	460CH101X0PD	460CH101X9PD	2700		460CH272X9PD
120		460CH121X9PD	3300	460CH332X0PD	460CH332X9PD
150	460CH151X0PD	460CH151X9PD	3900		460CH392X9PD
180		460CH181X9PD	4700	460CH472X0PD	460CH472X9PD
220	460CH221X0PD	460CH221X9PD	5600		460CH562X9PD
270		460CH271X9PD	6800	460CH682X0PD	460CH682X9PD
330	460CH331X0PD	460CH331X9PD	8200		460CH822X9PD
390		460CH391X9PD	0.01 μF	460CH103X0PD	460CH103X9PD

SPRAGUE IN-LINE COMPONENTS

SINGLE IN-LINE PRECISION RESISTOR NETWORKS



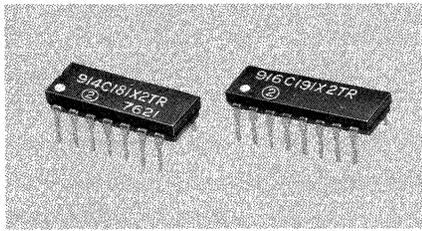
- Ideal for use in signal and data processing applications where repetitive resistance values and patterns are required.
- Cut component count, reduce board space requirements, reduce equipment size, minimize costs.
- Designed for individual terminating, dual terminating, pull-up/pull-down, and interface applications.
- Types 216C and 256C have dipped resin outer coating. Type 420C has molded epoxy case.
- Standard resistance range, 50Ω to 100KΩ; standard resistance tolerance, ±2%.
- Temp. coefficient of resistance, ±200 ppm/°C. Tracking between resistors, ±50 ppm/°C.

Type No.	No. of Pins	Width	Length	Seated Height	Watts (at 70°C)
420CH	8	.090	.790	.200	0.8
256CF	6	.125	.650	.250	0.9
256CH	8	.125	.850	.250	1.1
256CK	10	.125	1.050	.250	1.5
216CF	6	.125	.650	.350	1.3
216CH	8	.125	.850	.350	1.3
216CK	10	.125	1.050	.350	2.0

● For complete technical data, see latest issue of Engineering Bulletin 7041.

NOTE: Because there are hundreds of combinations of pin configurations, package sizes, resistance values, and circuit designs, please call your Sprague Industrial Distributor for catalog numbers, current quantity prices, and other ordering information.

DUAL IN-LINE PRECISION RESISTOR NETWORKS



- Have basic features of SIP networks mentioned above.
- Available as Type 914C (14-pin devices), and Type 916C (16-pin devices).
- .260" wide x .200" high x .755" long for 914C (.855" long for 916C).
- For complete technical data, see latest issue of Engineering Bulletin 7042.

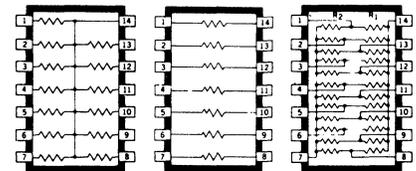


FIG. 1

FIG. 2

FIG. 3

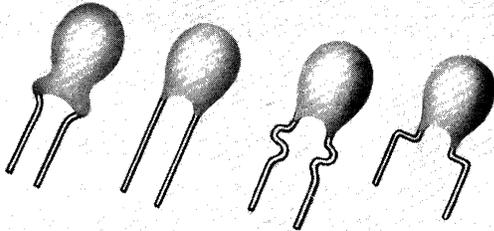
Ohms	Cat. No.*†	Ohms	Cat. No.*†	Ohms	Cat. No.*†	Ohms	Cat. No.*†	Ohms	Cat. No.*†	
PULL-UP/PULL-DOWN AND INTERFACE NETWORKS (FIG. 1)		750	914C751X2PE	16000	914C163X2PE	390	914C391X2SR	7500	914C752X2SR	
50	914C500X2PE	820	914C821X2PE	18000	914C183X2PE	430	914C431X2SR	8200	914C822X2SR	
56	914C560X2PE	910	914C911X2PE	20000	914C203X2PE	470	914C471X2SR	9100	914C912X2SR	
62	914C620X2PE	1000	914C102X2PE	22000	914C223X2PE	500	914C501X2SR	10000	914C103X2SR	
68	914C680X2PE	1100	914C112X2PE	33000	914C333X2PE	510	914C511X2SR	11000	914C113X2SR	
75	914C750X2PE	1200	914C122X2PE	47000	914C473X2PE	560	914C561X2SR	12000	914C123X2SR	
82	914C820X2PE	1300	914C132X2PE	68000	914C683X2PE	620	914C621X2SR	13000	914C133X2SR	
		1500	914C152X2PE	100000	914C104X2PE	680	914C681X2SR	15000	914C153X2SR	
		1600	914C162X2PE	MULTIPLE ISOLATED RESISTORS (FIG. 2)		750	914C751X2SR	16000	914C163X2SR	
		1800	914C182X2PE	50	914C500X2SR	820	914C821X2SR	18000	914C183X2SR	
		2000	914C202X2PE	56	914C560X2SR	910	914C911X2SR	20000	914C203X2SR	
		2200	914C222X2PE	62	914C620X2SR	1000	914C102X2SR	22000	914C223X2SR	
100	914C101X2PE	2400	914C242X2PE	68	914C680X2SR	1100	914C112X2SR	33000	914C333X2SR	
110	914C111X2PE	2700	914C272X2PE	75	914C750X2SR	1200	914C122X2SR	47000	914C473X2SR	
120	914C121X2PE	3000	914C302X2PE	82	914C820X2SR	1300	914C132X2SR	68000	914C683X2SR	
130	914C131X2PE	3300	914C332X2PE	91	914C910X2SR	1500	914C152X2SR	100000	914C104X2SR	
150	914C151X2PE	3600	914C362X2PE	100	914C101X2SR	1600	914C162X2SR	DUAL TERMINATING NETWORKS (FIG. 3)		
		3900	914C392X2PE	110	914C111X2SR	1800	914C182X2SR	R1	R2	Cat. No.*†
160	914C161X2PE	4300	914C432X2PE	120	914C121X2SR	2000	914C202X2SR	81	130	914C500X2TR
180	914C181X2PE	4700	914C472X2PE	130	914C131X2SR	2200	914C222X2SR	121	195	914C750X2TR
200	914C201X2PE	5100	914C512X2PE	150	914C151X2SR	2400	914C242X2SR	162	260	914C101X2TR
220	914C221X2PE	5600	914C562X2PE	160	914C161X2SR	2700	914C272X2SR	180	390	914C121X2TRA
240	914C241X2PE	6200	914C622X2PE	180	914C181X2SR	3000	914C302X2SR	220	270	914C121X2TRB
270	914C271X2PE	6800	914C682X2PE	200	914C201X2SR	3300	914C332X2SR	220	330	914C131X2TR
		7500	914C752X2PE	220	914C221X2SR	3600	914C362X2SR	330	390	914C181X2TR
		8200	914C822X2PE	240	914C241X2SR	3900	914C392X2SR	330	470	914C191X2TR
		9100	914C912X2PE	270	914C271X2SR	4300	914C432X2SR	330	680	914C221X2TRA
		10000	914C103X2PE	300	914C301X2SR	4700	914C472X2SR	390	500	914C221X2TR
		11000	914C113X2PE	330	914C331X2SR	5100	914C512X2SR			
		12000	914C123X2PE	360	914C361X2SR	5600	914C562X2SR			
500	914C501X2PE	13000	914C133X2PE			6200	914C622X2SR			
510	914C511X2PE	15000	914C153X2PE			6800	914C682X2SR			
560	914C561X2PE									
620	914C621X2PE									
680	914C681X2PE									

*Resistor networks listed above have resistance tolerance of ±2%.

†Resistor networks listed above have 14 pins. For devices with 16 pins, change 3rd character in cat. no. from 4 to 6.

SPRAGUE CAPACITORS

TYPE 199D TANTALEX[®] RESIN-COATED SOLID-TANTALUM CAPACITORS FOR MINIMUM-COST APPLICATIONS



Capacitors available in 4 lead configurations. Numbers ending with B1 have hairpin leads with .100" lead spacing (see first unit on left in photo). Numbers ending with A1 and A2 have straight leads with .100" and .200" lead spacing, respectively (second unit on left). For units with formed lock-in leads and .200" lead spacing (third unit from left), change last letter and last digit in cat. no. to "G2." For outside hockeystick leads (unit on right) with .200" lead spacing, end cat. no. with "E2." For hockeystick leads with .250" lead spacing, end cat. no. with "E3."

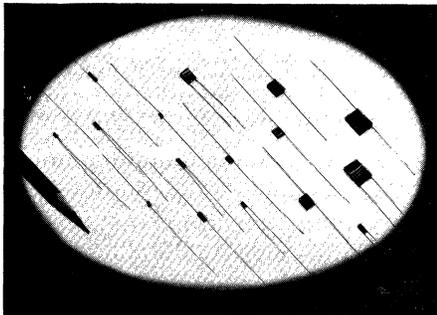
- Four lead styles for easy plug-in mounting on printed wiring boards in entertainment and commercial equipment.
- Priced competitively with any other capacitor of this type, domestic or offshore.
- Lower d-c leakage currents, lower dissipation factor.
- Superior, flame-retardant, moisture-resistant epoxy encapsulant will not crack or chip under temperature extremes.
- Available in all of the popular 20% decade values between 0.1 μ F and 680 μ F.
- For complete technical data, refer to latest issue of Engineering Bulletin 3547.

μ F	Dia. x Ht.	Cat. No.*	μ F	Dia. x Ht.	Cat. No.*	μ F	Dia. x Ht.	Cat. No.*
3 VOLTS D-C, 3.6 VDC SURGE								
4.7	.180 x .350	199D475X0003AB1	10	.200 x .350	199D106X0010BB1	47	.400 x .560	199D476X0025EA2
6.8	.180 x .350	199D685X0003AB1	15	.250 x .425	199D156X0010CB1	68	.440 x .680	199D686X0025FA2
10	.200 x .350	199D106X0003BB1	22	.250 x .425	199D226X0010CB1	35 VOLTS D-C, 42 VDC SURGE		
15	.200 x .350	199D156X0003BB1	33	.250 x .450	199D336X0010DB1	0.10	.180 x .350	199D104X0035AB1
22	.200 x .350	199D226X0003BB1	47	.250 x .450	199D476X0010DB1	0.15	.180 x .350	199D154X0035AB1
33	.250 x .425	199D336X0003CB1	68	.250 x .450	199D686X0010DB1	0.22	.180 x .350	199D224X0035AB1
47	.250 x .425	199D476X0003CB1	100	.400 x .560	199D107X0010EA2	0.33	.180 x .350	199D334X0035AB1
68	.250 x .450	199D686X0003DB1	150	.400 x .560	199D157X0010EA2	0.47	.180 x .350	199D474X0035AB1
100	.250 x .450	199D107X0003DB1	220	.440 x .680	199D227X0010FA2	0.68	.180 x .350	199D684X0035AB1
150	.250 x .450	199D157X0003DB1	16 VOLTS D-C, 19 VDC SURGE			1.0	.200 x .350	199D105X0035BB1
220	.400 x .560	199D227X0003EA2	1.5	.180 x .350	199D155X0016AB1	1.5	.200 x .350	199D155X0035BB1
330	.400 x .560	199D337X0003EA2	2.2	.180 x .350	199D225X0016AB1	2.2	.250 x .425	199D225X0035CB1
470	.440 x .680	199D477X0003FA2	3.3	.200 x .350	199D335X0016BB1	3.3	.250 x .425	199D335X0035CB1
680	.440 x .680	199D687X0003FA2	4.7	.200 x .350	199D475X0016BB1	4.7	.250 x .450	199D475X0035DB1
6.3 VOLTS D-C, 8 VDC SURGE			6.8	.200 x .350	199D685X0016BB1	6.8	.250 x .450	199D685X0035DB1
3.3	.180 x .350	199D335X06R3AB1	10	.250 x .425	199D106X0016CB1	10	.250 x .450	199D106X0035DB1
4.7	.180 x .350	199D475X06R3AB1	15	.250 x .425	199D156X0016CB1	15	.400 x .560	199D156X0035EA2
6.8	.200 x .350	199D685X06R3BB1	22	.250 x .450	199D226X0016DB1	22	.400 x .560	199D226X0035EA2
10	.200 x .350	199D106X06R3BB1	33	.250 x .450	199D336X0016DB1	33	.440 x .680	199D336X0035FA2
15	.200 x .350	199D156X06R3BB1	47	.400 x .560	199D476X0016EA2	47	.440 x .680	199D476X0035FA2
22	.250 x .425	199D226X06R3CB1	68	.400 x .560	199D686X0016EA2	50 VOLTS D-C, 60 VDC SURGE		
33	.250 x .425	199D336X06R3CB1	100	.440 x .680	199D107X0016FA2	0.10	.180 x .350	199D104X0050AB1
47	.250 x .450	199D476X06R3DB1	150	.440 x .680	199D157X0016FA2	0.15	.180 x .350	199D154X0050AB1
68	.250 x .450	199D686X06R3DB1	25 VOLTS D-C, 30 VDC SURGE			0.22	.180 x .350	199D224X0050AB1
100	.250 x .450	199D107X06R3DB1	1.0	.180 x .350	199D105X0025AB1	0.33	.180 x .350	199D334X0050AB1
150	.400 x .560	199D157X06R3EA2	1.5	.180 x .350	199D155X0025AB1	0.47	.200 x .350	199D474X0050BB1
220	.400 x .560	199D227X06R3EA2	2.2	.200 x .350	199D225X0025BB1	0.68	.200 x .350	199D684X0050BB1
330	.440 x .680	199D337X06R3FA2	3.3	.200 x .350	199D335X0025BB1	1.0	.250 x .425	199D105X0050CB1
10 VOLTS D-C, 12 VDC SURGE			4.7	.250 x .425	199D475X0025CB1	1.5	.250 x .425	199D155X0050CB1
2.2	.180 x .350	199D225X0010AB1	6.8	.250 x .425	199D685X0025CB1	2.2	.250 x .450	199D225X0050DB1
3.3	.180 x .350	199D335X0010AB1	10	.250 x .425	199D106X0025CB1	3.3	.250 x .450	199D335X0050DB1
4.7	.200 x .350	199D475X0010BB1	15	.250 x .450	199D156X0025DB1	4.7	.250 x .450	199D475X0050DB1
6.8	.200 x .350	199D685X0010BB1	22	.250 x .450	199D226X0025DB1	6.8	.440 x .680	199D685X0050FA2
			33	.400 x .560	199D336X0025EA2	10	.440 x .680	199D106X0050FA2

*Catalog numbers shown here are for units with capacitance tolerance of $\pm 20\%$. For units with capacitance tolerance of $\pm 10\%$, change "X0" in cat. no. to "X9." Catalog numbers shown are for either hairpin or straight leads. For complete ordering information on leads, see paragraph under photograph.

SPRAGUE CAPACITORS

TYPE 182D AND 183D ULTRA-MINIATURE SOLID TANTALEX® CAPACITORS



- Capacitor elements housed in polyester-film sleeving with epoxy resin end seals. Higher volumetric efficiency than metal-encased or molded designs.
- Type 182D has cylindrical case, Type 183D has rectangular case.
- Operating temperature range, -55 C to +85 C. May be operated to +125 C with voltage derating.
- Capacitance tolerance indicated by 9th and 10th characters in Cat. No. D4 = +40, -20%; X0 = ±20%.
- Units listed below are single-ended design. For capacitors with axial leads, change 5th character in Cat. No. from R to A.
- For complete technical data, refer to latest issue of Engineering Bulletin 3517.

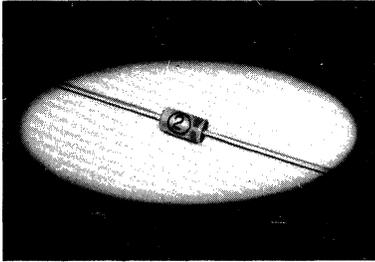
DIMENSIONS, CYLINDRICAL CASE*						DIMENSIONS, RECTANGULAR CASE*							
Code	Dia.	Height	Code	Dia.	Height	Code	Height	Width	Thick.	Code	Height	Width	Thick.
G	.070	.125	K	.100	.225	A	.125	.070	.040	D	.290	.220	.110
H	.070	.160	L	.150	.250	B	.165	.120	.070	E	.310	.230	.130
J	.080	.200				C	.225	.185	.075	F	.475	.375	.150

*See last character in Cat. No. for size code.

μF	Cat. No. (Cyl.)	Cat. No. (Rect.)	μF	Cat. No. (Cyl.)	Cat. No. (Rect.)	μF	Cat. No. (Cyl.)	Cat. No. (Rect.)
2 WVDC			15	182DR156X0010L	183DR226X0010D	25 WVDC		
2.2	182DR225D4002G	183DR225D4002A	22	.....	183DR336X0010E	0.68	.....	183DR684X0025B
4.7	182DR475D4002H	.....	33	.....	183DR107X0010F	2.2	.....	183DR225X0025C
10	182DR106X0002J	183DR106X0002B	100	.....	.....	6.8	.....	183DR685X0025D
22	182DR226X0002K	183DR226X0002C	15 WVDC			10	.....	183DR106X0025E
3 WVDC			0.33	182DR334D4015G	183DR334D4015A	33	.....	183DR336X0025F
1.5	182DR155D4003G	183DR155D4003A	0.68	182DR684D4015H	.....	35 WVDC		
3.3	182DR335D4003H	.....	1.5	182DR155X0015J	183DR155X0015B	0.0047	.....	183DR472X0035B
6.8	182DR685X0003J	183DR685X0003B	3.3	182DR335X0015K	.....	0.0068	.....	183DR682X0035B
15	182DR156X0003K	.....	10	182DR106X0015L	.....	0.010	.....	183DR103X0035B
22	.....	183DR226X0003C	15	.....	183DR156X0015D	0.015	182DR153D4035H	183DR153X0035B
47	182DR476X0003L	.....	22	.....	183DR226X0015E	0.022	183DR23D4035H	183DR23X0035B
220	.....	183DR227X0003F	68	.....	183DR686X0015F	0.033	182DR333D4035H	183DR333X0035B
4 WVDC			20 WVDC			0.047	182DR473D4035H	183DR473X0035B
1.0	182DR105D4004G	183DR105D4004A	0.0010	182DR102D4020G	183DR102D4020A	0.068	182DR683D4035H	183DR683X0035B
2.2	182DR225D4004H	.....	0.0015	182DR152D4020G	183DR152D4020A	0.10	182DR104D4035H	183DR104X0035B
4.7	182DR475X0004J	183DR475X0004B	0.0022	182DR222D4020G	183DR222D4020A	0.15	182DR154D4035H	183DR154X0035B
10	182DR106X0004K	.....	0.0033	182DR332D4020G	183DR332D4020A	0.22	182DR224D4035H	183DR224X0035B
15	.....	183DR156X0004C	0.0047	182DR472D4020G	183DR472D4020A	0.33	182DR334X0035J	183DR334X0035B
33	182DR336X0004L	.....	0.0068	182DR682D4020G	183DR682D4020A	0.47	182DR474X0035J	183DR474X0035B
47	.....	183DR476X0004D	0.010	182DR103D4020G	183DR103D4020A	0.68	182DR684X0035K	183DR684X0035C
68	.....	183DR686X0004E	0.015	182DR153D4020G	183DR153D4020A	1.0	182DR105X0035K	183DR105X0035C
6 WVDC			0.022	182DR223D4020G	183DR223D4020A	1.5	182DR155X0035L	183DR155X0035C
0.68	182DR684D4006G	183DR684D4006A	0.033	182DR333D4020G	183DR333D4020A	2.2	182DR225X0035L	183DR225X0035D
1.5	182DR155D4006H	.....	0.047	182DR473D4020G	183DR473D4020A	3.3	.....	183DR335X0035D
3.3	182DR335X0006J	183DR335X0006B	0.068	182DR683D4020G	183DR683D4020A	4.7	.....	183DR475X0035D
6.8	182DR685X0006K	.....	0.10	182DR104D4020G	183DR104D4020A	6.8	.....	183DR685X0035E
10	.....	183DR106X0006C	0.15	182DR154D4020G	183DR154D4020A	10	.....	183DR106X0035F
22	182DR226X0006L	.....	0.22	182DR224D4020G	183DR224D4020A	15	.....	183DR156X0035F
33	.....	183DR336X0006D	0.33	182DR334D4020H	.....	22	.....	183DR226X0035F
47	.....	183DR476X0006E	0.47	182DR474D4020H	.....	50 WVDC		
150	.....	183DR157X0006F	0.68	182DR684X0020J	.....	0.0010	182DR102D4050H	.....
10 WVDC			1.0	182DR105X0020J	183DR105X0020B	0.0015	182DR152D4050H	.....
0.47	182DR474D4010G	183DR474D4010A	1.5	182DR155X0020K	.....	0.0022	182DR222D4050H	.....
1.0	182DR105D4010H	.....	2.2	182DR225X0020K	.....	0.0033	182DR332D4050H	.....
2.2	182DR225X0010J	183DR225X0010B	3.3	182DR335X0020L	183DR335X0020C	0.0047	182DR472D4050H	.....
4.7	182DR475X0010K	.....	4.7	182DR475X0020L	183DR475X0020C	0.0068	182DR682D4050H	.....
6.8	.....	183DR685X0010C	6.8	182DR685X0020L	.....	0.010	182DR103D4050H	.....
			10	.....	183DR106X0020D			
			15	.....	183DR156X0020E			
			47	.....	183DR476X0020F			

SPRAGUE CAPACITORS

TYPE 162D RED TOP® SOLID-TANTALUM CAPACITORS



- Miniature commercial/industrial capacitors, intended for use in compactly designed equipment.
- Metal cases with resin end seals.
- Priced competitively with molded-case capacitors.
- Operating temperature range, -55 C to $+85\text{ C}$.
- Listed units have capacitance tolerance of $\pm 10\%$. Capacitors with asterisk (*) also available with

tolerance of $\pm 20\%$. When ordering $\pm 20\%$ capacitors, change 9th character of cat. no. from 9 to 0.

- Listed capacitors have heat-shrunk polyester film insulating sleeve. For bare metal case, change last character of cat. no. from 2 to 0, and subtract .005" from diam. and .010" from length.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3536.

μF	Dia. x Length	Cat. No.
2 WVDC		
8.2	.095 x .260	162D825X9002BC2
10	.095 x .260	162D106X9002BC2*
12	.110 x .290	162D126X9002CD2
15	.110 x .290	162D156X9002CD2*
18	.110 x .290	162D186X9002CD2*
22	.110 x .290	162D226X9002CD2*
27	.110 x .290	162D276X9002CD2
33	.110 x .290	162D336X9002CD2*
39	.180 x .345	162D396X9002DD2
47	.180 x .345	162D476X9002DD2*
56	.180 x .345	162D566X9002DD2
68	.180 x .345	162D686X9002DD2*

μF	Dia. x Length	Cat. No.
4 WVDC		
5.6	.095 x .260	162D565X9004BC2
6.8	.095 x .260	162D685X9004BC2*
8.2	.110 x .290	162D825X9004CD2
10	.110 x .290	162D106X9004CD2*
12	.110 x .290	162D126X9004CD2
15	.110 x .290	162D156X9004CD2*
18	.110 x .290	162D186X9004CD2
22	.110 x .290	162D226X9004CD2*
27	.180 x .345	162D276X9004DD2
33	.180 x .345	162D336X9004DD2*
39	.180 x .345	162D396X9004DD2
47	.180 x .345	162D476X9004DD2*
56	.180 x .420	162D566X9004EE2
68	.180 x .420	162D686X9004EE2*

μF	Dia. x Length	Cat. No.
6 WVDC		
3.9	.095 x .260	162D395X9006BC2
4.7	.095 x .260	162D475X9006BC2*
5.6	.110 x .290	162D565X9006CD2
6.8	.110 x .290	162D685X9006CD2*
8.2	.110 x .290	162D825X9006CD2
10	.110 x .290	162D106X9006CD2*
12	.110 x .290	162D126X9006CD2
15	.110 x .290	162D156X9006CD2*
18	.180 x .345	162D186X9006DD2
22	.180 x .345	162D226X9006DD2*
27	.180 x .345	162D276X9006DD2
33	.180 x .345	162D336X9006DD2*
39	.180 x .420	162D396X9006EE2
47	.180 x .420	162D476X9006EE2*
56	.180 x .420	162D566X9006EE2

μF	Dia. x Length	Cat. No.
10 WVDC		
2.7	.095 x .260	162D275X9010BC2
3.3	.095 x .260	162D335X9010BC2*
3.9	.110 x .290	162D395X9010CD2
4.7	.110 x .290	162D475X9010CD2*
5.6	.110 x .290	162D565X9010CD2
6.8	.110 x .290	162D685X9010CD2*
8.2	.110 x .290	162D825X9010CD2
10	.110 x .290	162D106X9010CD2*
12	.180 x .345	162D126X9010DD2
15	.180 x .345	162D156X9010DD2*
18	.180 x .345	162D186X9010DD2
22	.180 x .345	162D226X9010DD2*
27	.180 x .420	162D276X9010EE2
33	.180 x .420	162D336X9010EE2*
39	.180 x .420	162D396X9010EE2

μF	Dia. x Length	Cat. No.
15 WVDC		
1.8	.095 x .260	162D185X9015BC2
2.2	.095 x .260	162D225X9015BC2*
2.7	.110 x .290	162D275X9015CD2
3.3	.110 x .290	162D335X9015CD2*
3.9	.110 x .290	162D395X9015CD2
4.7	.110 x .290	162D475X9015CD2*
5.6	.110 x .290	162D565X9015CD2
6.8	.110 x .290	162D685X9015CD2*
8.2	.180 x .345	162D825X9015DD2
10	.180 x .345	162D106X9015DD2*
12	.180 x .345	162D126X9015DD2
15	.180 x .345	162D156X9015DD2*
18	.180 x .420	162D186X9015EE2
22	.180 x .420	162D226X9015EE2*

μF	Dia. x Length	Cat. No.
20 WVDC		
1.2	.095 x .260	162D125X9020BC2
1.5	.095 x .260	162D155X9020BC2*
1.8	.110 x .290	162D185X9020CD2
2.2	.110 x .290	162D225X9020CD2*
2.7	.110 x .290	162D275X9020CD2
3.3	.110 x .290	162D335X9020CD2*
3.9	.110 x .290	162D395X9020CD2
4.7	.110 x .290	162D475X9020CD2*
5.6	.180 x .345	162D565X9020DD2
6.8	.180 x .345	162D685X9020DD2*
8.2	.180 x .345	162D825X9020DD2
10	.180 x .345	162D106X9020DD2*
12	.180 x .420	162D126X9020EE2
15	.180 x .420	162D156X9020EE2*

μF	Dia. x Length	Cat. No.
25 WVDC		
0.56	.095 x .260	162D564X9025BC2
0.68	.095 x .260	162D684X9025BC2*
0.82	.095 x .260	162D824X9025BC2
1.0	.095 x .260	162D105X9025BC2*
1.2	.110 x .290	162D125X9025CD2
1.5	.110 x .290	162D155X9025CD2*
1.8	.110 x .290	162D185X9025CD2
2.2	.110 x .290	162D225X9025CD2*
2.7	.110 x .290	162D275X9025CD2
3.3	.110 x .290	162D335X9025CD2*
3.9	.180 x .345	162D395X9025DD2
4.7	.180 x .345	162D475X9025DD2*
5.6	.180 x .345	162D565X9025DD2
6.8	.180 x .345	162D685X9025DD2*
8.2	.180 x .345	162D825X9025DD2
10	.180 x .345	162D106X9025DD2*

μF	Dia. x Length	Cat. No.
35 WVDC		
0.0047	.095 x .260	162D472X9035BC2*
0.0056	.095 x .260	162D562X9035BC2*
0.0068	.095 x .260	162D682X9035BC2*
0.0082	.095 x .260	162D822X9035BC2
0.010	.095 x .260	162D103X9035BC2*
0.012	.095 x .260	162D123X9035BC2
0.015	.095 x .260	162D153X9035BC2*
0.018	.095 x .260	162D183X9035BC2
0.022	.095 x .260	162D223X9035BC2*
0.027	.095 x .260	162D273X9035BC2
0.033	.095 x .260	162D333X9035BC2*
0.039	.095 x .260	162D393X9035BC2
0.047	.095 x .260	162D473X9035BC2*

μF	Dia. x Length	Cat. No.
0.056	.095 x .260	162D563X9035BC2
0.068	.095 x .260	162D683X9035BC2*
0.082	.095 x .260	162D823X9035BC2
0.10	.095 x .260	162D104X9035BC2*
0.12	.095 x .260	162D124X9035BC2
0.15	.095 x .260	162D154X9035BC2*
0.18	.095 x .260	162D184X9035BC2
0.22	.095 x .260	162D224X9035BC2*
0.27	.095 x .260	162D274X9035BC2
0.33	.095 x .260	162D334X9035BC2*
0.39	.095 x .260	162D394X9035BC2
0.47	.095 x .260	162D474X9035BC2*
0.56	.110 x .290	162D564X9035CD2
0.68	.110 x .290	162D684X9035CD2*
0.82	.110 x .290	162D824X9035CD2
1.0	.110 x .290	162D105X9035CD2*
1.2	.110 x .290	162D125X9035CD2
1.5	.110 x .290	162D155X9035CD2*
1.8	.180 x .345	162D185X9035DD2
2.2	.180 x .345	162D225X9035DD2*
2.7	.180 x .345	162D275X9035DD2
3.3	.180 x .345	162D335X9035DD2*
3.9	.180 x .345	162D395X9035DD2
4.7	.180 x .345	162D475X9035DD2*
5.6	.180 x .420	162D565X9035EE2
6.8	.180 x .420	162D685X9035EE2*

μF	Dia. x Length	Cat. No.
50 WVDC		
0.0047	.095 x .260	162D472X9050BC2*
0.0056	.095 x .260	162D562X9050BC2*
0.0068	.095 x .260	162D682X9050BC2*
0.0082	.095 x .260	162D822X9050BC2
0.010	.095 x .260	162D103X9050BC2*
0.012	.095 x .260	162D123X9050BC2
0.015	.095 x .260	162D153X9050BC2*
0.018	.095 x .260	162D183X9050BC2
0.022	.095 x .260	162D223X9050BC2*
0.027	.095 x .260	162D273X9050BC2
0.033	.095 x .260	162D333X9050BC2*
0.039	.095 x .260	162D393X9050BC2
0.047	.095 x .260	162D473X9050BC2*
0.056	.095 x .260	162D563X9050BC2
0.068	.095 x .260	162D683X9050BC2*
0.082	.095 x .260	162D823X9050BC2
0.10	.095 x .260	162D104X9050BC2*
0.12	.095 x .260	162D124X9050BC2
0.15	.095 x .260	162D154X9050BC2*
0.18	.095 x .260	162D184X9050BC2
0.22	.095 x .260	162D224X9050BC2*
0.27	.095 x .260	162D274X9050BC2
0.33	.110 x .290	162D334X9050CD2*
0.39	.110 x .290	162D394X9050CD2
0.47	.110 x .290	162D474X9050CD2*
0.56	.110 x .290	162D564X9050CD2
0.68	.110 x .290	162D684X9050CD2*
0.82	.110 x .290	162D824X9050CD2
1.0	.110 x .290	162D105X9050CD2*
1.2	.180 x .345	162D125X9050DD2
1.5	.180 x .345	162D155X9050DD2*
1.8	.180 x .345	162D185X9050DD2
2.2	.180 x .345	162D225X9050DD2*
2.7	.180 x .420	162D275X9050EE2
3.3	.180 x .420	162D335X9050EE2*
3.9	.180 x .420	162D395X9050EE2
4.7	.180 x .420	162D475X9050EE2*

SPRAGUE CAPACITORS

TYPE 150D SOLID-ELECTROLYTE TANTALEX® CAPACITORS (Cont.)

μF	Size Code	Cat. No.	μF	Size Code	Cat. No.	μF	Size Code	Cat. No.	μF	Size Code	Cat. No.
.56	A	150D564X9050A2	.56	A	150D564X9060A2	.56	A	150D564X9075A2	.82	B	150D824X9100B2
.68	A	150D684X9050A2*	.68	A	150D684X9060A2*	.68	A	150D684X9075A2*	1.0	B	150D105X9100B2*
.82	A	150D824X9050A2	.82	B	150D824X9060B2	.82	B	150D824X9075B2	1.2	B	150D125X9100B2
1.0	A	150D105X9050A2*	1.0	B	150D105X9060B2*	1.0	B	150D105X9075B2*	1.5	B	150D155X9100B2*
1.2	B	150D125X9050B2	1.2	B	150D125X9060B2	1.2	B	150D125X9075B2	1.8	B	150D185X9100B2
1.5	B	150D155X9050B2*	1.5	B	150D155X9060B2*	1.5	B	150D155X9075B2*	2.2	B	150D225X9100B2*
1.8	B	150D185X9050B2	1.8	B	150D185X9060B2	1.8	B	150D185X9075B2	2.7	B	150D275X9100B2
2.2	B	150D225X9050B2*	2.2	B	150D225X9060B2*	2.2	B	150D225X9075B2*	3.3	R	150D335X9100R2*
2.7	B	150D275X9050B2	2.7	B	150D275X9060B2	2.7	B	150D275X9075B2	3.9	R	150D395X9100R2
3.3	B	150D335X9050B2*	3.3	B	150D335X9060B2*	3.3	B	150D335X9075B2*	4.7	R	150D475X9100R2*
3.9	B	150D395X9050B2	3.9	B	150D395X9060B2	3.9	B	150D395X9075B2	5.6	R	150D565X9050R2
4.7	B	150D475X9050B2*	4.7	R	150D475X9060R2*	4.7	R	150D475X9075R2*	6.8	R	150D685X9050R2*
5.6	R	150D565X9050R2	5.6	R	150D565X9060R2	5.6	R	150D565X9075R2	8.2	R	150D825X9050R2
6.8	R	150D685X9050R2*	6.8	R	150D685X9060R2*	6.8	R	150D685X9075R2*			
8.2	R	150D825X9050R2	8.2	R	150D825X9060R2	8.2	R	150D825X9075R2	125 WVDC — 140 VDC SURGE		
10	R	150D106X9050R2*	10	R	150D106X9060R2*	10	R	150D106X9075R2*	.0047	A	150D472X9125A2*
12	R	150D126X9050R2	12	S	150D126X9060S2	12.0	S	150D126X9075S2	.0056	A	150D562X9125A2
15	R	150D156X9050R2*	15	S	150D156X9060S2*	15.0	S	150D156X9075S2*	.0068	A	150D682X9125A2*
18	R	150D186X9050R2	18	S	150D186X9060S2				.0082	A	150D822X9125A2
22	S	150D226X9050S2*	22	S	150D226X9060S2*	100 WVDC — 115 VDC SURGE			.01	A	150D103X9125A2*
60 WVDC — 78 VDC SURGE			75 WVDC — 97 VDC SURGE			.0047	A	150D472X9100A2*	.012	A	150D123X9125A2
.0047	A	150D472X9060A2*	.0047	A	150D472X9075A2*	.0056	A	150D562X9100A2	.015	A	150D153X9125A2*
.0056	A	150D562X9060A2	.0056	A	150D562X9075A2	.0068	A	150D682X9100A2*	.018	A	150D183X9125A2
.0068	A	150D682X9060A2*	.0068	A	150D682X9075A2*	.0082	A	150D822X9100A2	.022	A	150D223X9125A2*
.0082	A	150D822X9060A2	.0082	A	150D822X9075A2	.01	A	150D103X9100A2*	.027	A	150D273X9125A2
.01	A	150D103X9060A2*	.01	A	150D103X9075A2*	.012	A	150D123X9100A2*	.033	A	150D333X9125A2*
.012	A	150D123X9060A2	.012	A	150D123X9075A2	.015	A	150D153X9100A2*	.039	A	150D393X9125A2
.015	A	150D153X9060A2*	.015	A	150D153X9075A2*	.018	A	150D183X9100A2*	.047	A	150D473X9125A2*
.018	A	150D183X9060A2	.018	A	150D183X9075A2	.022	A	150D223X9100A2*	.056	A	150D563X9125A2
.022	A	150D223X9060A2*	.022	A	150D223X9075A2*	.027	A	150D273X9100A2	.068	A	150D683X9125A2*
.027	A	150D273X9060A2	.027	A	150D273X9075A2	.033	A	150D333X9100A2*	.082	A	150D823X9125A2
.033	A	150D333X9060A2*	.033	A	150D333X9075A2*	.039	A	150D393X9100A2*	.1	A	150D104X9125A2*
.039	A	150D393X9060A2	.039	A	150D393X9075A2	.047	A	150D473X9100A2*	.12	A	150D124X9125A2
.047	A	150D473X9060A2*	.047	A	150D473X9075A2*	.056	A	150D563X9100A2*	.15	A	150D154X9125A2*
.056	A	150D563X9060A2	.056	A	150D563X9075A2	.068	A	150D683X9100A2*	.18	A	150D184X9125A2
.068	A	150D683X9060A2*	.068	A	150D683X9075A2*	.082	A	150D823X9100A2	.22	A	150D224X9125A2*
.082	A	150D823X9060A2	.082	A	150D823X9075A2	.1	A	150D104X9100A2*	.27	A	150D274X9125A2
.1	A	150D104X9060A2*	.1	A	150D104X9075A2*	.12	A	150D124X9100A2*	.33	A	150D334X9125A2*
.12	A	150D124X9060A2	.12	A	150D124X9075A2	.15	A	150D154X9100A2*	.39	A	150D394X9125A2
.15	A	150D154X9060A2*	.15	A	150D154X9075A2*	.18	A	150D184X9100A2*	.47	A	150D474X9125A2*
.18	A	150D184X9060A2	.18	A	150D184X9075A2	.22	A	150D224X9100A2*	.56	B	150D564X9125B2
.22	A	150D224X9060A2*	.22	A	150D224X9075A2*	.27	A	150D274X9100A2	.68	B	150D684X9125B2*
.27	A	150D274X9060A2	.27	A	150D274X9075A2	.33	A	150D334X9100A2*	.82	B	150D824X9125B2
.33	A	150D334X9060A2*	.33	A	150D334X9075A2*	.39	A	150D394X9100A2*	1.0	B	150D105X9125B2*
.39	A	150D394X9060A2	.39	A	150D394X9075A2	.47	A	150D474X9100A2*	1.2	B	150D125X9125B2
.47	A	150D474X9060A2*	.47	A	150D474X9075A2*	.56	A	150D564X9100A2*	1.5	B	150D155X9125B2*
						.68	B	150D684X9100B2*	1.8	B	150D185X9125B2
						.82	B	150D824X9100B2*	2.2	B	150D225X9125B2*

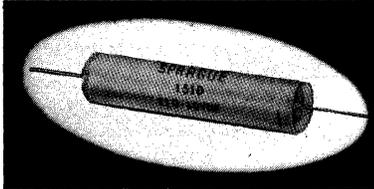
EXTENDED-RANGE TYPE 150D TANTALEX® CAPACITORS®

• Extended capacitance ratings (higher capacitance values in smaller case sizes) required in some new equipment designs. • Available at premium prices.

μF	Size Code	Cat. No.	μF	Size Code	Cat. No.	μF	Size Code	Cat. No.	μF	Size Code	Cat. No.
6 WVDC — 8 VDC SURGE			150	R	150D157X9010R2*	20 WVDC — 23 VDC SURGE			82	S	150D826X9030S2
10	A	150D106X9006A2*	180	R	150D187X9010R2*	2.7	A	150D275X9020A2	100	S	150D107X9030S2*
12	A	150D126X9006A2	220	R	150D227X9010R2*	3.3	A	150D335X9020A2*	35 WVDC — 40 VDC SURGE		
15	A	150D156X9006A2*	270	R	150D277X9010R2	3.9	A	150D395X9020A2*	1.2	A	150D125X9035A2
68	B	150D686X9006B2*	330	S	150D337X9010S2*	4.7	A	150D475X9020A2*	1.5	A	150D155X9035A2*
82	B	150D826X9006B2	390	S	150D397X9010S2	18	B	150D186X9020B2	1.8	A	150D185X9035A2
100	B	150D107X9006B2*	470	S	150D477X9010S2*	22	B	150D226X9020B2*	8.2	B	150D825X9035B2
330	R	150D337X9006R2*	560	S	150D567X9010S2	27	B	150D276X9020B2	10	B	150D106X9035B2*
390	R	150D397X9006R2	15 WVDC — 18 VDC SURGE			56	R	150D566X9020R2	27	R	150D276X9035R2
470	R	150D477X9006R2*	3.9	A	150D395X9015A2	68	R	150D686X9020R2*	33	R	150D336X9035R2*
560	S	150D567X9006S2	4.7	A	150D475X9015A2*	82	R	150D826X9020R2	39	R	150D396X9035R2
680	S	150D687X9006S2*	5.6	A	150D565X9015A2	100	R	150D107X9020R2*	47	R	150D476X9035R2*
820	S	150D827X9006S2	6.8	A	150D685X9015A2*	120	R	150D127X9020R2*	56	S	150D566X9035S2
1000	S	150D108X9006S2*	27	B	150D276X9015B2	180	S	150D187X9020S2	68	S	150D686X9035S2*
10 WVDC — 13 VDC SURGE			33	B	150D336X9015B2*	220	S	150D227X9020S2*	50 WVDC — 65 VDC SURGE		
5.6	A	150D565X9010A2	39	B	150D396X9015B2	30 WVDC — 34 VDC SURGE			1.2	A	150D125X9050A2
6.8	A	150D685X9010A2*	82	R	150D826X9015R2	2.2	A	150D225X9030A2*	1.5	A	150D155X9050A2*
8.2	A	150D825X9010A2	100	R	150D107X9015R2	2.7	A	150D275X9030A2	5.6	B	150D565X9050B2
10	A	150D106X9010A2*	120	R	150D127X9015R2	12	B	150D126X9030B2	6.8	B	150D685X9050B2*
47	B	150D476X9010B2*	150	R	150D157X9015R2*	15	B	150D156X9030B2*	22	R	150D226X9050R2*
56	B	150D566X9010B2	180	R	150D187X9015R2	18	B	150D186X9030B2	27	R	150D276X9050R2
68	B	150D686X9010B2*	220	S	150D227X9015S2*	56	R	150D566X9030R2	33	S	150D336X9050S2*
82	B	150D826X9010B2	270	S	150D277X9015S2	68	R	150D686X9030R2*	39	S	150D396X9050S2
			330	S	150D337X9015S2*						

SPRAGUE CAPACITORS

151D NON-POLARIZED TANTALEX® SOLID-TANTALUM CAPACITORS



- Truly Miniature Units Offer Excellent Electrical Characteristics and Outstanding Service Life.
- Hermetically Sealed in Metal Case.
- May Be Used At Full Rated Operating Voltages Up to 85°C. With Derating, May Be Used Up To 125°C.
- For Use Where Non-Polarized Solid Electrolyte Tantalums Excel—In Servo Systems, Crossover Networks, Low Frequency Tuned Circuits.

- Listed Units Have Plastic Sleeves.
- For Bare Case End Cat. No. in "0" Instead of "2."
- For Complete Technical Data, Refer To Latest Issue of Engineering Bulletin 3521.

Call Your Sprague Industrial Distributor For Current Quantity Prices

μF	Size Code	Catalog Number	
		±20% Tol.	±10% Tol.
6 VOLTS NP, 8 NP SURGE			
.11	W	151D114X0006W2	151D114X9006W2
.13	W	151D134X0006W2	151D134X9006W2
.16	W	151D164X0006W2	151D164X9006W2
.19	W	151D194X0006W2	151D194X9006W2
.23	W	151D234X0006W2	151D234X9006W2
.28	W	151D284X0006W2	151D284X9006W2
.34	W	151D344X0006W2	151D344X9006W2
.41	W	151D414X0006W2	151D414X9006W2
.50	W	151D504X0006W2	151D504X9006W2
.60	W	151D604X0006W2	151D604X9006W2
.75	W	151D754X0006W2	151D754X9006W2
.90	W	151D904X0006W2	151D904X9006W2
1.1	W	151D115X0006W2	151D115X9006W2
1.3	W	151D135X0006W2	151D135X9006W2
1.6	W	151D165X0006W2	151D165X9006W2
1.9	W	151D195X0006W2	151D195X9006W2
2.3	W	151D235X0006W2	151D235X9006W2
2.8	W	151D285X0006W2	151D285X9006W2
3.4	W	151D345X0006W2	151D345X9006W2
4.1	X	151D415X9006X2	151D415X9006X2
5.0	X	151D505X9006X2	151D505X9006X2
6.0	X	151D605X9006X2	151D605X9006X2
7.5	X	151D755X9006X2	151D755X9006X2
9.0	X	151D905X9006X2	151D905X9006X2
11	X	151D116X9006X2	151D116X9006X2
13	X	151D136X9006X2	151D136X9006X2
16	X	151D166X9006X2	151D166X9006X2
19	X	151D196X9006X2	151D196X9006X2
23	X	151D236X9006X2	151D236X9006X2
28	X	151D286X9006X2	151D286X9006X2
30	X	151D306X0006X2	151D306X0006X2
34	Y	151D346X0006Y2	151D346X0006Y2
41	Y	151D416X9006Y2	151D416X9006Y2
50	Y	151D506X0006Y2	151D506X0006Y2
60	Y	151D606X0006Y2	151D606X0006Y2
75	Y	151D756X0006Y2	151D756X0006Y2
90	Y	151D906X0006Y2	151D906X0006Y2
110	Z	151D117X0006Z2	151D117X9006Z2
130	Z	151D137X0006Z2	151D137X9006Z2
160	Z	151D167X0006Z2	151D167X9006Z2

μF	Size Code	Catalog Number	
		±20% Tol.	±10% Tol.
10 VOLTS NP, 13 NP SURGE			
.11	W	151D114X0010W2	151D114X9010W2
.13	W	151D134X0010W2	151D134X9010W2
.16	W	151D164X0010W2	151D164X9010W2
.19	W	151D194X0010W2	151D194X9010W2
.23	W	151D234X0010W2	151D234X9010W2
.28	W	151D284X0010W2	151D284X9010W2
.34	W	151D344X0010W2	151D344X9010W2
.41	W	151D414X0010W2	151D414X9010W2
.50	W	151D504X0010W2	151D504X9010W2
.60	W	151D604X0010W2	151D604X9010W2
.75	W	151D754X0010W2	151D754X9010W2
.90	W	151D904X0010W2	151D904X9010W2
1.1	W	151D115X0010W2	151D115X9010W2
1.3	W	151D135X0010W2	151D135X9010W2
1.6	W	151D165X0010W2	151D165X9010W2
1.9	W	151D195X0010W2	151D195X9010W2
2.3	W	151D235X0010W2	151D235X9010W2
2.8	X	151D285X9010X2	151D285X9010X2
3.4	X	151D345X9010X2	151D345X9010X2
4.1	X	151D415X9010X2	151D415X9010X2
5.0	X	151D505X9010X2	151D505X9010X2
6.0	X	151D605X9010X2	151D605X9010X2
7.5	X	151D755X9010X2	151D755X9010X2
9.0	X	151D905X9010X2	151D905X9010X2
11	X	151D116X9010X2	151D116X9010X2
13	X	151D136X9010X2	151D136X9010X2
16	X	151D166X9010X2	151D166X9010X2
19	X	151D196X9010X2	151D196X9010X2
23	X	151D236X9010X2	151D236X9010X2
28	Y	151D286X9010Y2	151D286X9010Y2
34	Y	151D346X9010Y2	151D346X9010Y2
41	Y	151D416X9010Y2	151D416X9010Y2
50	Y	151D506X0010Y2	151D506X0010Y2
60	Y	151D606X0010Y2	151D606X0010Y2
75	Z	151D756X0010Z2	151D756X9010Z2

μF	Size Code	Catalog Number	
		±20% Tol.	±10% Tol.
15 VOLTS NP, 20 NP SURGE			
90	Z	151D906X9010Z2	151D906X9010Z2
110	Z	151D117X0010Z2	151D117X9010Z2
20 VOLTS NP, 26 NP SURGE			
.0023	W	151D232X0020W2	151D232X9020W2
.0028	W	151D282X0020W2	151D282X9020W2
.0034	W	151D342X0020W2	151D342X9020W2
.0041	W	151D412X9020W2	151D412X9020W2
.005	W	151D502X0020W2	151D502X9020W2
.006	W	151D602X9020W2	151D602X9020W2
.0075	W	151D752X0020W2	151D752X9020W2
.009	W	151D902X9020W2	151D902X9020W2
.011	W	151D113X0020W2	151D113X9020W2
.013	W	151D133X9020W2	151D133X9020W2
.016	W	151D163X0020W2	151D163X9020W2
.019	W	151D193X9020W2	151D193X9020W2
.023	W	151D233X0020W2	151D233X9020W2
.028	W	151D283X9020W2	151D283X9020W2
.034	W	151D343X0020W2	151D343X9020W2
.041	W	151D413X9020W2	151D413X9020W2
.05	W	151D503X0020W2	151D503X9020W2
.06	W	151D603X9020W2	151D603X9020W2
.075	W	151D753X0020W2	151D753X9020W2
.09	W	151D903X9020W2	151D903X9020W2
.11	W	151D114X0020W2	151D114X9020W2
.13	W	151D134X9020W2	151D134X9020W2
.16	W	151D164X0020W2	151D164X9020W2
.19	W	151D194X9020W2	151D194X9020W2
.23	W	151D234X0020W2	151D234X9020W2
.28	W	151D284X9020W2	151D284X9020W2
.34	W	151D344X0020W2	151D344X9020W2
.41	W	151D414X9020W2	151D414X9020W2
.50	W	151D504X0020W2	151D504X9020W2
.60	W	151D604X9020W2	151D604X9020W2
.75	W	151D754X0020W2	151D754X9020W2
.90	W	151D904X9020W2	151D904X9020W2
1.1	W	151D115X0020W2	151D115X9020W2
1.3	X	151D135X9020X2	151D135X9020X2
1.6	X	151D165X0020X2	151D165X9020X2
1.9	X	151D195X9020X2	151D195X9020X2
2.3	X	151D235X9020X2	151D235X9020X2

μF	Size Code	Catalog Number	
		±20% Tol.	±10% Tol.
35 VOLTS NP, 46 NP SURGE			
2.8	X	151D285X9020X2	151D285X9020X2
3.4	X	151D345X9020X2	151D345X9020X2
4.1	X	151D415X9020X2	151D415X9020X2
5.0	X	151D505X9020X2	151D505X9020X2
6.0	X	151D605X9020X2	151D605X9020X2
7.5	X	151D755X9020X2	151D755X9020X2
9.0	Y	151D905X9020Y2	151D905X9020Y2
11	Y	151D116X0020Y2	151D116X9020Y2
13	Y	151D136X9020Y2	151D136X9020Y2
16	Y	151D166X0020Y2	151D166X9020Y2
19	Y	151D196X9020Y2	151D196X9020Y2
23	Y	151D236X0020Y2	151D236X9020Y2
28	Z	151D286X9020Z2	151D286X9020Z2
34	Z	151D346X0020Z2	151D346X9020Z2
41	Z	151D416X9020Z2	151D416X9020Z2
50	Z	151D506X0020Z2	151D506X9020Z2
46 NP SURGE			
.0023	W	151D232X0035W2	151D232X9035W2
.0028	W	151D282X9035W2	151D282X9035W2
.0034	W	151D342X0035W2	151D342X9035W2
.0041	W	151D412X9035W2	151D412X9035W2
.005	W	151D502X0035W2	151D502X9035W2
.006	W	151D602X9035W2	151D602X9035W2
.0075	W	151D752X0035W2	151D752X9035W2
.009	W	151D902X9035W2	151D902X9035W2
.011	W	151D113X0035W2	151D113X9035W2
.013	W	151D133X9035W2	151D133X9035W2
.016	W	151D163X0035W2	151D163X9035W2
.019	W	151D193X9035W2	151D193X9035W2
.023	W	151D233X0035W2	151D233X9035W2
.028	W	151D283X9035W2	151D283X9035W2
.034	W	151D343X0035W2	151D343X9035W2
.041	W	151D413X9035W2	151D413X9035W2
.050	W	151D503X0035W2	151D503X9035W2
.060	W	151D603X9035W2	151D603X9035W2
.075	W	151D753X0035W2	151D753X9035W2
.090	W	151D903X9035W2	151D903X9035W2
.11	W	151D114X0035W2	151D114X9035W2
.13	W	151D134X9035W2	151D134X9035W2
.16	W	151D164X0035W2	151D164X9035W2
.19	W	151D194X9035W2	151D194X9035W2
.23	W	151D234X0035W2	151D234X9035W2
.28	W	151D284X9035W2	151D284X9035W2
.34	W	151D344X0035W2	151D344X9035W2
.41	W	151D414X9035W2	151D414X9035W2
.50	W	151D504X0035W2	151D504X9035W2
.60	X	151D604X9035X2	151D604X9035X2
.75	X	151D754X0035X2	151D754X9035X2
.90	X	151D904X9035X2	151D904X9035X2
1.1	X	151D115X0035X2	151D115X9035X2
1.3	X	151D135X9035X2	151D135X9035X2
1.6	X	151D165X0035X2	151D165X9035X2
1.9	X	151D195X9035X2	151D195X9035X2
2.3	X	151D235X9035X2	151D235X9035X2

μF	Size Code	Catalog Number	
		±20% Tol.	±10% Tol.
46 NP SURGE			
.0023	W	151D232X0035W2	151D232X9035W2
.0028	W	151D282X9035W2	151D282X9035W2
.0034	W	151D342X0035W2	151D342X9035W2
.0041	W	151D412X9035W2	151D412X9035W2
.005	W	151D502X0035W2	151D502X9035W2
.006	W	151D602X9035W2	151D602X9035W2
.0075	W	151D752X0035W2	151D752X9035W2
.009	W	151D902X9035W2	151D902X9035W2
.011	W	151D113X0035W2	151D113X9035W2
.013	W	151D133X9035W2	151D133

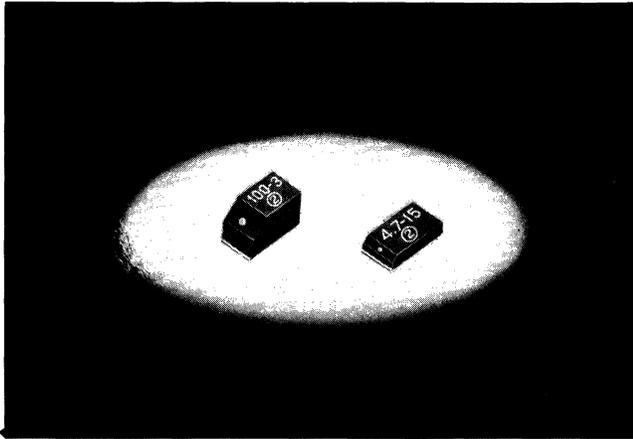
SPRAGUE CAPACITORS

TYPE 151D NON-POLARIZED SOLID-ELECTROLYTE TANTALEX® CAPACITORS (Cont.)

50 VOLTS NP, 65 NP SURGE				75 VOLTS NP, 97 NP SURGE				125 VOLTS NP, 140 NP SURGE			
μF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.	μF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.	μF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
.0023	W	151D232X0050W2	151D232X9050W2	.50	X	151D504X0060X2	151D504X9060X2	.016	W	151D163X0100W2	151D163X9100W2
.0028	W	151D282X9050W2	151D282X9050W2	.60	X	151D604X9060X2	151D604X9060X2	.019	W	151D193X9100W2	151D193X9100W2
.0034	W	151D342X0050W2	151D342X9050W2	.75	X	151D754X0060X2	151D754X9060X2	.023	W	151D233X0100W2	151D233X9100W2
.0041	W	151D412X9050W2	151D412X9050W2	.90	X	151D904X9060X2	151D904X9060X2	.028	W	151D283X9100W2	151D283X9100W2
.005	W	151D502X0050W2	151D502X9050W2	1.1	X	151D115X0060X2	151D115X9060X2	.034	W	151D343X0100W2	151D343X9100W2
.006	W	151D602X9050W2	151D602X9050W2	1.3	X	151D135X9060X2	151D135X9060X2	.041	W	151D413X9100W2	151D413X9100W2
.0075	W	151D752X0050W2	151D752X9050W2	1.6	X	151D165X0060X2	151D165X9060X2	.050	W	151D503X0100W2	151D503X9100W2
.009	W	151D902X9050W2	151D902X9050W2	1.9	X	151D195X9060X2	151D195X9060X2	.060	W	151D603X9100W2	151D603X9100W2
.011	W	151D113X0050W2	151D113X9050W2	2.3	Y	151D235X0060Y2	151D235X9060Y2	.075	W	151D753X0100W2	151D753X9100W2
.013	W	151D133X9050W2	151D133X9050W2	2.8	Y	151D285X9060Y2	151D285X9060Y2	.090	W	151D903X9100W2	151D903X9100W2
.016	W	151D163X0050W2	151D163X9050W2	3.4	Y	151D345X0060Y2	151D345X9060Y2	.11	W	151D114X0100W2	151D114X9100W2
.019	W	151D193X9050W2	151D193X9050W2	4.1	Y	151D415X9060Y2	151D415X9060Y2	.13	W	151D134X9100W2	151D134X9100W2
.023	W	151D233X0050W2	151D233X9050W2	5.0	Y	151D505X0060Y2	151D505X9060Y2	.16	W	151D164X0100W2	151D164X9100W2
.028	W	151D283X9050W2	151D283X9050W2	6.0	Z	151D605X9060Z2	151D605X9060Z2	.19	W	151D194X9100W2	151D194X9100W2
.034	W	151D343X0050W2	151D343X9050W2	7.5	Z	151D755X0060Z2	151D755X9060Z2	.23	W	151D234X0100W2	151D234X9100W2
.041	W	151D413X9050W2	151D413X9050W2	9.0	Z	151D905X9060Z2	151D905X9060Z2	.28	W	151D284X9100W2	151D284X9100W2
.05	W	151D503X0050W2	151D503X9050W2	11.0	Z	151D116X0060Z2	151D116X9060Z2	.34	X	151D344X0100X2	151D344X9100X2
.06	W	151D603X9050W2	151D603X9050W2	75 VOLTS NP, 97 NP SURGE				.41	X	151D414X9100X2	151D414X9100X2
.075	W	151D753X0050W2	151D753X9050W2	.0023	W	151D232X0075W2	151D232X9075W2	.50	X	151D504X0100X2	151D504X9100X2
.09	W	151D903X9050W2	151D903X9050W2	.0028	W	151D282X9075W2	151D282X9075W2	.60	X	151D604X9100W2	151D604X9100W2
.11	W	151D114X0050W2	151D114X9050W2	.0034	W	151D342X0075W2	151D342X9075W2	.75	X	151D754X0100X2	151D754X9100W2
.13	W	151D134X9050W2	151D134X9050W2	.0041	W	151D412X9075W2	151D412X9075W2	.90	X	151D904X9100X2	151D904X9100X2
.16	W	151D164X0050W2	151D164X9050W2	.005	W	151D502X0075W2	151D502X9075W2	1.1	X	151D115X0100X2	151D115X9100X2
.19	W	151D194X9050W2	151D194X9050W2	.006	W	151D602X9075W2	151D602X9075W2	1.3	X	151D135X9100X2	151D135X9100X2
.23	W	151D234X0050W2	151D234X9050W2	.0075	W	151D752X0075W2	151D752X9075W2	1.6	Y	151D165X0100Y2	151D165X9100Y2
.28	W	151D284X9050W2	151D284X9050W2	.009	W	151D902X9075W2	151D902X9075W2	1.9	Y	151D195X0100Y2	151D195X9100Y2
.34	W	151D344X0050W2	151D344X9050W2	.011	W	151D113X0075W2	151D113X9075W2	2.3	Y	151D235X0100Y2	151D235X9100Y2
.41	W	151D414X9050W2	151D414X9050W2	.013	W	151D133X9075W2	151D133X9075W2	2.8	Y	151D285X0100Y2	151D285X9100Y2
.50	W	151D504X0050W2	151D504X9050W2	.016	W	151D163X0075W2	151D163X9075W2	3.4	Y	151D345X0100Y2	151D345X9100Y2
.60	X	151D604X9050X2	151D604X9050X2	.019	W	151D193X9075W2	151D193X9075W2	125 VOLTS NP, 140 NP SURGE			
.75	X	151D754X0050X2	151D754X9050X2	.023	W	151D233X0075W2	151D233X9075W2	.0023	W	151D232X0125W2	151D232X9125W2
.90	X	151D904X9050X2	151D904X9050X2	.028	W	151D283X9075W2	151D283X9075W2	.0028	W	151D282X9125W2	151D282X9125W2
1.1	X	151D115X0050X2	151D115X9050X2	.034	W	151D343X0075W2	151D343X9075W2	.0034	W	151D342X0125W2	151D342X9125W2
1.3	X	151D135X9050X2	151D135X9050X2	.041	W	151D413X9075W2	151D413X9075W2	.0041	W	151D412X9125W2	151D412X9125W2
1.6	X	151D165X0050X2	151D165X9050X2	.05	W	151D503X0075W2	151D503X9075W2	.005	W	151D502X0125W2	151D502X9125W2
1.9	X	151D195X9050X2	151D195X9050X2	.06	W	151D603X9075W2	151D603X9075W2	.006	W	151D602X9125W2	151D602X9125W2
2.3	X	151D235X0050X2	151D235X9050X2	.075	W	151D753X0075W2	151D753X9075W2	.0075	W	151D752X0125W2	151D752X9125W2
2.8	Y	151D285X9050Y2	151D285X9050Y2	.09	W	151D903X9075W2	151D903X9075W2	.009	W	151D902X9125W2	151D902X9125W2
3.4	Y	151D345X0050Y2	151D345X9050Y2	.11	W	151D114X0075W2	151D114X9075W2	.011	W	151D113X0125W2	151D113X9125W2
4.1	Y	151D415X9050Y2	151D415X9050Y2	.13	W	151D134X9075W2	151D134X9075W2	.013	W	151D133X9125W2	151D133X9125W2
5.0	Y	151D505X0050Y2	151D505X9050Y2	.16	W	151D164X0075W2	151D164X9075W2	.016	W	151D163X0125W2	151D163X9125W2
6.0	Y	151D605X9050Y2	151D605X9050Y2	.19	W	151D194X9075W2	151D194X9075W2	.019	W	151D193X9125W2	151D193X9125W2
7.5	Y	151D755X0050Y2	151D755X9050Y2	.23	W	151D234X0075W2	151D234X9075W2	.023	W	151D233X0125W2	151D233X9125W2
9.0	Y	151D905X9050Y2	151D905X9050Y2	.28	W	151D284X9075W2	151D284X9075W2	.028	W	151D283X9125W2	151D283X9125W2
11.0	Z	151D116X0050Z2	151D116X9050Z2	.34	W	151D344X0075W2	151D344X9075W2	.034	W	151D343X0125W2	151D343X9125W2
60 VOLTS NP, 78 NP SURGE				.41	X	151D414X9075X2	151D414X9075X2	.041	W	151D413X9125W2	151D413X9125W2
.0023	W	151D232X0060W2	151D232X9060W2	.50	X	151D504X0075X2	151D504X9075X2	.05	W	151D503X0125W2	151D503X9125W2
.0028	W	151D282X9060W2	151D282X9060W2	.60	X	151D604X9075X2	151D604X9075X2	.06	W	151D603X9125W2	151D603X9125W2
.0034	W	151D342X0060W2	151D342X9060W2	.75	X	151D754X0075X2	151D754X9075X2	.07	W	151D703X0125W2	151D703X9125W2
.0041	W	151D412X9060W2	151D412X9060W2	.90	X	151D904X9075X2	151D904X9075X2	.09	W	151D903X9125W2	151D903X9125W2
.005	W	151D502X0060W2	151D502X9060W2	1.1	X	151D115X0075X2	151D115X9075X2	.11	W	151D114X0125W2	151D114X9125W2
.006	W	151D602X9060W2	151D602X9060W2	1.3	X	151D135X9075X2	151D135X9075X2	.13	W	151D134X9125W2	151D134X9125W2
.0075	W	151D752X0060W2	151D752X9060W2	1.6	X	151D165X0075X2	151D165X9075X2	.16	W	151D164X0125W2	151D164X9125W2
.009	W	151D902X9060W2	151D902X9060W2	1.9	X	151D195X9075X2	151D195X9075X2	.19	W	151D194X9125W2	151D194X9125W2
.011	W	151D113X0060W2	151D113X9060W2	2.3	Y	151D235X0075Y2	151D235X9075Y2	.23	W	151D234X0125W2	151D234X9125W2
.013	W	151D133X9060W2	151D133X9060W2	2.8	Y	151D285X9075Y2	151D285X9075Y2	.28	X	151D284X9125X2	151D284X9125X2
.016	W	151D163X0060W2	151D163X9060W2	3.4	Y	151D345X0075Y2	151D345X9075Y2	.34	X	151D344X0125X2	151D344X9125X2
.019	W	151D193X9060W2	151D193X9060W2	4.1	Y	151D415X9075Y2	151D415X9075Y2	.41	X	151D414X9125X2	151D414X9125X2
.023	W	151D233X0060W2	151D233X9060W2	5.0	Y	151D505X0075Y2	151D505X9075Y2	.50	X	151D504X0125X2	151D504X9125X2
.028	W	151D283X9060W2	151D283X9060W2	6.0	Z	151D605X9075Z2	151D605X9075Z2	.60	X	151D604X9125X2	151D604X9125X2
.034	W	151D343X0060W2	151D343X9060W2	7.5	Z	151D755X0075Z2	151D755X9075Z2	.75	X	151D754X0125X2	151D754X9125X2
.041	W	151D413X9060W2	151D413X9060W2	100 VOLTS NP, 115 NP SURGE				.90	X	151D904X9125X2	151D904X9125X2
.05	W	151D503X0060W2	151D503X9060W2	.0023	W	151D232X0100W2	151D232X9100W2	1.1	X	151D115X0125X2	151D115X9125X2
.06	W	151D603X9060W2	151D603X9060W2	.0028	W	151D282X0100W2	151D282X9100W2	DIMENSIONS WITH SLEEVE			
.075	W	151D753X0060W2	151D753X9060W2	.0034	W	151D342X0100W2	151D342X9100W2	Code	D. x L.	Call Your Sprague	
.09	W	151D903X9060W2	151D903X9060W2	.0041	W	151D412X9100W2	151D412X9100W2	W	.161" x .575"	Industrial Distributor	
.11	W	151D114X0060W2	151D114X9060W2	.005	W	151D502X0100W2	151D502X9100W2	X	.207" x .955"	for Current	
.13	W	151D134X9060W2	151D134X9060W2	.006	W	151D602X9100W2	151D602X9100W2	Y	.314" x 1.350"	Quantity Prices	
.16	W	151D164X0060W2	151D164X9060W2	.0075	W	151D752X0100W2	151D752X9100W2	Z	.376" x 1.550"		
.19	W	151D194X9060W2	151D194X9060W2	.009	W	151D902X9100W2	151D902X9100W2				
.23	W	151D234X0060W2	151D234X9060W2	.011	W	151D113X0100W2	151D113X9100W2				
.28	W										

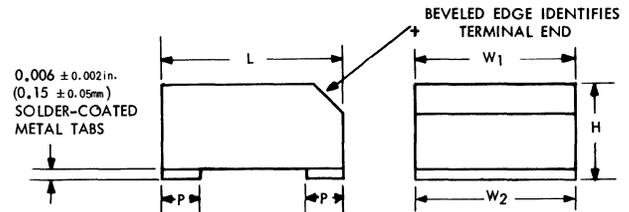
SPRAGUE CAPACITORS

TYPE 193D DOMINO® SOLID-TANTALUM CAPACITORS WITH FLUSH SOLDERABLE PAD TERMINALS*



- Designed for hybrid circuit and low-profile printed wiring board applications.
- Fully-molded construction. Epoxy case provides superior mechanical protection during handling and mounting as well as excellent stability in severe operating and storage environments.
- Leadless design minimizes inductance and saves space. Exposed terminal surfaces on bottom of capacitor. Can be attached to substrates or circuit boards by dip-soldering, welding, re-flow soldering, or other conventional methods.
- Compatible with automatic assembly equipment.
- Low-profile configuration makes Domino Capacitors ideal for use in molded assemblies such as dual in-line (DIP) packages.
- Low d-c leakage, low dissipation factor.
- Capacitance tolerance, $\pm 10\%$.
- Operating range -55°C to $+85^{\circ}\text{C}$. May be operated up to $+125^{\circ}\text{C}$ when derated to two-thirds of rated working voltage.
- For complete technical data, refer to latest issue of Engineering Bulletin 3532.

Case Code	DIMENSIONS (in inches)				
	L $\pm .005$	W ₁ $\pm .01$ (Case)	W ₂ $\begin{smallmatrix} +.01 \\ -.005 \end{smallmatrix}$ (Pads)	H $\pm .005$	P $\pm .01$
A	.180	.100	.090	.070	.030
B	.180	.100	.090	.100	.030
C	.320	.180	.170	.070	.050
D	.320	.180	.170	.100	.050
E	.320	.180	.170	.195	.050



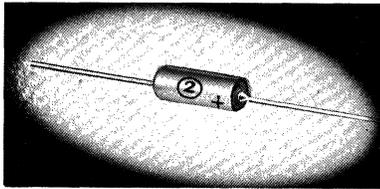
★Other ratings and extended tab terminals available on special order.

μF	Case Code	Catalog Number*
3 WVDC, 4 VDC SURGE		
100.0	E	193D107X9003E2
6 WVDC, 8 VDC SURGE		
3.3	B	193D335X9006B2
33.0	D	193D336X9006D2
68.0	E	193D686X9006E2
10 WVDC, 13 VDC SURGE		
1.0	A	193D105X9010A2
2.2	B	193D225X9010B2
6.8	C	193D685X9010C2
47.0	E	193D476X9010E2

μF	Case Code	Catalog Number*
15 WVDC, 20 VDC SURGE		
4.7	C	193D475X9015C2
10.0	D	193D106X9015D2
20 WVDC, 26 VDC SURGE		
0.47	A	193D474X9020A2
1.0	B	193D105X9020B2
3.3	C	193D335X9020C2
6.8	D	193D685X9020D2
22.0	E	193D226X9020E2
35 WVDC, 46 VDC SURGE		
0.1	A	193D104X9035A2
0.22	A	193D224X9035A2
1.5	C	193D155X9035C2
3.9	D	193D395X9035D2
10.0	E	193D106X9035E2

*Capacitors listed here have a capacitance tolerance of $\pm 10\%$. These units are also available with a capacitance tolerance of $\pm 5\%$ on special order. To specify $\pm 5\%$ capacitors, change the 8th and 9th characters in the catalog number from "X9" to "X5."

SPRAGUE CAPACITORS



MIL-C-26655 Solid TANTALUM CAPACITORS

- Military Version of Type 150D.
- CS12, Bare Tube; CS13, Insulating Sleeve
- Solid Electrolyte Will Not Seep Even if Hermetic Seal is Accidentally Broken
- Temperature Range of -55C to +85C. Also -55C to +125C With Voltage Derating
- For Insulated Style CS13, Add 0.010" to Diameter and 0.036" to Length
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 3520.1

SIZE CODE

A = .125" D. x .250" L. C = .279" D. x .650" L.
 B = .175" D. x .438" L. D = .341" D. x .750" L.

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
6 WVDC						
5.6	A	10%	CS12BB565K	CS13BB565K		
6.8	A	10%	CS12BB685K	CS13BB685K		
6.8	A	20%	CS12BB685M	CS13BB685M		
47	B	10%	CS12BB476K	CS13BB476K		
47	B	20%	CS12BB476M	CS13BB476M		
56	B	10%	CS12BB566K	CS13BB566K		
150	C	10%	CS12BB157K	CS13BB157K		
150	C	20%	CS12BB157M	CS13BB157M		
180	C	10%	CS12BB187K	CS13BB187K		
270	D	10%	CS12BB277K	CS13BB277K		
330	D	10%	CS12BB337K	CS13BB337K		
330	D	20%	CS12BB337M	CS13BB337M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
10 WVDC						
3.9	A	10%	CS12BC395K	CS13BC395K		
4.7	A	10%	CS12BC475K	CS13BC475K		
4.7	A	20%	CS12BC475M	CS13BC475M		
27	B	10%	CS12BC276K	CS13BC276K		
33	B	10%	CS12BC336K	CS13BC336K		
33	B	20%	CS12BC336M	CS13BC336M		
39	B	10%	CS12BC396K	CS13BC396K		
82	C	10%	CS12BC826K	CS13BC826K		
100	C	10%	CS12BC107K	CS13BC107K		
100	C	20%	CS12BC107M	CS13BC107M		
120	C	10%	CS12BC127K	CS13BC127K		
180	D	10%	CS12BC187K	CS13BC187K		
220	D	10%	CS12BC227K	CS13BC227K		
220	D	20%	CS12BC227M	CS13BC227M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
15 WVDC						
2.7	A	10%	CS12BD275K	CS13BD275K		
3.3	A	10%	CS12BD335K	CS13BD335K		
3.3	A	20%	CS12BD335M	CS13BD335M		
18	B	10%	CS12BD186K	CS13BD186K		
22	B	10%	CS12BD226K	CS13BD226K		
22	B	20%	CS12BD226M	CS13BD226M		
56	C	10%	CS12BD566K	CS13BD566K		
68	C	10%	CS12BD686K	CS13BD686K		
68	C	20%	CS12BD686M	CS13BD686M		
120	D	10%	CS12BD127K	CS13BD127K		
150	D	10%	CS12BD157K	CS13BD157K		
150	D	20%	CS12BD157M	CS13BD157M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
20 WVDC						
1.2	A	10%	CS12BE125K	CS13BE125K		
1.5	A	10%	CS12BE155K	CS13BE155K		
1.5	A	20%	CS12BE155M	CS13BE155M		
1.8	A	10%	CS12BE185K	CS13BE185K		
2.2	A	10%	CS12BE225K	CS13BE225K		
2.2	A	20%	CS12BE225M	CS13BE225M		
8.2	B	10%	CS12BE825K	CS13BE825K		
10	B	10%	CS12BE106K	CS13BE106K		
10	B	20%	CS12BE106M	CS13BE106M		
12	B	10%	CS12BE126K	CS13BE126K		
15	B	10%	CS12BE156K	CS13BE156K		
15	B	20%	CS12BE156M	CS13BE156M		
27	C	10%	CS12BE276K	CS13BE276K		
33	C	10%	CS12BE336K	CS13BE336K		
33	C	20%	CS12BE336M	CS13BE336M		
39	C	10%	CS12BE396K	CS13BE396K		
47	C	10%	CS12BE476K	CS13BE476K		
47	C	20%	CS12BE476M	CS13BE476M		
56	D	10%	CS12BE566K	CS13BE566K		
68	D	10%	CS12BE686K	CS13BE686K		
68	D	20%	CS12BE686M	CS13BE686M		
82	D	10%	CS12BE826K	CS13BE826K		
100	D	10%	CS12BE107K	CS13BE107K		
100	D	20%	CS12BE107M	CS13BE107M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
35 WVDC						
.33	A	10%	CS12BF334K	CS13BF334K		
.33	A	20%	CS12BF334M	CS13BF334M		
.39	A	10%	CS12BF394K	CS13BF394K		
.47	A	10%	CS12BF474K	CS13BF474K		
.47	A	20%	CS12BF474M	CS13BF474M		
.56	A	10%	CS12BF564K	CS13BF564K		
.68	A	10%	CS12BF684K	CS13BF684K		
.68	A	20%	CS12BF684M	CS13BF684M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
.82	A	10%	CS12BF824K	CS13BF824K		
1.0	A	10%	CS12BF105K	CS13BF105K		
1.0	A	20%	CS12BF105M	CS13BF105M		
1.2	B	10%	CS12BF125K	CS13BF125K		
1.5	B	10%	CS12BF155K	CS13BF155K		
1.5	B	20%	CS12BF155M	CS13BF155M		
1.8	B	10%	CS12BF185K	CS13BF185K		
2.2	B	10%	CS12BF225K	CS13BF225K		
2.2	B	20%	CS12BF225M	CS13BF225M		
2.7	B	10%	CS12BF275K	CS13BF275K		
3.3	B	10%	CS12BF335K	CS13BF335K		
3.3	B	20%	CS12BF335M	CS13BF335M		
3.9	B	10%	CS12BF395K	CS13BF395K		
4.7	B	10%	CS12BF475K	CS13BF475K		
4.7	B	20%	CS12BF475M	CS13BF475M		
5.6	B	10%	CS12BF565K	CS13BF565K		
6.8	B	10%	CS12BF685K	CS13BF685K		
6.8	B	20%	CS12BF685M	CS13BF685M		
8.2	C	10%	CS12BF825K	CS13BF825K		
10	C	10%	CS12BF106K	CS13BF106K		
10	C	20%	CS12BF106M	CS13BF106M		
12	C	10%	CS12BF126K	CS13BF126K		
15	C	10%	CS12BF156K	CS13BF156K		
15	C	20%	CS12BF156M	CS13BF156M		
18	C	10%	CS12BF186K	CS13BF186K		
22	C	10%	CS12BF226K	CS13BF226K		
22	C	20%	CS12BF226M	CS13BF226M		
27	D	10%	CS12BF276K	CS13BF276K		
33	D	10%	CS12BF336K	CS13BF336K		
33	D	20%	CS12BF336M	CS13BF336M		
39	D	10%	CS12BF396K	CS13BF396K		
47	D	10%	CS12BF476K	CS13BF476K		
47	D	20%	CS12BF476M	CS13BF476M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
50 WVDC						
1.0	A	10%	CS12BG105K	CS13BG105K		
1.0	A	20%	CS12BG105M	CS13BG105M		
1.2	B	10%	CS12BG125K	CS13BG125K		
1.5	B	10%	CS12BG155K	CS13BG155K		
1.5	B	20%	CS12BG155M	CS13BG155M		
1.8	B	10%	CS12BG185K	CS13BG185K		
2.2	B	10%	CS12BG225K	CS13BG225K		
2.2	B	20%	CS12BG225M	CS13BG225M		
2.7	B	10%	CS12BG275K	CS13BG275K		
3.3	B	10%	CS12BG335K	CS13BG335K		
3.3	B	20%	CS12BG335M	CS13BG335M		
3.9	B	10%	CS12BG395K	CS13BG395K		
4.7	B	10%	CS12BG475K	CS13BG475K		
4.7	B	20%	CS12BG475M	CS13BG475M		
5.6	C	10%	CS12BG565K	CS13BG565K		
6.8	C	10%	CS12BG685K	CS13BG685K		
6.8	C	20%	CS12BG685M	CS13BG685M		
8.2	C	10%	CS12BG825K	CS13BG825K		
10	C	10%	CS12BG106K	CS13BG106K		
10	C	20%	CS12BG106M	CS13BG106M		
12	C	10%	CS12BG126K	CS13BG126K		
15	C	10%	CS12BG156K	CS13BG156K		
15	C	20%	CS12BG156M	CS13BG156M		
18	C	10%	CS12BG186K	CS13BG186K		
22	D	10%	CS12BG226K	CS13BG226K		
22	D	20%	CS12BG226M	CS13BG226M		

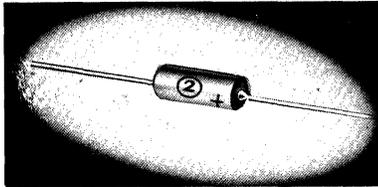
μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
75 WVDC						
.10	A	10%	CS12BH104K	CS13BH104K		
.10	A	20%	CS12BH104M	CS13BH104M		
.12	A	10%	CS12BH124K	CS13BH124K		
.15	A	10%	CS12BH154K	CS13BH154K		
.15	A	20%	CS12BH154M	CS13BH154M		
.18	A	10%	CS12BH184K	CS13BH184K		
.22	A	10%	CS12BH224K	CS13BH224K		
.22	A	20%	CS12BH224M	CS13BH224M		
.27	A	10%	CS12BH274K	CS13BH274K		
.33	A	10%	CS12BH334K	CS13BH334K		
.33	A	20%	CS12BH334M	CS13BH334M		
.39	A	10%	CS12BH394K	CS13BH394K		
.47	A	10%	CS12BH474K	CS13BH474K		
.47	A	20%	CS12BH474M	CS13BH474M		
.56	A	10%	CS12BH564K	CS13BH564K		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
.68	A	10%	CS12BH684K	CS13BH684K		
.68	A	20%	CS12BH684M	CS13BH684M		
.82	B	10%	CS12BH824K	CS13BH824K		
1.0	B	10%	CS12BH105K	CS13BH105K		
1.0	B	20%	CS12BH105M	CS13BH105M		
1.2	B	10%	CS12BH125K	CS13BH125K		
1.5	B	10%	CS12BH155K	CS13BH155K		
1.5	B	20%	CS12BH155M	CS13BH155M		
1.8	B	10%	CS12BH185K	CS13BH185K		
2.2	B	10%	CS12BH225K	CS13BH225K		
2.2	B	20%	CS12BH225M	CS13BH225M		
2.7	B	10%	CS12BH275K	CS13BH275K		
3.3	B	10%	CS12BH335K	CS13BH335K		
3.3	B	20%	CS12BH335M	CS13BH335M		
3.9	B	10%	CS12BH395K	CS13BH395K		
4.7	C	10%	CS12BH475K	CS13BH475K		
4.7	C	20%	CS12BH475M	CS13BH475M		
5.6	C	10%	CS12BH565K	CS13BH565K		
6.8	C	10%	CS12BH685K	CS13BH685K		
6.8	C	20%	CS12BH685M	CS13BH685M		
8.2	C	10%	CS12BH825K	CS13BH825K		
10	C	10%	CS12BH106K	CS13BH106K		
10	C	20%	CS12BH106M	CS13BH106M		
12	D	10%	CS12BH126K	CS13BH126K		
15	D	10%	CS12BH156K	CS13BH156K		
15	D	20%	CS12BH156M	CS13BH156M		

μF	Size Code	Tol.	CS12		CS13	
			Type Designation	Type Designation	Type Designation	Type Designation
100 WVDC						
.0047	A	10%	CS12BJ472K	CS13BJ472K		
.0047						

SPRAGUE CAPACITORS

ESTABLISHED RELIABILITY STYLE CSR13 SOLID TANTALUM CAPACITORS to MIL-C-39003



- Solid-electrolyte tantalum type. Glass-to-metal hermetic seal. 125 C operation.
- For complete technical data, refer to latest issue of Engineering Bulletin 3520.2.
- Handled by Sprague and Sprague industrial distributors in full compliance with MIL-STD-790. Manufactured, marked, packed, shipped, received, inspected, stored in separate area, free from contamination or mix-up with other components.

SIZE CODE			
A = .135" D. x 286" L.	C = .289" D. x 686" L.		
B = .185" D. x 474" L.	D = .351" D. x 786" L.		

MIL PART NUMBER M39003/01-

μF	WVDC	Size Code	MIL Type Designation*	Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)		Failure Rate S (0.001%)	
				Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%
5.6	6	A	CSR13B565K-	—	2001	—	2241	—	2481	—	2721	—	2961
6.8	6	A	CSR13B685--	2003	2002	2243	2242	2483	2482	2723	2722	2963	2962
47	6	B	CSR13B476--	2005	2004	2245	2244	2485	2484	2725	2724	2965	2964
56	6	B	CSR13B566K-	—	2006	—	2246	—	2486	—	2726	—	2966
150	6	C	CSR13B157--	2008	2007	2248	2247	2488	2487	2728	2727	2968	2967
180	6	C	CSR13B187K-	—	2009	—	2249	—	2489	—	2729	—	2969
270	6	D	CSR13B277K-	—	2010	—	2250	—	2490	—	2730	—	2970
330	6	D	CSR13B337--	2012	2011	2252	2251	2492	2491	2732	2731	2972	2971
3.9	10	A	CSR13C395K-	—	2013	—	2253	—	2493	—	2733	—	2973
4.7	10	A	CSR13C475--	2015	2014	2255	2254	2495	2494	2735	2734	2975	2974
27	10	B	CSR13C276K-	—	2016	—	2256	—	2496	—	2736	—	2976
33	10	B	CSR13C336--	2018	2017	2258	2257	2498	2497	2738	2737	2978	2977
39	10	B	CSR13C396K-	—	2019	—	2259	—	2499	—	2739	—	2979
82	10	C	CSR13C826K-	—	2020	—	2260	—	2500	—	2740	—	2980
100	10	C	CSR13C107--	2022	2021	2262	2261	2502	2501	2742	2741	2982	2981
120	10	C	CSR13C127K-	—	2023	—	2263	—	2503	—	2743	—	2983
180	10	D	CSR13C187K-	—	2024	—	2264	—	2504	—	2744	—	2984
220	10	D	CSR13C227--	2026	2025	2266	2265	2506	2505	2746	2745	2986	2985
2.7	15	A	CSR13D275K-	—	2027	—	2267	—	2507	—	2747	—	2987
3.3	15	A	CSR13D335--	2029	2028	2269	2268	2509	2508	2749	2748	2989	2988
18	15	B	CSR13D186K-	—	2030	—	2270	—	2510	—	2750	—	2990
22	15	B	CSR13D226--	2032	2031	2272	2271	2512	2511	2752	2751	2992	2991
56	15	C	CSR13D566K-	—	2033	—	2273	—	2513	—	2753	—	2993
68	15	C	CSR13D686--	2035	2034	2275	2274	2515	2514	2755	2754	2995	2994
120	15	D	CSR13D127K-	—	2036	—	2276	—	2516	—	2756	—	2996
150	15	D	CSR13D157--	2038	2037	2278	2277	2518	2517	2758	2757	2998	2997
1.2	20	A	CSR13E125K-	—	2039	—	2279	—	2519	—	2759	—	2999
1.5	20	A	CSR13E155--	2041	2040	2281	2280	2521	2520	2761	2760	3001	3000
1.8	20	A	CSR13E185K-	—	2042	—	2282	—	2522	—	2762	—	3002
2.2	20	A	CSR13E225--	2044	2043	2284	2283	2524	2523	2764	2763	3004	3003
8.2	20	B	CSR13E825K-	—	2045	—	2285	—	2525	—	2765	—	3005
10	20	B	CSR13E106--	2047	2046	2287	2286	2527	2526	2767	2766	3007	3006
12	20	B	CSR13E126K-	—	2048	—	2288	—	2528	—	2768	—	3008
15	20	B	CSR13E156--	2050	2049	2290	2289	2530	2529	2770	2769	3010	3009
27	20	C	CSR13E276K-	—	2051	—	2291	—	2531	—	2771	—	3011
33	20	C	CSR13E336--	2053	2052	2293	2292	2533	2532	2773	2772	3013	3012
39	20	C	CSR13E396K-	—	2054	—	2294	—	2534	—	2774	—	3014
47	20	C	CSR13E476--	2056	2055	2296	2295	2536	2535	2776	2775	3016	3015
56	20	D	CSR13E566K-	—	2057	—	2297	—	2537	—	2777	—	3017
68	20	D	CSR13E686--	2059	2058	2299	2298	2539	2538	2779	2778	3019	3018
82	20	D	CSR13E826K-	—	2060	—	2300	—	2540	—	2780	—	3020
100	20	D	CSR13E107--	2062	2061	2302	2301	2542	2541	2782	2781	3022	3021

*Type Nos. shown are incomplete. Capacitance Tolerance and/or Failure Rate must be added at end of number. Where 10th character (cap. tol.) is blank, insert "K" for ±10%, "M" for ±20%. A last character must be added to denote Failure Rate. Insert "L" for 2%, "M" for 1%, "P" for 0.1%, "R" for 0.01%, "S" for 0.001%.

SPRAGUE CAPACITORS

STYLE CSR13 SOLID TANTALUMS - (continued)

MIL PART NUMBER M39003/01--													
μF	WVDC	Size Code	MIL Type Designation*	Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)		Failure Rate S (0.001%)	
				Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%
5.6	35	B	CSR13F565K-	—	2063	—	2303	—	2543	—	2783	—	3023
6.8	35	B	CSR13F685--	2065	2064	2305	2304	2545	2544	2785	2784	3025	3024
22	35	C	CSR13F226--	2067	2066	2307	2306	2547	2746	2787	2786	3027	3026
27	35	D	CSR13F276K-	—	2068	—	2308	—	2548	—	2788	—	3028
33	35	D	CSR13F336--	2070	2069	2310	2309	2550	2549	2790	2789	3030	3029
39	35	D	CSR13F396K-	—	2071	—	2311	—	2551	—	2791	—	3031
47	35	D	CSR13F476--	2073	2072	2313	2312	2553	2552	2793	2792	3033	3032
.0047	50	A	CSR13G472--	2075	2074	2315	2314	2555	2554	2795	2794	3035	3034
.0056	50	A	CSR13G562K-	—	2076	—	2316	—	2556	—	2796	—	3036
.0068	50	A	CSR13G682--	2078	2077	2318	2317	2558	2557	2798	2797	3038	3037
.0082	50	A	CSR13G822K-	—	2079	—	2319	—	2559	—	2799	—	3039
.01	50	A	CSR13G103--	2081	2080	2321	2320	2561	2560	2801	2800	3041	3040
.012	50	A	CSR13G123K-	—	2082	—	2322	—	2562	—	2802	—	3042
.015	50	A	CSR13G153--	2084	2083	2324	2323	2564	2563	2804	2803	3044	3043
.018	50	A	CSR13G183K-	—	2085	—	2325	—	2565	—	2805	—	3045
.022	50	A	CSR13G223--	2087	2086	2327	2326	2567	2566	2807	2806	3047	3046
.027	50	A	CSR13G273K-	—	2088	—	2328	—	2568	—	2808	—	3048
.033	50	A	CSR13G333--	2090	2089	2330	2329	2570	2569	2810	2809	3050	3049
.039	50	A	CSR13G393K-	—	2091	—	2331	—	2571	—	2811	—	3051
.047	50	A	CSR13G473--	2093	2092	2333	2332	2573	2572	2813	2812	3053	3052
.056	50	A	CSR13G563K-	—	2094	—	2334	—	2574	—	2814	—	3054
.068	50	A	CSR13G683--	2096	2095	2336	2335	2576	2575	2816	2815	3056	3055
.082	50	A	CSR13G823K-	—	2097	—	2337	—	2577	—	2817	—	3057
.1	50	A	CSR13G104--	2099	2098	2339	2338	2579	2578	2819	2818	3059	3058
.12	50	A	CSR13G124K-	—	2100	—	2340	—	2580	—	2820	—	3060
.15	50	A	CSR13G154--	2102	2101	2342	2341	2582	2581	2822	2821	3062	3061
.18	50	A	CSR13G184K-	—	2103	—	2343	—	2583	—	2823	—	3063
.22	50	A	CSR13G224--	2105	2104	2345	2344	2585	2584	2825	2824	3065	3064
.27	50	A	CSR13G274K-	—	2106	—	2346	—	2586	—	2826	—	3066
.33	50	A	CSR13G334--	2108	2107	2348	2347	2588	2587	2828	2827	3068	3067
.39	50	A	CSR13G394K-	—	2109	—	2349	—	2589	—	2829	—	3069
.47	50	A	CSR13G474--	2111	2110	2351	2350	2591	2590	2831	2830	3071	3070
.56	50	A	CSR13G564K-	—	2112	—	2352	—	2592	—	2832	—	3072
.68	50	A	CSR13G684--	2114	2113	2354	2353	2594	2593	2834	2833	3074	3073
.82	50	A	CSR13G824K-	—	2115	—	2355	—	2595	—	2835	—	3075
1.0	50	A	CSR13G105--	2117	2116	2357	2356	2597	2596	2837	2836	3077	3076
1.2	50	B	CSR13G125K-	—	2118	—	2358	—	2598	—	2838	—	3078
1.5	50	B	CSR13G155--	2120	2119	2360	2359	2600	2599	2840	2839	3080	3079
1.8	50	B	CSR13G185K-	—	2121	—	2361	—	2601	—	2841	—	3081
2.2	50	B	CSR13G225--	2123	2122	2363	2362	2603	2602	2843	2842	3083	3082
2.7	50	B	CSR13G275K-	—	2124	—	2364	—	2604	—	2844	—	3084
3.3	50	B	CSR13G335--	2126	2125	2366	2365	2606	2605	2846	2845	3086	3085
3.9	50	B	CSR13G395K-	—	2127	—	2367	—	2607	—	2847	—	3087
4.7	50	B	CSR13G475--	2129	2128	2369	2368	2609	2608	2849	2848	3089	3088
5.6	50	C	CSR13G565K-	—	2130	—	2370	—	2610	—	2850	—	3090
6.8	50	C	CSR13G685--	2132	2131	2372	2371	2612	2611	2852	2851	3092	3091
8.2	50	C	CSR13G825K-	—	2133	—	2373	—	2613	—	2853	—	3093
10	50	C	CSR13G106--	2135	2134	2375	2374	2615	2614	2855	2854	3095	3094
12	50	C	CSR13G126K-	—	2136	—	2376	—	2616	—	2856	—	3096
15	50	C	CSR13G156--	2138	2137	2378	2377	2618	2617	2858	2857	3098	3097
18	50	C	CSR13G186K-	—	2139	—	2379	—	2619	—	2859	—	3099
22	50	D	CSR13G226--	2141	2140	2381	2380	2621	2620	2861	2860	3101	3100
.1	75	A	CSR13H104--	2143	2142	2383	2382	2723	2622	2863	2862	3103	3102
.12	75	A	CSR13H124K-	—	2144	—	2384	—	2624	—	2864	—	3104
.15	75	A	CSR13H154--	2146	2145	2386	2385	2626	2625	2866	2865	3106	3105
.18	75	A	CSR13H184K-	—	2147	—	2387	—	2627	—	2867	—	3107

*Type Nos. shown are incomplete. Capacitance Tolerance and/or Failure Rate must be added at end of number. Where 10th character (cap. tol.) is blank, insert "K" for ±10%, "M" for ±20%. A last character must be added to denote Failure Rate. Insert "L" for 2%, "M" for 1%, "P" for 0.1%, "R" for 0.01%, "S" for 0.001%.

SPRAGUE CAPACITORS

STYLE CSR13 SOLID TANTALUMS - (continued)

MIL PART NUMBER M39003/01--													
μF	WVDC	Size Code	MIL Type Designation*	Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)		Failure Rate S (0.001%)	
				Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%
.22	75	A	CSR13H224--	2149	2148	2389	2388	2629	2628	2869	2868	3109	3108
.27	75	A	CSR13H274K-	—	2150	—	2390	—	2630	—	2870	—	3110
.33	75	A	CSR13H334--	2152	2151	2392	2391	2632	2631	2872	2871	3112	3111
.39	75	A	CSR13H394K-	—	2153	—	2393	—	2633	—	2873	—	3113
.47	75	A	CSR13H474--	2155	2154	2395	2394	2635	2634	2875	2874	3115	3114
.56	75	A	CSR13H564K-	—	2156	—	2396	—	2636	—	2876	—	3116
.68	75	A	CSR13H684--	2158	2157	2398	2397	2638	2637	2878	2877	3118	3117
.82	75	B	CSR13H824K-	—	2159	—	2399	—	2639	—	2879	—	3119
1.0	75	B	CSR13H105--	2161	2160	2401	2400	2641	2640	2881	2880	3121	3120
1.2	75	B	CSR13H125K-	—	2162	—	2402	—	2642	—	2882	—	3122
1.5	75	B	CSR13H155--	2164	2163	2404	2403	2644	2643	2884	2883	3124	3123
1.8	75	B	CSR13H185K-	—	2165	—	2405	—	2645	—	2885	—	3125
2.2	75	B	CSR13H225--	2167	2166	2407	2406	2647	2646	2887	2886	3127	3126
2.7	75	B	CSR13H275K-	—	2168	—	2408	—	2648	—	2888	—	3128
3.3	75	B	CSR13H335--	2170	2169	2410	2409	2650	2649	2890	2889	3130	3129
3.9	75	B	CSR13H395K-	—	2171	—	2411	—	2651	—	2891	—	3131
4.7	75	C	CSR13H475--	2173	2172	2413	2412	2653	2652	2893	2892	3133	3132
5.6	75	C	CSR13H565K-	—	2174	—	2414	—	2654	—	2894	—	3134
6.8	75	C	CSR13H685--	2176	2175	2416	2415	2656	2655	2896	2895	3136	3135
8.2	75	C	CSR13H825K-	—	2177	—	2417	—	2657	—	2897	—	3137
10	75	C	CSR13H106--	2179	2178	2419	2418	2659	2658	2899	2898	3139	3138
12	75	D	CSR13H126K-	—	2180	—	2420	—	2660	—	2900	—	3140
15	75	D	CSR13H156--	2182	2181	2422	2421	2662	2661	2902	2901	3142	3141
.0047	100	A	CSR13J472--	2184	2183	2424	2423	2664	2663	2904	2903	3144	3143
.0056	100	A	CSR13J562K-	—	2185	—	2425	—	2665	—	2905	—	3145
.0068	100	A	CSR13J682--	2187	2186	2427	2426	2667	2666	2907	2906	3147	3146
.0082	100	A	CSR13J822K-	—	2188	—	2428	—	2668	—	2908	—	3148
.01	100	A	CSR13J103--	2190	2189	2430	2429	2670	2669	2910	2909	3150	3149
.012	100	A	CSR13J123K-	—	2191	—	2431	—	2671	—	2911	—	3151
.015	100	A	CSR13J153--	2193	2192	2433	2432	2673	2672	2913	2912	3153	3152
.018	100	A	CSR13J183K-	—	2194	—	2434	—	2674	—	2914	—	3154
.022	100	A	CSR13J223--	2196	2195	2436	2435	2676	2675	2916	2915	3156	3155
.027	100	A	CSR13J273K-	—	2197	—	2437	—	2677	—	2917	—	3157
.033	100	A	CSR13J333--	2199	2198	2439	2438	2679	2678	2919	2918	3159	3158
.039	100	A	CSR13J393K-	—	2200	—	2440	—	2680	—	2920	—	3160
.047	100	A	CSR13J473--	2202	2201	2442	2441	2682	2681	2922	2921	3162	3161
.056	100	A	CSR13J563K-	—	2203	—	2443	—	2683	—	2923	—	3163
.068	100	A	CSR13J683--	2205	2204	2445	2444	2685	2684	2925	2924	3165	3164
.082	100	A	CSR13J823K-	—	2206	—	2446	—	2686	—	2926	—	3166
.1	100	A	CSR13J104--	2208	2207	2448	2447	2688	2687	2928	2927	3168	3167
.12	100	A	CSR13J124K-	—	2209	—	2449	—	2689	—	2929	—	3169
.15	100	A	CSR13J154--	2211	2210	2451	2450	2691	2690	2931	2930	3171	3170
.18	100	A	CSR13J184K-	—	2212	—	2452	—	2692	—	2932	—	3172
.22	100	A	CSR13J224--	2214	2213	2454	2453	2694	2693	2934	2933	3174	3173
.27	100	A	CSR13J274K-	—	2215	—	2455	—	2695	—	2935	—	3175
.33	100	A	CSR13J334--	2217	2216	2457	2456	2697	2696	2937	2936	3177	3176
.39	100	A	CSR13J394K-	—	2218	—	2458	—	2698	—	2938	—	3178
.47	100	A	CSR13J474--	2220	2219	2460	2459	2700	2699	2940	2939	3180	3179
.56	100	A	CSR13J564K-	—	2221	—	2461	—	2701	—	2941	—	3181
.68	100	B	CSR13J684--	2223	2222	2463	2462	2703	2702	2943	2942	3183	3182
.82	100	B	CSR13J824K-	—	2224	—	2464	—	2704	—	2944	—	3184
1.0	100	B	CSR13J105--	2226	2225	2466	2465	2706	2705	2946	2945	3186	3185
1.2	100	B	CSR13J125K-	—	2227	—	2467	—	2707	—	2947	—	3187
1.5	100	B	CSR13J155--	2229	2228	2469	2468	2709	2708	2949	2948	3189	3188
1.8	100	B	CSR13J185K-	—	2230	—	2470	—	2710	—	2950	—	3190
2.2	100	B	CSR13J225--	2232	2231	2472	2471	2712	2711	2952	2951	3192	3191
2.7	100	B	CSR13J275K-	—	2233	—	2473	—	2713	—	2953	—	3193
3.3	100	R	CSR13J335--	—	—	5158	5157	5358	5357	5558	5557	5758	5757
3.9	100	R	CSR13J395K-	—	—	—	5160	—	5360	—	5560	—	5760
4.7	100	R	CSR13J475--	—	—	5163	5162	5363	5362	5563	5562	5763	5762
5.6	100	R	CSR13J565K-	—	—	—	5165	—	5365	—	5565	—	5765
6.8	100	R	CSR13J685--	—	—	5168	5167	5368	5367	5568	5567	5768	5767

*Type Nos. shown are incomplete. Capacitance Tolerance and/or Failure Rate must be added at end of number. Where 10th character (cap. tol.) is blank, insert "K" for ±10%, "M" for ±20%. A last character must be added to denote Failure Rate. Insert "L" for 2%, "M" for 1%, "P" for 0.1%, "R" for 0.01%, "S" for 0.001%.

SPRAGUE CAPACITORS

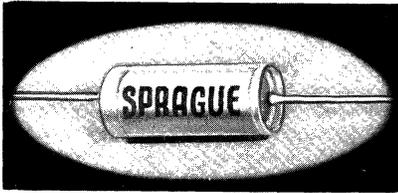
ESTABLISHED RELIABILITY STYLE CSR23 SOLID TANTALUM CAPACITORS to MIL-C-39003

- Essentially the same as Type CSR13 capacitors but with extended capacitance ratings (higher capacitance in same size cases) required in some new equipment designs.

MIL PART NUMBER M39003/03-											
μF	WVDC	Size Code	MIL Type Designation*	Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)	
				Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%	Cap. Tol. ± 20%	Cap. Tol. ± 10%
10	6	A	CSR23B106--	0002	0001	0102	0101	0202	0201	0302	0301
12	6	A	CSR23B126K-	—	0003	—	0103	—	0203	—	0303
100	6	B	CSR23B107--	0005	0004	0105	0104	0205	0204	0305	0304
330	6	C	CSR23B337--	0007	0006	0107	0106	0207	0206	0307	0306
390	6	C	CSR23B397K-	—	0008	—	0108	—	0208	—	0308
470	6	C	CSR23B477--	0010	0009	0110	0109	0210	0209	0310	0309
680	6	D	CSR23B687--	0012	0011	0112	0111	0212	0211	0312	0311
820	6	D	CSR23B827K-	—	0013	—	0113	—	0213	—	0313
1000	6	D	CSR23B108--	0015	0014	0115	0114	0215	0214	0315	0314
6.8	10	A	CSR23C685--	0017	0016	0117	0116	0217	0216	0317	0316
8.2	10	A	CSR23C825K-	—	0018	—	0118	—	0218	—	0318
47	10	B	CSR23C476--	0020	0019	0120	0119	0220	0219	0320	0319
56	10	B	CSR23C566K-	—	0021	—	0121	—	0221	—	0321
68	10	B	CSR23C686--	0023	0022	0123	0122	0223	0222	0323	0322
82	10	B	CSR23C826K-	—	0024	—	0124	—	0224	—	0324
220	10	C	CSR23C227--	0026	0025	0126	0125	0226	0225	0326	0325
270	10	C	CSR23C277K-	—	0027	—	0127	—	0227	—	0327
390	10	D	CSR23C397K-	—	0028	—	0128	—	0228	—	0328
470	10	D	CSR23C477--	0030	0029	0130	0129	0230	0229	0330	0329
560	10	D	CSR23C567K-	—	0031	—	0131	—	0231	—	0331
4.7	15	A	CSR23D475--	0033	0032	0133	0132	0233	0232	0333	0332
5.6	15	A	CSR23D565K-	—	0034	—	0134	—	0234	—	0334
33	15	B	CSR23D336--	0036	0035	0136	0135	0236	0235	0336	0335
39	15	B	CSR23D396K-	—	0037	—	0137	—	0237	—	0337
150	15	C	CSR23D157--	0039	0038	0139	0138	0239	0238	0339	0338
180	15	C	CSR23D187K-	—	0040	—	0140	—	0240	—	0340
220	15	D	CSR23D227--	0042	0041	0142	0141	0242	0241	0342	0341
270	15	D	CSR23D277K-	—	0043	—	0143	—	0243	—	0343
330	15	D	CSR23D337--	0045	0044	0145	0144	0245	0244	0345	0344
2.7	20	A	CSR23E275K-	—	0046	—	0146	—	0246	—	0346
3.3	20	A	CSR23E335--	0048	0047	0148	0147	0248	0247	0348	0347
3.9	20	A	CSR23E395K-	—	0049	—	0149	—	0249	—	0349
18	20	B	CSR23E186K-	—	0050	—	0150	—	0250	—	0350
22	20	B	CSR23E226--	0052	0051	0152	0151	0252	0251	0352	0351
27	20	B	CSR23E276K-	—	0053	—	0153	—	0253	—	0353
56	20	C	CSR23E566K-	—	0054	—	0154	—	0254	—	0354
68	20	C	CSR23E686--	0056	0055	0156	0155	0256	0255	0356	0355
82	20	C	CSR23E826K-	—	0057	—	0157	—	0257	—	0357
100	20	C	CSR23E107--	0059	0058	0159	0158	0259	0258	0359	0358
120	20	C	CSR23E127K-	—	0060	—	0160	—	0260	—	0360
150	20	D	CSR23E157--	0062	0061	0162	0161	0262	0261	0362	0361
180	20	D	CSR23E187K-	—	0063	—	0163	—	0263	—	0363
1.8	35	A	CSR23F185K-	—	0064	—	0164	—	0264	—	0364
8.2	35	B	CSR23F825K-	—	0065	—	0165	—	0265	—	0365
10	35	B	CSR23F106--	0067	0066	0167	0166	0267	0266	0367	0366
33	35	C	CSR23F336--	0069	0068	0169	0168	0269	0268	0369	0368
39	35	C	CSR23F396K-	—	0070	—	0170	—	0270	—	0370
47	35	C	CSR23F476--	0072	0071	0172	0171	0272	0271	0372	0371
56	35	D	CSR23F566K-	—	0073	—	0173	—	0273	—	0373
68	35	D	CSR23F686--	0075	0074	0175	0174	0275	0274	0375	0374
1.2	50	A	CSR23G125K-	—	0076	—	0176	—	0276	—	0376
1.5	50	A	CSR23G155--	0078	0077	0178	0177	0278	0277	0378	0377
5.6	50	B	CSR23G565K-	—	0079	—	0179	—	0279	—	0379
6.8	50	B	CSR23G685--	0081	0080	0181	0180	0281	0280	0381	0380
22	50	C	CSR23G226--	0083	0082	0183	0182	0283	0282	0383	0382
27	50	C	CSR23G276K-	—	0084	—	0184	—	0284	—	0384
33	50	D	CSR23G336--	0086	0085	0186	0185	0286	0285	0386	0385
39	50	D	CSR23G396K-	—	0087	—	0187	—	0287	—	0387

*Type Nos. shown are incomplete. Capacitance Tolerance and/or Failure Rate must be added at end of number. Where 10th character (cap. tol.) is blank, insert "K" for ± 10%, "M" for ± 20%. A last character must be added to denote Failure Rate. Insert "L" for 2%, "M" for 1%, "P" for 0.1%, "R" for 0.01%.

SPRAGUE CAPACITORS



FOIL TANTALEX® CAPACITORS

- Small Size, Electrically Stable, Long Life. For Data, See Latest Issue of Engineering Bulletin 3601
- 110D and 112D Available as MIL-C-3965 Units
- Cap. Tol. 110D, 111D is $\pm 20\%$ (X0 in cat. no.) up to 200V; $\pm 15\%$ (X8) over 200V. 112D, 113D is $\pm 7\%$, -15% (C7) to 30V; $\pm 5\%$, -15% (C5) to 75V; $+30\%$, -15% (C3) to 150V; $\pm 20\%$ (X0) in 200V and higher.
- Plastic Wrap. For Bare Case, End Cat. No. in "0" Instead of "1"

DIMENSIONS

Case	D x L	Case	D x L
D	0.203 x 0.812	P	0.390 x 2.875
G	0.296 x 1.000	R	0.483 x 2.875
J	0.390 x 1.562	Y	0.544 x 2.875
M	0.390 x 2.250		

TYPE 110D

POLARIZED PLAIN-FOIL

μ F	Case	Catalog No.
3 WVDC @ 85 C, 2 WVDC @ 125 C		
10	D	110D106X0003D1
55	G	110D556X0003G1
160	J	110D167X0003J1
350	M	110D357X0003M1
440	P	110D447X0003P1
1100	R	110D118X0003R1
1300	Y	110D138X0003Y1

μ F	Case	Catalog No.
6 WVDC @ 85 C, 4 WVDC @ 125 C		
8	D	110D805X0006D1
35	G	110D356X0006G1
100	J	110D107X0006J1
200	M	110D207X0006M1
300	P	110D307X0006P1
460	R	110D467X0006R1
560	Y	110D567X0006Y1

μ F	Case	Catalog No.
10 WVDC @ 85 C, 7 WVDC @ 125 C		
6	D	110D605X0010D1
25	G	110D256X0010G1
80	J	110D806X0010J1
160	M	110D167X0010M1
220	P	110D227X0010P1
350	R	110D357X0010R1
420	Y	110D427X0010Y1

μ F	Case	Catalog No.
15 WVDC @ 85 C, 10 WVDC @ 125 C		
4.5	D	110D455X0015D1
18	G	110D186X0015G1
55	J	110D556X0015J1
110	M	110D117X0015M1
160	P	110D167X0015P1
260	R	110D267X0015R1
320	Y	110D327X0015Y1

μ F	Case	Catalog No.
25 WVDC @ 85 C, 15 WVDC @ 125 C		
3	D	110D305X0025D1
12	G	110D126X0025G1
35	J	110D356X0025J1
70	M	110D706X0025M1
100	P	110D107X0025P1
180	R	110D187X0025R1
210	Y	110D217X0025Y1

μ F	Case	Catalog No.
30 WVDC @ 85 C, 20 WVDC @ 125 C		
2.5	D	110D255X0030D1
10	G	110D106X0030G1
30	J	110D306X0030J1
60	M	110D606X0030M1
85	P	110D856X0030P1
150	R	110D157X0030R1
180	Y	110D187X0030Y1

μ F	Case	Catalog No.
50 WVDC @ 85 C, 30 WVDC @ 125 C		
1.5	D	110D155X0050D1
6	G	110D605X0050G1
20	J	110D206X0050J1
40	M	110D406X0050M1
55	P	110D556X0050P1
100	R	110D107X0050R1
120	Y	110D127X0050Y1

μ F	Case	Catalog No.
60 WVDC @ 85 C, 40 WVDC @ 125 C		
1.2	D	110D125X0060D1
5	G	110D505X0060G1
17	J	110D176X0060J1
34	M	110D346X0060M1
48	P	110D486X0060P1
85	R	110D856X0060R1
100	Y	110D107X0060Y1

μ F	Case	Catalog No.
75 WVDC @ 85 C, 50 WVDC @ 125 C		
1	D	110D105X0075D1
4	G	110D405X0075G1
14	J	110D146X0075J1
28	M	110D286X0075M1
40	P	110D406X0075P1
70	R	110D706X0075R1
88	Y	110D886X0075Y1

μ F	Case	Catalog No.
100 WVDC @ 85 C, 65 WVDC @ 125 C		
0.8	D	110D804X0100D1
3	G	110D305X0100G1
10	J	110D106X0100J1
20	M	110D206X0100M1
30	P	110D306X0100P1
57	R	110D576X0100R1
70	Y	110D706X0100Y1

μ F	Case	Catalog No.
150 WVDC @ 85 C, 100 WVDC @ 125 C		
0.5	D	110D504X0150D1
2	G	110D205X0150G1

TYPE 110D

POLARIZED PLAIN-FOIL

μ F	Case	Catalog No.
7	J	110D705X0150J1
14	M	110D146X0150M1
20	P	110D206X0150P1
40	R	110D406X0150R1
47	Y	110D476X0150Y1

μ F	Case	Catalog No.
200 WVDC @ 85 C, 150 WVDC @ 125 C		
0.35	D	110D354X8200D1
1.5	G	110D155X8200G1
5	J	110D505X8200J1
10	M	110D106X8200M1
15	P	110D156X8200P1
25	R	110D256X8200R1
35	Y	110D356X8200Y1

μ F	Case	Catalog No.
250 WVDC @ 85 C, 165 WVDC @ 125 C		
0.3	D	110D304X8250D1
1.2	G	110D125X8250G1
4	J	110D405X8250J1
8	M	110D805X8250M1
12	P	110D126X8250P1
20	R	110D206X8250R1
30	Y	110D306X8250Y1

μ F	Case	Catalog No.
300 WVDC @ 85 C, 200 WVDC @ 125 C		
0.25	D	110D254X8300D1
1	G	110D105X8300G1
3	J	110D305X8300J1
7	M	110D705X8300M1
10	P	110D106X8300P1
18	R	110D186X8300R1

TYPE 111D

NON-POLARIZED PLAIN-FOIL

μ F	Case	Catalog No.
6 WVDC @ 85 C, 4 WVDC @ 125 C		
7	D	111D705X0006D1
25	G	111D256X0006G1
85	J	111D856X0006J1
170	M	111D177X0006M1
250	P	111D257X0006P1
360	R	111D367X0006R1
470	Y	111D477X0006Y1

μ F	Case	Catalog No.
10 WVDC @ 85 C, 7 WVDC @ 125 C		
4	D	111D405X0010D1
16	G	111D166X0010G1
55	J	111D556X0010J1
110	M	111D117X0010M1
150	P	111D157X0010P1
230	R	111D237X0010R1
280	Y	111D287X0010Y1

μ F	Case	Catalog No.
15 WVDC @ 85 C, 10 WVDC @ 125 C		
2.5	D	111D255X0015D1
10	G	111D106X0015G1
35	J	111D356X0015J1
70	M	111D706X0015M1
100	P	111D107X0015P1
160	R	111D167X0015R1
200	Y	111D207X0015Y1

μ F	Case	Catalog No.
25 WVDC @ 85 C, 15 WVDC @ 125 C		
1.5	D	111D155X0025D1
6	G	111D605X0025G1
20	J	111D206X0025J1
40	M	111D406X0025M1
60	P	111D606X0025P1
100	R	111D107X0025R1
120	Y	111D127X0025Y1

μ F	Case	Catalog No.
30 WVDC @ 85 C, 20 WVDC @ 125 C		
1.4	D	111D145X0030D1
5.5	G	111D555X0030G1
18	J	111D186X0030J1
36	M	111D366X0030M1
45	P	111D456X0030P1
85	R	111D856X0030R1
100	Y	111D107X0030Y1

μ F	Case	Catalog No.
50 WVDC @ 85 C, 30 WVDC @ 125 C		
0.8	D	111D804X0050D1
3	G	111D305X0050G1
10	J	111D106X0050J1
20	M	111D206X0050M1
30	P	111D306X0050P1
50	R	111D506X0050R1
65	Y	111D656X0050Y1

μ F	Case	Catalog No.
60 WVDC @ 85 C, 40 WVDC @ 125 C		
0.6	D	111D604X0060D1
2.5	G	111D255X0060G1
8.5	J	111D855X0060J1
17	M	111D176X0060M1

TYPE 111D

POLARIZED PLAIN-FOIL

μ F	Case	Catalog No.
24	P	111D246X0060P1
45	R	111D456X0060R1
53	Y	111D536X0060Y1

μ F	Case	Catalog No.
75 WVDC @ 85 C, 50 WVDC @ 125 C		
0.5	D	111D504X0075D1
2	G	111D205X0075G1
7	J	111D705X0075J1
14	M	111D146X0075M1
20	P	111D206X0075P1
40	R	111D406X0075R1
47	Y	111D476X0075Y1

μ F	Case	Catalog No.
100 WVDC @ 85 C, 65 WVDC @ 125 C		
0.4	D	111D404X0100D1
1.5	G	111D155X0100G1
5	J	111D505X0100J1
10	M	111D106X0100M1
15	P	111D156X0100P1
30	R	111D306X0100R1
37	Y	111D376X0100Y1

μ F	Case	Catalog No.
150 WVDC @ 85 C, 100 WVDC @ 125 C		
0.25	D	111D254X0150D1
1.0	G	111D105X0150G1
3.5	J	111D355X0150J1
7	M	111D705X0150M1
10	P	111D106X0150P1
20	R	111D206X0150R1
24	Y	111D246X0150Y1

μ F	Case	Catalog No.
200 WVDC @ 85 C, 150 WVDC @ 125 C		
0.15	D	111D154X8200D1
0.75	G	111D754X8200G1
2.5	J	111D255X8200J1
5	M	111D505X8200M1
7.5	P	111D755X8200P1
14	R	111D146X8200R1
17	Y	111D176X8200Y1

μ F	Case	Catalog No.
250 WVDC @ 85 C, 165 WVDC @ 125 C		
0.15	D	111D154X8250D1
0.6	G	111D604X8250G1
2	J	111D205X8250J1
4	M	111D405X8250M1
6	P	111D605X8250P1
12	R	111D126X8250R1
15	Y	111D156X8250Y1

TYPE 112D

POLARIZED ETCHED-FOIL

μ F	Case	Catalog No.
15 WVDC @ 85 C, 10 WVDC @		

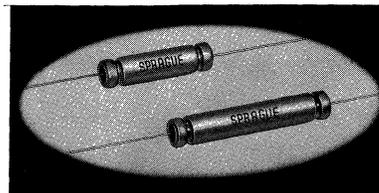
SPRAGUE CAPACITORS

MIL-C-3965 TUBULAR FOIL TANTALUM ELECTROLYTICS STYLES CL20, CL21, CL22, CL23, CL30, CL31, CL32, and CL33

- Meet Requirements of Military Specification MIL-C-3965
- Small Electrically Stable Foil Tantalums, Long, Reliable Life
- Available in Industrial Equivalents as Types 110D, 111D, 112D, 113D
- Types Marked (*) Have Insulating Sleeves. All Others are Bare Case

- Temperature Rating 125C
- Capacitance Tolerance
L = +15, -15% T = +50, -15%
M = +20, -20% U = +75, -15%
S = +30, -15%

SIZE CODE (Diam x Length)	
E = 1 ³ / ₄ x 3 ¹ / ₂	N = 2 ⁵ / ₈ x 2 ¹ / ₄
H = 1 ³ / ₄ x 1 ⁷ / ₃₂	Q = 2 ⁵ / ₈ x 2 ⁷ / ₈
K = 2 ⁵ / ₈ x 1 ⁹ / ₁₆	



MIL Type Number		MIL Type Number	
Size to	to	Size to	to
Code	Code	Code	Code
MIL-C-3965/17C MIL-C-3965/17B*			
STYLE CL20			
POLARIZED ETCHED FOIL			
10 WVDC			
15 E	CL20BE150UPE	CL20CD150UP3	
60 H	CL20BE600UPE	CL20CD600UP3	
200 K	CL20BE201UPE	CL20CD201UP3	
400 N	CL20BE401UPE	CL20CD401UP3	
580 Q	CL20BE581UPE	CL20CD581UP3	
15 WVDC			
10 E	CL20BG100UPE	CL20CE100UP3	
40 H	CL20BG400UPE	CL20CE400UP3	
120 K	CL20BG121UPE	CL20CE121UP3	
250 N	CL20BG251UPE	CL20CE251UP3	
350 Q	CL20BG351UPE	CL20CE351UP3	
20 WVDC			
8 E	CL20BH080UPE		
32 H	CL20BH320UPE		
110 K	CL20BH111UPE		
220 N	CL20BH221UPE		
300 Q	CL20BH301UPE		
30 WVDC			
4.5 E	CL20BJ4R5TPE	CL20CH4R5TP3	
18 H	CL20BJ180TPE	CL20CH180TP3	
60 K	CL20BJ600TPE	CL20CH600TP3	
100 N	CL20BJ101TPE	CL20CH101TP3	
150 Q	CL20BJ151TPE	CL20CH151TP3	
50 WVDC			
3 E	CL20BL030TPE	CL20CJ030TP3	
12 H	CL20BL120TPE	CL20CJ120TP3	
30 K	CL20BL300TPE	CL20CJ300TP3	
70 N	CL20BL700TPE	CL20CJ700TP3	
100 Q	CL20BL101TPE	CL20CJ101TP3	
65 WVDC			
2 E	CL21BN020SPE	CL21CK020TP3	
8 H	CL21BN080SPE	CL21CK080TP3	
25 K	CL21BN250SPE	CL21CK250TP3	
50 N	CL21BN500SPE	CL21CK500TP3	
70 Q	CL21BN700SPE	CL21CK700TP3	
100 WVDC			
1 E	CL21BQ010SPE	CL21CN010SP3	
4 H	CL21BQ040SPE	CL21CN040SP3	
13 K	CL21BQ130SPE	CL21CN130SP3	
25 N	CL21BQ250SPE	CL21CN250SP3	
36 Q	CL21BQ360SPE	CL21CN360SP3	
STYLE CL22			
NON-POLARIZED ETCHED FOIL			
MIL Type Number		MIL Type Number	
Size to	to	Size to	to
Code	Code	Code	Code
MIL-C-3965/18C MIL-C-3965/18B*			
10 WVDC			
10 E	CL22BE100UNE	CL22CD100UN3	
40 H	CL22BE400UNE	CL22CD400UN3	
120 K	CL22BE121UNE	CL22CD121UN3	
250 N	CL22BE251UNE	CL22CD251UN3	
350 Q	CL22BE351UNE	CL22CD351UN3	
15 WVDC			
5 E	CL22BG050UNE	CL22CE050UN3	
20 H	CL22BG200UNE	CL22CE200UN3	
70 K	CL22BG700UNE	CL22CE700UN3	
140 N	CL22BG141UNE	CL22CE141UN3	
200 Q	CL22BG201UNE	CL22CE201UN3	
20 WVDC			
4.5 E	CL22BH4R5UNE	CL22CH4R5TP3	
18 H	CL22BH180UNE	CL22CH180TP3	
60 K	CL22BH600UNE	CL22CH600TP3	
120 N	CL22BH121UNE	CL22CH121TP3	
170 Q	CL22BH171UNE	CL22CH171TP3	
30 WVDC			
2.5 E	CL22BJ2R5TNE	CL22CH2R5TN3	
10 H	CL22BJ100TNE	CL22CH100TN3	
30 K	CL22BJ300TNE	CL22CH300TN3	
60 N	CL22BJ600TNE	CL22CH600TN3	
80 Q	CL22BJ800TNE	CL22CH800TN3	
50 WVDC			
1.5 E	CL22BL1R5TNE	CL22CJ1R5TN3	
6 H	CL22BL060TNE	CL22CJ060TN3	
15 K	CL22BL150TNE	CL22CJ150TN3	
35 N	CL22BL350TNE	CL22CJ350TN3	
50 Q	CL22BL500TNE	CL22CJ500TN3	
65 WVDC			
1 E	CL22BN010TNE	CL22CK010TN3	
4 H	CL22BN040TNE	CL22CK040TN3	
12 K	CL22BN120TNE	CL22CK120TN3	
25 N	CL22BN250TNE	CL22CK250TN3	
35 Q	CL22BN350TNE	CL22CK350TN3	
STYLE CL21*			
POLARIZED PLAIN FOIL			
10 WVDC			
15 E	CL21BE150UPE	CL21CD150UP3	
60 H	CL21BE600UPE	CL21CD600UP3	
200 K	CL21BE201UPE	CL21CD201UP3	
400 N	CL21BE401UPE	CL21CD401UP3	
580 Q	CL21BE581UPE	CL21CD581UP3	
15 WVDC			
10 E	CL21BG100UPE	CL21CE100UP3	
40 H	CL21BG400UPE	CL21CE400UP3	
120 K	CL21BG121UPE	CL21CE121UP3	
250 N	CL21BG251UPE	CL21CE251UP3	
350 Q	CL21BG351UPE	CL21CE351UP3	
20 WVDC			
8 E	CL21BH080UPE		
32 H	CL21BH320UPE		
110 K	CL21BH111UPE		
220 N	CL21BH221UPE		
300 Q	CL21BH301UPE		

MIL Type Number		MIL Type Number	
Size to	to	Size to	to
Code	Code	Code	Code
MIL-C-3965/18C MIL-C-3965/18B*			
100 WVDC			
5 E	CL23BE100UNE	CL23CD100UN3	
20 H	CL23BE400UNE	CL23CD400UN3	
120 K	CL23BE121UNE	CL23CD121UN3	
250 N	CL23BE251UNE	CL23CD251UN3	
350 Q	CL23BE351UNE	CL23CD351UN3	
15 WVDC			
5 E	CL23BG050UNE	CL23CE050UN3	
20 H	CL23BG200UNE	CL23CE200UN3	
70 K	CL23BG700UNE	CL23CE700UN3	
140 N	CL23BG141UNE	CL23CE141UN3	
200 Q	CL23BG201UNE	CL23CE201UN3	
20 WVDC			
4.5 E	CL23BH4R5UNE	CL23CH4R5TP3	
18 H	CL23BH180UNE	CL23CH180TP3	
60 K	CL23BH600UNE	CL23CH600TP3	
120 N	CL23BH121UNE	CL23CH121TP3	
170 Q	CL23BH171UNE	CL23CH171TP3	
30 WVDC			
2.5 E	CL23BJ2R5TNE	CL23CH2R5TN3	
10 H	CL23BJ100TNE	CL23CH100TN3	
30 K	CL23BJ300TNE	CL23CH300TN3	
60 N	CL23BJ600TNE	CL23CH600TN3	
80 Q	CL23BJ800TNE	CL23CH800TN3	
50 WVDC			
1.5 E	CL23BL1R5TNE	CL23CJ1R5TN3	
6 H	CL23BL060TNE	CL23CJ060TN3	
15 K	CL23BL150TNE	CL23CJ150TN3	
35 N	CL23BL350TNE	CL23CJ350TN3	
50 Q	CL23BL500TNE	CL23CJ500TN3	
65 WVDC			
1 E	CL23BN010TNE	CL23CK010TN3	
4 H	CL23BN040TNE	CL23CK040TN3	
12 K	CL23BN120TNE	CL23CK120TN3	
25 N	CL23BN250TNE	CL23CK250TN3	
35 Q	CL23BN350TNE	CL23CK350TN3	
STYLE CL30			
POLARIZED PLAIN FOIL			
MIL Type Number		MIL Type Number	
Size to	to	Size to	to
Code	Code	Code	Code
MIL-C-3965/15B MIL-C-3965/15A*			
2 WVDC			
10 E	CL30BA100MPE		
50 H	CL30BA500MPE		
4 WVDC			
8 E	CL30BB080MPE		
30 H	CL30BB300MPE		
100 K	CL30BB101MPE		
200 N	CL30BB201MPE		
300 Q	CL30BB301MPE		
7 WVDC			
6 E	CL30BD060MPE		
25 H	CL30BD250MPE		
80 K	CL30BD800MPE		
160 N	CL30BD161MPE		
220 Q	CL30BD221MPE		
10 WVDC			
4.5 E	CL30BE4R5MPE	CL30CD4R5MP3	
10 H	CL30BE100MPE	CL30CD100MP3	
18 H	CL30BE180MPE	CL30CD180MP3	
55 K	CL30BE550MPE	CL30CD550MP3	
110 N	CL30BE111MPE	CL30CD111MP3	
160 Q	CL30BE161MPE	CL30CD161MP3	
15 WVDC			
3 E	CL30BG030MPE	CL30CE030MP3	
12 H	CL30BG120MPE	CL30CE120MP3	
35 K	CL30BG350MPE	CL30CE350MP3	
70 N	CL30BG700MPE	CL30CE700MP3	
100 Q	CL30BG101MPE	CL30CE101MP3	
20 WVDC			
2.5 E	CL30BH2R5MPE		
10 H	CL30BH100MPE		
30 K	CL30BH300MPE		
60 N	CL30BH600MPE		
85 Q	CL30BH850MPE		
30 WVDC			
1.5 E	CL30BJ1R5MPE	CL30CH1R5MP3	
6 H	CL30BJ060MPE	CL30CH060MP3	
20 K	CL30BJ200MPE	CL30CH200MP3	
40 N	CL30BJ400MPE	CL30CH400MP3	
55 Q	CL30BJ550MPE	CL30CH550MP3	
50 WVDC			
1 E	CL30BL010MPE	CL30CJ010MP3	
4 H	CL30BL040MPE	CL30CJ040MP3	
14 K	CL30BL140MPE	CL30CJ140MP3	
28 N	CL30BL280MPE	CL30CJ280MP3	
40 Q	CL30BL400MPE	CL30CJ400MP3	
65 WVDC			
.8 E	CL30BN0R8MPE	CL30CK0R8MP3	
3 H	CL30BN030MPE	CL30CK030MP3	
10 K	CL30BN100MPE	CL30CK100MP3	
20 N	CL30BN200MPE	CL30CK200MP3	
30 Q	CL30BN300MPE	CL30CK300MP3	
100 WVDC			
.5 E	CL30BQ0R5MPE	CL30CN0R5MP3	
2 H	CL30BQ020MPE	CL30CN020MP3	
4 K	CL30BQ040MPE	CL30CN040MP3	
7 K	CL30BQ070MPE	CL30CN070MP3	
8 N	CL30BQ080MPE	CL30CN080MP3	
12 N	CL30BQ120MPE	CL30CN120MP3	
14 N	CL30BQ140MPE	CL30CN140MP3	
20 Q	CL30BQ200MPE	CL30CN200MP3	
150 WVDC			
.35 E	CL30BZ3R5LPE	CL30CQ3R5MP3	
1.5 H	CL30BZ1R5LPE	CL30CQ1R5MP3	
5 K	CL30BZ050LPE	CL30CQ050MP3	
10 N	CL30BZ100LPE	CL30CQ100MP3	
15 Q	CL30BZ150LPE	CL30CQ150MP3	
165 WVDC			
.3 E	CL30BR030LPE		
1.2 H	CL30BR01R2LPE		
4 K	CL30BR040LPE		
8 N	CL30BR080LPE		
12 Q	CL30BR120LPE		
200 WVDC			
.27 E	CL30BX2R7LPE		
1 H	CL30BX010LPE		
3.3 K	CL30BX3R3LPE		
6.8 N	CL30BX6R8LPE		
10 Q	CL30BX100LPE		

* Available until present stocks are exhausted.

SPRAGUE CAPACITORS

MIL-C-3965 FOIL TANTALUM ELECTROLYTICS, continued

μF	Size Code	MIL-Type Number to MIL-C-3965/15B	MIL-Type Number to MIL-C-3965/15A*
STYLE CL31★ POLARIZED PLAIN FOIL			
2 WVDC			
10	E	CL31BA100MPE	_____
50	H	CL31BA500MPE	_____
4 WVDC			
8	E	CL31BB080MPE	_____
30	H	CL31BB300MPE	_____
100	K	CL31BB101MPE	_____
200	N	CL31BB201MPE	_____
300	Q	CL31BB301MPE	_____
7 WVDC			
6	E	CL31BD060MPE	_____
25	H	CL31BD250MPE	_____
80	K	CL31BD800MPE	_____
160	N	CL31BD161MPE	_____
220	Q	CL31BD221MPE	_____
10 WVDC			
4.5	E	CL31BE4R5MPE	CL31CD4R5MP3
10	H	CL31BE100MPE	_____
18	H	CL31BE180MPE	CL31CD180MP3
55	K	CL31BE550MPE	CL31CD550MP3
110	N	CL31BE111MPE	CL31CD111MP3
160	Q	CL31BE161MPE	CL31CD161MP3
15 WVDC			
3	E	CL31BG030MPE	CL31CE030MP3
12	H	CL31BG120MPE	CL31CE120MP3
35	K	CL31BG350MPE	CL31CE350MP3
70	N	CL31BG700MPE	CL31CE700MP3
100	Q	CL31BG101MPE	CL31CE101MP3
20 WVDC			
2.5	E	CL31BH2R5MPE	_____
10	H	CL31BH100MPE	_____
30	K	CL31BH300MPE	_____
60	N	CL31BH600MPE	_____
85	Q	CL31BH850MPE	_____
30 WVDC			
1.5	E	CL31BJ1R5MPE	CL31CH1R5MP3
6	H	CL31BJ060MPE	CL31CH060MP3
20	K	CL31BJ200MPE	CL31CH200MP3
40	N	CL31BJ400MPE	CL31CH400MP3
55	Q	CL31BJ550MPE	CL31CH550MP3
50 WVDC			
1	E	CL31BL010MPE	CL31CJ010MP3
4	H	CL31BL040MPE	CL31CJ040MP3
14	K	CL31BL140MPE	CL31CJ140MP3
28	N	CL31BL280MPE	CL31CJ280MP3
40	Q	CL31BL400MPE	CL31CJ400MP3
65 WVDC			
.8	E	CL31BN0R8MPE	CL31CK0R8MP3
3	H	CL31BN030MPE	CL31CK030MP3
10	K	CL31BN100MPE	CL31CK100MP3
20	N	CL31BN200MPE	CL31CK200MP3
30	Q	CL31BN300MPE	CL31CK300MP3
100 WVDC			
.5	E	CL31BQ0R5MPE	CL31CN0R5MP3
2	H	CL31BQ020MPE	CL31CN020MP3
4	K	CL31BQ040MPE	_____
7	K	CL31BQ070MPE	CL31CN070MP3
8	N	CL31BQ080MPE	_____
12	N	CL31BQ120MPE	_____
14	N	CL31BQ140MPE	CL31CN140MP3
20	Q	CL31BQ200MPE	CL31CN200MP3
150 WVDC			
.35	E	CL31BZR35LPE	CL31CQR35MP3
1.5	H	CL31BZ1R5LPE	CL31CQ1R5MP3
5	K	CL31BZ050LPE	CL31CQ050MP3
10	N	CL31BZ100LPE	CL31CQ100MP3
15	Q	CL31BZ150LPE	CL31CQ150MP3
165 WVDC			
.3	E	CL31BOR30LPE	_____
1.2	H	CL31BO1R2LPE	_____
4	K	CL31BO040LPE	_____
8	N	CL31BO080LPE	_____
12	Q	CL31BO120LPE	_____
200 WVDC			
.27	E	CL31BXR27LPE	_____
1	H	CL31BX010LPE	_____
3.3	K	CL31BX3R3LPE	_____
6.8	N	CL31BX6R9LPE	_____
10	Q	CL31BX100LPE	_____

μF	Size Code	MIL-Type Number to MIL-C-3965/16B	MIL-Type Number to MIL-C-3965/16A*
STYLE CL32 NON-POLARIZED PLAIN FOIL			
2 WVDC			
10	E	CL32BA100MNE	_____
45	H	CL32BA450MNE	_____
140	K	CL32BA141MNE	_____
280	N	CL32BA281MNE	_____
400	Q	CL32BA401MNE	_____
4 WVDC			
7	E	CL32BB070MNE	_____
25	H	CL32BB250MNE	_____
85	K	CL32BB850MNE	_____
170	N	CL32BB171MNE	_____
250	Q	CL32BB251MNE	_____
7 WVDC			
4	E	CL32BD040MNE	_____
16	H	CL32BD160MNE	_____
55	K	CL32BD550MNE	_____
110	N	CL32BD111MNE	_____
150	Q	CL32BD151MNE	_____
10 WVDC			
2.5	E	CL32BE2R5MNE	CL32CD2R5MN3
10	H	CL32BE100MNE	CL32CD100MN3
35	K	CL32BE350MNE	CL32CD350MN3
70	N	CL32BE700MNE	CL32CD700MN3
100	Q	CL32BE101MNE	CL32CD101MN3
15 WVDC			
1.5	E	CL32BG1R5MNE	CL32CE1R5MN3
6	H	CL32BG060MNE	CL32CE060MN3
20	K	CL32BG200MNE	CL32CE200MN3
40	N	CL32BG400MNE	CL32CE400MN3
60	Q	CL32BG600MNE	CL32CE600MN3
20 WVDC			
1.4	E	CL32BH1R4MNE	_____
5.5	H	CL32BH5R5MNE	_____
18	K	CL32BH180MNE	_____
36	N	CL32BH360MNE	_____
45	Q	CL32BH450MNE	_____
30 WVDC			
.8	E	CL32BJ0R8MNE	CL32CH0R8MN3
3	H	CL32BJ030MNE	CL32CH030MN3
10	K	CL32BJ100MNE	CL32CH100MN3
20	N	CL32BJ200MNE	CL32CH200MN3
30	Q	CL32BJ300MNE	CL32CH300MN3
50 WVDC			
.5	E	CL32BL0R5MNE	CL32CJ0R5MN3
2	H	CL32BL020MNE	CL32CJ020MN3
7	K	CL32BL070MNE	CL32CJ070MN3
14	N	CL32BL140MNE	CL32CJ140MN3
20	Q	CL32BL200MNE	CL32CJ200MN3
65 WVDC			
.4	E	CL32BN0R4MNE	CL32CK0R4MN3
1.5	H	CL32BN1R5MNE	CL32CK1R5MN3
5	K	CL32BN050MNE	CL32CK050MN3
10	N	CL32BN100MNE	CL32CK100MN3
15	Q	CL32BN150MNE	CL32CK150MN3
100 WVDC			
.25	E	CL32BQR25MNE	CL32CNR25MN3
1	H	CL32BQ010MNE	CL32CN010MN3
3.5	K	CL32BQ3R5MNE	CL32CN3R5MN3
7	N	CL32BQ070MNE	CL32CN070MN3
10	Q	CL32BQ100MNE	CL32CN100MN3
150 WVDC			
.15	E	CL32BZR15LNE	CL32CQR15MN3
.75	H	CL32BZ2R75LNE	CL32CQR75MN3
2.5	K	CL32BZ2R5LNE	CL32CQ2R5MN3
5	N	CL32BZ050LNE	CL32CQ050MN3
7.5	Q	CL32BZ7R5LNE	CL32CQ7R5MN3
165 WVDC			
.15	E	CL32BOR15LNE	_____
.6	H	CL32BO0R5LNE	_____
2	K	CL32BO020LNE	_____
4	N	CL32BO040LNE	_____
6	Q	CL32BO060LNE	_____
200 WVDC			
.12	E	CL32BXR12LNE	_____
.47	H	CL32BXR47LNE	_____
1.5	K	CL32BX1R5LNE	_____
3.3	N	CL32BX3R3LNE	_____
4.7	Q	CL32BX4R7LNE	_____

μF	Size Code	MIL-Type Number to MIL-C-3965/16B	MIL-Type Number to MIL-C-3965/16A*
STYLE CL33★ NON-POLARIZED PLAIN FOIL			
2 WVDC			
10	E	CL33BA100MNE	_____
45	H	CL33BA450MNE	_____
140	K	CL33BA141MNE	_____
280	N	CL33BA281MNE	_____
400	Q	CL33BA401MNE	_____
4 WVDC			
7	E	CL33BB070MNE	_____
25	H	CL33BB250MNE	_____
85	K	CL33BB850MNE	_____
170	N	CL33BB171MNE	_____
250	Q	CL33BB251MNE	_____
7 WVDC			
4	E	CL33BD040MNE	_____
16	H	CL33BD160MNE	_____
55	K	CL33BD550MNE	_____
110	N	CL33BD111MNE	_____
150	Q	CL33BD151MNE	_____
10 WVDC			
2.5	E	CL33BE2R5MNE	CL33CD2R5MN3
10	H	CL33BE100MNE	CL33CD100MN3
35	K	CL33BE350MNE	CL33CD350MN3
70	N	CL33BE700MNE	CL33CD700MN3
100	Q	CL33BE101MNE	CL33CD101MN3
15 WVDC			
1.5	E	CL33BG1R5MNE	CL33CE1R5MN3
6	H	CL33BG060MNE	CL33CE060MN3
20	K	CL33BG200MNE	CL33CE200MN3
40	N	CL33BG400MNE	CL33CE400MN3
60	Q	CL33BG600MNE	CL33CE600MN3
20 WVDC			
1.4	E	CL33BH1R4MNE	_____
5.5	H	CL33BH5R5MNE	_____
18	K	CL33BH180MNE	_____
36	N	CL33BH360MNE	_____
45	Q	CL33BH450MNE	_____
30 WVDC			
.8	E	CL33BJ0R8MNE	CL33CH0R8MN3
3	H	CL33BJ030MNE	CL33CH030MN3
10	K	CL33BJ100MNE	CL33CH100MN3
20	N	CL33BJ200MNE	CL33CH200MN3
30	Q	CL33BJ300MNE	CL33CH300MN3
50 WVDC			
.5	E	CL33BL0R5MNE	CL33CJ0R5MN3
2	H	CL33BL020MNE	CL33CJ020MN3
7	K	CL33BL070MNE	CL33CJ070MN3
14	N	CL33BL140MNE	CL33CJ140MN3
20	Q	CL33BL200MNE	CL33CJ200MN3
65 WVDC			
.4	E	CL33BN0R4MNE	CL33CK0R4MN3
1.5	H	CL33BN1R5MNE	CL33CK1R5MN3
5	K	CL33BN050MNE	CL33CK050MN3
10	N	CL33BN100MNE	CL33CK100MN3
15	Q	CL33BN150MNE	CL33CK150MN3
100 WVDC			
.25	E	CL33BQR25MNE	CL33CNR25MN3
1	H	CL33BQ010MNE	CL33CN010MN3
3.5	K	CL33BQ3R5MNE	CL33CN3R5MN3
7	N	CL33BQ070MNE	CL33CN070MN3
10	Q	CL33BQ100MNE	CL33CN100MN3
150 WVDC			
.15	E	CL33BZR15LNE	CL33CQR15MN3
.75	H	CL33BZ2R75LNE	CL33CQR75MN3
2.5	K	CL33BZ2R5LNE	CL33CQ2R5MN3
5	N	CL33BZ050LNE	CL33CQ050MN3
7.5	Q	CL33BZ7R5LNE	CL33CQ7R5MN3
165 WVDC			
.15	E	CL33BOR15LNE	_____
.6	H	CL33BO0R6LNE	_____
2	K	CL33BO020LNE	_____
4	N	CL33BO040LNE	_____
6	Q	CL33BO060LNE	_____
200 WVDC			
.12	E	CL33BXR12LNE	_____
.47	H	CL33BXR47LNE	_____
1.5	K	CL33BX1R5LNE	_____
3.3	N	CL33BX3R3LNE	_____
4.7	Q	CL33BX4R7LNE	_____

* Available until present stocks are exhausted.

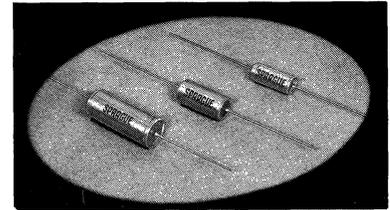
SPRAGUE CAPACITORS

MIL-C-3965 FOIL TANTALUM CAPACITORS STYLE CL24 & CL25

- For -55C to +85C Operation up to 150 Volts in Military and Industrial Electronic Equipment
- Low Leakage Current and Stable Temperature Coefficient Makes Possible Its Use in Many Circuits Where Aluminum Foil Designs Are Undesirable
- The Electrolyte System Used Assures Long Operating and Shelf Life, excellent

Low-temperature Performance, Chemical Stability and Inertness

- Dimensions Listed Are For Bare Metal-Case. For Insulated Case Add 1/4" to Diameter and 1/8" to Length
- MIL Version of Sprague Type 112D
- Type CL24 Is a Bare Metal-Case Unit. If An Outer Insulating Sleeve Is Desired, Order Type CL25



DIMENSIONS

Code	D. x L.	Code	D. x L.
D	1 3/4 x 3/4	M	2 5/8 x 2 3/16
G	1 5/8 x 1 5/16	P	2 5/8 x 2 13/16
J	2 5/8 x 1 1/2		

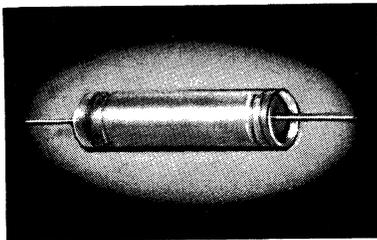
Call Your Sprague Industrial Distributor For Current Quantity Prices

μF	WVDC	Size Code	Military Designation*
15	15	D	CL24BE150UP3
60	15	G	CL24BE600UP3
200	15	J	CL24BE201UP3
400	15	M	CL24BE401UP3
580	15	P	CL24BE581UP3
10	25	D	CL24BG100UP3
40	25	G	CL24BG400UP3
120	25	J	CL24BG121UP3
250	25	M	CL24BG251UP3
350	25	P	CL24BG351UP3
8	30	D	CL24BH080UP3
32	30	G	CL24BH320UP3

μF	WVDC	Size Code	Military Designation*
110	30	J	CL24BH111UP3
220	30	M	CL24BH221UP3
300	30	P	CL24BH301UP3
4.5	50	D	CL24BJ4R5TP3
18	50	G	CL24BJ180TP3
60	50	J	CL24BJ600TP3
100	50	M	CL24BJ101TP3
150	50	P	CL24BJ151TP3
3	75	D	CL24BL030TP3
12	75	G	CL24BL120TP3
30	75	J	CL24BL300TP3

μF	WVDC	Size Code	Military Designation*
70	75	M	CL24BL700TP3
100	75	P	CL24BL101TP3
2	100	D	CL24BN020SP3
8	100	G	CL24BN080SP3
25	100	J	CL24BN250SP3
50	100	M	CL24BN500SP3
70	100	P	CL24BN700SP3
1	150	D	CL24BQ010SP3
4	150	G	CL24BQ040SP3
13	150	J	CL24BQ130SP3
25	150	M	CL24BQ250SP3
36	150	P	CL24BQ360SP3

*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.



DIMENSIONS

Code	D. x L.	Code	D. x L.
D	3/16 x 1 1/16	M	3/8 x 2 1/8
G	1/2 x 7/8	P	3/8 x 2 3/4
J	3/8 x 1 7/16		

MIL-C-3965 FOIL TANTALUM CAPACITORS STYLE CL34 and CL35

- For use in military and industrial electronic equipment. Designed to operate over the temperature range of -55C to +85C
- Long operation and shelf life, excellent low temperature performance, and optimum electrical characteristics
- For use in circuits where aluminum foil units are unsatisfactory
- Low leakage current and good temperature coefficient
- Type CL34 is a bare metal case unit. If an outer insulating sleeve is desired, order Type CL35
- MIL version of Sprague Type 110D

Call Your Sprague Industrial Distributor For Current Quantity Prices

μF	WVDC	Size Code	Military Designation*
10	3	D	CL34BA100MP3
50	3	G	CL34BA500MP3
8	6	D	CL34BB080MP3
30	6	G	CL34BB300MP3
100	6	J	CL34BB101MP3
200	6	M	CL34BB201MP3
300	6	P	CL34BB301MP3
6	10	D	CL34BD060MP3
25	10	G	CL34BD250MP3
80	10	J	CL34BD800MP3
160	10	M	CL34BD161MP3
220	10	P	CL34BD221MP3
4.5	15	D	CL34BE4R5MP3
10	15	G	CL34BE100MP3
18	15	G	CL34BE180MP3
55	15	J	CL34BE550MP3
110	15	M	CL34BE111MP3
160	15	P	CL34BE161MP3
2.5	30	D	CL34BH2R5MP3
30	30	J	CL34BH300MP3

μF	WVDC	Size Code	Military Designation*
60	30	M	CL34BH600MP3
85	30	P	CL34BH850MP3
1.5	50	D	CL34BJ1R5MP3
6	50	G	CL34BJ060MP3
20	50	J	CL34BJ200MP3
40	50	M	CL34BJ400MP3
55	50	P	CL34BJ550MP3
1	75	D	CL34BL010MP3
4	75	G	CL34BL040MP3
14	75	J	CL34BL140MP3
28	75	M	CL34BL280MP3
40	75	P	CL34BL400MP3
0.8	100	D	CL34BN0R8MP3
3	100	G	CL34BN030MP3
10	100	J	CL34BN100MP3
20	100	M	CL34BN200MP3
30	100	P	CL34BN300MP3
0.5	150	D	CL34BQ0R5MP3
2	150	G	CL34BQ020MP3
4	150	J	CL34BQ040MP3

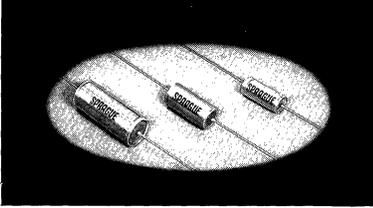
μF	WVDC	Size Code	Military Designation*
7	150	J	CL34BQ070MP3
8	150	M	CL34BQ080MP3
12	150	M	CL34BQ120MP3
14	150	M	CL34BQ140MP3
20	150	P	CL34BQ200MP3
.35	200	D	CL34BR351LP3
1.5	200	G	CL34BR1R5LP3
5	200	J	CL34BR050LP3
10	200	M	CL34BR100LP3
15	200	P	CL34BR150LP3
.30	250	D	CL34BSR30LP3
1.2	250	G	CL34BS1R2LP3
4	250	J	CL34BS040LP3
8	250	M	CL34BS080LP3
12	250	P	CL34BS120LP3
1	300	G	CL34BX010LP3
3	300	J	CL34BX030LP3
7	300	M	CL34BX070LP3
10	300	P	CL34BX100LP3

*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.

SPRAGUE CAPACITORS

ESTABLISHED RELIABILITY MIL-C-39006

STYLE CLR25/27 and CLR35/37 FOIL TANTALUM CAPACITORS



• Rated for operation to 85 C (to 125 C with voltage derating).

• Handled by Sprague and Sprague industrial distributors in full compliance with MIL-STD-790. Manufactured, marked, packed, shipped, received inspected, stored in separate area, free from contamination or mix-up with other components.

• Capacitance tolerances: Style CLR25 27... 15 thru 30V = +75, -15%; 50 thru 75V = +50, -15%; 100V and up = +30, -15%. Style CLR35 37... 15 thru 150V = ± 20%; 200V and up = ± 15%.

SIZE CODE

A = .219" D. x .668" L.	D = .406" D. x 2.125" L.
B = .312" D. x .969" L.	E = .406" D. x 2.750" L.
C = .406" D. x 1.438" L.	

STYLE CLR25, POLARIZED ETCHED FOIL

MIL Part No. M39006/01-							MIL Part No. M39006/01-							MIL Part No. M39006/01-							
μF	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μF	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μF	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	
GLASS-TO-METAL HERMETIC SEAL																					
60	15	B	3001	3030	3059	3038	220	30	D	3011	3040	3069	3098	100	75	E	3021	3050	3079	3108	
200	15	C	3002	3031	3060	3089	300	30	E	3012	3041	3070	3099	8	100	B	3022	3051	3080	3109	
400	15	D	3003	3032	3061	3090	18	50	B	3013	3042	3071	3100	25	100	C	3023	3052	3081	3110	
580	15	E	3004	3033	3062	3091	60	50	C	3014	3043	3072	3101	50	100	D	3024	3053	3082	3111	
40	25	B	3005	3034	3063	3092	75	50	E	3015	3044	3073	3102	70	100	E	3025	3054	3083	3112	
120	25	C	3006	3035	3064	3093	100	50	D	3016	3045	3074	3103	4	150	B	3026	3055	3084	3113	
250	25	D	3007	3036	3065	3094	150	50	E	3017	3046	3075	3104	13	150	C	3027	3056	3085	3114	
350	25	E	3008	3037	3066	3095	12	75	B	3018	3047	3076	3105	25	150	D	3028	3057	3086	3115	
32	30	B	3009	3038	3067	3096	30	75	C	3019	3048	3077	3106	36	150	E	3029	3058	3087	3116	
110	30	C	3010	3039	3068	3097	70	75	D	3020	3049	3078	3107								

ELASTOMER SEAL

15	15	A	2200	2232	2264	2296	32	30	D	2211	2243	2275	2307	2	100	A	2222	2254	2286	2318	
60	15	B	2201	2233	2265	2297	4.5	50	A	2212	2244	2276	2308	8	100	B	2223	2255	2287	2319	
200	15	C	2202	2234	2266	2298	18	50	B	2213	2245	2277	2309	25	100	C	2224	2256	2288	2320	
400	15	D	2203	2235	2267	2299	60	50	C	2214	2246	2278	2310	50	100	D	2225	2257	2289	2321	
580	15	E	2204	2236	2268	2300	100	50	D	2215	2247	2279	2311	70	100	E	2226	2258	2290	2322	
10	25	A	2205	2237	2269	2301	150	50	E	2216	2248	2280	2312	1	150	A	2227	2259	2291	2323	
40	25	B	2206	2238	2270	2302	3	75	A	2217	2249	2281	2313	4	150	B	2228	2260	2292	2324	
120	25	C	2207	2239	2271	2303	12	75	B	2218	2250	2282	2314	13	150	C	2229	2261	2293	2325	
250	25	D	2208	2240	2272	2304	30	75	C	2219	2251	2283	2315	25	150	D	2230	2262	2294	2326	
350	25	E	2209	2241	2273	2305	70	75	D	2220	2252	2284	2316	36	150	E	2231	2263	2295	2327	
8	30	A	2210	2242	2274	2306	100	75	E	2221	2253	2285	2317								

STYLE CLR27, NON-POLARIZED ETCHED FOIL

MIL Part No. M39006/02-							MIL Part No. M39006/02-							MIL Part No. M39006/02-						
μF	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μF	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μF	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)
GLASS-TO-METAL HERMETIC SEAL																				
40	15	B	1200	1228	1256	1284	60	30	C	1209	1237	1265	1293	35	75	D	1218	1246	1274	1302
120	15	C	1201	1229	1257	1285	120	30	D	1210	1238	1266	1294	50	75	E	1219	1247	1275	1303
250	15	D	1202	1230	1258	1286	170	30	E	1211	1239	1267	1295	4	100	B	1220	1248	1276	1304
350	15	E	1203	1231	1259	1287	10	50	B	1212	1240	1268	1296	12	100	C	1221	1249	1277	1305
20	25	B	1204	1232	1260	1288	30	50	C	1213	1241	1269	1297	25	100	D	1222	1250	1278	1306
70	25	C	1205	1233	1261	1289	60	50	D	1214	1242	1270	1298	35	100	E	1223	1251	1279	1307
140	25	D	1206	1234	1262	1290	80	50	E	1215	1243	1271	1299	2	150	B	1224	1252	1280	1308
200	25	E	1207	1235	1263	1291	6	75	B	1216	1244	1272	1300	6	150	C	1225	1253	1281	1309
18	30	B	1208	1236	1264	1292	15	75	C	1217	1245	1273	1301	12	150	D	1226	1254	1282	1310

ELASTOMER SEAL

10	15	A	2200	2232	2264	2296	18	30	D	2211	2243	2275	2307	1	100	A	2222	2254	2286	2318	
40	15	B	2201	2233	2265	2297	2.5	50	A	2212	2244	2276	2308	4	100	B	2223	2255	2287	2319	
120	15	C	2202	2234	2266	2298	10	50	B	2213	2245	2277	2309	12	100	C	2224	2256	2288	2320	
250	15	D	2203	2235	2267	2299	30	50	C	2214	2246	2278	2310	25	100	D	2225	2257	2289	2321	
350	15	E	2204	2236	2268	2300	60	50	D	2215	2247	2279	2311	35	100	E	2226	2258	2290	2322	
5	25	A	2205	2237	2269	2301	80	50	E	2216	2248	2280	2312	0.5	150	A	2227	2259	2291	2323	
20	25	B	2206	2238	2270	2302	1.5	75	A	2217	2249	2281	2313	2	150	B	2228	2260	2292	2324	
70	25	C	2207	2239	2271	2303	6	75	B	2218	2250	2282	2314	6	150	C	2229	2261	2293	2325	
140	25	D	2208	2240	2272	2304	15	75	C	2219	2251	2283	2315	12	150	D	2230	2262	2294	2326	
200	25	E	2209	2241	2273	2305	35	75	D	2220	2252	2284	2316	18	150	E	2231	2263	2295	2327	
4.5	30	A	2210	2242	2274	2306	50	75	E	2221	2253	2285	2317								

SPRAGUE CAPACITORS

STYLE CLR35, POLARIZED PLAIN FOIL

MIL Part No. M39006/03-					MIL Part No. M39006/03-					MIL Part No. M39006/03-											
μ F	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μ F	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μ F	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	
GLASS-TO-METAL HERMETIC SEAL																					
18	15	B	1300	1349	1398	1447	20	50	C	1314	1363	1412	1461	20	150	E	1328	1377	1426	1475	
55	15	C	1301	1350	1399	1448	40	50	D	1315	1364	1413	1462	1.5	200	B	1329	1378	1427	1476	
110	15	D	1302	1351	1400	1449	55	50	E	1316	1365	1414	1463	5	200	C	1330	1379	1428	1477	
160	15	E	1303	1352	1401	1450	4	75	B	1317	1366	1415	1464	10	200	D	1331	1380	1429	1478	
12	25	B	1304	1353	1402	1451	14	75	C	1318	1367	1416	1465	15	200	E	1332	1381	1430	1479	
35	25	C	1305	1354	1403	1452	28	75	D	1319	1368	1417	1466	1.2	250	B	1333	1382	1431	1480	
70	25	D	1306	1355	1404	1453	40	75	E	1320	1369	1418	1467	4	250	C	1334	1383	1432	1481	
100	25	E	1307	1356	1405	1454	3	100	B	1321	1370	1419	1468	8	250	D	1335	1384	1433	1482	
10	30	B	1308	1357	1406	1455	10	100	C	1322	1371	1420	1469	12	250	E	1336	1385	1434	1483	
30	30	C	1309	1358	1407	1456	20	100	D	1323	1372	1421	1470	1	300	B	1337	1386	1435	1484	
60	30	D	1310	1359	1408	1457	30	100	E	1324	1373	1422	1471	3	300	C	1338	1387	1436	1485	
85	30	E	1311	1360	1409	1458	2	150	B	1325	1374	1423	1472	7	300	D	1339	1388	1437	1486	
68	35	E	1312	1361	1410	1459	7	150	C	1326	1375	1424	1473	10	300	E	1340	1389	1438	1487	
6	50	B	1313	1362	1411	1460	14	150	D	1327	1376	1425	1474								

ELASTOMER SEAL

4.5	15	A	2300	2360	2420	2480	20	50	C	2317	2377	2437	2497	20	150	E	2334	2394	2454	2514	
18	15	B	2301	2361	2421	2481	40	50	D	2318	2378	2438	2498	0.35	200	A	2335	2395	2455	2515	
55	15	C	2302	2362	2422	2482	55	50	E	2319	2379	2439	2499	1.5	200	B	2336	2396	2456	2516	
110	15	D	2303	2363	2423	2483	1	75	A	2320	2380	2440	2500	5	200	C	2337	2397	2457	2517	
160	15	E	2304	2364	2424	2484	4	75	B	2321	2381	2441	2501	10	200	D	2338	2398	2458	2518	
3	25	A	2305	2365	2425	2485	14	75	C	2322	2382	2442	2502	15	200	E	2339	2399	2459	2519	
12	25	B	2306	2366	2426	2486	28	75	D	2323	2383	2443	2503								
35	25	C	2307	2367	2427	2487	40	75	E	2324	2384	2444	2504	0.3	250	A	2340	2400	2460	2520	
70	25	D	2308	2368	2428	2488	0.8	100	A	2325	2385	2445	2505	1.2	250	B	2341	2401	2461	2521	
100	25	E	2309	2369	2429	2489	3	100	B	2326	2386	2446	2506	4	250	C	2342	2402	2462	2522	
2.5	30	A	2310	2370	2430	2490	10	100	C	2327	2387	2447	2507	8	250	D	2343	2403	2463	2523	
10	30	B	2311	2371	2431	2491	20	100	D	2328	2388	2448	2508	12	250	E	2344	2404	2464	2524	
30	30	C	2312	2372	2432	2492	30	100	E	2329	2389	2449	2509	0.27	300	A	2345	2405	2465	2525	
60	30	D	2313	2373	2433	2493	0.5	150	A	2330	2390	2450	2510	1	300	B	2346	2406	2466	2526	
85	30	E	2314	2374	2434	2494	2	150	B	2331	2391	2451	2511	3	300	C	2347	2407	2467	2527	
1.5	50	A	2315	2375	2435	2495	7	150	C	2332	2392	2452	2512	7	300	D	2348	2408	2468	2528	
6	50	B	2316	2376	2436	2496	14	150	D	2333	2393	2453	2513	10	300	E	2349	2409	2469	2529	

STYLE CLR37, NON-POLARIZED PLAIN FOIL

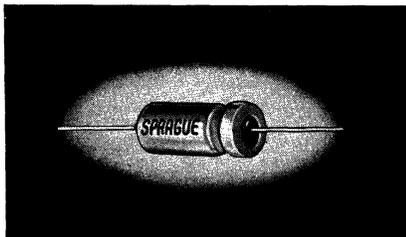
MIL Part No. M39006/04-					MIL Part No. M39006/04-					MIL Part No. M39006/04-											
μ F	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μ F	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	μ F	WVDC	Size Code	Failure Rate L(2%)	Failure Rate M(1%)	Failure Rate P(.1%)	Failure Rate R(.01%)	
GLASS-TO-METAL HERMETIC SEAL																					
10	15	B	1200	1245	1290	1335	20	50	D	1214	1259	1304	1349	10	150	E	1228	1273	1318	1363	
35	15	C	1201	1246	1291	1336	30	50	E	1215	1260	1305	1350	0.75	200	B	1229	1274	1319	1364	
70	15	D	1202	1247	1292	1337	2	75	B	1216	1261	1306	1351	2.5	200	C	1230	1275	1320	1365	
100	15	E	1203	1248	1293	1338	7	75	C	1217	1262	1307	1352	5	200	D	1231	1276	1321	1366	
6	25	B	1204	1249	1294	1339	14	75	D	1218	1263	1308	1353	7.5	200	E	1232	1277	1322	1367	
20	25	C	1205	1250	1295	1340	20	75	E	1219	1264	1309	1354	0.6	250	B	1233	1278	1323	1368	
40	25	D	1206	1251	1296	1341	1.5	100	B	1220	1265	1310	1355	2	250	C	1234	1279	1324	1369	
60	25	E	1207	1252	1297	1342	5	100	C	1221	1266	1311	1356	4	250	D	1235	1280	1325	1370	
5.5	30	B	1208	1253	1298	1343	10	100	D	1222	1267	1312	1357	6	250	E	1236	1281	1326	1371	
18	30	C	1209	1254	1299	1344	15	100	E	1223	1268	1313	1358	0.47	300	B	1237	1282	1327	1372	
36	30	D	1210	1255	1300	1345	1	150	B	1224	1269	1314	1359	1.5	300	C	1238	1283	1328	1373	
45	30	E	1211	1256	1301	1346	1.2	150	B	1225	1270	1315	1360	3.3	300	D	1239	1284	1329	1374	
3	50	B	1212	1257	1302	1347	3.5	150	C	1226	1271	1316	1361	4.7	300	E	1240	1285	1330	1375	
10	50	C	1213	1258	1303	1348	7	150	D	1227	1272	1317	1362								

ELASTOMER SEAL

2.5	15	A	2300	2355	2410	2465	10	50	C	2317	2372	2427	2482	10	150	E	2334	2389	2444	2499	
10	15	B	2301	2356	2411	2466	20	50	D	2318	2373	2428	2483	0.15	200	A	2335	2390	2445	2500	
35	15	C	2302	2357	2412	2467	30	50	E	2319	2374	2429	2484	0.75	200	B	2336	2391	2446	2501	
70	15	D	2303	2358	2413	2468	0.5	75	A	2320	2375	2430	2485	2.5	200	C	2337	2392	2447	2502	
100	15	E	2304	2359	2414	2469	2	75	B	2321	2376	2431	2486	5	200	D	2338	2393	2448	2503	
1.5	25	A	2305	2360	2415	2470	7	75	C	2322	2377	2432	2487	7.5	200	E	2339	2394	2449	2504	
6	25	B	2306	2361	2416	2471	14	75	D	2323	2378	2433	2488								
20	25	C	2307	2362	2417	2472	20	75	E	2324	2379	2434	2489	0.15	250	A	2340	2395	2450	2505	
40	25	D	2308	2363	2418	2473	0.4	100	A	2325	2380	2435	2490	0.6	250	B	2341	2396	2451	2506	
60	25	E	2309	2364	2419	2474	1.5	100	B	2326	2381	2436	2491	2	250	C	2342	2397	2452	2507	
1.4	30	A	2310	2365	2420	2475	5	100	C	2327	2382	2437	2492	4	250	D	2343	2398	2453	2508	
5.5	30	B	2311	2366	2421	2476	10	100	D	2328	2383	2438	2493	6	250	E	2344	2399	2454	2509	
18	30	C	2312	2367	2422	2477	15	100	E	2329	2384	2439	2494								
36	30	D	2313	2368	2423	2478	0.25	150	A	2330	2385	2440	2495	0.12	300	A	2345	2400	2455	2510	
45	30	E	2314	2369	2424	2479	1.5	150	B	2331	2386	2441	2496	0.47	300	B	2346	2401	2456	2511	
0.8	50	A	2315	2370	2425	2480	3.5	150	C	2332	2387	2442	2497	1.5	300	C	2347	2402	2457	2512	
3	50	B	2316	2371	2426	2481	7	150	D	2333	2388	2443	2498	3.3	300	D	2348	2403	2458	2513	

SPRAGUE CAPACITORS

TYPE 109D SINTERED-ANODE TANTALEX® CAPACITORS



● Reliable, superior quality capacitors dual-rated for 125 C and 85 C operation.

● Especially suited for military and critical industrial equipment. Meet 2000 cycle MIL missile vibration requirements.

● Capacitors listed below have plastic-film insulation. For bare metal case, change last digit of Cat. No. from "2" to "0" and subtract .016" from diameter and .063" from length.

● Capacitors listed below have capacitance tolerance of $\pm 10\%$. For $\pm 20\%$ units, change X9 in cat. no. to X0.

● For complete technical data, refer to latest issue of Sprague Engineering Bulletins 3700 and 3700.2.

SIZE CODE

C = .203"D. x .515"L.	K = .390"D. x 1.125"L.
F = .296"D. x .703"L.	W = .390"D. x 1.312"L.
T = .390"D. x .828"L.	

μ F	Size Code	Cat. No.	μ F	Size Code	Cat. No.	μ F	Size Code	Cat. No.	μ F	Size Code	Cat. No.
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PREFERRED RATINGS

6 WVDC @ 85C, 4 WVDC @ 125C			100 C 109D107X9015C2			50 WVDC @ 85C, 30 WVDC @ 125C			180 K 109D187X9075K2		
200	C	109D207X9006C2	330	F	109D337X9015F2	33	C	109D336X9050C2	220	K	109D227X9075K2
820	F	109D827X9006F2	390	F	109D397X9015F2	120	F	109D127X9050F2	100 WVDC @ 85C, 70 WVDC @ 125C		
1500	T	109D158X9006T2	680	T	109D687X9015T2	270	T	109D277X9050T2	8.2	C	109D825X9100C2
2200	K	109D228X9006K2	820	T	109D827X9015T2	330	K	109D337X9050K2	10	C	109D106X9100C2
8 WVDC @ 85C, 5 WVDC @ 125C			820	K	109D827X9015K2	60 WVDC @ 85C, 40 WVDC @ 125C			33	F	109D336X9100F2
180	C	109D187X9008C2	1000	K	109D108X9015K2	27	C	109D276X9060C2	39	F	109D396X9100F2
680	F	109D687X9008F2	25 WVDC @ 85C, 15 WVDC @ 125C			68	F	109D686X9060F2	56	T	109D566X9100T2
1400	T	109D148X9008T2	68	C	109D686X9025C2	100	F	109D107X9060F2	68	T	109D686X9100T2
1800	K	109D188X9008K2	270	F	109D277X9025F2	140	T	109D147X9060T2	86	K	109D866X9100K2
10 WVDC @ 85C, 7 WVDC @ 125C			560	T	109D567X9025T2	220	T	109D227X9060T2	125 WVDC @ 85C, 85 WVDC @ 125C		
120	C	109D127X9010C2	680	K	109D687X9025K2	270	K	109D277X9060K2	6.8	C	109D685X9125C2
150	C	109D157X9010C2	30 WVDC @ 85C, 20 WVDC @ 125C			75 WVDC @ 85C, 50 WVDC @ 125C			27	F	109D276X9125F2
470	F	109D477X9010F2	39	C	109D396X9030C2	12	C	109D126X9075C2	47	T	109D476X9125T2
560	F	109D567X9010F2	47	C	109D476X9030C2	15	C	109D156X9075C2	56	K	109D566X9125K2
1000	T	109D108X9010T2	56	C	109D566X9030C2	22	C	109D226X9075C2	150 WVDC @ 85C, 100 WVDC @ 125C		
1200	T	109D128X9010T2	150	F	109D157X9030F2	47	F	109D476X9075F2	1.7	C	109D175X9150C2
1200	K	109D128X9010K2	180	F	109D187X9030F2	56	F	109D566X9075F2	3.0	C	109D305X9150C2
1500	K	109D158X9010K2	220	F	109D227X9030F2	82	F	109D826X9075F2	5.6	C	109D565X9150C2
15 WVDC @ 85C, 10 WVDC @ 125C			330	T	109D337X9030T2	86	F	109D826X9075F2	6.8	F	109D685X9150F2
82	C	109D826X9015C2	390	T	109D397X9030T2	82	T	109D826X9075T2	11	F	109D116X9150F2
			470	T	109D477X9030T2	110	T	109D117X9075T2	22	F	109D226X9150F2
			470	K	109D477X9030K2	180	T	109D187X9075T2	39	T	109D396X9150T2
			560	K	109D567X9030K2						

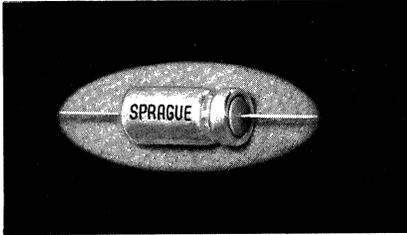
ORIGINAL STANDARD RATINGS

6 WVDC @ 85C, 4 WVDC @ 125C			220 T 109D227X9010T2			15 C 109D156X9030C2			75 WVDC @ 85C, 50 WVDC @ 125C		
27	C	109D276X9006C2	250	T	109D257X9010T2	35	F	109D356X9030F2	3	C	109D305X9075C2
30	C	109D306X9006C2	390	T	109D397X9010T2	40	F	109D406X9030F2	3.5	C	109D355X9075C2
68	C	109D686X9006C2	750	K	109D757X9010K2*	68	F	109D686X9030F2	6.8	C	109D685X9075C2
120	F	109D127X9006F2	15 WVDC @ 85C, 10 WVDC @ 125C			80	T	109D806X9030T2	13	F	109D136X9075F2
140	F	109D147X9006F2	13	C	109D136X9015C2	100	T	109D107X9030T2	15	F	109D156X9075F2
270	F	109D277X9006F2	15	C	109D156X9015C2	150	T	109D157X9030T2	33	F	109D336X9075F2
290	T	109D297X9006T2	33	C	109D336X9015C2	300	K	109D307X9030K2*	35	T	109D356X9075T2
330	T	109D337X9006T2	55	F	109D556X9015F2	50 WVDC @ 85C, 30 WVDC @ 125C			40	T	109D406X9075T2
560	T	109D567X9006T2	70	F	109D706X9015F2	4.5	C	109D455X9050C2	56	T	109D566X9075T2
1200	K	109D128X9006K2*	120	F	109D127X9015F2	5	C	109D505X9050C2	110	K	109D117X9075K2*
8 WVDC @ 85C, 5 WVDC @ 125C			150	T	109D157X9015T2	10	C	109D106X9050C2	100 WVDC @ 85C, 70 WVDC @ 125C		
22	C	109D226X9008C2	170	T	109D177X9015T2	22	F	109D226X9050F2	2.5	C	109D255X9100C2
25	C	109D256X9008C2	270	T	109D277X9015T2	25	F	109D256X9050F2	4.7	C	109D475X9100C2
56	C	109D566X9008C2	540	K	109D547X9015K2*	47	F	109D476X9050F2	10	F	109D106X9100F2
100	F	109D107X9008F2	25 WVDC @ 85C, 15 WVDC @ 125C			55	T	109D556X9050T2	11	F	109D116X9100F2
120	F	109D127X9008F2	9	C	109D905X9025C2	60	T	109D606X9050T2	22	F	109D226X9100F2
220	F	109D227X9008F2	10	C	109D106X9025C2	82	T	109D826X9050T2	27	T	109D276X9100T2
260	T	109D267X9008T2	22	C	109D226X9025C2	160	K	109D167X9050K2*	30	T	109D306X9100T2
290	T	109D297X9008T2	45	F	109D456X9025F2	60 WVDC @ 85C, 40 WVDC @ 125C			43	T	109D436X9100T2
430	T	109D437X9008T2	50	F	109D506X9025F2	3.6	C	109C365X9060C2	125 WVDC @ 85C, 85 WVDC @ 125C		
850	K	109D857X9008K2*	100	F	109D107X9025F2	4	C	109D405X9060C2	1.7	C	109D175X9125C2
10 WVDC @ 85C, 7 WVDC @ 125C			100	T	109D107X9025T2	8.2	C	109D825X9060C2	3.6	C	109D365X9125C2
18	C	109D186X9010C2	110	T	109D117X9025T2	18	F	109D186X9060F2	9	F	109D905X9125F2
20	C	109D206X9010C2	180	T	109D187X9025T2	20	F	109D206X9060F2	14	F	109D146X9125F2
47	C	109D476X9010C2	350	K	109D357X9025K2*	39	F	109D396X9060F2	18	T	109D186X9125T2
85	F	109D856X9010F2	30 WVDC @ 85C, 20 WVDC @ 125C			45	T	109D456X9060T2	25	T	109D256X9125T2
100	F	109D107X9010F2	7	C	109D705X9030C2	50	T	109D506X9060T2	150 WVDC @ 85C, 100 WVDC @ 125C		
180	F	109D187X9010F2	8	C	109D805X9030C2	68	T	109D686X9060T2	14	T	109D146X9150T2
						140	K	109D147X9060K2*	22	T	109D226X9150T2

SPRAGUE CAPACITORS

TYPE 130D SINTERED-ANODE TANTALEX® CAPACITORS

NOTE: Type 109D (shown on page 29) are comparable capacitors, and are generally more readily available.



- Reliable, superior quality capacitors rated for 125 C operation without voltage derating.
- Especially suited for military and critical industrial equipment.
- Capacitors listed below have plastic-film insulation. For bare metal case, change last digit of Cat. No. from "2" to "0" and subtract .016" from diameter and .063" from length.
- Meets 2000 cycle MIL missile vibration requirements.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletins 3701 and 3701.2.

SIZE CODE

C = .203"D. x .515"L. T = .390"D. x .828"L.
 F = .296"D. x .703"L. W = .390"D. x 1.312"L.

μF	Size Code	Cat. No.									
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*GROUP 1: Standard Ratings

4 WVDC			10 WVDC			20 WVDC			40 WVDC			70 WVDC		
27	C	130D276X9004C2	20	C	130D206X9007C2	50	F	130D506X9015F2	55	T	130D556X9030T2	70 WVDC		
30	C	130D306X9004C2	85	F	130D856X9007F2	100	T	130D107X9015T2	60	T	130D606X9030T2	2.5	C	130D255X9070C2
120	F	130D127X9004F2	100	F	130D107X9007F2	110	T	130D117X9015T2	40 WVDC			10	F	130D106X9070F2
140	F	130D147X9004F2	220	T	130D227X9007T2	20 WVDC			3.6	C	130D365X9040C2	11	F	130D116X9070F2
290	T	130D297X9004T2	250	T	130D257X9007T2	7	C	130D705X9020C2	4	C	130D405X9040C2	27	T	130D276X9070T2
330	T	130D337X9004T2	10 WVDC			8	C	130D805X9020C2	18	F	130D186X9040F2	30	T	130D306X9070T2
5 WVDC			13	C	130D136X9010C2	35	F	130D356X9020F2	20	F	130D206X9040F2	85 WVDC		
22	C	130D226X9005C2	15	C	130D156X9010C2	40	F	130D406X9020F2	45	T	130D456X9040T2	1.7	C	130D175X9085C2
25	C	130D256X9005C2	55	F	130D556X9010F2	80	T	130D806X9020T2	50	T	130D506X9040T2	9	F	130D905X9085F2
100	F	130D107X9005F2	70	F	130D706X9010F2	100	T	130D107X9020T2	50 WVDC			18	T	130D186X9085T2
120	F	130D127X9005F2	150	T	130D157X9010T2	30 WVDC			3	C	130D305X9050C2	100 WVDC		
260	T	130D267X9005T2	170	T	130D177X9010T2	4.5	C	130D455X9030C2	3.5	C	130D355X9050C2	1.7	C	130D175X9100C2
290	T	130D297X9005T2	15 WVDC			5	C	130D505X9030C2	13	F	130D136X9050F2	6.8	F	130D685X9100F2
7 WVDC			9	C	130D905X9015C2	22	F	130D226X9030F2	15	F	130D156X9050F2	14	T	130D146X9100T2
18	C	130D186X9007C2	10	C	130D106X9015C2	25	F	130D256X9030F2	35	T	130D356X9050T2			
			45	F	130D456X9015F2				40	T	130D406X9050T2			

†GROUP 2: Approximately twice the capacitance of Group 1 capacitors of the same physical size at a given voltage rating.

4 WVDC			10 WVDC			20 WVDC			40 WVDC			70 WVDC		
68	C	130D686X0004C2	180	F	130D187X0007F2	15	C	130D156X0020C2	39	F	130D396X0040F2	43	T	130D436X0070T2
270	F	130D277X0004F2	390	T	130D397X0007T2	68	F	130D686X0020F2	68	T	130D686X0040T2	86	W	130D866X0070W2
560	T	130D567X0004T2	750	W	130D757X0007W2	150	T	130D157X0020T2	140	W	130D147X0040W2	85 WVDC		
1200	W	130D128X0004W2	10 WVDC			300	W	130D307X0020W2	50 WVDC			3.6	C	130D365X0085C2
5 WVDC			33	C	130D336X0010C2	30 WVDC			6.8	C	130D685X0050C2	14	F	130D146X0085F2
56	C	130D566X0005C2	120	F	130D127X0010F2	10	C	130D106X0030C2	33	F	130D336X0050F2	25	T	130D256X0085T2
220	F	130D227X0005F2	270	T	130D277X0010T2	47	F	130D476X0030F2	56	T	130D566X0050T2	56	W	130D566X0085W2
430	T	130D437X0005T2	540	W	130D547X0010W2	82	T	130D826X0030T2	110	W	130D117X0050W2	100 WVDC		
850	W	130D857X0005W2	15 WVDC			160	W	130D167X0030W2	70 WVDC			3	C	130D305X0100C2
7 WVDC			22	C	130D226X0015C2	40 WVDC			4.7	C	130D475X0070C2	11	F	130D116X0100F2
47	C	130D4760007C2	100	F	130D107X0015F2	8.2	C	130D825X0040C2	22	F	130D226X0070F2	22	T	130D226X0100T2
			180	T	130D187X0015T2									
			350	W	130D357X0015W2									

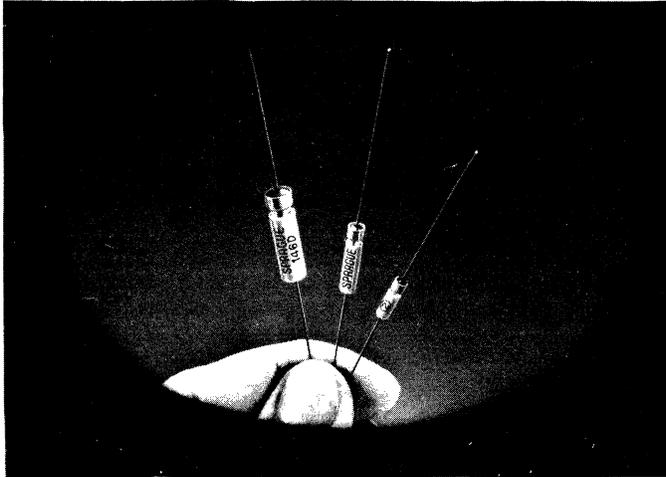
†GROUP 3: Extended-range capacitors, with substantially higher capacitance than units of the same physical size in Groups 1 or 2.

4 WVDC			10 WVDC			15 WVDC			30 WVDC			50 WVDC		
1500	T	130D158X0004T2	150	C	130D157X0007C2	68	C	130D686X0015C2	330	T	130D337X0020T2	100	F	130D107X0040F2
200	C	130D207X0004C2	470	F	130D477X0007F2	270	F	130D277X0015F2	390	T	130D397X0020T2	140	T	130D147X0040T2
820	F	130D827X0004F2	560	F	130D567X0007F2	560	T	130D567X0015T2	470	T	130D477X0020T2	220	T	130D227X0040T2
5 WVDC			1000	T	130D108X0007T2	15 WVDC			30 WVDC			50 WVDC		
180	C	130D187X0005C2	1200	T	130D128X0007T2	39	C	130D396X0020C2	33	C	130D336X0030C2	12	C	130D126X0050C2
680	F	130D687X0005F2	10 WVDC			47	C	130D476X0020C2	120	F	130D127X0030F2	15	C	130D156X0050C2
1400	T	130D148X0005T2	82	C	130D826X0010C2	56	C	130D566X0020C2	270	T	130D277X0030T2	22	C	130D226X0050C2
7 WVDC			330	F	130D337X0010F2	150	F	130D157X0020F2	40 WVDC			47	F	130D476X0050F2
120	C	130D127X0007C2	390	F	130D397X0010F2	180	F	130D187X0020F2	18	C	130D186X0040C2	56	F	130D566X0050F2
			680	T	130D687X0010T2	220	F	130D227X0020F2	27	C	130D276X0040C2	82	F	130D826X0050F2
			820	T	130D827X0010T2				68	F	130D686X0040F2	82	T	130D826X0050T2
												110	T	130D117X0050T2
												180	T	130D187X0050T2

*Capacitance tolerance, ±10%. For +20, -15% tolerance change "X9" in Cat. No. to "C2." For +75, -15% tolerance change "X9" to "C7."
 †Capacitance tolerance, ±20%. For ±10% tolerance, change digit after "X" from "0" to "9."

SPRAGUE CAPACITORS

TYPE 146D* SINTERED-ANODE TANTALEX® CAPACITORS



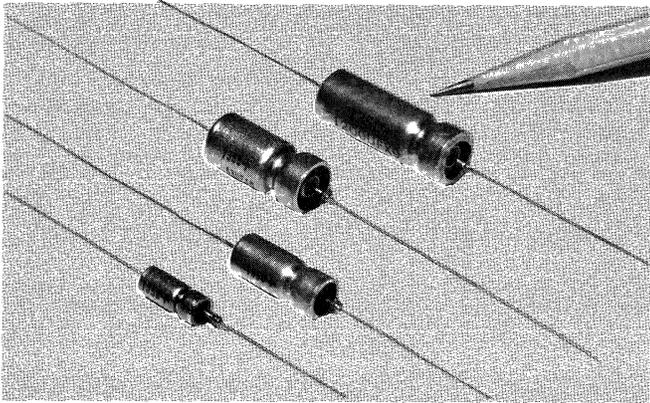
- Miniature commercial/industrial tantalum capacitors with reliable elastomer seal for use on printed wiring boards, in packaged circuit modules, and other applications where space is at a premium.
- TFE-fluorocarbon elastomer high-temperature seal with thermo-setting epoxy resin end-fill provides improved mechanical strength.
- Designed for continuous operation over temperature range of -55 C to $+85\text{ C}$.
- Special construction offers outstanding resistance to temperature cycling and provides trouble-free application when flow-soldering to printed wiring boards.
- Excellent stability of all electrical parameters, even after severe high temperature testing (85 C for 1000 hours at rated voltage).
- Metal-encased, with outer plastic-film insulation.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3751.

μF	Dia. x Length	Catalog Number*		μF	Dia. x Length	Catalog Number*	
		$\pm 20\%$ Cap. Tol.	$\pm 10\%$ Cap. Tol.			$\pm 20\%$ Cap. Tol.	$\pm 10\%$ Cap. Tol.
6 WVDC				30 WVDC - (cont.)			
47	.110 x .400	146D476X0006G2	146D476X9006G2	100	.220 x .775	146D107X0030J2	146D107X9030J2
150	.140 x .600	146D157X0006H2	146D157X9006H2	120	.220 x .775	146D127X0030J2	146D127X9030J2
470	.220 x .775	146D477X0006J2	146D477X9006J2	50 WVDC			
10 WVDC				6.8	.110 x .400	146D685X0050G2	146D685X9050G2
33	.110 x .400	146D336X0010G2	146D336X9010G2	27	.140 x .600	146D276X0050H2	146D276X9050H2
100	.140 x .600	146D107X0010H2	146D107X9010H2	82	.220 x .775	146D826X0050J2	146D826X9050J2
120	.140 x .600	146D127X0010H2	146D127X9010H2	60 WVDC			
330	.220 x .775	146D337X0010J2	146D337X9010J2	1.0	.110 x .400	146D105X0060G2	146D105X9060G2
15 WVDC				1.2	.110 x .400	146D125X0060G2	146D125X9060G2
22	.110 x .400	146D226X0015G2	146D226X9015G2	1.5	.110 x .400	146D155X0060G2	146D155X9060G2
82	.140 x .600	146D826X0015H2	146D826X9015H2	1.8	.110 x .400	146D185X0060G2	146D185X9060G2
220	.220 x .775	146D227X0015J2	146D227X9015J2	2.2	.110 x .400	146D225X0060G2	146D225X9060G2
20 WVDC				2.7	.110 x .400	146D275X0060G2	146D275X9060G2
15	.110 x .400	146D156X0020G2	146D156X9020G2	3.3	.110 x .400	146D335X0060G2	146D335X9060G2
56	.140 x .600	146D566X0020H2	146D566X9020H2	3.9	.110 x .400	146D395X0060G2	146D395X9060G2
180	.220 x .775	146D187X0020J2	146D187X9020J2	4.7	.110 x .400	146D475X0060G2	146D475X9060G2
30 WVDC				5.6	.110 x .400	146D565X0060G2	146D565X9060G2
10	.110 x .400	146D106X0030G2	146D106X9030G2	22	.140 x .600	146D226X0060H2	146D226X9060H2
47	.140 x .600	146D476X0030H2	146D476X9030H2	56	.220 x .775	146D566X0060J2	146D566X9060J2

*Available until present stocks are exhausted.

SPRAGUE CAPACITORS

TYPE 135D TANTALUM-CASE GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS



- Tantalum-encased capacitors with true glass-to-tantalum hermetic seal gives space-age reliability.
- Feature 3-volt reversal capability on continuous basis without degradation in either capacitor function or appearance.
- All tantalum construction . . . use of tantalum case eliminates possibility of silver migration problems.
- Hermetic end seal is welded to case, rather than being soldered in place.
- Unique features have been demonstrated under severe conditions of reverse voltage, high ripple current, high vacuum.
- Operate over temperature range of -55°C to $+125^{\circ}\text{C}$ at appropriate voltage rating.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3760.

ESTABLISHED RELIABILITY CAPACITORS OF THIS TYPE CAN BE FURNISHED TO MEET MIL-C-39006/22 (USAF). THESE STYLE CLR79 CAPACITORS ARE APPROVED FOR FAILURE RATES L(2%), M(1%), P(.1%), AND R(.01%).

μF	Dia. x Length	Catalog Number*†	μF	Dia. x Length	Catalog Number*†	μF	Dia. x Length	Catalog Number*†
6 WVDC @ 85°C, 4 WVDC @ 125°C			270	.380 x .812	135D277X0015T2	20	.286 x .641	135D206X0060F2
30	.193 x .453	135D306X0006C2	540	.380 x 1.100	135D547X0015K2	39	.286 x .641	135D396X0060F2
68	.193 x .453	135D686X0006C2	25 WVDC @ 85°C, 15 WVDC @ 125°C			50	.380 x .812	135D506X0060T2
140	.286 x .641	135D147X0006F2	10	.193 x .453	135D106X0025C2	68	.380 x .812	135D686X0060T2
270	.286 x .641	135D277X0006F2	22	.193 x .453	135D226X0025C2	140	.380 x 1.100	135D147X0060K2
330	.380 x .812	135D337X0006T2	50	.286 x .641	135D506X0025F2	75 WVDC @ 85°C, 50 WVDC @ 125°C		
560	.380 x .812	135D567X0006T2	100	.286 x .641	135D107X0025F2	3.5	.193 x .453	135D355X0075C2
1200	.380 x 1.100	135D128X0006K2	120	.380 x .812	135D127X0025T2	6.8	.193 x .453	135D685X0075C2
8 WVDC @ 85°C, 5 WVDC @ 125°C			180	.380 x .812	135D187X0025T2	15	.286 x .641	135D156X0075F2
25	.193 x .453	135D256X0008C2	350	.380 x 1.100	135D357X0025K2	33	.286 x .641	135D336X0075F2
56	.193 x .453	135D566X0008C2	30 WVDC @ 85°C, 20 WVDC @ 125°C			40	.380 x .812	135D406X0075T2
120	.286 x .641	135D127X0008F2	8	.193 x .453	135D805X0030C2	56	.380 x .812	135D566X0075T2
220	.286 x .641	135D227X0008F2	15	.193 x .453	135D156X0030C2	110	.380 x 1.100	135D117X0075K2
290	.380 x .812	135D297X0008T2	40	.286 x .641	135D406X0030F2	100 WVDC @ 85°C, 65 WVDC @ 125°C		
430	.380 x .812	135D437X0008T2	68	.286 x .641	135D686X0030F2	2.5	.193 x .453	135D255X0100C2
850	.380 x 1.100	135D857X0008K2	100	.380 x .812	135D107X0030T2	4.7	.193 x .453	135D475X0100C2
10 WVDC @ 85°C, 7 WVDC @ 125°C			150	.380 x .812	135D157X0030T2	11	.286 x .641	135D116X0100F2
20	.193 x .453	135D206X0010C2	300	.380 x 1.100	135D307X0030K2	22	.286 x .641	135D226X0100F2
47	.193 x .453	135D476X0010C2	50 WVDC @ 85°C, 30 WVDC @ 125°C			30	.380 x .812	135D306X0100T2
100	.286 x .641	135D107X0010F2	5	.193 x .453	135D505X0050C2	43	.380 x .812	135D436X0100T2
180	.286 x .641	135D187X0010F2	10	.193 x .453	135D106X0050C2	86	.380 x 1.100	135D866X0100K2
250	.380 x .812	135D257X0010T2	25	.286 x .641	135D256X0050F2	125 WVDC @ 85°C, 85 WVDC @ 125°C		
390	.380 x .812	135D397X0010T2	47	.286 x .641	135D476X0050F2	1.7	.193 x .453	135D175X0125C2
750	.380 x 1.100	135D757X0010K2	60	.380 x .812	135D606X0050T2	3.6	.193 x .453	135D365X0125C2
15 WVDC @ 85°C, 10 WVDC @ 125°C			82	.380 x .812	135D826X0050T2	9	.286 x .641	135D905X0125F2
15	.193 x .453	135D136X0015C2	160	.380 x 1.100	135D167X0050K2	14	.286 x .641	135D146X0125F2
33	.193 x .453	135D336X0015C2	60 WVDC @ 85°C, 40 WVDC @ 125°C			18	.380 x .812	135D186X0125T2
70	.286 x .641	135D706X0015F2	4	.193 x .453	135D405X0060C2	25	.380 x .812	135D256X0125T2
120	.286 x .641	135D127X0015F2	8.2	.193 x .453	135D825X0060C2	56	.380 x 1.100	135D566X0125K2
170	.380 x .812	135D177X0015T2						

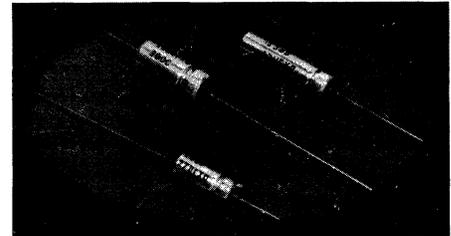
*Catalog numbers listed above are for capacitors with plastic insulating sleeve. For bare metal case, change last character in cat. no. from "2" to "0" and subtract .005" from diameter.

†Capacitors listed above have capacitance tolerance of $\pm 20\%$. For $\pm 10\%$ capacitance tolerance, change ninth character in catalog number from "0" to "9".

SPRAGUE CAPACITORS

TYPE 138D HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS

- Improved reliability through use of a glass-to-tantalum true hermetic anode seal.
- New construction eliminates all internal lead welds while retaining the strength of conventional internal lead-welded parts.
- Capacitor construction also offers outstanding resistance to extensive temperature cycling.
- Designed to meet or exceed environmental and life test requirements of MIL-C-39006.
- Gelled-electrolyte gives premium performance for all capacitor parameters with respect to frequency and temperature variations.
- Capacitance values ranging from up to 1200 μF at 6 WVDC to 47 μF at 150 WVDC.
- Standard capacitance tolerances, $\pm 20\%$ and $\pm 10\%$. See (†).
- Rated for 85 C operation, and can be operated up to 125 C with appropriate voltage derating.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3704.



μF	D. x L.	Catalog Number* †	μF	D. x L.	Catalog Number* †
6 WVDC			50 WVDC		
30	.219 x .515	138D306X0006C2	5.0	.219 x .515	138D505X0050C2
68	.219 x .515	138D686X0006C2	10	.219 x .515	138D106X0050C2
140	.312 x .704	138D147X0006F2	25	.312 x .704	138D256X0050F2
270	.312 x .704	138D277X0006F2	47	.312 x .704	138D476X0050F2
330	.406 x .828	138D337X0006T2	60	.406 x .828	138D606X0050T2
560	.406 x .828	138D567X0006T2	82	.406 x .828	138D826X0050T2
1200	.406 x 1.126	138D128X0006K2	160	.406 x 1.126	138D167X0050K2
8 WVDC			60 WVDC		
25	.219 x .515	138D256X0008C2	4.0	.219 x .515	138D405X0060C2
56	.219 x .515	138D566X0008C2	8.2	.219 x .515	138D825X0060C2
220	.312 x .704	138D227X0008F2	20	.312 x .704	138D206X0060F2
430	.406 x .828	138D437X0008T2	39	.312 x .704	138D396X0060F2
850	.406 x 1.126	138D857X0008K2	50	.406 x .828	138D506X0060T2
10 WVDC			68	.406 x .828	138D686X0060T2
20	.219 x .515	138D206X0010C2	140	.406 x 1.126	138D147X0060K2
47	.219 x .515	138D476X0010C2	75 WVDC		
100	.312 x .704	138D107X0010F2	3.5	.219 x .515	138D355X0075C2
180	.312 x .704	138D187X0010F2	6.8	.219 x .515	138D685X0075C2
250	.406 x .828	138D257X0010T2	15	.312 x .704	138D156X0075F2
390	.406 x .828	138D397X0010T2	33	.312 x .704	138D336X0075F2
750	.406 x 1.126	138D757X0010K2	40	.406 x .828	138D406X0075T2
15 WVDC			56	.406 x .828	138D566X0075T2
15	.291 x .515	138D156X0015C2	110	.406 x 1.126	138D117X0075K2
33	.219 x .515	138D336X0015C2	100 WVDC		
70	.312 x .704	138D706X0015F2	2.5	.219 x .515	138D255X0100C2
120	.312 x .704	138D127X0015F2	4.7	.219 x .515	138D475X0100C2
170	.406 x .828	138D177X0015T2	11	.312 x .704	138D116X0100F2
270	.406 x .828	138D277X0015T2	22	.312 x .704	138D226X0100F2
540	.406 x 1.126	138D547X0015K2	30	.406 x .828	138D306X0100T2
25 WVDC			43	.406 x .828	138D436X0100T2
10	.219 x .515	138D106X0025C2	86	.406 x 1.126	138D866X0100K2
22	.219 x .515	138D226X0025C2	125 WVDC		
100	.312 x .704	138D107X0025F2	1.7	.219 x .515	138D175X0125C2
180	.406 x .828	138D187X0025T2	3.6	.219 x .515	138D365X0125C2
350	.406 x 1.126	138D357X0025K2	9.0	.312 x .704	138D905X0125F2
30 WVDC			14	.312 x .704	138D146X0125F2
8.0	.219 x .515	138D805X0030C2	18	.406 x .828	138D186X0125T2
15	.219 x .515	138D156X0030C2	25	.406 x .828	138D256X0125T2
40	.312 x .704	138D406X0030F2	56	.406 x 1.126	138D566X0125K2
68	.312 x .704	138D686X0030F2	150 WVDC		
100	.406 x .828	138D107X0030T2	1.7	.219 x .515	138D175X0150C2
150	.406 x .828	138D157X0030T2	3.0	.219 x .515	138D305X0150C2
300	.406 x 1.126	138D307X0030K2	6.8	.312 x .704	138D685X0150F2
			11	.312 x .704	138D116X0150F2
			14	.406 x .828	138D146X0150T2
			22	.406 x .828	138D226X0150T2
			47	.406 x 1.126	138D476X0150K2

*Catalog numbers listed above are for units with outer plastic-film insulating sleeve. For bare case units, change last digit of Cat. No. from "2" to "0" and subtract .032" from diameter and .063" from length. †Capacitors listed above have capacitance tolerance of $\pm 20\%$. For $\pm 10\%$ units, change "X0" in center of cat. no. to "X9".

SPRAGUE CAPACITORS

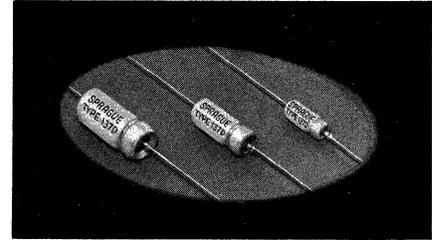
TYPE 137D HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS

- Glass-to-metal Hermetic Seal Makes Type 137D Capacitors Especially Well Suited For Use in Satellites and Other Space Equipment.
- Gelled-electrolyte For Optimum Performance Characteristics
- High Volumetric Efficiency Results in Space Savings
- Operating Temperature Range of -55C to +175C
- Available in Voltage Ratings From 6 WVDC Through 150 WVDC At 85C With

Appropriate Derating For Higher Temperature Operation

- Capacitors Listed Below Have Outer Plastic Insulating Sleeve. For Units with Bare Case, End Catalog Number in 0 Instead of 2
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin Number 3703

Call Your Sprague Industrial Distributor For Current Quantity Prices



μF	Case Size	Catalog Number*
6 WVDC		
68	C	137D686X0006C2
140	C	137D147X0006C2
270	F	137D277X0006F2
560	F	137D567X0006F2
560	A	137D567X0006A2
560	T	137D567X0006T2
1000	T	137D108X0006T2
1200	W	137D128X0006W2
8 WVDC		
56	C	137D566X0008C2
120	C	137D127X0008C2
220	F	137D227X0008F2
470	F	137D477X0008F2
470	A	137D477X0008A2
470	T	137D477X0008T2
850	T	137D857X0008T2
1000	W	137D108X0008W2
10 WVDC		
39	C	137D396X0010C2
47	C	137D476X0010C2
82	C	137D826X0010C2
100	C	137D107X0010C2
150	F	137D157X0010F2
180	F	137D187X0010F2
330	F	137D337X0010F2
330	A	137D337X0010A2
330	T	137D337X0010T2
390	F	137D397X0010F2
390	A	137D397X0010A2
390	T	137D397X0010T2
600	T	137D607X0010T2
680	W	137D687X0010W2
750	T	137D757X0010T2
820	W	137D827X0010W2
15 WVDC		
33	C	137D336X0015C2
68	C	137D686X0015C2
120	F	137D127X0015F2
270	F	137D277X0015F2
270	A	137D277X0015A2
270	T	137D277X0015T2
540	T	137D547X0015T2
560	W	137D567X0015W2
20 WVDC		
27	C	137D276X0020C2
56	C	137D566X0020C2
100	F	137D107X0020F2
220	F	137D227X0020F2
220	A	137D227X0020A2
220	T	137D227X0020T2
390	T	137D397X0020T2
470	W	137D477X0020W2

μF	Case Size	Catalog Number*
25 WVDC		
22	C	137D226X0025C2
47	C	137D476X0025C2
100	F	137D107X0025F2
180	F	137D187X0025F2
180	A	137D187X0025A2
180	T	137D187X0025T2
350	T	137D357X0025T2
390	W	137D397X0025W2
30 WVDC		
18	C	137D186X0030C2
39	C	137D396X0030C2
82	F	137D826X0030F2
150	F	137D157X0030F2
150	A	137D157X0030A2
150	T	137D157X0030T2
300	T	137D307X0030T2
330	W	137D337X0030W2
35 WVDC		
12	C	137D126X0035C2
15	C	137D156X0035C2
27	C	137D276X0035C2
33	C	137D336X0035C2
56	F	137D566X0035F2
68	F	137D686X0035F2
100	F	137D107X0035F2
100	A	137D107X0035A2
100	T	137D107X0035T2
120	F	137D127X0035F2
120	A	137D127X0035A2
120	T	137D127X0035T2
180	T	137D187X0035T2
220	T	137D227X0035T2
220	W	137D227X0035W2
270	W	137D277X0035W2
50 WVDC		
10	C	137D106X0050C2
22	C	137D226X0050C2
47	F	137D476X0050F2
82	F	137D826X0050F2
82	A	137D826X0050A2
82	T	137D826X0050T2
160	T	137D167X0050T2
180	W	137D187X0050W2
60 WVDC		
8.2	C	137D825X0060C2
18	C	137D186X0060C2
39	F	137D396X0060F2
68	F	137D686X0060F2
68	A	137D686X0060A2
68	T	137D686X0060T2
140	T	137D147X0060T2
150	W	137D157X0060W2

μF	Case Size	Catalog Number*
75 WVDC		
5.6	C	137D565X0075C2
6.8	C	137D685X0075C2
12	C	137D126X0075C2
15	C	137D156X0075C2
27	F	137D276X0075F2
33	F	137D336X0075F2
47	F	137D476X0075F2
47	A	137D476X0075A2
47	T	137D476X0075T2
56	F	137D566X0075F2
56	A	137D566X0075A2
56	T	137D566X0075T2
82	T	137D826X0075T2
100	W	137D107X0075W2
110	T	137D117X0075T2
120	W	137D127X0075W2
100 WVDC		
3.9	C	137D395X0100C2
4.7	C	137D475X0100C2
15	F	137D156X0100F2
18	F	137D186X0100F2
22	F	137D226X0100F2
33	A	137D336X0100A2
33	T	137D336X0100T2
43	A	137D436X0100A2
43	T	137D436X0100T2
68	W	137D686X0100W2
86	W	137D866X0100W2
125 WVDC		
3.6	C	137D365X0125C2
9.0	F	137D905X0125F2
14	F	137D146X0125F2
18	T	137D186X0125T2
25	T	137D256X0125T2
28	A	137D286X0125A2
56	W	137D566X0125W2
150 WVDC		
1.7	C	137D175X0150C2
3.0	C	137D305X0150C2
6.8	F	137D685X0150F2
11	F	137D116X0150F2
14	T	137D146X0150T2
22	T	137D226X0150T2
22	A	137D226X0150A2
47	W	137D476X0150W2
DIMENSIONS		
Case Code	Diam. x Length	
C	0.219 x 0.515	
F	0.312 x 0.704	
A	0.312 x 1.095	
T	0.406 x 0.828	
W	0.406 x 1.312	

* Catalog numbers listed above are for ±20% tolerance capacitors. For units with capacitance tolerance of +20%, -15%, change X0 in middle of catalog number to C2; for +75, -15%, change digits to C7; for ±10%, change digits to X9.

SPRAGUE CAPACITORS

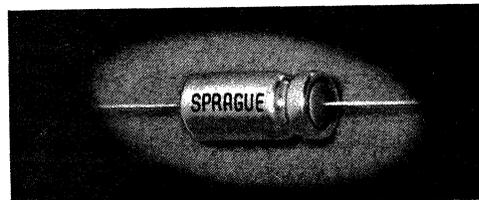
MIL-C-3965 TUBULAR SINTERED-ANODE TANTALEX[®] CAPACITORS—TYPES CL64 and CL65

- MIL Version of Proven Sprague Type 109D Capacitors.
- Capacitors Listed on This Page Have Characteristic B (85C).
- Voltage Ratings From 6 WVDC Through 125 WVDC.
- Type CL64 Is a Bare Metal-Case

Unit. If An Outer Insulating Sleeve is Desired, Order Type CL65.

- Capacitance Tolerance:
K = $\pm 10\%$; M = $\pm 20\%$

Call Your Sprague Industrial Distributor For Quantity Prices



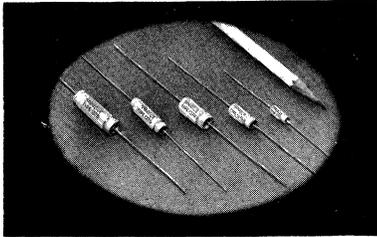
DIMENSIONS

Code	D. x L.	Code	D. x L.	Code	D. x L.
T1	.188" x .453"	T2	.281" x .641"	T3	.375" x .766"

μ F	Size Code	CL64 Type Number	CL65 Type Number	μ F	Size Code	CL64 Type Number	CL65 Type Number	μ F	Size Code	CL64 Type Number	CL65 Type Number								
6 WVDC																			
30	T1	CL64BB300KPE	CL65BB300KPE	10	T1	CL64BG100KPE	CL65BG100KPE	3.5	T1	CL64BL3R5KPE	CL65BL3R5KPE								
30	T1	CL64BB300MPE	CL65BB300MPE	10	T1	CL64BG100MPE	CL65BG100MPE	3.5	T1	CL64BL3R5MPE	CL65BL3R5MPE								
68	T1	CL64BB680MPE	CL65BB680MPE	22	T1	CL64BG220MPE	CL65BG220MPE	6.8	T1	CL64BL6R8MPE	CL65BL6R8MPE								
140	T2	CL64BB141KPE	CL65BB141KPE	100	T2	CL64BG101MPE	CL65BG101MPE	15	T2	CL64BL150KPE	CL65BL150KPE								
140	T2	CL64BB141MPE	CL65BB141MPE	180	T3	CL64BG181MPE	CL65BG181MPE	15	T2	CL64BL150MPE	CL65BL150MPE								
270	T2	CL64BB271MPE	CL65BB271MPE	30 WVDC															
330	T3	CL65BB331KPE	CL65BB331KPE	8	T1	CL64BH080KPE	CL65BH080KPE	33	T2	CL64BL330MPE	CL65BL330MPE								
330	T3	CL64BB331MPE	CL65BB331MPE	8	T1	CL64BH080MPE	CL65BH080MPE	40	T3	CL64BL400KPE	CL65BL400KPE								
560	T3	CL64BB561MPE	CL65BB561MPE	15	T1	CL64BH150MPE	CL65BH150MPE	40	T3	CL64BL400MPE	CL65BL400MPE								
8 WVDC																			
25	T1	CL64BC250KPE	CL65BC250KPE	40	T2	CL64BH400KPE	CL65BH400KPE	56	T3	CL64BL560MPE	CL65BL560MPE								
25	T1	CL64BC250MPE	CL65BC250MPE	40	T2	CL64BH400MPE	CL65BH400MPE	100 WVDC											
56	T1	CL64BC560MPE	CL65BC560MPE	68	T2	CL64BH680MPE	CL65BH680MPE	2.5	T1	CL64BN2R5KPE	CL65BN2R5KPE								
220	T2	CL64BC221MPE	CL65BC221MPE	100	T3	CL64BH101KPE	CL65BH101KPE	2.5	T1	CL64BN2R5MPE	CL65BN2R5MPE								
430	T3	CL64BC431MPE	CL65BC431MPE	100	T3	CL64BH101MPE	CL65BH101MPE	4.7	T1	CL64BN4R7MPE	CL65BN4R7MPE								
10 WVDC																			
20	T1	CL64BD200KPE	CL65BD200KPE	150	T3	CL64BH151MPE	CL65BH151MPE	11	T2	CL64BN110KPE	CL65BN110KPE								
20	T1	CL64BD200MPE	CL65BD200MPE	50 WVDC															
47	T1	CL64BD470MPE	CL65BD470MPE	5	T1	CL64BJ050KPE	CL65BJ050KPE	11	T2	CL64BN110MPE	CL65BN110MPE								
100	T2	CL64BD101KPE	CL65BD101KPE	5	T1	CL64BJ050MPE	CL65BJ050MPE	22	T2	CL64BN220MPE	CL65BN220MPE								
100	T2	CL64BD101MPE	CL65BD101MPE	10	T1	CL64BJ100MPE	CL65BJ100MPE	30	T3	CL64BN300KPE	CL65BN300KPE								
180	T2	CL64BD181MPE	CL65BD181MPE	25	T2	CL64BJ250KPE	CL65BJ250KPE	30	T3	CL64BN300MPE	CL65BN300MPE								
250	T3	CL64BD251KPE	CL65BD251KPE	25	T2	CL64BJ250MPE	CL65BJ250MPE	43	T3	CL64BN430MPE	CL65BN430MPE								
250	T3	CL64BD251MPE	CL65BD251MPE	47	T2	CL64BJ470MPE	CL65BJ470MPE	125 WVDC											
390	T3	CL64BD391MPE	CL65BD391MPE	60	T3	CL64BJ600KPE	CL65BJ600KPE	1.7	T1	CL64BP1R7MPE	CL65BP1R7MPE								
15 WVDC																			
15	T1	CL64BE150KPE	CL65BE150KPE	60	T3	CL64BJ600MPE	CL65BJ600MPE	1.7	T1	CL64BP1R7KPE	CL65BP1R7KPE								
15	T1	CL64BE150MPE	CL65BE150MPE	82	T3	CL64BJ820MPE	CL65BJ820MPE	3.6	T1	CL64BP3R6MPE	CL65BP3R6MPE								
33	T1	CL64BE330MPE	CL65BE330MPE	60 WVDC															
70	T2	CL64BE700KPE	CL65BE700KPE	4	T1	CL64BK040KPE	CL65BK040KPE	3.6	T1	CL64BP3R6KPE	CL65BP3R6KPE								
70	T2	CL64BE700MPE	CL65BE700MPE	4	T1	CL64BK040MPE	CL65BK040MPE	9	T2	CL64BP090MPE	CL65BP090MPE								
120	T2	CL64BE121MPE	CL65BE121MPE	8.2	T1	CL64BK8R2MPE	CL65BK8R2MPE	9	T2	CL64BP090KPE	CL65BP090KPE								
170	T3	CL64BE171KPE	CL65BE171KPE	20	T2	CL64BK200KPE	CL65BK200KPE	14	T2	CL64BP140MPE	CL65BP140MPE								
170	T3	CL64BE171MPE	CL65BE171MPE	20	T2	CL64BK200MPE	CL65BK200MPE	14	T2	CL64BP140KPE	CL65BP140KPE								
270	T3	CL64BE271MPE	CL65BE271MPE	39	T2	CL64BK390MPE	CL65BK390MPE	25	T3	CL64BP250MPE	CL65BP250MPE								
6 WVDC																			
4	T1	CL64BK040KPE	CL65BK040KPE	50	T3	CL64BK500KPE	CL65BK500KPE	25	T3	CL64BP250KPE	CL65BP250KPE								
4	T1	CL64BK040MPE	CL65BK040MPE	50	T3	CL64BK500MPE	CL65BK500MPE	60 WVDC											
8.2	T1	CL64BK8R2MPE	CL65BK8R2MPE	68	T3	CL64BK680MPE	CL65BK680MPE	4	T1	CL64BK040KPE	CL65BK040KPE								
20	T2	CL64BK200KPE	CL65BK200KPE	60 WVDC															
20	T2	CL64BK200MPE	CL65BK200MPE	4	T1	CL64BK040KPE	CL65BK040KPE	4	T1	CL64BK040MPE	CL65BK040MPE								
39	T2	CL64BK390MPE	CL65BK390MPE	8.2	T1	CL64BK8R2MPE	CL65BK8R2MPE	20	T2	CL64BK200KPE	CL65BK200KPE								
50	T3	CL64BK500KPE	CL65BK500KPE	20	T2	CL64BK200MPE	CL65BK200MPE	39	T2	CL64BK390MPE	CL65BK390MPE								
50	T3	CL64BK500MPE	CL65BK500MPE	39	T2	CL64BK390MPE	CL65BK390MPE	50	T3	CL64BK500KPE	CL65BK500KPE								
68	T3	CL64BK680MPE	CL65BK680MPE	50	T3	CL64BK500MPE	CL65BK500MPE	50	T3	CL64BK500MPE	CL65BK500MPE								
60 WVDC																			
4	T1	CL64BK040KPE	CL65BK040KPE	68	T3	CL64BK680MPE	CL65BK680MPE	60 WVDC											
4	T1	CL64BK040MPE	CL65BK040MPE	60 WVDC															
8.2	T1	CL64BK8R2MPE	CL65BK8R2MPE	60 WVDC															
20	T2	CL64BK200KPE	CL65BK200KPE	60 WVDC															
20	T2	CL64BK200MPE	CL65BK200MPE	60 WVDC															
39	T2	CL64BK390MPE	CL65BK390MPE	60 WVDC															
50	T3	CL64BK500KPE	CL65BK500KPE	60 WVDC															
50	T3	CL64BK500MPE	CL65BK500MPE	60 WVDC															
68	T3	CL64BK680MPE	CL65BK680MPE	60 WVDC															

SPRAGUE CAPACITORS

MIL-C-3965 HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS—TYPE CL66 & CL67



- Glass-to-Metal Hermetic Seal Makes These Capacitors Especially Well-Suited For Use In Satellites and Other Applications Requiring The Benefits of true Hermetic Sealing
- May Be Operated At Temperatures Up To 175C
- Extremely low leakage Current
- Military Version Of Well-Known Sprague Type 137D
- Capacitors Listed Here Have Capacitance Tolerance Of $\pm 10\%$. For $\pm 5\%$ Capacitors, Change 10th Character In MIL Type No. From K To J. For $\pm 20\%$ Capacitance Tolerance, Change K To M

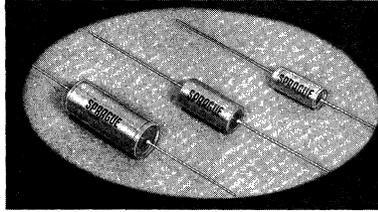
Call Your Sprague Industrial Distributor For Current Quantity Prices

#F	Diam. x Length*	MIL Type Number		#F	Diam. x Length*	MIL Type Number	
		Bare Case	w/Insulating Sleeve			Bare Case	w/Insulating Sleeve
6 WVDC				50 WVDC			
3Q	.188 x .453	CL66BB300KPG	CL67BB300KPG	5	.188 x .453	CL66BJ050KPG	CL67BJ050KPG
68	.188 x .453	CL66BB680KPG	CL67BB680KPG	10	.188 x .453	CL66BJ100KPG	CL67BJ100KPG
140	.281 x .641	CL66BB141KPG	CL67BB141KPG	25	.281 x .641	CL66BJ250KPG	CL67BJ250KPG
270	.281 x .641	CL66BB271KPG	CL67BB271KPG	47	.281 x .641	CL66BJ470KPG	CL67BJ470KPG
330	.375 x .766	CL66BB331KPG	CL67BB331KPG	60	.375 x .766	CL66BJ600KPG	CL67BJ600KPG
560	.375 x .766	CL66BB561KPG	CL67BB561KPG	82	.375 x .766	CL66BJ820KPG	CL67BJ820KPG
8 WVDC				60 WVDC			
25	.188 x .453	CL66BC250KPG	CL67BC250KPG	4	.188 x .453	CL66BK040KPG	CL67BK040KPG
56	.188 x .453	CL66BC560KPG	CL67BC560KPG	8.2	.188 x .453	CL66BK8R2KPG	CL67BK8R2KPG
220	.281 x .641	CL66BC221KPG	CL67BC221KPG	20	.281 x .641	CL66BK200KPG	CL67BK200KPG
430	.375 x .766	CL66BC431KPG	CL67BC431KPG	39	.281 x .641	CL66BK390KPG	CL67BK390KPG
10 WVDC				75 WVDC			
20	.188 x .453	CL66BD200KPG	CL67BD200KPG	3.5	.188 x .453	CL66BL3R5KPG	CL67BL3R5KPG
47	.188 x .453	CL66BD470KPG	CL67BD470KPG	6.8	.188 x .453	CL66BL6R8KPG	CL67BL6R8KPG
100	.281 x .641	CL66BD101KPG	CL67BD101KPG	15	.281 x .641	CL66BL150KPG	CL67BL150KPG
180	.281 x .641	CL66BD181KPG	CL67BD181KPG	33	.281 x .641	CL66BL330KPG	CL67BL330KPG
250	.375 x .766	CL66BD251KPG	CL67BD251KPG	40	.375 x .766	CL66BL400KPG	CL67BL400KPG
390	.375 x .766	CL66BD391KPG	CL67BD391KPG	56	.375 x .766	CL66BL560KPG	CL67BL560KPG
15 WVDC				100 WVDC			
15	.188 x .453	CL66BE150KPG	CL67BE150KPG	2.5	.188 x .453	CL66BN2R5KPG	CL67BN2R5KPG
33	.188 x .453	CL66BE330KPG	CL67BE330KPG	4.7	.188 x .453	CL66BN4R7KPG	CL67BN4R7KPG
70	.281 x .641	CL66BE700KPG	CL67BE700KPG	11	.281 x .641	CL66BN110KPG	CL67BN110KPG
120	.281 x .641	CL66BE121KPG	CL67BE121KPG	22	.281 x .641	CL66BN220KPG	CL67BN220KPG
170	.375 x .766	CL66BE171KPG	CL67BE171KPG	30	.375 x .766	CL66BN300KPG	CL67BN300KPG
270	.375 x .766	CL66BE271KPG	CL67BE271KPG	43	.375 x .766	CL66BN430KPG	CL67BN430KPG
25 WVDC				125 WVDC			
10	.188 x .453	CL66BG100KPG	CL67BG100KPG	1.7	.188 x .453	CL66BP1R7KPG	CL67BP1R7KPG
22	.188 x .453	CL66BG220KPG	CL67BG220KPG	3.6	.188 x .453	CL66BP3R6KPG	CL67BP3R6KPG
100	.281 x .641	CL66BG101KPG	CL67BG101KPG	9	.281 x .641	CL66BP090KPG	CL67BP090KPG
180	.375 x .766	CL66BG181KPG	CL67BG181KPG	14	.281 x .641	CL66BP140KPG	CL67BP140KPG
30 WVDC				150 WVDC			
8	.188 x .453	CL66BH080KPG	CL67BH080KPG	25	.375 x .766	CL66BP250KPG	CL67BP250KPG
15	.188 x .453	CL66BH150KPG	CL67BH150KPG				
40	.281 x .641	CL66BH400KPG	CL67BH400KPG				
68	.281 x .641	CL66BH680KPG	CL67BH680KPG				
100	.375 x .766	CL66BH101KPG	CL67BH101KPG				
150	.375 x .766	CL66BH151KPG	CL67BH151KPG				

*Dimensions shown are for CL66 capacitors. For CL67 units, add .031" to diameter and .063" to length.

SPRAGUE CAPACITORS

ESTABLISHED RELIABILITY MIL-C-39006 STYLE CLR65 SINTERED-ANODE TANTALUM CAPACITORS



- Handled by Sprague and Sprague industrial distributors in full compliance with MIL-STD-790. Manufactured, marked, packed, shipped, received, inspected, stored in separate area, free from contamination or mix-up with other components.
- Rated for operation to 85 C (to 125 C with voltage derating.)

SIZE CODE	
A.....	.188" D. x .453" L.
B.....	.281" D. x .641" L.
C.....	.375" D. x .766" L.
D.....	.375" D. x 1.062" L.
E.....	.375" D. x 1.250" L.

MIL Part No. M39006/09-										MIL Part No. M39006/09-									
		Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)				Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)	
μF	Size WVDC Code	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	μF	Size WVDC Code	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%

ELASTOMER-SEALED CAPACITORS TO MIL-C-39006/9B

30	6	A	1621	1622	1826	1827	2652	2653	2857	2858	150	30	C	1724	1725	1929	1930	2755	2756	2960	2961
68	6	A	1624	1625	1829	1830	2655	2656	2860	2861	300	30	D	1727	1728	1932	1933	2758	2759	2963	2964
140	6	B	1627	1628	1832	1833	2658	2659	2863	2864	5	50	A	1729	1730	1934	1935	2760	2761	2965	2966
270	6	B	1630	1631	1835	1836	2661	2662	2866	2867	10	50	A	1732	1733	1937	1938	2763	2764	2968	2969
330	6	C	1633	1634	1838	1839	2664	2665	2869	2870	25	50	B	1735	1736	1940	1941	2766	2767	2971	2972
560	6	C	1636	1637	1841	1842	2667	2668	2872	2873	47	50	B	1738	1739	1943	1944	2769	2770	2974	2975
1200	6	D	1639	1640	1844	1845	2670	2671	2875	2876	60	50	C	1741	1742	1946	1947	2772	2773	2977	2978
25	8	A	1641	1642	1846	1847	2672	2673	2877	2878	82	50	C	1744	1745	1949	1950	2775	2776	2980	2981
56	8	A	1644	1645	1849	1850	2675	2676	2880	2881	160	50	D	1747	1748	1952	1953	2778	2779	2983	2984
220	8	B	1647	1648	1852	1853	2678	2679	2883	2884	4	60	A	1749	1750	1954	1955	2780	2781	2985	2986
430	8	C	1650	1651	1855	1856	2681	2682	2886	2887	8.2	60	A	1752	1753	1957	1958	2783	2784	2988	2989
850	8	D	1653	1654	1858	1859	2684	2685	2889	2890	20	60	B	1755	1756	1960	1961	2786	2787	2991	2992
20	10	A	1655	1656	1860	1861	2686	2687	2891	2892	39	60	B	1758	1759	1963	1964	2789	2790	2994	2995
47	10	A	1658	1659	1863	1864	2689	2690	2894	2895	50	60	C	1761	1762	1966	1967	2792	2793	2997	2998
100	10	B	1661	1662	1866	1867	2692	2693	2897	2898	68	60	C	1764	1765	1969	1970	2795	2796	3000	3001
180	10	B	1664	1665	1869	1870	2695	2696	2900	2901	140	60	D	1767	1768	1972	1973	2798	2799	3003	3004
250	10	C	1667	1668	1872	1873	2698	2699	2903	2904	3.5	75	A	1769	1770	1974	1975	2800	2801	3005	3006
390	10	C	1670	1671	1875	1876	2701	2702	2906	2907	6.8	75	A	1772	1773	1977	1978	2803	2804	3008	3009
750	10	D	1673	1674	1878	1879	2704	2705	2909	2910	15	75	B	1775	1776	1980	1981	2806	2807	3011	3012
15	15	A	1675	1676	1880	1881	2706	2707	2911	2912	33	75	B	1778	1779	1983	1984	2809	2810	3014	3015
33	15	A	1678	1679	1883	1884	2709	2710	2914	2915	40	75	C	1781	1782	1986	1987	2812	2813	3017	3018
70	15	B	1681	1682	1886	1887	2712	2713	2917	2918	56	75	C	1784	1785	1989	1990	2815	2816	3020	3021
120	15	B	1684	1685	1889	1890	2715	2716	2920	2921	110	75	D	1787	1788	1992	1993	2818	2819	3023	3024
170	15	C	1687	1688	1892	1893	2718	2719	2923	2924	2.5	100	A	1789	1790	1994	1995	2820	2821	3025	3026
270	15	C	1690	1691	1895	1896	2721	2722	2926	2927	4.7	100	A	1792	1793	1997	1998	2823	2824	3028	3029
540	15	D	1693	1694	1898	1899	2724	2725	2929	2930	11	100	B	1795	1796	2000	2001	2826	2827	3031	3032
10	25	A	1695	1696	1900	1901	2726	2727	2931	2932	22	100	B	1798	1799	2003	2004	2829	2830	3034	3035
22	25	A	1698	1699	1903	1904	2729	2730	2934	2935	30	100	C	1801	1802	2006	2007	2832	2833	3037	3038
100	25	B	1701	1702	1906	1907	2732	2733	2937	2938	43	100	C	1804	1805	2009	2010	2835	2836	3040	3041
180	25	C	1704	1705	1909	1910	2735	2736	2940	2941	86	100	D	1807	1808	2012	2013	2838	2839	3043	3044
350	25	D	1707	1708	1912	1913	2738	2739	2943	2944	1.7	125	A	1809	1810	2015	2016	2840	2841	3045	3046
8	30	A	1709	1710	1914	1915	2740	2741	2945	2946	3.6	125	A	1812	1813	2018	2019	2843	2844	3048	3049
15	30	A	1712	1713	1917	1918	2743	2744	2948	2949	9	125	B	1815	1816	2021	2022	2846	2847	3051	3052
40	30	B	1715	1716	1920	1921	2746	2747	2951	2952	14	125	B	1818	1819	2024	2025	2849	2850	3054	3055
68	30	B	1718	1719	1923	1924	2749	2750	2954	2955	18	125	C	1821	1822	2027	2028	2852	2853	3057	3058
100	30	C	1721	1722	1926	1927	2752	2753	2957	2958	25	125	C	1824	1825	2030	2031	2855	2856	3060	3061

HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/9B

30	6	A	4001	4002	4206	4207	4411	4412	4616	4617	20	10	A	4035	4036	4240	4241	4445	4446	4650	4651
68	6	A	4004	4005	4209	4210	4414	4415	4619	4620	47	10	A	4038	4039	4243	4244	4448	4449	4653	4654
140	6	B	4007	4008	4212	4213	4417	4418	4622	4623	100	10	B	4041	4042	4246	4247	4451	4452	4656	4657
270	6	B	4010	4011	4215	4216	4420	4421	4625	4626	180	10	B	4044	4045	4249	4250	4454	4455	4659	4660
330	6	C	4013	4014	4218	4219	4423	4424	4628	4629	250	10	C	4047	4048	4252	4253	4457	4458	4662	4663
560	6	C	4016	4017	4221	4222	4426	4427	4631	4632	390	10	C	4050	4051	4255	4256	4460	4461	4665	4666
1200	6	E	4019	4020	4224	4225	4429	4430	4634	4635	750	10	E	4053	4054	4258	4259	4463	4464	4668	4669
25	8	A	4021	4022	4226	4227	4431	4432	4636	4637	15	15	A	4055	4056	4260	4261	4465	4466	4670	4671
56	8	A	4024	4025	4229	4230	4434	4435	4639	4640	33	15	A	4058	4059	4263	4264	4468	4469	4673	4674
220	8	B	4027	4028	4232	4233	4437	4438	4642	4643	70	15	B	4061	4062	4266	4267	4471	4472	4676	4677
430	8	C	4030	4031	4235	4236	4440	4441	4645	4646	120	15	B	4064	4065	4269	4270	4474	4475	4679	4680
850	8	E	4033	4034	4238	4239	4443	4444	4648	4649	170	15	C	4067	4068	4272	4273	4477	4478	4682	4683

SPRAGUE CAPACITORS

STYLE CLR65 TANTALUM CAPACITORS, continued

MIL Part No. M39006/09-										MIL Part No. M39006/09-									
		Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)				Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)	
μF	Size WVDC Code	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	μF	Size WVDC Code	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%
270	15 C	4070	4071	4275	4276	4480	4481	4685	4686	39	60 B	4138	4139	4343	4344	4548	4549	4753	4754
540	15 E	4073	4074	4278	4279	4483	4484	4688	4689	50	60 C	4141	4142	4346	4347	4551	4552	4756	4757
10	25 A	4075	4076	4280	4281	4485	4486	4690	4691	68	60 C	4144	4145	4349	4350	4554	4555	4759	4760
22	25 A	4078	4079	4283	4284	4488	4489	4693	4694	140	60 E	4147	4148	4352	4353	4557	4558	4762	4763
100	25 B	4081	4082	4286	4287	4491	4492	4696	4697	3.5	75 A	4149	4150	4354	4355	4559	4560	4764	4765
180	25 C	4084	4085	4289	4290	4494	4495	4699	4700	6.8	75 A	4152	4153	4357	4358	4562	4563	4767	4768
350	25 E	4087	4088	4292	4293	4497	4498	4702	4703	15	75 B	4155	4156	4360	4361	4565	4566	4770	4771
8	30 A	4089	4090	4294	4295	4499	4500	4704	4705	33	75 B	4158	4159	4363	4364	4568	4569	4773	4774
15	30 A	4092	4093	4297	4298	4502	4503	4707	4708	40	75 C	4161	4162	4366	4367	4571	4572	4776	4777
40	30 B	4095	4096	4300	4301	4505	4506	4710	4711	56	75 C	4164	4165	4369	4370	4574	4575	4779	4780
68	30 B	4098	4099	4303	4304	4508	4509	4713	4714	110	75 E	4167	4168	4372	4373	4577	4578	4782	4783
100	30 C	4101	4102	4306	4307	4511	4512	4716	4717	2.5	100 A	4169	4170	4374	4375	4579	4580	4784	4785
150	30 C	4104	4105	4309	4310	4514	4515	4719	4720	4.7	100 A	4172	4173	4377	4378	4582	4583	4787	4788
300	30 E	4107	4108	4312	4313	4517	4518	4722	4723	11	100 B	4175	4176	4380	4381	4585	4586	4790	4791
5	50 A	4109	4110	4314	4315	4519	4520	4724	4725	22	100 B	4178	4179	4383	4384	4588	4589	4793	4794
10	50 A	4112	4113	4317	4318	4522	4523	4727	4728	30	100 C	4181	4182	4386	4387	4591	4592	4796	4797
25	50 B	4115	4116	4320	4321	4525	4526	4730	4731	43	100 C	4184	4185	4389	4390	4594	4595	4799	4800
47	50 B	4118	4119	4323	4324	4528	4529	4733	4734	86	100 E	4187	4188	4392	4393	4597	4598	4802	4803
60	50 C	4121	4122	4326	4327	4531	4532	4736	4737	1.7	125 A	4189	4190	4394	4395	4599	4600	4804	4805
82	50 C	4124	4125	4329	4330	4534	4535	4739	4740	3.6	125 A	4192	4193	4397	4398	4602	4603	4807	4808
160	50 E	4127	4128	4332	4333	4537	4538	4742	4743	9	125 B	4195	4196	4400	4401	4605	4606	4810	4811
4	60 A	4129	4130	4334	4335	4539	4540	4744	4745	14	125 B	4198	4199	4403	4404	4608	4609	4813	4814
8.2	60 A	4132	4133	4337	4338	4542	4543	4747	4748	18	125 C	5026	5027	5029	5030	5032	5033	5035	5036
20	60 B	4135	4136	4340	4341	4545	4546	4750	4751	25	125 C	4201	4202	4406	4407	4611	4612	4816	4817
										56	125 E	4204	4205	4409	4410	4614	4615	4819	4820

HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/9C

MIL Part No. M39006/09-										MIL Part No. M39006/09-									
		Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)				Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)	
μF	Size WVDC Code	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	μF	Size WVDC Code	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%
30	6 A	6001	6002	6206	6207	6411	6412	6616	6617	150	30 C	6104	6105	6309	6310	6514	6515	6719	6720
68	6 A	6004	6005	6209	6210	6414	6415	6619	6620	300	30 E	6107	6108	6312	6313	6517	6518	6722	6723
140	6 B	6007	6008	6212	6213	6417	6418	6622	6623	5	50 A	6109	6110	6314	6315	6519	6520	6724	6725
270	6 B	6010	6011	6215	6216	6420	6421	6625	6626	10	50 A	6112	6113	6317	6318	6522	6523	6727	6728
330	6 C	6013	6014	6218	6219	6423	6424	6628	6629	25	50 B	6115	6116	6320	6321	6525	6526	6730	6731
560	6 C	6016	6017	6221	6222	6426	6427	6631	6632	47	50 B	6118	6119	6323	6324	6528	6529	6733	6734
1200	6 E	6019	6020	6224	6225	6429	6430	6634	6635	60	50 C	6121	6122	6326	6327	6531	6532	6736	6737
25	8 A	6021	6022	6226	6227	6431	6432	6636	6637	82	50 C	6124	6125	6329	6330	6534	6535	6739	6740
56	8 A	6024	6025	6229	6230	6434	6435	6639	6640	160	50 E	6127	6128	6332	6333	6537	6538	6742	6743
220	8 B	6027	6028	6232	6233	6437	6438	6642	6643	4	60 A	6129	6130	6334	6335	6539	6540	6744	6745
430	8 C	6030	6031	6235	6236	6440	6441	6645	6646	8.2	60 A	6132	6133	6337	6338	6542	6543	6747	6748
850	8 E	6033	6034	6238	6239	6443	6444	6648	6649	20	60 B	6135	6136	6340	6341	6545	6546	6750	6751
20	10 A	6035	6036	6240	6241	6445	6446	6650	6651	39	60 B	6138	6139	6343	6344	6548	6549	6753	6754
47	10 A	6038	6039	6243	6244	6448	6449	6653	6654	50	60 C	6141	6142	6346	6347	6551	6552	6756	6757
100	10 B	6041	6042	6246	6247	6451	6452	6656	6657	68	60 C	6144	6145	6349	6350	6554	6555	6759	6760
180	10 B	6044	6045	6249	6250	6454	6455	6659	6660	140	60 E	6147	6148	6352	6353	6557	6558	6762	6763
250	10 C	6047	6048	6252	6253	6457	6458	6662	6663	3.5	75 A	6149	6150	6354	6355	6559	6560	6764	6765
390	10 C	6050	6051	6255	6256	6460	6461	6665	6666	6.8	75 A	6152	6153	6357	6358	6562	6563	6767	6768
750	10 E	6053	6054	6258	6259	6463	6464	6668	6669	15	75 B	6155	6156	6360	6361	6565	6566	6770	6771
15	15 A	6055	6056	6260	6261	6465	6466	6670	6671	33	75 B	6158	6159	6363	6364	6568	6569	6773	6774
33	15 A	6058	6059	6263	6264	6468	6469	6673	6674	40	75 C	6161	6162	6366	6367	6571	6572	6776	6777
70	15 B	6061	6062	6266	6267	6471	6472	6676	6677	56	75 C	6164	6165	6369	6370	6574	6575	6779	6780
120	15 B	6064	6065	6269	6270	6474	6475	6679	6680	110	75 E	6167	6168	6372	6373	6577	6578	6782	6783
170	15 C	6067	6068	6272	6273	6477	6478	6682	6683	2.5	100 A	6169	6170	6374	6375	6579	6580	6784	6785
270	15 C	6070	6071	6275	6276	6480	6481	6685	6686	4.7	100 A	6172	6173	6377	6378	6582	6583	6787	6788
540	15 E	6073	6074	6278	6279	6483	6484	6688	6689	11	100 B	6175	6176	6380	6381	6585	6586	6790	6791
10	25 A	6075	6076	6280	6281	6485	6486	6690	6691	22	100 B	6178	6179	6383	6384	6588	6589	6793	6794
22	25 A	6078	6079	6283	6284	6488	6489	6693	6694	30	100 C	6181	6182	6386	6387	6591	6592	6796	6797
100	25 B	6081	6082	6286	6287	6491	6492	6696	6697	43	100 C	6184	6185	6389	6390	6594	6595	6799	6800
180	25 C	6084	6085	6289	6290	6494	6495	6699	6700	86	100 E	6187	6188	6392	6393	6597	6598	6802	6803
350	25 E	6087	6088	6292	6293	6497	6498	6702	6703	1.7	125 A	6189	6190	6394	6395	6599	6600	6804	6805
8	30 A	6089	6090	6294	6295	6499	6500	6704	6705	3.6	125 A	6192	6193	6397	6398	6602	6603	6807	6808
15	30 A	6092	6093	6297	6298	6502	6503	6707	6708	9	125 B	6195	6196	6400	6401	6605	6606	6810	6811
40	30 B	6095	6096	6300	6301	6505	6506	6710	6711	14	125 B	6198	6199	6403	6404	6608	6609	6813	6814
68	30 B	6098	6099	6303	6304	6508	6509	6713	6714	18	125 C	6201	6202	6406	6407	6611	6612	6816	6817
100	30 C	6101	6102	6306	6307	6511	6512	6716	6717	25	125 C	6204	6205	6409	6410	6614	6615	6819	6820
										56	125 E	7027	7028	7030	7031	7033	7034	7036	7037

SPRAGUE CAPACITORS

STYLE CLR65 TANTALUM CAPACITORS, continued

HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/9D

MIL Part No. M39006/09-											MIL Part No. M39006/09-													
μF	WVDC	Size Code	Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)		μF	WVDC	Size Code	Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)				
			Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.				Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.	Cap. Tol.
			±20%	±10%	±20%	±10%	±20%	±10%	±20%	±10%				±20%	±10%	±20%	±10%	±20%	±10%	±20%	±10%	±20%	±10%	±20%	±10%
30	6	A	8001	8002	8206	8207	8411	8412	8616	8617	150	30	C	8104	8105	8309	8310	8514	8515	8719	8720			
68	6	A	8004	8005	8209	8210	8414	8415	8619	8620	300	30	E	8107	8108	8312	8313	8517	8518	8722	8723			
140	6	B	8007	8008	8212	8213	8417	8418	8622	8623	5	50	A	8109	8110	8314	8315	8519	8520	8724	8725			
270	6	B	8010	8011	8215	8216	8420	8421	8625	8626	10	50	A	8112	8113	8317	8318	8522	8523	8727	8728			
330	6	C	8013	8014	8218	8219	8423	8424	8628	8629	25	50	B	8115	8116	8320	8321	8525	8526	8730	8731			
560	6	C	8016	8017	8221	8222	8426	8427	8631	8632	47	50	B	8118	8119	8323	8324	8528	8529	8733	8734			
1200	6	E	8019	8020	8224	8225	8429	8430	8634	8635	60	50	C	8121	8122	8326	8327	8531	8532	8736	8737			
25	8	A	8021	8022	8226	8227	8431	8432	8636	8637	82	50	C	8124	8125	8329	8330	8534	8535	8739	8740			
56	8	A	8024	8025	8229	8230	8434	8435	8639	8640	160	50	E	8127	8128	8332	8333	8537	8538	8742	8743			
220	8	B	8027	8028	8232	8233	8437	8438	8642	8643	4	60	A	8129	8130	8334	8335	8539	8540	8744	8745			
430	8	C	8030	8031	8235	8236	8440	8441	8645	8646	8.2	60	A	8132	8133	8337	8338	8542	8543	8747	8748			
850	8	E	8033	8034	8238	8239	8443	8444	8648	8649	20	60	B	8135	8136	8340	8341	8545	8546	8750	8751			
20	10	A	8035	8036	8240	8241	8445	8446	8650	8651	39	60	B	8138	8139	8343	8344	8548	8549	8753	8754			
47	10	A	8038	8039	8243	8244	8448	8449	8653	8654	50	60	C	8141	8142	8346	8347	8551	8552	8756	8757			
100	10	B	8041	8042	8246	8247	8451	8452	8656	8657	68	60	C	8144	8145	8349	8350	8554	8555	8759	8760			
180	10	B	8044	8045	8249	8250	8454	8455	8659	8660	140	60	E	8147	8148	8352	8353	8557	8558	8762	8763			
250	10	C	8047	8048	8252	8253	8457	8458	8662	8663	3.5	75	A	8149	8150	8354	8355	8559	8560	8764	8765			
390	10	C	8050	8051	8255	8256	8460	8461	8665	8666	6.8	75	A	8152	8153	8357	8358	8562	8563	8767	8768			
750	10	E	8053	8054	8258	8259	8463	8464	8668	8669	15	75	B	8155	8156	8360	8361	8565	8566	8770	8771			
15	15	A	8055	8056	8260	8261	8465	8466	8670	8671	33	75	B	8158	8159	8363	8364	8568	8569	8773	8774			
33	15	A	8058	8059	8263	8264	8468	8469	8673	8674	40	75	C	8161	8162	8366	8367	8571	8572	8776	8777			
70	15	B	8061	8062	8266	8267	8471	8472	8676	8677	56	75	C	8164	8165	8369	8370	8574	8575	8779	8780			
120	15	B	8064	8065	8269	8270	8474	8475	8679	8680	110	75	E	8167	8168	8372	8373	8577	8578	8782	8783			
170	15	C	8067	8068	8272	8273	8477	8478	8682	8683	2.5	100	A	8169	8170	8374	8375	8579	8580	8784	8785			
270	15	C	8070	8071	8275	8276	8480	8481	8685	8686	4.7	100	A	8172	8173	8377	8378	8582	8583	8787	8788			
540	15	E	8073	8074	8278	8279	8483	8484	8688	8689	11	100	B	8175	8176	8380	8381	8585	8586	8790	8791			
10	25	A	8075	8076	8280	8281	8485	8486	8690	8691	22	100	B	8178	8179	8383	8384	8588	8589	8793	8794			
22	25	A	8078	8079	8283	8284	8488	8489	8693	8694	30	100	C	8181	8182	8386	8387	8591	8592	8796	8797			
100	25	B	8081	8082	8286	8287	8491	8492	8696	8697	43	100	C	8184	8185	8389	8390	8594	8595	8799	8800			
180	25	C	8084	8085	8289	8290	8494	8495	8699	8700	86	100	E	8187	8188	8392	8393	8597	8598	8802	8803			
350	25	E	8087	8088	8292	8293	8497	8498	8702	8703	1.7	125	A	8189	8190	8394	8395	8599	8600	8804	8805			
8	30	A	8089	8090	8294	8295	8499	8500	8704	8705	3.6	125	A	8192	8193	8397	8398	8602	8603	8807	8808			
15	30	A	8092	8093	8297	8298	8502	8503	8707	8708	9	125	B	8195	8196	8400	8401	8605	8606	8810	8811			
40	30	B	8095	8096	8300	8301	8505	8506	8710	8711	14	125	B	8198	8199	8403	8404	8608	8609	8813	8814			
68	30	B	8098	8099	8303	8304	8508	8509	8713	8714	18	125	C	8201	8202	8406	8407	8611	8612	8816	8817			
100	30	C	8101	8102	8306	8307	8511	8512	8716	8717	25	125	C	8204	8205	8409	8410	8614	8615	8819	8820			
											56	125	E	9027	9028	9030	9031	9033	9034	9036	9037			

SPRAGUE SEMICONDUCTORS

Sprague makes available a broad line of semiconductors through its network of franchised semiconductor distributors, strategically located in major electronic areas throughout the country. Substantial stocks of the product lines mentioned here assure you of prompt delivery in production quantities at factory prices.

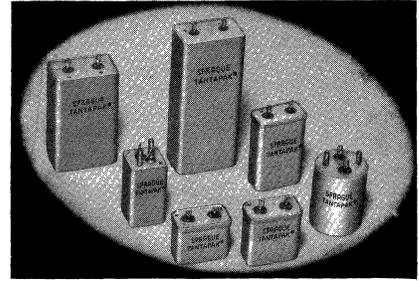
- Plastic-Molded Silicon Transistors
- Metal-Encased Silicon Transistors
- Metal-Encased Germanium Transistors
- DIP Transistor Arrays
- Interface Integrated Circuits
- Linear Integrated Circuits
- CMOS Integrated Circuits
- Hall Effect Integrated Circuits
- Silicon Zener Diodes
- Voltage-Variable Diodes
- Operational Amplifiers
- DIP Schmitt Triggers

FOR DESCRIPTIVE DATA, SEE LATEST ISSUE OF SEMICONDUCTOR SHORT-FORM CATALOG IND-843.

SPRAGUE CAPACITORS

TYPE 200D, 202D TANTAPAK® CAPACITOR ASSEMBLIES

- Wet sintered-anode tantalum electrolytic capacitor assemblies for applications that require high capacitance at low voltage.
- Ideal for filtering, coupling, bypass, time delay circuit applications.
- Dual voltage ratings for operation at both 85 C and 125 C.
- Excellent shock and vibration resistance characteristics.
- Glass-to-metal positive solder-seal terminals to insure hermetic seals.
- Withstand long shelf life without deterioration.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3705.



μF	W. x H. x T.	Cat. Number*
6 WVDC AT 85 C - 4 WVDC AT 125 C		
4800	.875 x 1.625 x 0.875	202D488X0006D3
7200	1.593 x 1.500 x 1.000	202D728X0006B1
8400	• 1.250 x 1.625	202D848X0006C3
9600	1.593 x 1.875 x 1.000	202D968X0006B2
12000	1.593 x 2.250 x 1.000	202D129X0006B3
14000	1.593 x 2.625 x 1.000	202D149X0006B4
17000	1.593 x 3.000 x 1.000	202D179X0006B5
19000	1.593 x 3.375 x 1.000	202D199X0006B6
22000	1.593 x 3.750 x 1.000	202D229X0006B7
8 WVDC AT 85 C - 5 WVDC AT 125 C		
3400	.875 x 1.625 x 0.875	202D348X0008D3
5100	1.593 x 1.500 x 1.000	202D518X0008B1
6000	• 1.250 x 1.625	202D608X0008C3
6800	1.593 x 1.875 x 1.000	202D688X0008B2
8500	1.593 x 2.250 x 1.000	202D858X0008B3
10000	1.593 x 2.625 x 1.000	202D109X0008B4
12000	1.593 x 3.000 x 1.000	202D129X0008B5
14000	1.593 x 3.375 x 1.000	202D149X0008B6
15000	1.593 x 3.750 x 1.000	202D159X0008B7
10 WVDC AT 85 C - 7 WVDC AT 125 C		
3000	.875 x 1.625 x 0.875	202D308X0010D3
4500	1.593 x 1.500 x 1.000	202D458X0010B1
5300	• 1.250 x 1.625	202D538X0010C3
6000	1.593 x 1.875 x 1.000	202D608X0010B2
7500	1.593 x 2.250 x 1.000	202D758X0010B3
9000	1.593 x 2.625 x 1.000	202D908X0010B4
10000	1.593 x 3.000 x 1.000	202D109X0010B5
12000	1.593 x 3.375 x 1.000	202D129X0010B6
14000	1.593 x 3.750 x 1.000	202D149X0010B7
15 WVDC AT 85 C - 10 WVDC AT 125 C		
960	1.275 x 1.062 x 0.720	202D967X0015A1
1200	1.275 x 1.375 x 0.720	202D128X0015A2
1400	1.275 x 1.625 x 0.720	202D148X0015A3
1400	1.275 x 1.062 x 0.720	202D148X0015A1
1900	1.275 x 1.375 x 0.720	202D198X0015A2
2100	1.275 x 2.000 x 0.720	202D218X0015A4
2200	.875 x 1.625 x 0.875	202D228X0015D3
2400	1.275 x 1.625 x 0.720	202D248X0015A3
2400	1.275 x 2.500 x 0.720	202D248X0015A5
2900	1.275 x 2.000 x 0.720	202D298X0015A4
3200	1.593 x 1.500 x 1.000	202D328X0015B1
3800	• 1.250 x 1.625	202D388X0015C3
3900	1.275 x 2.500 x 0.720	202D398X0015A5
4300	1.593 x 1.875 x 1.000	202D438X0015B2
5400	1.593 x 2.250 x 1.000	202D548X0015B3
6500	1.593 x 2.625 x 1.000	202D658X0015B4
7600	1.593 x 3.000 x 1.000	202D768X0015B5
8600	1.593 x 3.375 x 1.000	202D868X0015B6
9700	1.593 x 3.750 x 1.000	202D978X0015B7
25 WVDC AT 85 C - 15 WVDC AT 125 C		
1400	.875 x 1.625 x 0.875	202D148X0025D3
2100	1.593 x 1.500 x 1.000	202D218X0025B1
2500	• 1.250 x 1.625	202D258X0025C3
2800	1.593 x 1.875 x 1.000	202D288X0025B2
3500	1.593 x 2.250 x 1.000	202D358X0025B3
4200	1.593 x 2.625 x 1.000	202D428X0025B4
4900	1.593 x 3.000 x 1.000	202D498X0025B5
5600	1.593 x 3.375 x 1.000	202D568X0025B6
6300	1.593 x 3.750 x 1.000	202D638X0025B7

μF	W. x H. x T.	Cat. Number*
30 WVDC AT 85 C - 20 WVDC AT 125 C		
520	1.275 x 1.062 x 0.720	202D527X0030A1
660	1.275 x 1.375 x 0.720	202D667X0030A2
820	1.275 x 1.062 x 0.720	202D827X0030A1
820	1.275 x 1.625 x 0.720	202D827X0030A3
1100	1.275 x 1.375 x 0.720	202D118X0030A2
1200	1.275 x 2.000 x 0.720	202D128X0030A4
1200	.875 x 1.625 x 0.875	202D128X0030D3
1300	1.275 x 2.500 x 0.720	202D138X0030A5
1400	1.275 x 1.625 x 0.720	202D148X0030A3
1600	1.275 x 2.000 x 0.720	202D168X0030A4
1800	1.593 x 1.500 x 1.000	202D188X0030B1
2100	• 1.250 x 1.625	202D218X0030C3
2200	1.275 x 2.500 x 0.720	202D228X0030A5
2400	1.593 x 1.875 x 1.000	202D248X0030B2
3000	1.593 x 2.250 x 1.000	202D308X0030B3
3600	1.593 x 2.625 x 1.000	202D368X0030B4
4200	1.593 x 3.000 x 1.000	202D428X0030B5
4800	1.593 x 3.375 x 1.000	202D488X0030B6
5400	1.593 x 3.750 x 1.000	202D548X0030B7
45 WVDC AT 85 C - 30 WVDC AT 125 C		
430	1.275 x 1.062 x 0.720	202D437X0045A1
550	1.275 x 1.375 x 0.720	202D557X0045A2
570	1.275 x 1.062 x 0.720	202D577X0045A1
660	1.275 x 1.625 x 0.720	202D667X0045A3
750	1.275 x 1.375 x 0.720	202D757X0045A2
940	1.275 x 1.625 x 0.720	202D947X0045A3
1000	1.275 x 2.000 x 0.720	202D108X0045A4
1100	1.275 x 2.000 x 0.720	202D118X0045A4
1100	1.275 x 2.500 x 0.720	202D118X0045A5
1500	1.275 x 2.500 x 0.720	202D158X0045A5
50 WVDC AT 85 C - 35 WVDC AT 125 C		
640	.875 x 1.625 x 0.875	202D647X0050D3
950	1.593 x 1.500 x 1.000	202D967X0050B1
1000	1.275 x 2.500 x 0.720	202D108X0050A5
1100	• 1.250 x 1.625	202D118X0050C3
1300	1.593 x 1.875 x 1.000	202D138X0050B2
1600	1.593 x 2.250 x 1.000	202D168X0050B3
1900	1.593 x 2.625 x 1.000	202D198X0050B4
2200	1.593 x 3.000 x 1.000	202D228X0050B5
2600	1.593 x 3.375 x 1.000	202D268X0050B6
2900	1.593 x 3.750 x 1.000	202D298X0050B7
60 WVDC AT 85 C - 40 WVDC AT 125 C		
560	.875 x 1.625 x 0.875	202D567X0060D3
840	1.593 x 1.500 x 1.000	202D847X0060B1
980	• 1.250 x 1.625	202D987X0060C3
1100	1.593 x 1.875 x 1.000	202D118X0060B2
1400	1.593 x 2.250 x 1.000	202D148X0060B3
1700	1.593 x 2.625 x 1.000	202D178X0060B4
2000	1.593 x 3.000 x 1.000	202D208X0060B5
2200	1.593 x 3.375 x 1.000	202D228X0060B6
2500	1.593 x 3.750 x 1.000	202D258X0060B7
75 WVDC AT 85 C - 50 WVDC AT 125 C		
270	1.275 x 1.062 x 0.720	202D277X0075A1
330	1.275 x 1.375 x 0.720	202D337X0075A2
400	1.275 x 1.062 x 0.720	202D407X0075A1
400	1.275 x 1.625 x 0.720	202D407X0075A3
440	.875 x 1.625 x 0.875	202D447X0075D3
530	1.275 x 1.375 x 0.720	202D537X0075A2
600	1.275 x 2.000 x 0.720	202D607X0075A4
660	1.275 x 1.625 x 0.720	202D667X0075A3
660	1.275 x 2.500 x 0.720	202D667X0075A5
660	1.593 x 1.500 x 1.000	202D667X0075B1

μF	W. x H. x T.	Cat. Number*
770	• 1.250 x 1.625	202D777X0075C3
790	1.275 x 2.000 x 0.720	202D797X0075A4
880	1.593 x 1.875 x 1.000	202D887X0075B2
1100	1.275 x 2.500 x 0.720	202D118X0075A5
1100	1.593 x 2.250 x 1.000	202D118X0075B3
1400	1.593 x 2.625 x 1.000	202D148X0075B4
1500	1.593 x 3.000 x 1.000	202D158X0075B5
1800	1.593 x 3.375 x 1.000	202D188X0075B6
2000	1.593 x 3.750 x 1.000	202D208X0075B7
100 WVDC AT 85 C - 70 WVDC AT 125 C		
260	1.275 x 1.062 x 0.720	202D267X0100A1
340	.875 x 1.625 x 0.875	202D347X0100D3
350	1.275 x 1.375 x 0.720	202D357X0100A2
440	1.275 x 1.625 x 0.720	202D447X0100A3
510	1.593 x 1.500 x 1.000	202D517X0100B1
530	1.275 x 2.000 x 0.720	202D537X0100A4
600	• 1.200 x 1.625	202D607X0100C3
680	1.593 x 1.875 x 1.000	202D687X0100B2
700	1.275 x 2.500 x 0.720	202D707X0100A5
850	1.593 x 2.250 x 1.000	202D857X0100B3
1000	1.593 x 2.625 x 1.000	202D108X0100B4
1200	1.593 x 3.000 x 1.000	202D128X0100B5
1400	1.593 x 3.375 x 1.000	202D148X0100B6
1500	1.593 x 3.750 x 1.000	202D158X0100B7
110 WVDC AT 85 C - 75 WVDC AT 125 C		
140	1.275 x 1.062 x 0.720	202D147X0110A1
180	1.275 x 1.375 x 0.720	202D187X0110A2
220	1.275 x 1.625 x 0.720	202D227X0110A3
320	1.275 x 2.000 x 0.720	202D327X0110A4
360	1.275 x 2.500 x 0.720	202D367X0110A5
125 WVDC AT 85 C - 85 WVDC AT 125 C		
170	1.275 x 1.062 x 0.720	202D177X0125A1
220	1.275 x 1.375 x 0.720	202D227X0125A2
220	.875 x 1.625 x 0.875	202D227X0125D3
280	1.275 x 1.625 x 0.720	202D287X0125A3
340	1.275 x 2.000 x 0.720	202D347X0125A4
340	1.593 x 1.500 x 1.000	202D347X0125B1
450	1.275 x 2.500 x 0.720	202D457X0125A5
450	1.593 x 1.875 x 1.000	202D457X0125B2
560	1.593 x 2.250 x 1.000	202D567X0125B3
670	1.593 x 2.625 x 1.000	202D677X0125B4
790	1.593 x 3.000 x 1.000	202D797X0125B5
900	1.593 x 3.375 x 1.000	202D907X0125B6
1000	1.593 x 3.750 x 1.000	202D108X0125B7
150 WVDC AT 85 C - 100 WVDC AT 125 C		
110	.875 x 1.625 x 0.875	202D117X0150D3
130	1.275 x 1.062 x 0.720	202D137X0150A1
170	1.275 x 1.375 x 0.720	202D177X0150A2
220	1.275 x 1.625 x 0.720	202D227X0150A3
260	1.275 x 2.000 x 0.720	202D267X0150A4
350	1.275 x 2.500 x 0.720	202D357X0150A5
200 WVDC AT 85 C - 140 WVDC AT 125 C		
86	.875 x 1.625 x 0.875	202D866X0200D3
250 WVDC AT 85 C - 170 WVDC AT 125 C		
56	.875 x 1.625 x 0.875	202D566X0250D3
300 WVDC AT 85 C - 200 WVDC AT 125 C		
27	.805 x 1.625 x 0.875	202D276X0300D3
400 WVDC AT 85 C - 280 WVDC AT 125 C		
22	.875 x 1.625 x 0.875	202D226X0400D3
500 WVDC AT 85 C - 340 WVDC AT 125 C		
14	.875 x 1.625 x 0.875	202D146X0500D3

*Catalog numbers listed are for capacitor assemblies with both terminals insulated from case. For assemblies with negative terminal grounded (available only in units where 13th character of cat. no. is letter 'A'), change third digit of cat. no. from '2' to '0'. • Cylindrical units — dimensions are for diameter and height.

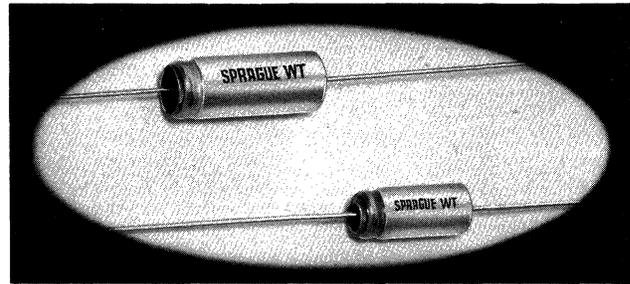
SPRAGUE CAPACITORS

TYPE 500D ALUMINUM ELECTROLYTICS, continued

μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.									
8	.385 x .848	500D805F150DC7	25	.500 x 1.536	500D256F200FH7	4	.385 x 1.286	500D405F300DF7	0-400 WVDC											
10	.385 x .973	500D106F150DD7	30	.500 x 1.786	500D306F200FK7	5	.385 x 1.286	500D505F300DF7												
15	.385 x 1.286	500D156F150DF7	0-250 WVDC			6	.385 x 1.536	500D605F300DH7												
20	.385 x 1.536	500D206F150DH7				8	.448 x 1.536	500D805F300EH7												
25	.448 x 1.286	500D256F150EF7				10	.448 x 1.536	500D106F300EH7												
30	.448 x 1.536	500D306F150EH7				12	.500 x 1.536	500D126F300FH7												
35	.500 x 1.536	500D356F150FH7				15	.500 x 1.536	500D156F300FH7												
40	.500 x 1.536	500D406F150FH7				20	.500 x 1.786	500D206F300FK7												
50	.500 x 1.786	500D506F150FK7				0-350 WVDC						0-450 WVDC								
0-200 WVDC															1	.322 x .723	500D105F250CB7	1	.385 x .848	500D105F450DC7
1	.260 x .723	500D105F200BB7													2	.385 x .723	500D205F250B7	2	.385 x .848	500D205F450DF7
2	.322 x .723	500D205F200CB7													3	.385 x .848	500D305F250C7	3	.448 x 1.286	500D305F450EF7
3	.322 x .848	500D305F200C7							4	.385 x .973	500D405F250D7				4	.448 x 1.536	500D405F450EH7			
4	.385 x .848	500D405F200D7							5	.385 x 1.286	500D505F250DF7				5	.500 x 1.286	500D505F450FF7			
5	.385 x .848	500D505F200D7	6	.385 x 1.286	500D605F250DF7				6	.500 x 1.536	500D605F450FH7									
6	.385 x .973	500D605F200DD7	8	.385 x 1.536	500D805F250DH7				8	.500 x 1.786	500D805F450FK7									
8	.385 x 1.286	500D805F200DF7	10	.448 x 1.286	500D106F250EF7				10	.500 x 1.786	500D106F450FK7									
10	.385 x 1.286	500D106F200DF7	12	.448 x 1.536	500D126F250EH7				0-350 WVDC											
15	.448 x 1.286	500D156F200EF7	15	.500 x 1.536	500D156F250FH7										1	.322 x .848	500D105F350CC7			
20	.448 x 1.536	500D206F200EH7	20	.500 x 1.786	500D206F250FK7										2	.385 x .848	500D205F350DC7			
0-300 WVDC			0-300 WVDC			3	.385 x .973	500D305F350DD7												
1	.322 x .723	500D105F300CB7				4	.385 x 1.286	500D405F350DF7				4	.385 x 1.286	500D405F350DF7						
2	.385 x .848	500D205F300C7				5	.385 x 1.536	500D505F350DH7				5	.385 x 1.536	500D505F350DH7						
3	.385 x .973	500D305F300DD7				6	.385 x 1.536	500D605F350DH7				6	.385 x 1.536	500D605F350DH7						
0-300 WVDC						8	.448 x 1.536	500D805F350EH7				8	.448 x 1.536	500D805F350EH7						
1	.322 x .723	500D105F300CB7				10	.500 x 1.536	500D106F350FH7				10	.500 x 1.536	500D106F350FH7						
2	.385 x .848	500D205F300C7				12	.500 x 1.536	500D126F350FH7				12	.500 x 1.536	500D126F350FH7						
3	.385 x .973	500D305F300DD7				15	.500 x 1.786	500D156F350FK7				15	.500 x 1.786	500D156F350FK7						

TYPE WH11D* AXIAL-LEAD ECONOMY ELECTROLYTICS

- Made in Hong Kong by Sprague World Trade Corp.
- Operating temperature range, -20 C to +85 C.
- All-welded construction - no pressure joints to cause open or intermittent circuits.
- Low leakage current - means minimum drain and longer battery life in bypass circuits.
- Also excellent as coupling capacitors.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3148.

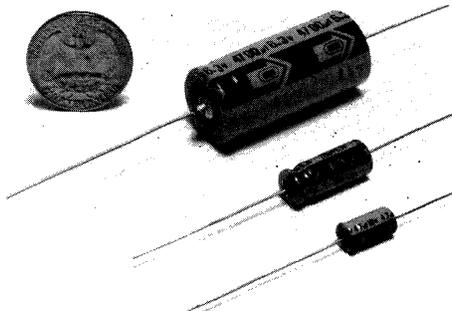


μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.			
3 WVDC, 4 V SURGE			65	.322 x .723	WH11D656G012X	6	.260 x .536	WH11D605G025Y	120	.465 x 1.286	WH11D127G050K			
25	.260 x .536	WH11D256G003Y	100	.385 x .723	WH11D107G012C	8	.260 x .536	WH11D805G025Y	150	.465 x 1.536	WH11D157G050M			
65	.260 x .723	WH11D656G003A	200	.385 x .973	WH11D207G012E	10	.260 x .723	WH11D106G025A	200	.510 x 1.286	WH11D207G050P			
100	.322 x .723	WH11D107G003X	300	.385 x 1.286	WH11D307G012F	15	.260 x .723	WH11D156G025A	250	.510 x 1.286	WH11D257G050P			
120	.322 x .723	WH11D127G003X	400	.385 x 1.536	WH11D407G012G	20	.322 x .723	WH11D206G025X	300	.510 x 1.536	WH11D307G050R			
150	.385 x .723	WH11D157G003C	500	.465 x 1.286	WH11D507G012K	25	.322 x .723	WH11D256G025X	350	.510 x 1.786	WH11D357G050S			
200	.385 x .723	WH11D207G003C	650	.465 x 1.536	WH11D657G012M	35	.322 x .723	WH11D356G025X	400	.510 x 1.786	WH11D407G050S			
350	.385 x .973	WH11D357G003E	700	.510 x 1.286	WH11D707G012P	50	.385 x .723	WH11D506G025C	100 WVDC, 125 V SURGE					
400	.385 x .973	WH11D407G003E	800	.510 x 1.536	WH11D807G012R	65	.385 x .973	WH11D656G025E						
500	.385 x 1.286	WH11D507G003F	1200	.510 x 1.786	WH11D128G012S	75	.385 x .973	WH11D756G025E						
600	.385 x 1.286	WH11D607G003F	16 WVDC, 18 V SURGE			100	.385 x .973	WH11D107G025E						
800	.385 x 1.536	WH11D807G003G				10	.260 x .536	WH11D106G016Y				120	.385 x 1.286	WH11D127G025F
1000	.465 x 1.286	WH11D108G003K				20	.260 x .723	WH11D206G016A				150	.385 x 1.286	WH11D157G025F
1300	.465 x 1.536	WH11D138G003M				25	.260 x .723	WH11D256G016A				200	.385 x 1.536	WH11D207G025G
2000	.510 x 1.536	WH11D208G003R				50	.322 x .723	WH11D506G016X				250	.465 x 1.286	WH11D257G025K
2500	.510 x 1.786	WH11D258G003S				65	.385 x .723	WH11D656G016C				300	.465 x 1.536	WH11D307G025M
6 WVDC, 8 V SURGE						75	.385 x .723	WH11D756G016C				350	.465 x 1.536	WH11D357G025M
20	.260 x .536	WH11D206G006Y				120	.385 x .973	WH11D127G016E				400	.510 x 1.286	WH11D407G025P
50	.260 x .723	WH11D506G006A				150	.385 x .973	WH11D157G016E				450	.510 x 1.536	WH11D457G025R
75	.322 x .723	WH11D756G006X				200	.385 x 1.286	WH11D207G016F	500	.510 x 1.536	WH11D507G025R			
120	.385 x .723	WH11D127G006C				250	.385 x 1.286	WH11D257G016F	600	.510 x 1.786	WH11D607G025S			
250	.385 x .973	WH11D257G006E				300	.385 x 1.536	WH11D307G016G	50 WVDC, 65 V SURGE					
300	.385 x .973	WH11D307G006E	350	.385 x 1.536	WH11D357G016G									
350	.385 x 1.286	WH11D357G006F	400	.465 x 1.286	WH11D407G016K									
400	.385 x 1.286	WH11D407G006F	450	.465 x 1.286	WH11D457G016K									
500	.385 x 1.536	WH11D507G006G	500	.465 x 1.536	WH11D507G016M									
600	.385 x 1.536	WH11D607G006G	600	.465 x 1.536	WH11D607G016M									
700	.465 x 1.286	WH11D707G006K	650	.510 x 1.286	WH11D657G016P									
800	.465 x 1.536	WH11D807G006M	800	.510 x 1.536	WH11D807G016R									
950	.465 x 1.536	WH11D957G006M	1000	.510 x 1.786	WH11D108G016S									
1000	.510 x 1.286	WH11D108G006P	25 WVDC, 35 V SURGE			1	.260 x .536	WH11D105G050Y						
1500	.510 x 1.536	WH11D158G006R												
2000	.510 x 1.786	WH11D208G006S												
12 WVDC, 15 V SURGE						2	.260 x .536	WH11D205G025Y	2	.260 x .536	WH11D205G050Y			
15	.260 x .536	WH11D156G012Y				3	.260 x .536	WH11D305G025Y	3	.260 x .536	WH11D305G050Y			
35	.260 x .723	WH11D356G012A				4	.260 x .536	WH11D405G025Y	4	.260 x .536	WH11D405G050Y			
150 WVDC, 175 V SURGE						5	.260 x .536	WH11D505G025Y	5	.260 x .723	WH11D505G050A			
						1	.260 x .536	WH11D105F150Y	6	.260 x .723	WH11D605G050A			
						2	.322 x .723	WH11D205F150X	8	.260 x .723	WH11D805G050A			
						3	.385 x .723	WH11D305F150C	10	.322 x .723	WH11D106G050X			
						4	.385 x .723	WH11D405F150C	15	.322 x .723	WH11D156G050X			
						5	.385 x .723	WH11D505F150C	20	.385 x .723	WH11D206G050C			
			6	.385 x .973	WH11D605F150E	25	.385 x .723	WH11D256G050C						
			8	.385 x .973	WH11D805F150E	35	.385 x .973	WH11D356G050E						
			10	.385 x 1.286	WH11D106F150F	50	.385 x .973	WH11D506G050E						
			15	.385 x 1.286	WH11D156F150F	65	.385 x 1.286	WH11D656G050F						
			20	.385 x 1.536	WH11D206F150G	75	.385 x 1.286	WH11D756G050F						
			25	.465 x 1.536	WH11D256F150M	100	.385 x 1.536	WH11D107G050G						
35	.510 x 1.536	WH11D356F150R	100 WVDC, 125 V SURGE			1	.260 x .536	WH11D105F100Y						
50	.510 x 1.786	WH11D506F150S												

*Available until present stocks are exhausted.

SPRAGUE CAPACITORS

TYPE 501D MINILYTIC® ALUMINUM ELECTROLYTICS

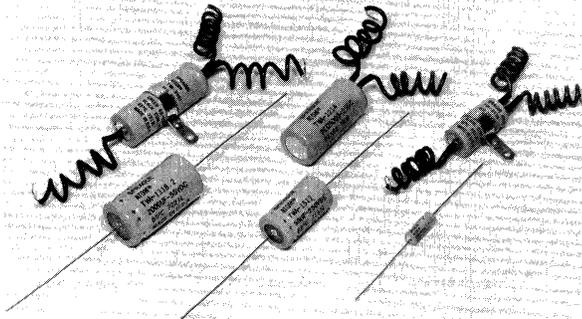


- For entertainment and commercial applications requiring miniature tubular electrolytics with good operating life.
- Intended for use in coupling, decoupling, bypass, and filtering circuits in radios, automobile receivers, portable tape recorders, Hi-Fi equipment, commercial amplifiers, etc.
- Capacitance tolerance, $-10, +50\%$.
- Designed for operation over temperature range of -40°C to $+85^{\circ}\text{C}$.
- Very low equivalent series resistance and leakage current.
- Supplied with outer thermoplastic sleeve over aluminum case.
- For complete technical data, refer to latest issue of Engineering Bulletin 3151.

μF	D. x L. (Inches)	D. x L. (mm)	Catalog No.	μF	D. x L. (Inches)	D. x L. (mm)	Catalog No.
0-6.3 WVDC, 8 V SURGE				0-35 WVDC, 44 V SURGE			
150	.315 x .630	8 x 16	501D157F6R3MM	6.8	.236 x .472	6 x 12	501D685F035LL
470	.394 x .827	10 x 21	501D477F6R3NP	10	.236 x .472	6 x 12	501D106F035LL
680	.394 x 1.020	10 x 26	501D687F6R3NR	15	.236 x .630	6 x 16	501D156F035LM
1500	.512 x 1.280	13 x 32.5	501D158F6R3PS	33	.315 x .630	8 x 16	501D336F035MM
2200	.630 x 1.280	16 x 32.5	501D228F6R3QS	47	.315 x .787	8 x 20	501D476F035MN
4700	.709 x 1.570	18 x 40	501D478F6R3SV	68	.394 x .827	10 x 21	501D686F035NP
6800	.866 x 1.570	22 x 40	501D688F6R3TV	100	.394 x .827	10 x 21	501D107F035NP
10000	.866 x 2.050	22 x 52	501D109F6R3TW	150	.394 x 1.020	10 x 26	501D157F035NR
15000	1.000 x 2.400	25.4 x 61	501D159F6R3UX	330	.512 x 1.020	13 x 26	501D337F035PR
				470	.512 x 1.280	13 x 32.5	501D477F035PS
0-10 WVDC, 13 V SURGE				0-50 WVDC, 63 V SURGE			
33	.236 x .472	6 x 12	501D336F010LL	680	.630 x 1.280	16 x 32.5	501D687F035QS
47	.236 x .472	6 x 12	501D476F010LL	1000	.630 x 1.630	16 x 41.5	501D108F035QT
220	.315 x .787	8 x 20	501D227F010MN	1500	.709 x 1.570	18 x 40	501D158F035SV
330	.394 x .827	10 x 21	501D337F010NP	2200	.866 x 1.570	22 x 40	501D228F035TV
470	.394 x 1.020	10 x 26	501D477F010NR	3300	.866 x 2.050	22 x 52	501D338F035TW
1000	.512 x 1.020	13 x 26	501D108F010PR	4700	1.000 x 2.050	25.4 x 52	501D478F035UW
3300	.630 x 1.630	16 x 41.5	501D338F010QT				
6800	.866 x 2.050	22 x 52	501D688F010TW	0-16 WVDC, 20 V SURGE			
10000	1.000 x 2.050	25.4 x 52	501D109F010UW	22	.236 x .472	6 x 12	501D226F016LL
				33	.236 x .630	6 x 16	501D336F016LM
				68	.315 x .630	8 x 16	501D686F016MM
				100	.315 x .630	8 x 16	501D107F016MN
				150	.315 x .787	8 x 20	501D157F016MN
				220	.394 x .827	10 x 21	501D227F016NP
				330	.394 x 1.020	10 x 26	501D337F016NR
				680	.512 x 1.020	13 x 26	501D687F016PR
				1000	.512 x 1.280	13 x 32.5	501D108F016PS
				1500	.630 x 1.280	16 x 32.5	501D158F016QS
				2200	.630 x 1.630	16 x 41.5	501D228F016QT
				4700	.866 x 1.570	22 x 40	501D478F016TV
				6800	1.000 x 2.050	25.4 x 52	501D688F016UW
				10000	1.000 x 2.400	25.4 x 61	501D109F016UX
0-25 WVDC, 32 V SURGE				0-63 WVDC, 79 V SURGE			
15	.236 x .472	6 x 12	501D156F025LL	.47	.236 x .472	6 x 12	501D474F063LL
22	.236 x .630	6 x 16	501D226F025LM	.68	.236 x .472	6 x 12	501D684F063LL
47	.315 x .630	8 x 16	501D476F025MM	1.0	.236 x .472	6 x 12	501D105F063LL
68	.315 x .787	8 x 20	501D686F025MN	1.5	.236 x .472	6 x 12	501D155F063LL
100	.315 x .787	8 x 20	501D107F025MN	2.2	.236 x .472	6 x 12	501D225F063LL
150	.394 x .827	10 x 21	501D157F025NP	3.3	.236 x .472	6 x 12	501D335F063LL
220	.394 x 1.020	10 x 26	501D227F025NR	4.7	.236 x .472	6 x 12	501D475F063LL
470	.512 x 1.020	13 x 26	501D477F025PR	6.8	.236 x .630	6 x 16	501D685F063LM
680	.512 x 1.280	13 x 32.5	501D687F025PS	10	.315 x .630	8 x 16	501D106F063MM
1000	.630 x 1.280	16 x 32.5	501D108F025QS	15	.315 x .630	8 x 16	501D156F063MM
1500	.630 x 1.630	16 x 41.5	501D158F025QT	22	.315 x .787	8 x 20	501D226F063MN
3300	.866 x 1.570	22 x 40	501D338F025TV	33	.394 x .827	10 x 21	501D336F063NP
4700	.866 x 2.050	22 x 52	501D478F025TW	47	.394 x .827	10 x 21	501D476F063NP
6800	1.000 x 2.400	25.4 x 61	501D688F025UX	68	.394 x 1.020	10 x 26	501D686F063NR
				100	.394 x 1.020	10 x 26	501D107F063NR
				150	.512 x 1.020	13 x 26	501D157F063PR
				220	.512 x 1.020	13 x 26	501D227F063PR
				330	.630 x 1.280	16 x 32.5	501D337F063QS
				470	.630 x 1.280	16 x 32.5	501D477F063QS
				680	.630 x 1.630	16 x 41.5	501D687F063QT
				1000	.866 x 1.570	22 x 40	501D108F063TV
				1500	.866 x 2.050	22 x 52	501D158F063TW
				2200	1.000 x 2.050	25.4 x 52	501D228F063UW

SPRAGUE CAPACITORS

TYPE TVA ATOM® ELECTROLYTICS



- The smallest dependable standard tubular. Capacitors to 475V operate up to 85°C (185°F); higher voltage units designed for 65°C operation.
- Whether for TV sets, ac/dc sets, auto radios, home radio-phono combinations, or other electronic equipment servicing, the Sprague ATOM line will handle all your replacement requirements — no dual inventory problems.
- Lower leakage currents. ● Long shelf life.
- Will withstand high temperatures, high ripple currents, high surge voltages.
- Metal case construction with thermoplastic outer sleeve except as noted by † sign.
- Catalog numbers with TVAN prefix are non-polarized, and are ideal for speaker crossover networks. (See Page 46)

μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.
SINGLE UNITS (Polar)											
1000	1	5,8 x 2 1 8	TVA-1080	150	6	3,8 x 27/32	TVA-1101.5	800	12	1/2 x 1 9/16	TVA-1132.4
1	3	1,4 x 17/32	TVA-1081	200	6	3,8 x 27/32	TVA-1101.7	900	12	1/2 x 1 13/16	TVA-1132.5
2	3	1,4 x 17/32	TVA-1081.1	250	6	3,8 x 31/32	TVA-1102	1000	12	1/2 x 1 13/16	TVA-1133
3	3	1,4 x 17/32	TVA-1081.2	300	6	3,8 x 31/32	TVA-1102.1	1200	12	1/2 x 1 13/16	TVA-1133.4
4	3	1,4 x 17/32	TVA-1081.3	400	6	3,8 x 19/32	TVA-1102.2	1500	12	3/4 x 1 21/32	TVA-1133.5
5	3	1,4 x 17/32	TVA-1081.4	500	6	3,8 x 17/32	TVA-1103	2000	12	7/8 x 1 21/32	TVA-1134
6	3	1,4 x 17/32	TVA-1081.5	600	6	3,8 x 17/32	TVA-1103.2	2500	12	7/8 x 1 21/32	TVA-1134.5
8	3	1,4 x 17/32	TVA-1081.6	700	6	7/16 x 1 9/32	TVA-1103.4	3000	12	7/8 x 1 21/32	TVA-1135
10	3	1,4 x 17/32	TVA-1082	800	6	7/16 x 1 17/32	TVA-1103.8	4000	12	7/8 x 2 5/32	TVA-1136
15	3	1,4 x 17/32	TVA-1082.5	950	6	7/16 x 1 17/32	TVA-1103.9	5000	12	1 x 2 13/32	TVA-1136.1
20	3	1,4 x 17/32	TVA-1083	1000	6	1/2 x 1 9/32	TVA-1104	10000	12	1 1/4 x 2 11/16	TVA-1137
25	3	1,4 x 17/32	TVA-1084	1200	6	1/2 x 1 17/32	TVA-1104.1	1	16	1/4 x 17/32	TVA-1140
30	3	1,4 x 17/32	TVA-1084.5	1500	6	1/2 x 1 17/32	TVA-1105	2	16	1/4 x 17/32	TVA-1141
50	3	1,4 x 23/32	TVA-1085	1800	6	1/2 x 1 25/32	TVA-1105.1	3	16	1/4 x 17/32	TVA-1142
65	3	1,4 x 23/32	TVA-1085.5	2000	6	1/2 x 1 25/32	TVA-1106	4	16	1/4 x 17/32	TVA-1143
75	3	5 16 x 23/32	TVA-1088	2500	6	3/4 x 1 21/32	TVA-1106.5	5	16	1/4 x 17/32	TVA-1144
100	3	5 16 x 23/32	TVA-1089	3000	6	3/4 x 1 29/32	TVA-1107	6	16	1/4 x 17/32	TVA-1144.2
130	3	5 16 x 23/32	TVA-1089.5	4000	6	7/8 x 1 29/32	TVA-1108	8	16	1/4 x 17/32	TVA-1145
150	3	5 16 x 23/32	TVA-1090	5000	6	7/8 x 1 29/32	TVA-1109	10	16	1/4 x 23/32	TVA-1146
200	3	5 16 x 27/32	TVA-1091	10000	6	1 x 2 13/32	TVA-1115	15	16	1/4 x 23/32	TVA-1147
250	3	3,8 x 27/32	TVA-1091.5	17000	6	1 1/4 x 3 5/32	TVA-1116.2*	20	16	1/4 x 23/32	TVA-1148
300	3	3,8 x 27/32	TVA-1092	40000	6	1 3/8 x 4 5/32	TVA-1121*	30	16	5/16 x 23/32	TVA-1149
400	3	3,8 x 31/32	TVA-1093	1000	10	1/2 x 1 13/16	TVA-1128	35	16	5/16 x 23/32	TVA-1149.1
500	3	3,8 x 1 9/32	TVA-1094	3000	10	7/8 x 1 21/32	TVA-1129.2	50	16	5/16 x 23/32	TVA-1150
600	3	3,8 x 1 9/32	TVA-1095	4000	10	7/8 x 1 29/32	TVA-1129.4	75	16	5/16 x 27/32	TVA-1151
750	3	3,8 x 1 17/32	TVA-1097	5000	10	1 x 2 5/32	TVA-1129.5	85	16	3/8 x 23/32	TVA-1152
800	3	3/8 x 1 17/32	TVA-1097.1	10000	10	1 1/8 x 2 11/16	TVA-1129.8	90	16	5/16 x 27/32	TVA-1153
900	3	7/16 x 1 9/32	TVA-1097.2	1	12	1/4 x 17/32	TVA-1129.80	100	16	3/8 x 27/32	TVA-1160
1000	3	7/16 x 1 17/32	TVA-1097.3	2	12	1/4 x 17/32	TVA-1129.81	130	16	3/8 x 27/32	TVA-1160.2
1200	3	7/16 x 1 17/32	TVA-1097.4	3	12	1/4 x 17/32	TVA-1129.82	150	16	3/8 x 31/32	TVA-1160.3
1500	3	1/2 x 1 17/32	TVA-1097.5	4	12	1/4 x 17/32	TVA-1129.83	175	16	3/8 x 31/32	TVA-1160.4
1800	3	1/2 x 1 17/32	TVA-1097.6	5	12	1/4 x 17/32	TVA-1129.84	180	16	3/8 x 31/32	TVA-1160.5
2000	3	1/2 x 1 17/32	TVA-1097.7	6	12	1/4 x 17/32	TVA-1129.85	200	16	3/8 x 1 9/32	TVA-1160.6
2200	3	1/2 x 1 13/16	TVA-1097.8	8	12	1/4 x 17/32	TVA-1129.86	250	16	3/8 x 1 9/32	TVA-1161
2500	3	1/2 x 1 13/16	TVA-1097.9	10	12	1/4 x 17/32	TVA-1129.87	300	16	3/8 x 1 17/32	TVA-1161.1
3000	3	3/4 x 1 21/32	TVA-1098	15	12	1/4 x 17/32	TVA-1129.89	350	16	3/8 x 1 17/32	TVA-1161.2
4000	3	3/4 x 1 21/32	TVA-1099	20	12	1/4 x 23/32	TVA-1129.90	400	16	7/16 x 1 9/32	TVA-1161.5
5000	3	3/4 x 1 29/32	TVA-1099.1	25	12	1/4 x 23/32	TVA-1129.91	450	16	7/16 x 1 17/32	TVA-1161.6
10000	3	7/8 x 2 5/32	TVA-1099.6	30	12	1/4 x 23/32	TVA-1129.92	500	16	7/16 x 1 17/32	TVA-1162
1	6	1/4 x 17/32	TVA-1099.80	50	12	5/16 x 23/32	TVA-1129.94	600	16	7/16 x 1 17/32	TVA-1162.2
2	6	1/4 x 17/32	TVA-1099.81	60	12	5/16 x 23/32	TVA-1129.95	800	16	1/2 x 1 9/16	TVA-1162.3
3	6	1/4 x 17/32	TVA-1099.82	75	12	5/16 x 27/32	TVA-1129.96	1000	16	1/2 x 1 13/16	TVA-1163
4	6	1/4 x 17/32	TVA-1099.83	90	12	3/8 x 23/32	TVA-1129.97	1200	16	1/2 x 1 13/16	TVA-1164
5	6	1/4 x 17/32	TVA-1099.84	100	12	5/16 x 27/32	TVA-1130	1500	16	3/4 x 1 21/32	TVA-1175.2
6	6	1/4 x 17/32	TVA-1099.85	140	12	3/8 x 27/32	TVA-1130.2	2000	16	3/4 x 1 21/32	TVA-1170
8	6	1/4 x 17/32	TVA-1099.86	150	12	3/8 x 31/32	TVA-1130.3	2500	16	7/8 x 1 29/32	TVA-1175.3
10	6	1/4 x 17/32	TVA-1099.87	190	12	3/8 x 31/32	TVA-1130.5	3000	16	7/8 x 1 29/32	TVA-1175
15	6	1/4 x 17/32	TVA-1099.89	200	12	3/8 x 1 9/32	TVA-1130.6	4000	16	7/8 x 2 5/32	TVA-1175.4
20	6	1/4 x 17/32	TVA-1099.90	250	12	3/8 x 1 9/32	TVA-1131	5000	16	1 x 2 5/32	TVA-1175.5
25	6	1/4 x 23/32	TVA-1099.91	290	12	3/8 x 1 9/32	TVA-1131.1	6000	16	1 1/8 x 2 5/32	TVA-1175.6
35	6	1/4 x 23/32	TVA-1099.93	390	12	3/8 x 1 17/32	TVA-1131.2	8000	16	1 1/8 x 2 11/16	TVA-1175.7
50	6	1/4 x 23/32	TVA-1100	400	12	7/16 x 1 9/32	TVA-1131.3	10000	16	1 1/4 x 2 11/16	TVA-1175.8
75	6	5 16 x 23/32	TVA-1100.5	450	12	7/16 x 1 9/32	TVA-1131.5	15000	16	1 1/4 x 3 11/16	TVA-1175.11
90	6	5 16 x 23/32	TVA-1100.6	500	12	7/16 x 1 17/32	TVA-1132	20000	16	1 3/8 x 4 5/32	TVA-1175.13
100	6	5 16 x 27/32	TVA-1101	600	12	7/16 x 1 17/32	TVA-1132.2	150	20	3/8 x 31/32	TVA-1180
140	6	5 16 x 27/32	TVA-1101.2					2000	20	7/8 x 1 21/32	TVA-1190
								2300	20	1 x 1 21/32	TVA-1194
								1	25	1/4 x 17/32	TVA-1200
								2	25	1/4 x 17/32	TVA-1201
								3	25	1/4 x 17/32	TVA-1201.1

* Available until present stocks are exhausted.

SPRAGUE CAPACITORS

TYPE TVA ATOM® ELECTROLYTICS - Continued

μ F	WVDC	Dia. x Length	Cat. No.	μ F	WVDC	Dia. x Length	Cat. No.	μ F	WVDC	Dia. x Length	Cat. No.
SINGLE UNITS - Continued											
4	25	1 4 x 17 32	TVA-1202	6000	50	1 3/8 x 3 21/32	TVA-1318.8*	4	200	3/8 x 27/32	TVA-1437
5	25	1 4 x 17 32	TVA-1203	7000	50	1 3/8 x 4 5/32	TVA-1318.9*	5	200	3/8 x 27/32	TVA-1438
6	25	1 4 x 17 32	TVA-1203.1	8000	50	1 3/8 x 4 5/32	TVA-1318.10	6	200	3/8 x 31/32	TVA-1439
8	25	1 4 x 17 32	TVA-1203.3	250	60	1/2 x 1 9/16	TVA-1319	8	200	3/8 x 19/32	TVA-1440
10	25	1 4 x 17 32	TVA-1204	500	75	1 x 2 21/32	TVA-1319.5	10	200	3/8 x 19/32	TVA-1441
15	25	1 4 x 23 32	TVA-1204.2	1000	75	1 x 2 21/32	TVA-1319.7	15	200	7/16 x 19/32	TVA-1442
20	25	5 16 x 23 32	TVA-1204.5	**1500	75	1 x 3 21/32	TVA-1319.8	20	200	7/16 x 17/32	TVA-1442.1
25	25	5 16 x 23 32	TVA-1205	2000	75	1 3/8 x 2 3/8	TVA-1319.9	25	200	1/2 x 1 35/64	TVA-1442.2
30	25	5 16 x 23 32	TVA-1205.1	10	90	3/8 x 27/32	TVA-1320	30	200	1/2 x 1 13/16	TVA-1442.3
35	25	5 16 x 23 32	TVA-1205.2	16	90	3/8 x 31/32	TVA-1321	40	200	3/4 x 1 13/32	TVA-1442.5
40	25	5 16 x 27 32	TVA-1205.7	1	100	1/4 x 17/32	TVA-1330	50	200	3/4 x 1 21/32	TVA-1443
50	25	5 16 x 27 32	TVA-1206	2	100	1/4 x 23/32	TVA-1331	60	200	7/8 x 1 21/32	TVA-1443.1
75	25	3 8 x 27 32	TVA-1206.1	3	100	5/16 x 23/32	TVA-1332	75	200	7/8 x 2 5/32	TVA-1444
100	25	3 8 x 31 32	TVA-1207	4	100	5/16 x 23/32	TVA-1333	85	200	7/8 x 1 29/32	TVA-1444.2
150	25	3 8 x 1 9 32	TVA-1207.5	5	100	5/16 x 27/32	TVA-1334	100	200	7/8 x 2 5/32	TVA-1445
200	25	3 8 x 1 17 32	TVA-1207.7	6	100	5/16 x 27/32	TVA-1335	120	200	1 x 1 29/32	TVA-1446
250	25	7 16 x 1 9 32	TVA-1208	8	100	3/8 x 27/32	TVA-1336	**150	200	1 x 2 5/32	★TVA-1447
300	25	7 16 x 1 17 32	TVA-1208.5	10	100	3/8 x 27/32	TVA-1337	**200	200	1 1/8 x 2 11/16	★TVA-1480
350	25	7 16 x 1 17 32	TVA-1208.6	15	100	3/8 x 31/32	TVA-1338	400	200	1 1/4 x 3 5/32	TVA-1483*
400	25	1/2 x 1 5 16	TVA-1208.7	20	100	3/8 x 19/32	TVA-1339	500	200	1 1/4 x 3 11/16	TVA-1484
450	25	1/2 x 1 9 16	TVA-1208.8	25	100	3/8 x 1 17/32	TVA-1340	600	200	1 3/8 x 3 21/32	TVA-1485*
500	25	1 2 x 1 9 16	TVA-1209	30	100	3/8 x 1 17/32	TVA-1341	1	250	5/16 x 23/32	TVA-1500
600	25	1 2 x 1 13 16	TVA-1209.2	40	100	7/16 x 1 17/32	TVA-1342	2	250	3/8 x 23/32	TVA-1500.1
800	25	3 4 x 1 21 32	TVA-1209.4	50	100	1/2 x 1 9 16	TVA-1343	3	250	3/8 x 27/32	TVA-1500.2
1000	25	3 4 x 1 21 32	TVA-1211	60	100	1/2 x 1 9 16	TVA-1344	4	250	3/8 x 31/32	TVA-1501
1500	25	7 8 x 1 29 32	TVA-1212	75	100	1/2 x 1 13 16	TVA-1345	5	250	3/8 x 19/32	TVA-1502
2000	25	1 x 1 29 32	TVA-1213	85	100	3/4 x 1 13 32	TVA-1345.2	6	250	3/8 x 19/32	TVA-1502.1
2500	25	1 x 1 29 32	TVA-1213.5	100	100	3/4 x 1 13 32	TVA-1346	8	250	3/8 x 1 17 32	TVA-1503
**3000	25	1 x 2 5 32	TVA-1214	150	100	3/4 x 1 21 32	TVA-1347	10	250	7/16 x 19/32	TVA-1504
4000	25	11 8 x 2 11 16	TVA-1214.2	200	100	7 8 x 1 29 32	TVA-1348	12	250	7/16 x 1 17 32	TVA-1505
5000	25	11 8 x 2 11 16	TVA-1214.5	250	100	7 8 x 1 29 32	TVA-1349	15	250	1/2 x 1 9 16	TVA-1506
8000	25	11 4 x 3 11 16	TVA-1214.8	300	100	1 x 1 29 32	TVA-1350	16	250	1/2 x 1 9 16	TVA-1507
10000	25	13 8 x 3 11 16	TVA-1214.10	400	100	1 x 2 5 32	TVA-1375	20	250	1/2 x 1 13 16	TVA-1508
13000	25	1 3/8 x 4 5/32	TVA-1214.12*	500	100	1 1/8 x 2 5/32	TVA-1376	25	250	3/4 x 1 13 32	TVA-1509
**900	30	7 8 x 1 21 32	TVA-1222	600	100	1 1/8 x 2 11 16	TVA-1377	30	250	3/4 x 1 13 32	TVA-1510
1000	30	7 8 x 1 29 32	TVA-1222.1	800	100	1 1/8 x 2 11 16	TVA-1379	40	250	7/8 x 1 13 32	TVA-1511
200	35	7 16 x 1 17 32	TVA-1223	1000	100	1 1/4 x 2 11 16	TVA-1380	50	250	7/8 x 1 13 32	TVA-1512
300	35	1/2 x 1 9 16	TVA-1225	1500	100	1 1/4 x 3 11 16	TVA-1382	60	250	7/8 x 1 21 32	TVA-1513
500	35	1/2 x 1 13 16	TVA-1227	2000	100	1 3/8 x 4 5 32	TVA-1384	70	250	7/8 x 1 29 32	TVA-1515
5500	35	1 x 3 13 32	TVA-1229	1	150	1/4 x 17 32	TVA-1400	75	250	7/8 x 2 5 32	TVA-1520
1	50	1/4 x 17 32	TVA-1300	2	150	1/4 x 23 32	TVA-1400.1	85	250	7/8 x 2 5 32	TVA-1521
2	50	1/4 x 17 32	TVA-1301	3	150	5/16 x 23 32	TVA-1400.2	100	250	1 x 1 29 32	TVA-1522
3	50	1/4 x 17 32	TVA-1302	4	150	5/16 x 27 32	TVA-1402	125	250	7 8 x 2 5 8	TVA-1524
4	50	1/4 x 17 32	TVA-1302.7	5	150	5/16 x 27 32	TVA-1403	150	250	1 1 8 x 2 5 32	TVA-1525
5	50	1/4 x 23 32	TVA-1303	6	150	3/8 x 27 32	TVA-1403.1	160	250	1 x 2 5 32	TVA-1526
6	50	1/4 x 23 32	TVA-1303.1	7	150	3/8 x 27 32	TVA-1403.2	**200	250	1 1 4 x 2 11 16	TVA-1528
8	50	1/4 x 23 32	TVA-1303.2	8	150	3/8 x 27 32	TVA-1405	225	250	1 1/4 x 2 11 16	TVA-1528.2
10	50	5/16 x 23 32	TVA-1304	10	150	3/8 x 31 32	TVA-1406	250	250	1 1/4 x 2 45 64	TVA-1528.3
15	50	5/16 x 23 32	TVA-1305	12	150	3/8 x 19 32	TVA-1407	300	250	1 1 4 x 3 5 32	TVA-1528.5
20	50	5/16 x 27 32	TVA-1305.5	15	150	3/8 x 19 32	TVA-1408	400	250	1 1 4 x 3 11 16	TVA-1528.7
25	50	5/16 x 27 32	TVA-1306	16	150	3/8 x 1 17 32	TVA-1409	450	250	1 3 8 x 3 11 16	TVA-1528.8
35	50	3/8 x 27 32	TVA-1306.2	20	150	3/8 x 1 17 32	TVA-1410	500	250	1 3 8 x 4 5 32	TVA-1529
40	50	3/8 x 31 32	TVA-1306.5	25	150	7/16 x 19 32	TVA-1411	6	275	3 8 x 1 17 32	TVA-1530
50	50	3/8 x 31 32	TVA-1308	30	150	7/16 x 1 17 32	TVA-1412	1	300	5/16 x 23 32	TVA-1540
60	50	3/8 x 1 9 32	TVA-1309.3	35	150	1/2 x 1 17 32	TVA-1412.1	2	300	3/8 x 27 32	TVA-1541
75	50	3/8 x 1 9 32	TVA-1309.4	40	150	1/2 x 1 17 32	TVA-1413	3	300	3 8 x 31 32	TVA-1542
100	50	3/8 x 1 17 32	TVA-1310	50	150	1/2 x 1 13 16	TVA-1414	4	300	3 8 x 1 9 32	TVA-1543
120	50	7 16 x 1 9 32	TVA-1310.1	60	150	3/4 x 1 13 32	TVA-1415	5	300	3 8 x 1 9 32	TVA-1544
125	50	7 16 x 1 17 32	TVA-1310.2	75	150	7 8 x 1 13 32	TVA-1416	6	300	3 8 x 1 17 32	TVA-1545
150	50	7 16 x 1 17 32	TVA-1311	80	150	7 8 x 1 13 32	TVA-1418	8	300	7 16 x 1 17 32	TVA-1546
200	50	1/2 x 1 5 16	TVA-1311.5	85	150	7 8 x 1 21 32	TVA-1418.1	10	300	7 16 x 1 17 32	TVA-1547
250	50	1/2 x 1 5 16	TVA-1312	100	150	7 8 x 1 21 32	TVA-1420	12	300	1 2 x 1 9 16	TVA-1548
300	50	1/2 x 1 9 16	TVA-1312.1	150	150	7 8 x 2 5 32	TVA-1422	15	300	1 2 x 1 9 16	TVA-1549
350	50	1/2 x 1 13 16	TVA-1312.2	160	150	1 x 1 29 32	TVA-1422.5	20	300	1 2 x 1 13 16	TVA-1550
400	50	1/2 x 1 13 16	TVA-1313	200	150	1 x 2 5 32	TVA-1423	25	300	3 4 x 1 21 32	TVA-1551
500	50	3 4 x 1 21 32	TVA-1315	**250	150	1 1 8 x 2 5 32	★TVA-1424	30	300	3 4 x 1 29 32	TVA-1552
600	50	3 4 x 1 21 32	TVA-1315.2	300	150	1 1 8 x 2 11 16	TVA-1425	40	300	3 4 x 1 29 32	TVA-1553
800	50	7 8 x 1 21 32	TVA-1315.4	350	150	1 x 2 21 32	TVA-1426	50	300	7 8 x 1 29 32	TVA-1570
1000	50	7 8 x 1 29 32	TVA-1316	400	150	1 1 4 x 2 11 16	TVA-1426.1	60	300	7 8 x 2 5 32	TVA-1570.1
1500	50	7 8 x 2 5 32	TVA-1318	500	150	1 1 4 x 3 5 32	TVA-1428	75	300	1 x 2 5 32	TVA-1571
2000	50	1 1 8 x 2 5 32	TVA-1318.2	1000	150	1 3 8 x 4 5 32	TVA-1429	85	300	1 x 2 13 32	TVA-1571.2
2500	50	1 1 8 x 2 11 16	TVA-1318.3	80	175	3 4 x 1 29 32	TVA-1430	100	300	1 1 8 x 2 5 32	TVA-1573
3000	50	1 1 4 x 2 11 16	TVA-1318.4	1	200	1 4 x 23 32	TVA-1434	**140	300	1 x 3 5 32	★TVA-1575
4000	50	1 1 4 x 3 5 32	TVA-1318.5	2	200	5 16 x 23 32	TVA-1435	**150	300	1 1 4 x 2 11 16	★TVA-1576
5000	50	1 3 8 x 3 1 8	TVA-1318.7	3	200	5 16 x 27 32	TVA-1436	**200	300	1 1 4 x 3 5 32	★TVA-1578
								250	300	1 1/4 x 3 21 32	TVA-1579*

* Available until present stocks are exhausted.

**Single-ended with 8-inch flexible leads.

★Mounting Strap Attached.

SPRAGUE CAPACITORS

TYPE TVA ATOM® ELECTROLYTICS - Continued

μF	WVDC	Dia. x Length	Cat. No.
SINGLE UNITS - Continued			
300	300	1 3/8 x 3 11/16	TVA-1580
400	300	1 3/8 x 4 5/32	TVA-1582
1	350	5/16 x 27/32	TVA-1599
2	350	3/8 x 27/32	TVA-1600
3	350	3/8 x 31/32	TVA-1600.1
4	350	3/8 x 1 9/32	TVA-1601
5	350	3/8 x 1 17/32	TVA-1602.5
6	350	3/8 x 1 17/32	TVA-1602.6
8	350	7/16 x 1 17/32	TVA-1603
10	350	1/2 x 1 9/16	TVA-1604
12	350	1/2 x 1 9/16	TVA-1605
15	350	1/2 x 1 13/16	TVA-1607
16	350	3/4 x 1 13/32	TVA-1607.1
20	350	3/4 x 1 21/32	TVA-1608
25	350	3/4 x 1 29/32	TVA-1609
30	350	7/8 x 1 21/32	TVA-1610
40	350	7/8 x 1 29/32	TVA-1611
50	350	7/8 x 2 5/32	TVA-1612
60	350	7/8 x 2 5/32	TVA-1613
75	350	1 x 2 13/32	TVA-1614
85	350	1 1/8 x 2 5/32	TVA-1615
100	350	1 x 2 21/32	TVA-1620
**150	350	1 1/8 x 2 45/64	TVA-1622
160	350	1 1/8 x 2 45/64	TVA-1623
**200	350	1 1/4 x 3 5/32	TVA-1624
250	350	1 3/8 x 3 11/16	TVA-1627
**300	350	1 1/4 x 3 45/64	TVA-1628
1	385	3/8 x 27/32	TVA-1640
2	385	3/8 x 1 9/32	TVA-1641
4	385	7/16 x 1 9/32	TVA-1643
1	400	3/8 x 27/32	TVA-1645
2	400	3/8 x 1 9/32	TVA-1646
3	400	3/8 x 1 17/32	TVA-1647
4	400	7/16 x 1 9/32	TVA-1648
5	400	7/16 x 1 17/32	TVA-1649
6	400	1/2 x 1 5/16	TVA-1650
8	400	1/2 x 1 9/16	TVA-1651
10	400	1/2 x 1 13/16	TVA-1652
12	400	1/2 x 1 13/16	TVA-1653
15	400	3/4 x 1 21/32	TVA-1654
16	400	3/4 x 1 21/32	TVA-1655
20	400	3/4 x 1 29/32	TVA-1656
25	400	7/8 x 1 21/32	TVA-1657
30	400	7/8 x 1 21/32	TVA-1658
40	400	7/8 x 1 29/32	TVA-1659
50	400	1 x 2 5/32	TVA-1660
60	400	1 x 2 13/32	TVA-1661
75	400	1 1/8 x 2 5/32	TVA-1662
85	400	1 1/8 x 2 11/16	TVA-1663
100	400	1 1/4 x 2 11/16	TVA-1664
150	400	1 1/4 x 3 5/32	TVA-1665
200	400	1 1/4 x 3 11/16	TVA-1666
250	400	1 3/8 x 4 5/32	TVA-1667
1	450	3/8 x 27/32	TVA-1700
2	450	3/8 x 1 9/32	TVA-1701
3	450	7/16 x 1 9/32	TVA-1701.1
4	450	7/16 x 1 17/32	TVA-1702
5	450	1/2 x 1 5/16	TVA-1703
6	450	1/2 x 1 9/16	TVA-1703.1
8	450	1/2 x 1 13/16	TVA-1704
10	450	1/2 x 1 13/16	TVA-1705
12	450	3/4 x 1 21/32	TVA-1706
15	450	3/4 x 1 29/32	TVA-1707
16	450	7/8 x 1 21/32	TVA-1708
20	450	13/16 x 2 5/32	TVA-1709
25	450	7/8 x 1 29/32	TVA-1710
30	450	1 x 1 29/32	TVA-1711
40	450	7/8 x 2 5/32	TVA-1712
50	450	1 1/8 x 2 5/32	TVA-1713
60	450	1 1/8 x 2 5/32	TVA-1714
75	450	1 1/4 x 2 11/16	TVA-1715
80	450	1 x 2 21/32	TVA-1716
85	450	1 1/4 x 2 11/16	TVA-1717
100	450	1 1/4 x 3 5/32	TVA-1718
120	450	1 1/4 x 3 11/16	TVA-1718.3

μF	WVDC	Dia. x Length	Cat. No.
**150	450	1 3/8 x 3 11/16	TVA-1719
160	450	1 3/8 x 3 11/16	TVA-1719.2
**200	450	1 3/8 x 4 5/32	TVA-1720
**225	450	1 3/8 x 4 5/32	TVA-1722*
1	475	1/2 x 1 13/32	TVA-1790
2	475	5/8 x 1 5/32	TVA-1791
3	475	5/8 x 1 13/32	TVA-1792
4	475	5/8 x 1 21/32	TVA-1800
5	475	5/8 x 1 21/32	TVA-1800.1
6	475	5/8 x 1 21/32	TVA-1800.2
8	475	3/4 x 1 13/32	TVA-1801
10	475	3/4 x 1 21/32	TVA-1802
12	475	3/4 x 1 29/32	TVA-1802.1
15	475	3/4 x 1 29/32	TVA-1803
16	475	7/8 x 1 21/32	TVA-1803.1
20	475	7/8 x 2 5/32	TVA-1804
30	475	7/8 x 2 5/32	TVA-1806*
40	475	1 x 2 13/32	TVA-1807*
60	475	1 1/8 x 2 11/16	TVA-1809*
85	475	1 1/4 x 3 5/32	TVA-1811*
100	475	1 1/4 x 3 5/32	TVA-1812*
150	475	1 3/8 x 3 11/16	TVA-1813*
1	500	1/2 x 1 5/32	TVA-1890
3	500	5/8 x 1 13/32	TVA-1895
5	500	3/4 x 1 5/32	TVA-1901
8	500	3/4 x 1 21/32	TVA-1902
10	500	3/4 x 1 21/32	TVA-1903
12	500	7/8 x 1 29/32	TVA-1904
16	500	7/8 x 2 5/32	TVA-1905
20	500	7/8 x 2 5/32	TVA-1906
30	500	1 x 1 29/32	TVA-1907
40	500	1 x 2 13/32	TVA-1908
60	500	1 x 3 13/32	TVA-1910
15	525	7/8 x 2 5/32	TVA-1920
2	550	5/8 x 1 5/32	TVA-1930
4	600	13/16 x 2 3/8	TVA-1960
8	600	1 1/16 x 2 7/8	TVA-1962
10	600	1 1/16 x 3 3/16	TVA-1963
16	600	1 1/16 x 4 3/16	TVA-1965
20	600	1 1/16 x 3 7/8	TVA-1966
SINGLE UNITS (Non-Polarized)			
μF	Volts	Dia. x Length	Cat. No.
500	3	3/8 x 1 17/32	TVAN-1095
50	6	3/8 x 23/32	TVAN-1100.1
125	6	3/8 x 31/32	TVAN-1101.5
500	6	1/2 x 1 9/16	TVAN-1103.1
2	10	1/4 x 17/32	TVAN-1109
5	10	1/4 x 17/32	TVAN-1110
6	10	1/4 x 17/32	TVAN-1111
8	10	1/4 x 17/32	TVAN-1112
10	10	1/4 x 23/32	TVAN-1112.4
30	10	5/16 x 27/32	TVAN-1115
50	10	3/8 x 23/32	TVAN-1117
160	10	3/8 x 1 9/32	TVAN-1120
170	10	3/8 x 1 9/32	TVAN-1121
450	10	5/8 x 1 21/32	TVAN-1125
500	10	5/8 x 1 21/32	TVAN-1126
2000	10	7/8 x 2 5/32	TVAN-1129
500	12	5/8 x 2 1/8	TVAN-1132.1
4	15	1/4 x 17/32	TVAN-1150
10	15	1/4 x 23/32	TVAN-1155
500	15	5/8 x 2 1/8	TVAN-1162.1
1000	15	3/4 x 2 1/8	TVAN-1163.1
2.5	20	1/4 x 17/32	TVAN-1176
1	25	1/4 x 23/32	TVAN-1200
2	25	1/4 x 17/32	TVAN-1202
4	25	1/4 x 23/32	*TVAN-1202.2
5	25	1/4 x 23/32	TVAN-1203.1
8	25	5/16 x 23/32	*TVAN-1203.8
10	25	5/16 x 23/32	TVAN-1204.1
16	25	5/16 x 27/32	TVAN-1204.3
20	25	3/8 x 27/32	TVAN-1204.6
25	25	3/8 x 23/32	TVAN-1205.1

μF	Volts	Dia. x Length	Cat. No.
35	25	3/8 x 27/32	TVAN-1205.5
50	25	3/8 x 31/32	TVAN-1206.1
100	25	3/8 x 1 17/32	TVAN-1207.1
3	30	1/4 x 23/32	TVAN-1215
20	30	3/8 x 27/32	TVAN-1220
10	40	5/16 x 27/32	TVAN-1230
20	40	3/8 x 31/32	TVAN-1232
2	50	1/4 x 23/32	TVAN-1301.1
3	50	1/4 x 23/32	TVAN-1302.1
4	50	1/4 x 23/32	*TVAN-1302.5
5	50	5/16 x 23/32	TVAN-1303.1
8	50	5/16 x 27/32	TVAN-1303.4
10	50	5/16 x 27/32	TVAN-1304.1
25	50	3/8 x 1 9/32	TVAN-1306.1
30	50	3/8 x 1 9/32	TVAN-1306.2
50	50	7/16 x 1 9/32	TVAN-1308.1
60	50	7/16 x 1 17/32	TVAN-1309.2
100	50	1/2 x 1 9/16	TVAN-1310.1
10	100	1/2 x 1 5/8	TVAN-1333
20	100	5/8 x 1 21/32	TVAN-1335
40	100	3/4 x 1 21/32	TVAN-1340
4	150	9/16 x 1 21/32	TVAN-1402.1
10	150	3/4 x 1 13/32	TVAN-1406.1
40	150	3/4 x 2 1/8	TVAN-1413.1
2	200	1/2 x 1 13/32	TVAN-1435.1
4	200	1 x 1 29/32	TVAN-1436
60	200	1 x 2 21/32	TVAN-1440
1	300	1/2 x 1 13/32	TVAN-1560
20	300	7/8 x 1 29/32	TVAN-1568
5	350	3/4 x 1 21/32	TVAN-1602
10	350	1 x 1 29/32	TVAN-1604.1
20	350	1 x 2 5/32	TVAN-1608.1
10	400	7/8 x 1 29/32	*TVAN-1650
20	400	1 x 2 5/32	TVAN-1652
10	450	1 x 1 29/32	TVAN-1705.1
DUAL UNITS			
μF	WVDC	Dia. x Length	Cat. No.
1500-1000	20-20	1 1/16 x 3 7/16	TVA-2175*
2000-500	30-30	1 1/4 x 3 3/8	†TVA-2231*
3000-1000	30-30	1 1/2 x 3 5/8	†TVA-2232.1*
5000-1000	30-30	1 1/2 x 4 3/8	†TVA-2235*
10-10	50-50	13/16 x 1 5/16	*TVA-2315*
100-500	75-75	1 1/2 x 3 7/8	†TVA-2330*
200-150	85-25	15/16 x 2 5/16	TVA-2335*
15-25	150-25	7/8 x 1 3/16	TVA-2345*
350-100	150-50	1 1/8 x 3 5/8	†TVA-2358*
16-16	150-150	13/16 x 1 25/64	*TVA-2420
20-10	150-150	7/8 x 1 13/32	*TVA-2424*
20-20	150-150	3/4 x 1 25/64	*TVA-2428
30-30	150-150	7/8 x 1 25/64	*TVA-2434
40-20	150-150	7/8 x 1 25/64	*TVA-2438
40-30	150-150	15/16 x 1 13/16	*TVA-2442*
40-40	150-150	7/8 x 1 57/64	*TVA-2445
50-30	150-150	7/8 x 1 57/64	*TVA-2450
50-40	150-150	7/8 x 2 5/32	*TVA-2451*
50-50	150-150	7/8 x 1 57/64	*TVA-2453
60-20	150-150	7/8 x 1 15/16	*TVA-2455*
60-40	150-150	15/16 x 2 13/16	*TVA-2456*
60-60	150-150	15/16 x 2 13/16	*TVA-2457*
80-20	150-150	7/8 x 2 7/16	*TVA-2459*
80-30	150-150	7/8 x 2 9/64	*TVA-2460
80-40	150-150	7/8 x 2 25/64	*TVA-2461
80-50	150-150	7/8 x 2 25/64	*TVA-2462
100-50	150-150	1 x 2 41/64	*TVA-2463
100-100	150-150	1 x 2 1/2	TVA-2464
130-20	150-150	15/16 x 2 13/16	TVA-2464.8*
150-20	150-150	1 x 2 11/16	TVA-2465.5*
150-50	150-150	1 1/16 x 2 13/16	TVA-2465.8*
150-150	150-150	1 3/8 x 3 1/8	†TVA-2466*
200-100	150-150	1 3/8 x 3 7/8	†TVA-2470*
250-50	150-150	1 3/8 x 2 7/8	†TVA-2473*
425-20	150-150	1 3/8 x 3 3/8	†TVA-2473.5*

*Available until present stocks are exhausted. **Single-ended with 8-inch flexible leads. *Mounting Strap Attached. †Kraftboard Case Construction.

SPRAGUE CAPACITORS

TYPE TVA ATOM® ELECTROLYTICS - Continued

μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.
DUAL UNITS — Continued				60-32	300-300	1 1/16 x 3 1/16	★TVA-2585*	16-8	450-450	15/16 x 2 5/16	★TVA-2725*
250-200	150-150	1 3/8 x 3 7/8	†TVA-2475*	150-100	300-300	1 3/8 x 4 3/8	†TVA-2590*	20-20	450-450	7/8 x 2 41/64	★TVA-2730
60-125	200-50	1 1/8 x 2 7/8	†★TVA-2484*	150-100	350-25	1 1/2 x 3 1/8	TVA-2622*	30-30	450-450	1 x 3 9/64	★TVA-2735
60-1	200-200	15/16 x 2 5/16	★TVA-2493*	30-5	350-350	15/16 x 2 5/16	TVA-2635.5*	40-40	450-450	1 x 3 57/64	★TVA-2740
200-5	200-200	1 x 3 11/16	★TVA-2498*	30-20	350-350	1 x 1 15/16	TVA-2636*	50-30	450-450	1 x 3 15/16	★TVA-2743*
20-20	250-250	7/8 x 1 41/64	★TVA-2515	140-5	350-350	1 1/4 x 3 7/8	†★TVA-2640*	20-100	475-50	1 1/16 x 2 9/16	★TVA-2765*
40-10	250-250	7/8 x 1 15/16	★TVA-2520*	10-100	450-50	15/16 x 2 5/16	★TVA-2663*	DUAL UNITS — separate sections — 4 leads			
80-10	250-250	1 x 2 3/16	★TVA-2525*	80-100	450-50	1 3/8 x 3 7/8	†TVA-2711*	120-120	150-150	1 1/16 x 4	TU-2120*
120-80	250-250	1 3/8 x 3 1/8	†TVA-2535*	8-8	450-450	7/8 x 1 41/64	★TVA-2720	8-8	450-450	1 1/16 x 3 3/8	TU-88*
140-100	300-50	1 3/8 x 3 3/8	†TVA-2563*	10-10	450-450	7/8 x 1 57/64	★TVA-2722				
200-100	300-50	1 3/8 x 3 7/8	†★TVA-2565*								
μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.				
TRIPLE UNITS											
20-20-20	150-150-25	15/16 x 1 9/16	†★TVA-3415*	150-150-20	200-200-200	1 1/4 x 3 7/8	†TVA-3473*				
60-40-250	150-150-15	1 x 1 15/16	★TVA-3421.5*	250-200-10	200-200-200	1 1/2 x 3 7/8	†TVA-3475*				
40-20-20	150-150-25	7/8 x 1 11/16	★TVA-3422.9*	40-20-100	250-250-50	1 3/8 x 2 5/8	†TVA-3485*				
40-30-20	150-150-25	7/8 x 1 15/16	★TVA-3423*	200-150-50	250-250-150	1 1/2 x 4 1/8	†TVA-3493*				
40-40-20	150-150-25	7/8 x 2 3/16	★TVA-3425*	60-40-10	250-250-250	1 x 3 5/16	†★TVA-3495*				
40-40-100	150-150-25	15/16 x 2 9/16	†★TVA-3427*	100-200-40	300-200-200	1 1/2 x 4 3/8	†TVA-3500*				
50-30-20	150-150-25	7/8 x 2 3/16	★TVA-3430*	100-60-100	300-300-50	1 3/8 x 3 3/8	†TVA-3559*				
50-50-20	150-150-25	1 x 2 5/16	★TVA-3436*	120-40-100	300-300-50	1 3/8 x 4 1/8	†TVA-3560*				
80-20-100	150-150-25	1 1/4 x 2 5/8	†TVA-3437*	70-50-30	300-300-250	1 3/8 x 2 7/8	†TVA-3561*				
80-40-20	150-150-25	1 x 1 15/16	★TVA-3437.1*	120-40-10	300-300-250	1 3/8 x 3 3/8	†TVA-3563*				
250-120-50	150-150-25	1 3/8 x 3 3/8	†★TVA-3437.6*	60-60-60	300-300-300	1 3/8 x 3 5/8	†TVA-3567*				
150-20-20	150-150-25	1 1/16 x 2 13/16	TVA-3439.4*	80-40-40	300-300-300	1 3/8 x 3 3/8	†TVA-3569*				
20-20-20	150-150-150	7/8 x 1 11/16	★TVA-3440*	100-40-40	350-300-250	1 3/8 x 4 1/8	†★TVA-3595*				
30-25-20	150-150-150	15/16 x 2 5/16	★TVA-3442*	100-20-50	350-350-50	1 3/8 x 3 3/8	†★TVA-3600*				
30-30-20	150-150-150	15/16 x 2 5/16	★TVA-3443*	60-60-60	350-350-250	1 3/8 x 3 5/8	†TVA-3626*				
30-30-30	150-150-150	15/16 x 2 5/16	★TVA-3444*	60-60-4	350-350-350	1 3/8 x 3 3/8	†TVA-3630*				
40-20-10	150-150-150	7/8 x 2 3/16	★TVA-3445*	80-40-20	350-350-350	1 3/8 x 4 1/8	†TVA-3632*				
40-20-20	150-150-150	7/8 x 1 15/16	★TVA-3446*	120-40-40	350-350-350	1 1/2 x 4 3/8	†TVA-3634*				
40-30-20	150-150-150	1 x 2 3/64	★TVA-3448	10-80-60	400-250-150	1 3/8 x 3 1/8	†TVA-3650*				
40-30-30	150-150-150	1 1/16 x 2 9/16	★TVA-3449*	100-75-70	400-400-25	1 1/2 x 4 3/4	†TVA-3667*				
40-40-20	150-150-150	1 x 2 3/64	★TVA-3450	5-80-4	450-400-400	1 3/8 x 4 1/8	†★TVA-3712*				
40-40-40	150-150-150	1 x 2 3/64	★TVA-3451	40-40-20	450-450-25	1 x 3 15/16	★TVA-3720*				
50-30-20	150-150-150	1 x 2 3/64	★TVA-3453	40-20-20	450-450-450	1 1/16 x 4 1/16	★TVA-3740*				
50-50-50	150-150-150	1 x 2 35/64	★TVA-3453.5	60-60-60	450-450-450	1 1/2 x 4 5/8	†TVA-3748*				
60-30-10	150-150-150	1 1/16 x 2 1/16	TVA-3454*					QUADRUPLE UNITS			
60-40-40	150-150-150	1 x 2 7/16	★TVA-3454.3*	100-100-50-50	75-75-75-75	1 1/16 x 1 13/16	TVA-4507*				
60-50-20	150-150-150	1 1/16 x 2 13/16	TVA-3454.5*	40-20-20-100	150-150-150-25	1 1/4 x 2 7/8	†TVA-4517*				
60-60-20	150-150-150	15/16 x 1 15/16	TVA-3454.6*	40-40-20-20	150-150-150-25	1 1/8 x 2 5/8	†★TVA-4520*				
80-40-20	150-150-150	1 x 2 3/64	★TVA-3455	50-50-30-25	150-150-150-25	1 3/8 x 2 5/8	†TVA-4525*				
80-40-40	150-150-150	1 x 2 35/64	★TVA-3456	60-40-40-20	150-150-150-25	1 1/4 x 2 5/8	†TVA-4529*				
80-50-20	150-150-150	1 x 2 2/16	TVA-3456.4*	250-250-30-20	160-160-150-150	1 3/8 x 3 7/8	†TVA-4546*				
80-50-50	150-150-150	1 x 2 35/64	★TVA-3456.5	40-40-40-25	250-250-150-25	1 x 2 15/16	★TVA-4560*				
80-60-20	150-150-150	1 x 2 15/16	★TVA-3457*	150-100-20-100	300-300-300-25	1 3/8 x 4 5/8	†TVA-4580*				
80-80-80	150-150-150	1 x 3 11/16	TVA-3457.5*	80-40-10-40	300-300-300-250	1 3/8 x 3 5/8	†TVA-4582*				
100-30-10	150-150-150	1 1/16 x 2 13/16	★TVA-3458*	120-40-40-10	300-300-300-250	1 3/8 x 4 5/8	†TVA-4584*				
100-60-40	150-150-150	1 x 2 3/16	TVA-3458.5*	140-5-200-30	350-300-200-200	1 1/2 x 5 1/8	†TVA-4607*				
150-150-150	150-150-150	1 1/4 x 4 1/8	†★TVA-3459*	80-60-40-20	350-350-300-150	1 1/2 x 3 7/8	†TVA-4618*				
250-200-10	150-150-150	1 3/8 x 3 5/8	†★TVA-3460*	150-100-20-100	350-350-350-50	1 1/2 x 4 3/8	†TVA-4634*				
250-50-10	160-160-25	1 3/8 x 2 7/8	†TVA-3460.5*	80-10-40-100	400-400-300-50	1 3/8 x 4 1/8	†★TVA-4659*				
80-100-40	160-160-150	1 1/16 x 3 5/16	TVA-3460.8*	10-80-40-40	450-300-250-250	1 3/8 x 4 1/8	†★TVA-4708*				
250-120-50	160-160-100	1 3/8 x 3 3/8	†TVA-3461*	20-20-20-10	450-450-450-450	1 3/8 x 3 5/8	†TVA-4742*				
250-250-50	160-160-160	1 3/8 x 3 35/64	TVA-3461.5	40-20-20-10	450-450-450-450	1 3/8 x 4 3/8	†TVA-4748*				
250-250-50	180-180-180	1 3/8 x 3 35/64	TVA-3461.8	40-40-20-20	450-450-450-450	1 1/2 x 3 7/8	†TVA-4750*				
300-300-60	200-150-150	1 1/2 x 4 1/8	†TVA-3465*								

Sprague is the foremost supplier of electronic components.

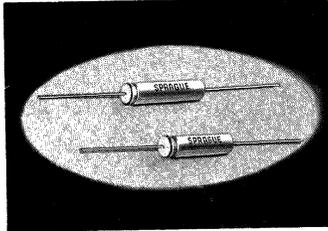
*Available until present stocks are exhausted.

★Mounting Strap Attached.

†Kraftboard Case Construction.

SPRAGUE CAPACITORS

TYPE TE LITTL-LYTIC[®] ELECTROLYTICS



- Compare! These ultra-small capacitors will withstand a 2000 hr. life test at rated voltage and maximum operating temperature of 85°C.
- Extremely low d-c leakage current, low dissipation factor, high capacitance stability, even after severe high temperature shelf testing.
- Proven dependable performance in industrial as well as entertainment equipment with either transistor or modified electron-tube circuits.
- All terminal connections are welded, eliminating possibility of "open" or intermittent contacts occasionally found in pressure joints of conventional capacitors.
- Operating temp. range, -40°C to +85°C.
- Metal-encased, with clear plastic outer insulating sleeves.
- For complete technical data, see latest issue of Sprague Engineering Bulletin 3150.

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
3 WVDC			
1	.260 x .536	TE-1050	30D105G003BA9
2	.260 x .536	TE-1051	30D205G003BA9
3	.260 x .536	TE-1052	30D305G003BA9
4	.260 x .536	TE-1052.1	30D405G003BA9
5	.260 x .536	TE-1052.2	30D505G003BA9
6	.260 x .536	TE-1052.3	30D605G003BA9
8	.260 x .536	TE-1052.5	30D805G003BA9
10	.260 x .536	TE-1053	30D106G003BA9
15	.260 x .536	TE-1053.5	30D156G003BA9
20	.260 x .536	TE-1054	30D206G003BA9
25	.260 x .536	TE-1055	30D256G003BA9
30	.260 x .536	TE-1055.5	30D306G003BA9
50	.260 x .723	TE-1058	30D506G003BB9
65	.260 x .723	TE-1058.5	30D656G003BB9
75	.322 x .723	TE-1059	30D756G003CB9
100	.322 x .723	TE-1059.5	30D107G003CB9
130	.322 x .723	TE-1060.1	30D137G003CB9
150	.322 x .848	TE-1061	30D157G003CC9
200	.322 x .848	TE-1064	30D207G003CC9
250	.385 x .848	TE-1065	30D257G003DC9
300	.385 x .848	TE-1066	30D307G003DC9
400	.385 x .973	TE-1067	30D407G003DD9
500	.385 x 1.286	TE-1068	30D507G003DF9
600	.385 x 1.286	TE-1069.1	30D607G003DF9
800	.385 x 1.536	TE-1070.1	30D807G003DH9

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
6 WVDC			
1	.260 x .536	TE-1080	30D105G006BA9
2	.260 x .536	TE-1081	30D205G006BA9
3	.260 x .536	TE-1082	30D305G006BA9
4	.260 x .536	TE-1083	30D405G006BA9
5	.260 x .536	TE-1084	30D505G006BA9
6	.260 x .536	TE-1085	30D605G006BA9
8	.260 x .536	TE-1086	30D805G006BA9
10	.260 x .536	TE-1087	30D106G006BA9
15	.260 x .536	TE-1089	30D156G006BA9
20	.260 x .536	TE-1090	30D206G006BA9
25	.260 x .723	TE-1091	30D256G006BB9
35	.260 x .723	TE-1093	30D356G006BB9
50	.260 x .723	TE-1100	30D506G006BB9
75	.322 x .723	TE-1101.5	30D756G006CB9
90	.322 x .723	TE-1101.7	30D906G006CB9
100	.322 x .848	TE-1102	30D107G006CC9
140	.322 x .848	TE-1102.5	30D147G006CC9
150	.385 x .848	TE-1103	30D157G006DC9
200	.385 x .848	TE-1104	30D207G006DC9
250	.385 x .973	TE-1105	30D257G006DD9
300	.385 x .973	TE-1106	30D307G006DD9
400	.385 x 1.286	TE-1107	30D407G006DF9
500	.385 x 1.536	TE-1107.5	30D507G006DH9
600	.385 x 1.536	TE-1108.5	30D607G006DH9

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
12 WVDC			
1	.260 x .536	TE-1120	30D105G012BA9
2	.260 x .536	TE-1121	30D205G012BA9
3	.260 x .536	TE-1122	30D305G012BA9
4	.260 x .536	TE-1123	30D405G012BA9
5	.260 x .536	TE-1127	30D505G012BA9
6	.260 x .536	TE-1127.1	30D605G012BA9
8	.260 x .536	TE-1127.3	30D805G012BA9
10	.260 x .536	TE-1128	30D106G012BA9
15	.260 x .536	TE-1129	30D156G012BA9
20	.260 x .723	TE-1130	30D206G012BB9
25	.260 x .723	TE-1131	30D256G012BB9
30	.260 x .723	TE-1132.1	30D306G012BB9
50	.322 x .723	TE-1133	30D506G012CB9
60	.322 x .723	TE-1133.5	30D606G012CB9
75	.322 x .848	TE-1134	30D756G012CC9
90	.385 x .723	TE-1134.5	30D906G012DB9
100	.322 x .848	TE-1135	30D107G012CC9
140	.385 x .848	TE-1135.5	30D147G012DC9
150	.385 x .973	TE-1136	30D157G012DD9
190	.385 x .973	TE-1136.5	30D197G012DD9
200	.385 x 1.286	TE-1137	30D207G012DF9
250	.385 x 1.286	TE-1138	30D257G012DF9
290	.385 x 1.286	TE-1139	30D297G012DF9
390	.385 x 1.536	TE-1140	30D397G012DH9

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
16 WVDC			
1	.260 x .536	TE-1148	30D105G016BA9
2	.260 x .536	TE-1149	30D205G016BA9
3	.260 x .536	TE-1150	30D305G016BA9
4	.260 x .536	TE-1151	30D405G016BA9
5	.260 x .536	TE-1152	30D505G016BA9
6	.260 x .536	TE-1153	30D605G016BA9
8	.260 x .536	TE-1154	30D805G016BA9
10	.260 x .536	TE-1155	30D106G016BA9
15	.260 x .723	TE-1156	30D156G016BB9
20	.260 x .723	TE-1157	30D206G016BB9
25	.260 x .723	TE-1157.1	30D256G016BB9
30	.322 x .723	TE-1158	30D306G016CB9
35	.322 x .723	TE-1159	30D356G016CB9
50	.322 x .723	TE-1160	30D506G016CB9
75	.322 x .848	TE-1161	30D756G016CC9
85	.385 x .723	TE-1161.5	30D856G016DB9
90	.322 x .848	TE-1161.7	30D906G016CC9
100	.385 x .848	TE-1162	30D107G016DC9
130	.385 x .848	TE-1162.5	30D137G016DC9
150	.385 x .973	TE-1163	30D157G016DD9
180	.385 x .973	TE-1163.7	30D187G016DD9
200	.385 x 1.286	TE-1164	30D207G016DF9
250	.385 x 1.286	TE-1164.5	30D257G016DF9
300	.385 x 1.536	TE-1165.5	30D307G016DH9
350	.385 x 1.536	TE-1166	30D357G016DH9

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
25 WVDC			
1	.260 x .536	TE-1200	30D105G025BA9
2	.260 x .536	TE-1201	30D205G025BA9
3	.260 x .536	TE-1201.1	30D305G025BA9
4	.260 x .536	TE-1201.2	30D405G025BA9
5	.260 x .536	TE-1202	30D505G025BA9
6	.260 x .536	TE-1203	30D605G025BA9
8	.260 x .536	TE-1203.5	30D805G025BA9
10	.260 x .723	TE-1204	30D106G025BB9
15	.260 x .723	TE-1205	30D156G025BB9
20	.322 x .723	TE-1206	30D206G025CB9
25	.322 x .723	TE-1207	30D256G025CB9
30	.322 x .723	TE-1207.5	30D306G025CB9
35	.322 x .723	TE-1208	30D356G025CB9
50	.322 x .848	TE-1209	30D506G025CC9
75	.385 x .848	TE-1210	30D756G025DC9
100	.385 x .973	TE-1211	30D107G025DD9
150	.385 x 1.286	TE-1212	30D157G025DF9
200	.385 x 1.536	TE-1213	30D207G025DH9
50 WVDC			
1	.260 x .536	TE-1300	30D105G050BA9
2	.260 x .536	TE-1301	30D205G050BA9
3	.260 x .536	TE-1302	30D305G050BA9
4	.260 x .536	TE-1302.1	30D405G050BA9
5	.260 x .723	TE-1303	30D505G050BB9
6	.260 x .723	TE-1303.1	30D605G050BB9
8	.260 x .723	TE-1303.3	30D805G050BB9
10	.322 x .723	TE-1304	30D106G050CB9
15	.322 x .723	TE-1304.2	30D156G050CB9
20	.322 x .848	TE-1305	30D206G050CC9
25	.322 x .848	TE-1305.5	30D256G050CC9
35	.385 x .848	TE-1306	30D356G050DC9
50	.385 x .973	TE-1307	30D506G050DD9
75	.385 x 1.286	TE-1308	30D756G050DF9
100	.385 x 1.536	TE-1309	30D107G050DH9

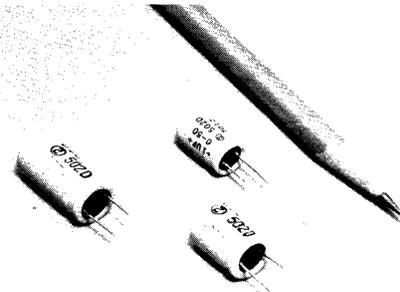
μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
100 WVDC			
1	.260 x .536	TE-1400	30D105F100BA9
2	.260 x .723	TE-1401	30D205F100BB9
3	.322 x .723	TE-1402	30D305F100CB9
4	.322 x .723	TE-1403	30D405F100CB9
5	.322 x .848	TE-1404	30D505F100CC9
6	.322 x .848	TE-1405	30D605F100CC9
8	.385 x .848	TE-1406	30D805F100DC9
10	.385 x .848	TE-1407	30D106F100DC9
15	.385 x .973	TE-1408	30D156F100DD9
20	.385 x 1.286	TE-1409	30D206F100DF9
25	.385 x 1.536	TE-1410	30D256F100DH9
30	.385 x 1.536	TE-1411	30D306F100DH9

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
150 WVDC			
1	.260 x .536	TE-1500	30D105F150BA9
2	.260 x .723	TE-1501	30D205F150BB9
3	.322 x .723	TE-1502	30D305F150CB9
4	.322 x .848	TE-1503	30D405F150CC9
5	.322 x .848	TE-1504	30D505F150CC9
6	.385 x .848	TE-1505	30D605F150DC9
7	.385 x .848	TE-1505.5	30D705F150DC9
8	.385 x .848	TE-1506	30D805F150DC9
10	.385 x .973	TE-1507	30D106F150DD9
15	.385 x 1.286	TE-1508.1	30D156F150DF9
20	.385 x 1.536	TE-1509	30D206F150DH9

SPRAGUE CAPACITORS

TYPE 502D VERTI-LYTIC[®] MINIATURE ELECTROLYTICS

- Moderately priced for use in personal radios, auto radios, portable tape recorders, etc. Yet, their mechanical and electrical characteristics make them well suited for high quality industrial instrumentation.
- Operating temperature range, -20°C to $+85^{\circ}\text{C}$.
- Excellent capacitance stability and equivalent series resistance, low leakage current.
- Welds at all critical anode and cathode terminations assure freedom from open circuits, even when operated in the millivolt or microvolt range.
- Metal-encased, with thermoplastic insulating sleeve.
- Designed for space-saving vertical installation on high-density printed wiring boards.
- For complete technical data, refer to latest issue of Engineering Bulletin 3152.



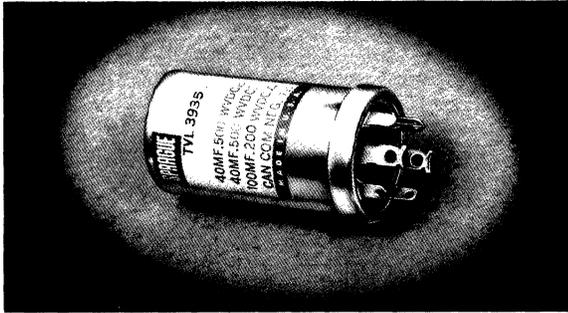
μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.
0-6.3 WVDC, 8 V SURGE			0-25 WVDC, 35 V SURGE			0-63 WVDC, 75 V SURGE		
100	.336 x .531	502D107G6R3BB1C	15	.336 x .531	502D156G025BB1C*	6.8	.336 x .531	502D685F050BB1C*
330	.413 x .640	502D337G6R3CD1C	22	.336 x .531	502D226G025BB1C	10	.336 x .531	502D106F050BB1C*
470	.413 x .827	502D477G6R3CG1C	33	.336 x .531	502D336G025BB1C	15	.336 x .531	502D156F050BB1C*
680	.500 x .827	502D687G6R3DG1C	47	.413 x .640	502D476G025CD1C*	22	.413 x .640	502D226F050CD1C*
1000	.500 x 1.024	502D108G6R3DK1C	68	.413 x .640	502D686G025CD1C*	33	.413 x .640	502D336F050CD1C*
3300	.635 x 1.570	502D338G6R3EU1C	100	.413 x .827	502D107G025CG1C*	47	.413 x .827	502D476F050CG1C*
0-10 WVDC, 13 V SURGE			150	.500 x .827	502D157G025DG1C*	47	.413 x .577	502D476G050CC1C
68	.336 x .531	502D686G010BB1C	220	.500 x .827	502D227G025DG1C	68	.413 x .827	502D686F050CG1C*
150	.413 x .577	502D157G010CC1C	330	.500 x 1.024	502D337G025DK1C*	68	.413 x .640	502D686G050CD1C
220	.413 x .640	502D227G010CD1C	470	.635 x .827	502D477G025EG1C	100	.500 x .827	502D107F050DG1C*
330	.413 x .827	502D337G010CG1C	1500	.635 x 1.570	502D158G025EU1C	150	.500 x .827	502D157G050DG1C
470	.500 x .827	502D477G010DG1C*	0-35 WVDC, 44 V SURGE			330	.635 x 1.024	502D337G050EK1C
680	.500 x 1.024	502D687G010DK1C*	47	.413 x .640	502D476G035CD1C*	470	.635 x 1.024	502D477G035EK1C
1500	.635 x 1.024	502D158G010EK1C	100	.413 x .640	502D107G035CD1C	680	.635 x 1.024	502D687G035EK1C
0-16 WVDC, 20 V SURGE			150	.413 x .827	502D157G035CG1C	1000	.635 x 1.570	502D108G035EU1C
47	.336 x .531	502D476G016BB1C	150	.500 x .827	502D157G035DG1C*	0-50 WVDC, 63 V SURGE		
68	.413 x .577	502D686G016CC1C*	220	.500 x 1.024	502D227G035DK1C	1.0	.336 x .531	502D105F050BB1C*
100	.413 x .577	502D107G016CC1C	330	.500 x 1.024	502D337G035DK1C	1.5	.336 x .531	502D155F050BB1C*
100	.413 x .640	502D107G016CD1C*	470	.635 x 1.024	502D477G035EK1C	2.2	.336 x .531	502D225F050BB1C*
150	.413 x .640	502D157G016CD1C	680	.635 x 1.024	502D687G035EK1C	3.3	.336 x .531	502D335F050BB1C*
220	.413 x .827	502D227G016CG1C	0-63 WVDC, 75 V SURGE			6.8	.336 x .531	502D685G063BB1C
330	.500 x .827	502D337G016DG1C	1.0	.336 x .531	502D105G063BB1C	10	.336 x .531	502D106G063BB1C
470	.500 x .827	502D477G016DG1C	1.5	.336 x .531	502D155G063BB1C	15	.336 x .531	502D156G063BB1C
470	.500 x 1.024	502D477G016DK1C*	2.2	.336 x .531	502D225G063BB1C	22	.413 x .577	502D226G063CC1C
680	.500 x 1.024	502D687G016DK1C	3.3	.336 x .531	502D335G063BB1C	4.7	.336 x .531	502D475G063BB1C
1000	.635 x 1.024	502D108G016EK1C	4.7	.336 x .531	502D475G063BB1C	6.8	.336 x .531	502D685G063BB1C
2200	.635 x 1.570	502D228G016EU1C	10	.336 x .531	502D106G063BB1C	10	.336 x .531	502D106G063BB1C
			15	.336 x .531	502D156G063BB1C	15	.336 x .531	502D156G063BB1C
			22	.413 x .577	502D226G063CC1C	22	.413 x .577	502D226G063CC1C
			33	.413 x .640	502D336G063CD1C	33	.413 x .640	502D336G063CD1C
			47	.413 x .640	502D476G063CD1C	47	.413 x .640	502D476G063CD1C
			68	.413 x .827	502D686G063CG1C	68	.413 x .827	502D686G063CG1C
			100	.500 x .827	502D107G063DG1C	100	.500 x .827	502D107G063DG1C
			150	.635 x .827	502D157G063EG1C	150	.635 x .827	502D157G063EG1C
			220	.635 x 1.024	502D227G063EK1C	220	.635 x 1.024	502D227G063EK1C
			470	.635 x 1.570	502D477G063EU1C	470	.635 x 1.570	502D477G063EU1C
			680	.635 x 1.570	502D687G063EU1C	680	.635 x 1.570	502D687G063EU1C

*Available until present stocks are exhausted.

SPRAGUE CAPACITORS

TYPE TVL TWIST-LOK® ELECTROLYTICS

RECOMMENDED FOR SPECIFIC CAPACITANCE REQUIREMENTS



- Sealed in Aluminum Cans for Long Life and Dependable Performance in TV, Radio, Hi-Fi, and Other Commercial Equipment
- Capacitors to 475V Operate up to 85 C (185 F). Higher Voltage Units Designed for 65 C
- Withstand High Surge Voltages
- Etched Cathode Construction. Ideal for High Ripple Selenium Rectifier Circuits
- Can be Safely Mounted "Above Ground" Using Phenolic Mounting Plate and Insulating Tube
- Easy to Mount - Unit Locks Firmly in Place with Twist of Tabs
- Units Noted by † Sign are Exact Replacements for Color TV
- Catalog numbers with a TVLP Prefix Indicate Units with a Positive Case.
- Units Noted by ★ Sign are the most popular Twist-Lok Capacitors

For a comprehensive listing of 1,025 twist-mount capacitors, including both Twist-Lok® and Print-Lok® Types, please see latest issue of Sprague Replacement Components Catalog C-621.

μF	WVDC	D. x L.	Cat. No.	μF	WVDC	D. x L.	Cat. No.	μF	WVDC	D. x L.	Cat. No.
SINGLE SECTION											
3000	10	1 3/8 x 2	TVL-1140	★150	200	1 x 3	TVL-1471	†70	450	1 3/8 x 3	TVL-1734
†★1000	15	1 x 1 1/2	TVL-1165	†★150	200	1 3/8 x 2	TVL-1471.1	†★80	450	1 3/8 x 2 1/2	TVL-1735
1500	15	1 x 2	TVL-1167	★160	200	1 3/8 x 2	TVL-1473	★100	450	1 3/8 x 2 1/2	TVL-1750
★2000	15	1 3/8 x 2	TVL-1168	†★200	200	1 3/8 x 2	TVL-1475	★125	450	1 3/8 x 3	TVL-1760
★3000	15	1 3/8 x 2	TVL-1170	†★200	200	1 x 3 1/2	TVL-1475.1	†★150	450	1 3/8 x 3 1/2	TVL-1770
★4000	15	1 3/8 x 2	TVL-1173	†220	200	1 x 3 1/2	TVL-1476	★160	450	1 3/8 x 4	TVL-1772
★500	25	1 x 1 1/2	TVL-1220	†300	200	1 3/8 x 2 1/2	TVL-1480	40	475	1 3/8 x 2	TVL-1820
★1000	25	1 3/8 x 2	TVL-1230	†400	200	1 3/8 x 3 1/2	TVL-1485	†90	475	1 3/8 x 3 1/2	TVL-1850
†2000	25	1 3/8 x 1 3/4	TVL-1242	†★500	200	1 3/8 x 4	TVL-1490	10	500	1 x 1 1/2	TVL-1940
2000	25	1 x 3 1/2	TVL-1243	★20	250	1 x 1 1/2	TVL-1509	20	500	1 x 2	TVL-1943
3500	25	1 3/8 x 2 1/2	TVL-1245	★40	250	1 x 2	TVL-1519	★30	500	1 x 2 1/2	TVL-1947
4000	25	1 3/8 x 2 1/2	TVL-1246	★80	250	1 x 2	TVL-1530	★40	500	1 x 2 1/2	TVL-1950
5000	25	1 3/8 x 3 1/2	TVL-1247	★100	250	1 x 3	TVL-1535	†★80	500	1 3/8 x 2 1/2	TVL-1958
1000	35	1 x 3	TVL-1265	★150	250	1 x 2 1/2	TVL-1539	†★90	500	1 3/8 x 2 1/2	TVL-1960
1500	35	1 x 2 1/2	TVL-1267	★150	250	1 3/8 x 2	TVL-1540	†100	500	1 3/8 x 3	TVL-1962
†3000	35	1 3/8 x 2 1/2	TVL-1269	†★160	250	1 3/8 x 2 1/2	TVL-1541	15	525	1 3/8 x 2	TVL-1980
5000	45	1 3/8 x 4 1/2	TVL-1295	†★160	250	1 x 3 1/2	TVL-1541.1	20	600	1 3/8 x 4	TVL-1990
★100	50	3/4 x 2	TVL-1317	†★200	250	1 3/8 x 2 1/2	TVL-1547	DUAL SECTION			
★250	50	1 x 2	TVL-1324	†250	250	1 3/8 x 4	TVL-1548	★ 100-100	50-50	1 x 1 1/2	TVL-2326
†★500	50	1 3/8 x 2	TVL-1330	†300	250	1 3/8 x 2 1/2	TVL-1550	†★ 1000-1000	50-50	1 3/8 x 2 1/2	TVL-2335.4
†500	50	1 x 1 3/4	TVL-1330.1	†★80	300	1 x 2 1/2	TVL-1573	★ 70-30	150-150	1 x 2	TVL-2439
†★1000	50	1 3/8 x 2	TVL-1338	★100	300	1 x 2 1/2	TVL-1578	★ 80-50	150-150	1 x 2	TVL-2442.1
†1000	50	1 3/8 x 2	TVLP-1338.1	★150	300	1 3/8 x 3 1/2	TVL-1584	★ 300-300	200-200	1 3/8 x 4	TVL-2475.5
†★1500	50	1 3/8 x 2 1/2	TVL-1341	†★160	300	1 3/8 x 2 1/2	TVL-1585	★ 20-20	250-250	1 x 1 1/2	TVL-2515
★2000	50	1 3/8 x 2 1/2	TVLP-1342	†★200	300	1 3/8 x 3	TVL-1586	★ 40-40	250-250	1 x 1 3/4	TVL-2520
1000	70	1 3/8 x 2	TVL-1350	†★250	300	1 3/8 x 3	TVL-1590	†★ 150-150	250-250	1 3/8 x 2 1/2	TVL-2535
2000	75	1 3/8 x 3 1/2	TVLP-1375	300	300	1 3/8 x 4	TVL-1595	†★ 200-200	250-250	1 3/8 x 4	TVL-2538
†★50	150	1 x 1 1/2	TVL-1415	30	350	1 x 2	TVL-1617	★ 150-250	300-150	1 3/8 x 3	TVL-2560.7
80	150	1 x 2 1/2	TVL-1420	★40	350	1 x 2	TVL-1621	★ 30-30	350-350	1 x 2 1/2	TVL-2628
★100	150	1 x 1 1/2	TVL-1423	★50	350	1 x 2	TVL-1622	†★ 100-100	350-350	1 3/8 x 3	TVL-2641
★120	150	1 x 2	TVL-1425	60	350	1 x 2 1/2	TVL-1624	†★ 150-100	350-350	1 3/8 x 3 1/2	TVL 2642.4
120	150	1 3/8 x 2	TVL-1426	★80	350	1 3/8 x 2	TVL-1630	†★ 150-100	350-350	1 3/8 x 3 1/2	TVL 2642.4
★140	150	1 x 2 1/2	TVL-1428	†100	350	1 3/8 x 2	TVL-1635	†★ 150-150	350-350	1 3/8 x 4	TVL-2642.5
★150	150	1 x 2	TVL-1429	★125	350	1 3/8 x 2 1/2	TVL-1638	★ 160-10	350-350	1 3/8 x 3	TVL-2643
★150	150	1 3/8 x 2	TVL-1430	†★150	350	1 3/8 x 2 1/2	TVL-1642	†★ 200-200	350-350	1 3/8 x 4 1/2	TVL-2645.5
★200	150	1 3/8 x 2	TVL-1431	†★200	350	1 3/8 x 3 1/2	TVL-1643	†★ 80-2	450-350	1 3/8 x 2 1/2	TVL-2738.5
★200	150	1 x 3	TVL-1431.1	†★250	350	1 3/8 x 3 1/2	TVL-1644.2	†★ 10-10	450-450	1 x 2	TVL-2750
†★300	150	1 3/8 x 2	TVL-1434	†★320	350	1 3/8 x 4	TVL-1645	★ 15-15	450-450	1 x 2 1/2	TVL-2753
†★500	150	1 3/8 x 3 1/2	TVL-1439.5	4	450	1 x 2	TVL-1702	†★ 20-20	450-450	1 x 2 1/2	TVL-2755
†120	200	1 3/8 x 2	TVL-1469	★10	450	1 x 1 1/2	TVL-1705	†★ 40-40	450-450	1 3/8 x 2 1/2	TVL-2764
★125	200	1 x 2 1/2	TVL-1470	15	450	1 x 1 1/2	TVL-1709	†★ 50-50	450-450	1 3/8 x 3	TVL-2767
				★20	450	1 x 2	TVL-1714	★ 60-20	450-450	1 3/8 x 3	TVL-2768
				†★50	450	1 x 2 1/2	TVL-1716	†★ 80-80	450-450	1 3/8 x 3 1/2	TVL-2779
				★30	450	1 x 2 1/2	TVL-1720	†★ 100-100	450-450	1 3/8 x 4	TVL-2782.5
				★40	450	1 x 2 1/2	TVL-1725	†★ 80-160	475-250	1 3/8 x 4 1/2	TVL-2808
				†★50	450	1 x 2 1/2	TVL-1728	★ 30-30	500-500	1 3/8 x 2	TVL-2937
				60	450	1 3/8 x 2	TVL-1730	★ 40-40	500-500	1 3/8 x 2 1/2	TVL-2940

SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μ F	WVDC	D. x L.	Cat. No.	μ F	WVDC	D. x L.	Cat. No.
TRIPLE SECTION				QUADRUPLE SECTION			
★40-40-40	150-150-150	1 x 1 3/4	TVL-3440	★300-200-20-20	175-175-150-150	1 3/8 x 4 1/2	TVL-4449.2
★320-200-20	175-175-150	1 3/8 x 4	TVL-3454.9	†★200-200-200-30	175-175-175-175	1 3/8 x 4 1/2	TVL-4451
†★250-200-50	175-175-175	1 3/8 x 4	TVL-3454.12	★250-400-50-5	200-175-175-175	1 3/8 x 4 1/2	TVL-4468
★250-200-50	200-150-150	1 3/8 x 3 1/2	TVL-3461.8	★240-240-160-5	200-200-200-200	1 3/8 x 4 1/2	TVL-4479.4
★200-150-150	200-200-200	1 3/8 x 4	TVL-3489.3	★250-200-20-10	200-200-200-200	1 3/8 x 3 1/2	TVL-4479.11
★250-200-10	200-200-200	1 3/8 x 4	TVL-3490	★160-450-60-5	200-200-200-200	1 3/8 x 4 1/2	TVL-4479.14
†★250-200-50	200-200-200	1 3/8 x 3 1/2	TVL-3491	†★150-100-10-60	350-350-350-50	1 3/8 x 4 1/2	TVL-4624.8
†★200-80-120	350-350-350	1 3/8 x 4 1/2	TVL-3648.6	★150-100-10-100	350-350-350-50	1 3/8 x 4	TVL-4633.8
†★160-100-60	350-350-350	1 3/8 x 4 1/2	TVL-3648.7	†★100-150-20-20	350-350-350-350	1 3/8 x 4 1/2	TVL-4635.23
★80-80-100	400-200-50	1 3/8 x 3	TVL-3652	★80-80-4-100	400-200-150-50	1 3/8 x 3 1/2	TVL-4636.3
★80-40-100	400-400-50	1 3/8 x 3	TVL-3683				
†★50-10-160	450-350-250	1 3/8 x 4 1/2	TVL-3719.4	†★100-80-30-10	400-400-400-400	1 3/8 x 4 1/2	TVL-4683.8
†★20-20-20	450-350-350	1 x 3 1/2	TVL-3724.12	★80-30-20-50	450-450-250-50	1 3/8 x 3 1/2	TVL-4714.2
†★150-50-10	250-450-400	1 3/8 x 4	TVL-3725.11	†★30-20-160-40	450-450-250-150	1 3/8 x 4	TVL-4714.4
†★50-80-250	450-450-50	1 3/8 x 4	TVL-3757.4	†★80-50-20-50	450-450-250-50	1 3/8 x 4	TVL-4714.6
†★80-80-10	450-450-400	1 3/8 x 4	TVL-3775.7	†★30-20-160-10	450-450-250-250	1 3/8 x 4	TVL-4714.10
†★80-80-20	450-450-400	1 3/8 x 3 1/2	TVL-3775.9				
★10-10-10	450-450-450	1 x 2	TVL-3776	†★80-30-40-40	450-450-350-150	1 3/8 x 4	TVL-4716.7
†★20-20-20	450-450-450	1 3/8 x 2	TVL-3780	†★80-30-20-40	450-450-450-150	1 3/8 x 4	TVL-4754
★40-40-20	450-450-450	1 3/8 x 2 1/2	TVL-3786	†★10-10-10-10	450-450-450-450	1 3/8 x 2	TVL-4760
★40-40-40	450-450-450	1 3/8 x 3	TVL-3787	†★20-20-20-20	450-450-450-450	1 3/8 x 2 1/2	TVL-4763
†★80-30-20	450-450-450	1 3/8 x 3 1/2	TVL-3791.8	†★40-40-20-20	450-450-450-450	1 3/8 x 2 1/2	TVL-4773
†★80-40-20	450-450-450	1 3/8 x 3	TVL-3793				
†★80-50-30	450-450-450	1 3/8 x 4	TVL-3793.3	★40-40-40-40	450-450-450-450	1 3/8 x 3 1/2	TVL-4775
†★80-50-20	450-450-450	1 3/8 x 3 1/2	TVL-3793.4	†★80-40-20-20	450-450-450-450	1 3/8 x 3 1/2	TVL-4784.1
†★80-10-18	475-475-475	1 3/8 x 3 1/2	TVL-3875	†★80-40-30-10	475-450-450-450	1 3/8 x 3 1/2	TVL-4814.4
†★80-30-10	475-475-475	1 3/8 x 3	TVL-3877	†★80-4-30-4	475-475-475-475	1 3/8 x 3 1/2	TVL-4845

TYPE TVLU UNI-LYTIC™ TWIST-LOK® ELECTROLYTICS

"UNIVERSAL" REPLACEMENTS FOR STANDARD TWIST-PRONG CAPACITORS

- Wide-range, twist-mounting, single section lytic capacitors for universal replacement applications.
- Replacements for OEM large can-type capacitors for entertainment and commercial uses, such as twist-prong mounting designs, wire-wrap terminal designs, printed board snap-in mounting designs.
- Made to same high standards of quality as Sprague Twist-Lok® and Print-Lok® electrolytics.
- Designed for long life and dependable performance.
- Withstand high surge voltages, and ideal for high ripple selenium rectifier circuits.



μ F	WVDC	D. x L.	Cat. No.	μ F	WVDC	D. x L.	Cat. No.	μ F	WVDC	D. x L.	Cat. No.
500 to 1000	25	1 x 1 1/2	TVLU-1090	800 to 1400	175	1 3/8 x 5	TVLU-1160	100 to 160	350	1 3/8 x 2	TVLU-1440
2350 to 4700	25	1 x 2 1/2	TVLU-1093	100 to 160	200	1 x 2	TVLU-1230	40 to 60	450	1 x 2 1/2	TVLU-1550
3500 to 5000	25	1 3/8 x 2	TVLU-1095	130 to 220	200	1 x 3	TVLU-1235	60 to 90	450	1 3/8 x 2	TVLU-1555
5000 to 10000	25	1 3/8 x 2 1/2	TVLU-1097	200 to 320	200	1 3/8 x 2	TVLU-1240	140 to 200	450	1 3/8 x 4	TVLU-1580
5000 to 10000	45	1 3/8 x 4 1/2	TVLU-1101	250 to 400	200	1 3/8 x 2 1/2	TVLU-1245	8 to 20	475	1 x 1 1/2	TVLU-1625
50 to 100	50	3/4 x 2	TVLU-1108	265 to 470	200	1 3/8 x 2 1/2	TVLU-1246	60 to 90	500	1 3/8 x 2 1/2	TVLU-1750
250 to 500	50	1 x 1 3/4	TVLU-1115	500 to 750	200	1 3/8 x 4	TVLU-1250	100 to 150	500	1 3/8 x 3	TVLU-1775
1000 to 2000	50	1 x 2 1/2	TVLU-1120	600 to 1000	200	1 3/8 x 4 1/2	TVLU-1252	4 to 10	525	1 x 1 1/2	TVLU-1850
1500 to 3000	50	1 3/8 x 2	TVLU-1125	40 to 60	250	1 x 1 1/2	TVLU-1265	20 to 40	525	1 x 2 1/2	TVLU-1920
2500 to 5000	50	1 3/8 x 3	TVLU-1129	50 to 80	300	1 x 2	TVLU-1330	30 to 50	525	1 3/8 x 2	TVLU-1930
500 to 1000	70	1 3/8 x 2	TVLU-1135	100 to 160	300	1 x 3	TVLU-1340				
450 to 800	160	1 3/8 x 3 1/2	TVLU-1150	20 to 40	350	1 x 1 1/2	TVLU-1420				

KRAFTBOARD INSULATING TUBES

Tightly-fitting closed-top black Kraft. For "above-ground" use with can-type capacitors.

Old Cat. No.	New Cat. No.	Description	Old Cat. No.	New Cat. No.	Description
HKT-1	407-57A	For 1" x 2" can	HKT-7	407-57E	For 1 3/8" x 3" can
HKT-2	407-57N	For 1" x 2 1/2" can	HKT-8	407-57Z	For 1 3/8" x 3 1/2" can
HKT-3	407-57D	For 1" x 3" can	HKT-9	407-174C	For 1 3/8" x 4" can
HKT-4	407-174E	For 1" x 4" can	HKT-10	407-174P	For 1 3/8" x 4 1/2" can
HKT-5	407-57B	For 1 3/8" x 2" can	HKT-12	407-57	For 3/4" x 2" can
HKT-6	407-57R	For 1 3/8" x 2 1/2" can	HKT-14	407-57U	For 1" x 3 1/2" can

MOUNTING PLATES

For use with Twist-Lok® electrolytic capacitors

Cat. No.	Description
36-17	Metal, for 1" D. capacitor
36-18	Metal, for 1 3/8" D. capacitor
36-19	Phenolic, for 3/4" D. capacitor
36-20	Phenolic, for 1" D. capacitor
36-21	Phenolic, for 1 3/8" D. capacitor

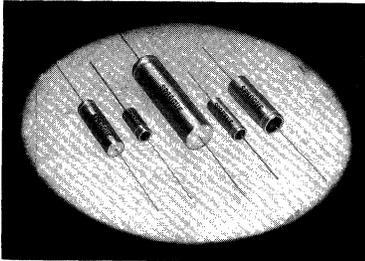
PRINTED WIRING BOARD ADAPTERS

Used on terminals and lugs of twist-prong-type units so that capacitors may be mounted on printed boards. Eight adapters per package, complete with instructions.

Package of 8... Cat. No. PC-8

SPRAGUE CAPACITORS

TYPE 39D POWERLYTIC® ELECTROLYTIC CAPACITORS



Designed for applications which require the greatest possible capacitance in small physical case sizes.

- Type 39D capacitors supplement the original Type 36D Can-type Powerlytic line by offering high-capacitance units in axial-lead tubular configuration.
- Welds at all critical anode and cathode terminals eliminate riveted or pressure connections to assure freedom from open circuit even during operation in the microvolt or millivolt signal range.
- Improved molded phenolic end seals.
- Furnished with outer plastic insulating sleeve.
- Operating temperature range, -20 C to +85 C.
- These capacitors are provided with a pressure-sensitive safety vent.
- Low ESR, low leakage currents.
- Service life, 10 yrs. or more in normal circuit applications.
- For complete technical data, see latest issue of Sprague Engineering Bulletin 3415.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUALITY PRICES

μ F	Diam.xLength	Catalog Number*	μ F	Diam.xLength	Catalog Number*	μ F	Diam.xLength	Catalog Number*
3 WVDC, 4 VDC SURGE			10 WVDC, 12 VDC SURGE			25 WVDC, 30 VDC SURGE		
400	.562x1.250	39D407G003EE4	250	.562x1.250	39D257G010EE4	100	.562x1.250	39D107G025EE4
900	.562x1.750	39D907G003EJ4	500	.562x1.750	39D507G010EJ4	200	.562x1.750	39D207G025EJ4
1300	.562x2.250	39D138G003EL4	800	.562x2.250	39D807G010EL4	350	.562x2.250	39D357G025EL4
1400	.812x1.250	39D148G003GE4	850	.812x1.250	39D857G010GE4	450	.687x1.750	39D457G025FJ4
1800	.687x1.750	39D188G003FJ4	1000	.687x1.750	39D108G010FJ4	500	.937x1.250	39D507G025HE4
2100	.937x1.250	39D218G003HE4	1200	.937x1.250	39D128G010HE4	700	.687x2.250	39D707G025FL4
2700	.687x2.250	39D278G003FL4	1600	.687x2.250	39D168G010FL4	750	.812x1.750	39D757G025GJ4
2900	.812x1.750	39D298G003GJ4	1700	.812x1.750	39D178G010GJ4	800	1.062x1.250	39D807G025JE4
3000	1.062x1.250	39D308G003JE4	2100	.687x2.750	39D218G010FP4	950	.687x2.750	39D957G025FP4
3600	.687x2.750	39D368G003FP4	2500	.812x2.250	39D258G010GL4	1000	.812x2.250	39D108G025GL4
4200	.937x1.750	39D428G003HJ4	3400	.812x2.750	39D348G010GP4	1100	.937x1.750	39D118G025HJ4
4300	.812x2.250	39D438G003GL4	3500	1.062x1.250	39D358G010JJ4	1500	.812x2.750	39D158G025GP4
5700	.812x2.750	39D578G003GP4	5000	.937x2.750	39D508G010HP4	1600	1.062x1.750	39D168G025JJ4
6000	1.062x1.750	39D608G003JJ4	5200	1.062x2.250	39D528G010JL4	1700	.937x2.250	39D178G025HL4
8500	.937x2.750	39D858G003HP4	6300	.937x3.250	39D638G010HS4	2200	.937x2.750	39D228G025HP4
9000	1.062x2.250	39D908G003JL4	7100	1.062x2.750	39D718G010JP4	2400	1.062x2.250	39D248G025JL4
10000	.937x3.250	39D109G003HS4	8800	1.062x3.250	39D888G010JS4	2800	.937x3.250	39D288G025HS4
12000	1.062x2.750	39D129G003JP4	10000	1.062x3.750	39D109G010JT4	3200	1.062x2.750	39D328G025JP4
15000	1.062x3.250	39D159G003JS4				4000	1.062x3.250	39D408G025JS4
18000	1.062x3.750	39D189G003JT4				4700	1.062x3.750	39D478G025JT4
6 WVDC, 8 VDC SURGE			15 WVDC, 18 VDC SURGE			30 WVDC, 40 VDC SURGE		
300	.562x1.250	39D307G006EE4	200	.562x1.250	39D207G015EE4	75	.562x1.250	39D756G030EE4
600	.562x1.750	39D607G006EJ4	400	.562x1.750	39D407G015EJ4	150	.562x1.750	39D157G030EJ4
900	.562x2.250	39D907G006EL4	600	.562x2.250	39D607G015EL4	250	.562x2.250	39D257G030EL4
1000	.812x1.250	39D108G006GE4	800	.687x1.750	39D807G015FJ4	350	.687x1.750	39D357G030FJ4
1200	.687x1.750	39D128G006FJ4	950	.937x1.250	39D957G015HE4	400	.937x1.250	39D407G030HE4
1500	.937x1.250	39D158G006HE4	1200	.687x2.250	39D128G015FL4	500	.687x2.250	39D507G030FL4
1900	.687x2.250	39D198G006FL4	1300	.812x1.750	39D138G015GJ4	600	1.062x1.250	39D607G030JE4
2000	.687x2.250	39D208G006GJ4	1600	.687x2.750	39D168G015FP4	700	.687x2.750	39D707G030FP4
2100	1.062x1.250	39D218G006JE4	1900	.812x2.250	39D198G015GL4	850	.812x2.250	39D857G030GL4
2500	.687x2.750	39D258G006FP4	2500	.812x2.750	39D258G015GP4	1100	.812x2.750	39D118G030GP4
3000	.812x2.250	39D308G006GL4	2600	1.062x1.750	39D268G015JJ4	1200	.937x2.250	39D128G030HL4
4000	.812x2.750	39D408G006GP4	3800	.937x2.750	39D388G015HP4	1700	.937x2.750	39D178G030HP4
4200	1.062x1.750	39D428G006JJ4	4000	1.062x2.250	39D408G015JL4	1800	1.062x2.250	39D188G030JL4
6000	.937x2.750	39D608G006HP4	4700	.937x3.250	39D478G015HS4	2100	.937x3.250	39D218G030HS4
6300	1.062x2.250	39D638G006JL4	5300	1.062x2.750	39D538G015JP4	2400	1.062x2.750	39D248G030JP4
7500	.937x3.250	39D758G006HS4	6600	1.062x3.250	39D668G015JS4	3000	1.062x3.250	39D308G030JS4
8500	1.062x2.750	39D858G006JP4	8000	1.062x3.750	39D808G015JT4	3600	1.062x3.750	39D368G030JT4
10000	1.062x3.250	39D109G006JS4						
12000	1.062x3.750	39D129G006JT4						

*These capacitors have outer insulation. For units with bare case, change last character in catalog number from 4 to 0, and subtract .062" from diameter and .125" from length.

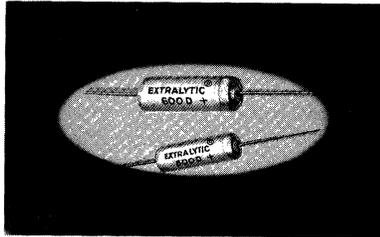
SPRAGUE CAPACITORS

TYPE 39D POWERLYTIC® ELECTROLYTICS, continued

μ F	Diam. x Length	Catalog Number*	μ F	Diam. x Length	Catalog Number*	μ F	Diam. x Length	Catalog Number*
40 WVDC, 50 VDC SURGE			100 WVDC, 125 VDC (cont.)			250 WVDC, 300 VDC SURGE (cont.)		
75	.562x1.250	39D756G040EE4	150	.687x2.750	39D157F100FP4	140	.937x2.750	39D147F250HP4
150	.562x1.750	39D157G040EJ4	180	.937x1.750	39D187F100HJ4	150	1.062x2.250	39D157F250JL4
200	.562x2.250	39D207G040EL4	190	.812x2.250	39D197F100GL4	180	.937x3.250	39D187F250HS4
250	.812x1.250	39D257G040GE4	250	.812x2.750	39D257F100GP4	200	1.062x2.750	39D207F250JP4
300	.687x1.750	39D307G040FJ4	260	1.062x1.750	39D267F100JJ4	250	1.062x3.250	39D257F250JS4
350	.937x1.250	39D357G040HE4	280	.937x2.250	39D287F100HL4	300	1.062x3.750	39D307F250JT4
450	.687x2.250	39D457G040FL4	370	.937x2.750	39D377F100HP4	300 WVDC, 350 VDC SURGE		
500	.812x1.750	39D507G004GJ4	390	1.062x2.250	39D397F100JL4	5	.562x1.250	39D505F300EE4
600	.687x2.750	39D607G040FP4	460	.937x3.250	39D467F100HS4	10	.562x1.750	39D106F300EJ4
750	.812x2.250	39D757G040GL4	520	1.062x2.750	39D527F100JP4	15	.562x2.250	39D156F300EL4
1000	.812x2.750	39D108G040GP4	650	1.062x3.250	39D657F100JS4	20	.687x1.750	39D206F300FJ4
1100	.937x2.250	39D118G040HL4	780	1.062x3.750	39D787F100JT4	25	.937x1.250	39D256F300HE4
1500	.937x2.750	39D158G040HP4	150 WVDC, 175 VDC SURGE			30	.687x2.250	39D306F300FL4
1600	1.062x2.250	39D168G040JL4	10	.562x1.250	39D106F150EE4	40	.687x2.750	39D406F300FP4
1900	.937x3.250	39D198G040HS4	25	.562x1.750	39D256F150EJ4	50	.812x2.250	39D506F300GL4
2100	1.062x2.750	39D218G040JP4	40	.562x2.250	39D406F150EL4	65	.812x2.750	39D656F300GP4
2600	1.062x3.250	39D268G040JS4	50	.687x1.750	39D506F150FJ4	75	.937x2.250	39D756F300HL4
3200	1.062x3.750	39D328G040JT4	60	.937x1.250	39D606F150HE4	100	.937x2.750	39D107F300HP4
50 WVDC, 65 VDC SURGE			80	.687x2.250	39D806F150FL4	120	.937x3.250	39D127F300HS4
50	.562x1.250	39D506G050EE4	85	.812x1.750	39D856F150GJ4	130	1.062x2.750	39D137F300JP4
100	.562x1.750	39D107G050EJ4	88	1.062x1.250	39D886F150JE4	170	1.062x3.250	39D177F300JS4
150	.562x2.250	39D157G050EL4	100	.687x2.750	39D107F150FP4	200	1.062x3.750	39D207F300JT4
200	.687x1.750	39D207G050FJ4	120	.812x2.250	39D127F150GL4	350 WVDC, 400 VDC SURGE		
250	.937x1.250	39D257G050HE4	170	.812x2.750	39D177F150GP4	4	.562x1.250	39D405F350EE4
350	.687x2.250	39D357G050FL4	190	.937x2.250	39D197F150HL4	8	.562x1.750	39D805F350EJ4
450	.687x2.750	39D457G050FP4	250	.937x2.750	39D257F150HP4	12	.562x2.250	39D126F350EL4
500	.812x2.250	39D507G050GL4	260	1.062x2.250	39D267F150JL4	15	.687x1.750	39D156F350FJ4
700	.812x2.750	39D707G050GP4	310	.937x3.250	39D317F150HS4	20	.687x2.250	39D206F350FL4
750	1.062x1.750	39D757G050JJ4	350	1.062x2.750	39D357F150JP4	25	.812x1.750	39D256F350GJ4
800	.937x2.250	39D807G050HL4	440	1.062x3.250	39D447F150JS4	30	.687x2.750	39D306F350FP4
1100	.937x2.750	39D118G050HP4	530	1.062x3.750	39D537F150JT4	40	.812x2.250	39D406F350GL4
1300	.937x3.250	39D138G050HS4	200 WVDC, 250 VDC SURGE			40	.812x2.750	39D506F350GP4
1500	1.062x2.750	39D158G050JP4	9	.562 x 1.250	39D905F200EE4	60	.937x2.250	39D606F350HL4
1900	1.062x3.250	39D198G050JS4	15	.562 x 1.750	39D156F200EJ4	80	.937x2.750	39D806F350HP4
2300	1.062x3.750	39D238G050JT4	25	.562 x 2.250	39D256F200EL4	100	.937x3.250	39D107F350HS4
75 WVDC, 95 VDC SURGE			30	.812 x 1.250	39D306F200GE4	110	1.062x2.750	39D117F350JP4
30	.562x1.250	39D306G075EE4	35	.687 x 1.750	39D356F200FJ4	130	1.062x3.250	39D137F350JS4
75	.562x1.750	39D756G075EJ4	40	.937 x 1.250	39D406F200HE4	160	1.062x3.750	39D167F350JT4
100	.562x2.250	39D107G075EL4	55	.687 x 2.250	39D556F200FL4	400 WVDC, 475 VDC SURGE		
150	.687x1.750	39D157G075FJ4	60	.812 x 1.750	39D606F200GJ4	2	.562x1.250	39D205F400EE4
200	.687x2.250	39D207G075FL4	75	.687 x 2.750	39D756F200FP4	5	.562x1.750	39D505F400EJ4
250	1.062x1.250	39D257G075JE4	80	.937 x 1.750	39D806F200HJ4	10	.687x1.750	39D106F400FJ4
300	.687x2.750	39D307G075FP4	90	.812 x 2.250	39D906F200GL4	15	.687x2.250	39D156F400FL4
350	.812x2.250	39D357G075GL4	120	.812 x 2.750	39D127F200GP4	20	.687x2.750	39D206F400FP4
450	.812x2.750	39D457G075GP4	130	.937 x 2.750	39D137F200HL4	25	.812x2.250	39D256F400GL4
500	.937x2.250	39D507G075HL4	170	.937 x 2.750	39D177F200HP4	35	.812x2.750	39D356F400GP4
700	.937x2.750	39D707G075HP4	180	1.062 x 2.250	39D187F200JL4	40	.937x2.250	39D406F400HL4
750	1.062x2.250	39D757G075JL4	220	.937 x 3.250	39D227F200HS4	55	.937x2.750	39D556F400HP4
850	.937x3.250	39D857G075HS4	250	1.062 x 2.750	39D257F200JP4	65	.937x3.250	39D656F400HS4
1000	1.062x2.750	39D108G075JP4	310	1.062 x 3.250	39D317F200JS4	75	1.062x2.750	39D756F400JP4
1200	1.062x3.250	39D128G075JS4	370	1.062 x 3.750	39D377F200JT4	90	1.062x3.250	39D906F400JS4
1500	1.062x3.750	39D158G075JT4	250 WVDC, 300 VDC SURGE			110	1.062x3.750	39D117F400JT4
100 WVDC, 125 VDC SURGE			7	.562x1.250	39D705F250EE4	450 WVDC, 525 VDC SURGE		
15	.562x1.250	39D156F100EE4	15	.562x1.750	39D156F250EJ4	1	.562x1.250	39D105F450EE4
35	.562x1.750	39D356F100EJ4	20	.562x2.250	39D206F250EL4	3	.562x1.750	39D305F450EJ4
55	.562x2.250	39D556F100EL4	30	.687x1.750	39D306F250FJ4	5	.562x2.250	39D505F450EL4
60	.812x1.250	39D606F100GE4	35	.937x1.250	39D356F250HE4	10	.687x2.250	39D106F450FL4
75	.687x1.750	39D756F100FJ4	45	.687x2.250	39D456F250FL4	15	.687x2.750	39D156F450FP4
90	.937x1.250	39D906F100HE4	50	1.062x1.250	39D506F250JE4	20	.812x2.250	39D206F450GL4
110	.687x2.250	39D117F100FL4	60	.687x2.750	39D606F250FP4	25	.812x2.750	39D256F450GP4
120	.812x1.750	39D127F100GJ4	70	.812x2.250	39D706F250GL4	35	.937x2.750	39D356F450HP4
130	1.062x1.250	39D137F100JE4	95	.812x2.750	39D956F250GP4	45	.937x3.250	39D456F450HS4
			100	.937x2.250	39D107F250HL4	50	1.062x2.750	39D506F450JP4
						65	1.062x3.250	39D656F450JS4
						75	1.062x3.750	39D756F450JT4

*These capacitors have outer insulation. For units with bare case, change last character in catalog number from 4 to 0, and subtract .062" from diameter and .125" from length.

SPRAGUE CAPACITORS



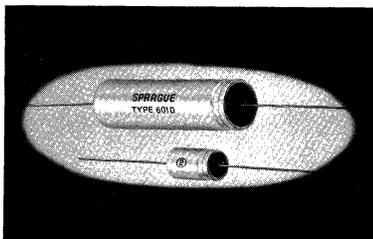
TYPE 600D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Extended Operating Temperature Range From -55C to +125C
 - Industrial version of CU12 and CU13 units
 - Dual Rating Makes Possible Operation At Either 85C or 125C
 - Voltage Ratings Up to 250 Volts D-C
 - Improved Oxide Systems, Etching Techniques, and End Seals; a New Electrolyte Makes The Type 600D Equivalent to Or Better Than Comparable Foil Tantalum Capacitors.
 - Lower Cost and One Third The Weight of Comparable Foil Tantalums
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3455.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Case Code	Catalog Number†	μF	Case Code	Catalog Number†	μF	Case Code	Catalog Number†	μF	Case Code	Catalog Number†
7 WVDC @ 85C, 5 WVDC @ 125C			30 WVDC @ 85C, 20 WVDC @ 125C			60 WVDC @ 85C, 50 WVDC @ 125C			200 WVDC @ 85C, 150 WVDC @ 125C		
120	KD	600D127G007KD4	290	DJ	600D297G020DJ4	17	KD	600D176G060KD4	18	DG	600D186F150DG4
220	DD	600D227G007DD4	440	DL	600D447G020DL4	25	DD	600D256G060DD4	22	DJ	600D226F150DJ4
270	DE	600D277G007DE4	600	DX	600D607G020DX4	40	DE	600D406G060DE4	33	DL	600D336F150DL4
390	DG	600D397G007DG4	40 WVDC @ 85C, 30 WVDC @ 125C			60	DG	600D606G060DG4	56	DX	600D566F150DX4
560	DJ	600D567G007DJ4	33	KD	600D336G030KD4	80	DJ	600D806G060DJ4	250 WVDC @ 85C, 200 WVDC @ 125C		
820	DL	600D827G007DL4	47	KD	600D476G030KD4	120	DL	600D127G060DL4	4	KD	600D405F200KD4
1000	DX	600D108G007DX4	82	DD	600D826G030DD4	160	DX	600D167G060DX4	6	DD	600D605F200DD4
10 WVDC @ 85C, 7 WVDC @ 125C			100	DE	600D107G030DE4	75 WVDC @ 85C, 60 WVDC @ 125C			8	DE	600D805F200DE4
100	KD	600D107G010KD4	120	DG	600D127G030DG4	12	KD	600D126F075KD4	13	DG	600D136F200DG4
180	DD	600D187G010DD4	150	DG	600D157G030DG4	22	DD	600D226F075DD4	17	DJ	600D176F200DJ4
220	DE	600D227G010DE4	220	DJ	600D227G030DJ4	33	DE	600D336F075DE4	26	DL	600D266F200DL4
330	DG	600D337G010DG4	330	DL	600D337G030DL4	47	DG	600D476F075DG4	39	DX	600D396F200DX4
470	DJ	600D477G010DJ4	390	DX	600D397G030DX4	68	DJ	600D686F075DJ4	TABLE OF DIMENSIONS		
680	DL	600D687G010DL4	50 WVDC @ 85C, 40 WVDC @ 125C			100	DL	600D107F075DL4	Case Code	With Outer Insulation	
820	DX	600D827G010DX4	30	KD	600D306G040KD4	120	DX	600D127F075DX4	D	L	
15 WVDC @ 85C, 10 WVDC @ 125C			50	DD	600D506G040DD4	100 WVDC @ 85C, 75 WVDC @ 125C			KD	.296 x 1.000	
68	KD	600D686G015KD4	70	DE	600D706G040DE4	8.2	KD	600D825F100KD4	DD	.390 x 1.000	
82	KD	600D826G015KD4	100	DG	600D107G040DG4	12	DD	600D126F100DD4	DE	.390 x 1.187	
150	DD	600D157G015DD4	140	DJ	600D147G040DJ4	15	DE	600D156F100DE4	DG	.390 x 1.437	
180	DE	600D187G015DE4	210	DL	600D217G040DL4	22	DG	600D226F100DG4	DJ	.390 x 1.687	
270	DG	600D277G015DG4	280	DX	600D287G040DX4	33	DJ	600D336F100DJ4	DL	.390 x 2.249	
390	DJ	600D397G015DJ4	50 WVDC @ 85C, 40 WVDC @ 125C			47	DL	600D476F100DL4	DX	.390 x 2.749	
560	DL	600D567G015DL4	22	KD	600D226G050KD4	68	DX	600D686F100DX4	150 WVDC @ 85C, 100 WVDC @ 125C		
680	DX	600D687G015DX4	33	DD	600D336G050DD4	4.7	KD	600D475F150KD4	4.7	KD	600D475F150KD4
20 WVDC @ 85C, 15 WVDC @ 125C			47	DE	600D476G050DE4	5.6	KD	600D565F150KD4	5.6	KD	600D565F150KD4
68	KD	600D686G020KD4	56	DG	600D566G050DG4	8.2	DD	600D825F150DD4	8.2	DD	600D825F150DD4
100	DD	600D107G020DD4	68	DG	600D686G050DG4	12	DE	600D126F150DE4	12	DE	600D126F150DE4
140	DE	600D147G020DE4	100	DJ	600D107G050DJ4						
220	DG	600D227G020DG4	150	DL	600D157G050DL4						
						180	DX	600D187G050DX4			

†Catalog numbers listed are for capacitors with Outer Insulation. For units with bare can substitute "0" for "4" at the end of the catalog number, and subtract 1/64" from diameter and 1/16" from length.



TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Supplement 600D With Higher Capacitance
- Industrial version of CU16 and CU17 units
- Pressure-sensitive Safety Vent
- Designed to Operate at a Temperature Range of -55C to +85C
- Unique New Electrolyte, High-gain Etched Foil, Improved Oxide System Provide Long Life With Superior Electrical Characteristics
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3456

Call Your Sprague Industrial Distributor For Current Quantity Prices

μF	D. x L.	Catalog Number*	μF	D. x L.	Catalog Number*	μF	D. x L.	Catalog Number*
5 WVDC, 7 WDV SURGE			7.5 WVDC, 10 VDC SURGE					
750	.687 x 1.250	601D757G005FE4	4300	.812 x 2.750	601D438G005GP4	650	.687 x 1.250	601D657G7R5FE4
1200	.812 x 1.250	601D128G005GE4	4700	1.062 x 1.750	601D478G005JJ4	1000	.812 x 1.250	601D108G7R5GE4
1500	.687 x 1.750	601D158G005FJ4	5200	.937 x 2.250	601D528G005HL4	1300	.687 x 1.750	601D138G7R5FJ4
1700	.937 x 1.250	601D173G005HE4	5500	.812 x 3.250	601D558G005GS4	1400	.937 x 1.250	601D148G7R5HE4
2300	.687 x 2.250	601D238G005FL4	6100	.937 x 2.750	601D618G005HP4	1900	.687 x 2.250	601D198G7R5FL4
2400	.812 x 1.750	601D248G005GJ4	6700	.812 x 3.750	601D678G005GT4	2000	.812 x 1.750	601D208G7R5GJ4
2700	.687 x 2.750	601D278G005FP4	7100	1.062 x 2.250	601D718G005JL4	2200	.687 x 2.750	601D228G7R5FP4
3500	.687 x 3.250	601D358G005FS4	7900	.937 x 3.250	601D798G005HS4	2900	.687 x 3.250	601D298G7R5FS4
3600	.812 x 2.250	601D368G005GL4	8300	1.062 x 2.750	601D838G005JP4	3000	.812 x 2.250	601D308G7R5GL4
4200	.687 x 3.750	601D428G005FT4	9600	.937 x 3.750	601D968G005HT4	3500	.687 x 3.750	601D358G7R5FT4
			10000	1.062 x 3.250	601D109G005JS4			
			13000	1.062 x 3.750	601D139G005JT4			

*Catalog numbers listed are for capacitors with outer insulation. For bare case change "4" to "0" at end of catalog number and subtract .062" from diameter and .125" from length.

SPRAGUE CAPACITORS

TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS, Continued

μF	D. x L.	Catalog Number*
3600	.812 x 2.750	601D368G7R5GP4
4000	1.062 x 1.750	601D408G7R5JJ4
4400	.937 x 2.250	601D448G7R5HL4
4600	.812 x 3.250	601D468G7R5GS4
5100	.937 x 2.750	601D518G7R5HP4
5600	.812 x 3.750	601D568G7R5GT4
6000	1.062 x 2.250	601D608G7R5JL4
6600	.937 x 3.250	601D668G7R5HS4
7000	1.062 x 2.750	601D708G7R5JP4
8100	.937 x 3.750	601D818G7R5HT4
9000	1.062 x 3.250	601D908G7R5JS4
11000	1.062 x 3.750	601D119G7R5JT4

10 WVDC, 15 VDC SURGE

540	.687 x 1.250	601D547G010FE4
850	.812 x 1.250	601D857G010GE4
1000	.687 x 1.750	601D108G010FJ4
1200	.937 x 1.250	601D128G010HE4
1600	.687 x 2.250	601D168G010FL4
1700	.812 x 1.750	601D178G010GJ4
1800	.687 x 2.750	601D188G010FP4
2400	.687 x 3.250	601D248G010FS4
2500	.812 x 2.250	601D258G010GL4
2900	.687 x 3.750	601D298G010FT4
3000	.812 x 2.750	601D308G010GP4
3300	1.062 x 1.750	601D338G010JJ4
3600	.937 x 2.250	601D368G010HL4
3800	.812 x 3.250	601D388G010GS4
4200	.937 x 2.750	601D428G010HP4
4700	.812 x 3.750	601D478G010GT4
5000	1.062 x 2.250	601D508G010JL4
5500	.937 x 3.250	601D558G010HS4
5800	1.062 x 2.750	601D588G010JP4
6700	.937 x 3.750	601D678G010HT4
7500	1.062 x 3.250	601D758G010JS4
9100	1.062 x 3.750	601D918G010JT4

15 WVDC, 20 VDC SURGE

400	.687 x 1.250	601D407G015FE4
650	.812 x 1.250	601D657G015GE4
800	.687 x 1.750	601D807G015FJ4
930	.937 x 1.250	601D937G015HE4
1200	.687 x 2.250	601D128G015FL4
1300	.812 x 1.750	601D138G015GJ4
1400	.687 x 2.750	601D148G015FP4
1800	.687 x 3.250	601D188G015FS4
1900	.812 x 2.250	601D198G015GL4
2200	.687 x 3.750	601D228G015FT4
2500	1.062 x 1.750	601D258G015JJ4
2700	.937 x 2.250	601D278G015HL4
2900	.812 x 3.250	601D298G015GS4
3200	.937 x 2.750	601D328G015HP4
3500	.812 x 3.750	601D358G015GT4
3800	1.062 x 2.250	601D388G015JL4
4200	.937 x 3.250	601D428G015HS4
4400	1.062 x 2.750	601D448G015JP4
5100	.937 x 3.750	601D518G015HT4
5700	1.062 x 3.250	601D578G015JS4
6900	1.062 x 3.750	601D698G015JT4

20 WVDC, 30 VDC SURGE

290	.687 x 1.250	601D297G020FE4
460	.812 x 1.250	601D467G020GE4
580	.687 x 1.750	601D587G020FJ4
660	.937 x 1.250	601D667G020HE4
900	.812 x 1.750	601D907G020GJ4
1000	.687 x 2.750	601D108G020FP4
1300	.687 x 3.250	601D138G020FS4
1600	.687 x 3.750	601D168G020FT4
1800	1.062 x 1.750	601D188G020JJ4
1900	.937 x 2.250	601D198G020HL4
2000	.812 x 3.250	601D208G020GS4
2300	.937 x 2.750	601D238G020HP4
2500	.812 x 3.750	601D258G020GT4
2700	1.062 x 2.250	601D278G020JL4
2900	.937 x 3.250	601D298G020HS4
3100	1.062 x 2.750	601D318G020JP4
3600	.937 x 3.750	601D368G020HT4
4000	1.062 x 3.250	601D408G020JS4
4900	1.062 x 3.750	601D498G020JT4

25 WVDC, 40 VDC SURGE

220	.687 x 1.250	601D227G025FE4
350	.812 x 1.250	601D357G025GE4
440	.687 x 1.750	601D447G025FJ4
500	.937 x 1.250	601D507G025HE4
660	.687 x 2.250	601D667G025FL4
680	.812 x 1.250	601D687G025JL4
700	.812 x 1.750	601D707G025JP4
770	.687 x 2.750	601D777G025FP4

μF	D. x L.	Catalog Number*
990	.687 x 3.250	601D997G025FS4
1000	.812 x 2.250	601D108G025GL4
1200	.687 x 3.750	601D128G025FT4
1300	1.062 x 1.750	601D138G025JJ4
1500	.812 x 3.250	601D158G025GS4
1700	.937 x 2.750	601D178G025HP4
1900	.812 x 3.750	601D198G025GT4
2000	1.062 x 2.250	601D208G025JL4
2200	.937 x 3.250	601D228G025HS4
2300	1.062 x 2.750	601D238G025JP4
2700	.937 x 3.750	601D278G025HT4
3000	1.062 x 3.250	601D308G025JS4
3700	1.062 x 3.750	601D378G025JT4

30 WVDC, 45 VDC SURGE

190	.687 x 1.250	601D197G030FE4
310	.812 x 1.250	601D317G030GE4
390	.687 x 1.750	601D397G030FJ4
440	.937 x 1.250	601D447G030HE4
580	.687 x 2.250	601D587G030FL4
600	1.062 x 1.250	601D607G030JL4
620	.812 x 1.750	601D627G030GJ4
680	.687 x 2.750	601D687G030FP4
870	.687 x 3.250	601D877G030FS4
880	.937 x 1.750	601D887G030HJ4
930	.812 x 2.250	601D937G030GL4
1000	.687 x 3.750	601D108G030FT4
1200	1.062 x 1.750	601D128G030JJ4
1400	.812 x 3.250	601D148G030GS4
1500	.937 x 2.750	601D158G030HP4
1700	.812 x 3.750	601D178G030GT4
1800	1.062 x 2.250	601D188G030JL4
2000	.937 x 3.250	601D208G030HS4
2100	1.062 x 2.750	601D218G030JP4
2400	.937 x 3.750	601D248G030HT4
2700	1.062 x 3.250	601D278G030JS4
3300	1.062 x 3.750	601D338G030JT4

40 WVDC, 60 VDC SURGE

140	.687 x 1.250	601D147G040FE4
220	.812 x 1.250	601D227G040GE4
270	.687 x 1.750	601D277G040FJ4
300	.937 x 1.250	601D307G040HE4
400	.687 x 2.250	601D407G040FL4
430	1.062 x 1.250	601D437G040JL4
440	.812 x 1.750	601D447G040GJ4
480	.687 x 2.750	601D487G040FP4
620	.687 x 3.250	601D627G040FS4
630	.937 x 1.750	601D637G040HJ4
660	.812 x 2.250	601D667G040GL4
760	.687 x 3.750	601D767G040FT4
770	.812 x 2.750	601D777G040GP4
860	1.062 x 1.750	601D867G040JJ4
950	.937 x 2.250	601D957G040HL4
1000	.812 x 3.250	601D108G040GS4
1100	.937 x 2.750	601D118G040HP4
1200	.812 x 3.750	601D128G040GT4
1400	.937 x 3.250	601D148G040HS4
1500	1.062 x 2.750	601D158G040JP4
1700	.937 x 3.750	601D178G040HT4
1900	1.062 x 3.250	601D198G040JS4
2300	1.062 x 3.750	601D238G040JT4

50 WVDC, 75 VDC SURGE

110	.687 x 1.250	601D117G050FE4
170	.812 x 1.250	601D177G050GE4
220	.687 x 1.750	601D227G050FJ4
250	.937 x 1.250	601D257G050HE4
330	.687 x 2.250	601D337G050FL4
340	1.062 x 1.250	601D347G050JL4
350	.812 x 1.750	601D357G050GJ4
380	.687 x 2.750	601D387G050FP4
500	.687 x 3.250	601D507G050FS4
600	.687 x 3.750	601D607G050FT4
680	1.062 x 1.750	601D687G050JJ4
750	.937 x 2.250	601D757G050HL4
790	.812 x 3.250	601D797G050GS4
870	.937 x 2.750	601D877G050HP4
950	.812 x 3.750	601D957G050GT4
1000	1.062 x 2.250	601D108G050JL4
1100	.937 x 3.250	601D118G050HS4
1500	1.062 x 3.250	601D158G050JS4
1800	1.062 x 3.750	601D188G050JT4

75 WVDC, 100 VDC SURGE

45	.687 x 1.250	601D456F075FE4
75	.812 x 1.250	601D756F075GE4
95	.687 x 1.750	601D956F075FJ4
100	.937 x 1.250	601D107F075HE4
140	.687 x 2.250	601D147F075FL4

μF	D. x L.	Catalog Number*
150	.812 x 1.750	601D157F075GJ4
160	.687 x 2.750	601D167F075FP4
210	.687 x 3.250	601D217F075FS4
220	.812 x 2.250	601D227F075GL4
260	.687 x 3.750	601D267F075FT4
290	1.062 x 1.750	601D297F075JJ4
320	.937 x 2.250	601D327F075HL4
340	.812 x 3.250	601D347F075GS4
380	.937 x 2.750	601D387F075HP4
400	.812 x 3.750	601D407F075GT4
440	1.062 x 2.250	601D447F075JL4
490	.937 x 3.250	601D497F075HS4
500	1.062 x 2.750	601D507F075JP4
600	.937 x 3.750	601D607F075HT4
660	1.062 x 3.250	601D667F075JS4
800	1.062 x 3.750	601D807F075JT4

100 WVDC, 150 VDC SURGE

25	.687 x 1.250	601D256F100FE4
45	.812 x 1.250	601D456F100GE4
55	.687 x 1.750	601D556F100FJ4
65	.937 x 1.250	601D656F100HE4
80	.687 x 2.250	601D806F100FL4
90	.812 x 1.750	601D906F100GJ4
95	.687 x 2.750	601D956F100FP4
120	.687 x 3.250	601D127F100FS4
130	.812 x 2.250	601D137F100GL4
150	.687 x 3.750	601D157F100FT4
180	1.062 x 1.750	601D187F100JJ4
200	.812 x 3.250	601D207F100GS4
230	.937 x 2.750	601D237F100HP4
250	.812 x 3.750	601D257F100GT4
280	1.062 x 2.250	601D287F100JL4
300	.937 x 3.250	601D307F100HS4
320	1.062 x 2.750	601D327F100JP4
370	.937 x 3.750	601D377F100HT4
420	1.062 x 3.250	601D427F100JS4
500	1.062 x 3.750	601D507F100JT4

150 WVDC, 200 VDC SURGE

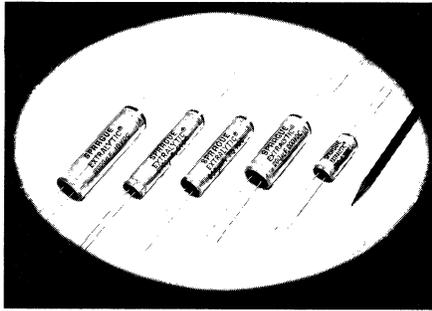
18	.687 x 1.250	601D186F150FE4
30	.812 x 1.250	601D306F150GE4
35	.687 x 1.750	601D356F150FJ4
45	.937 x 1.250	601D456F150HE4
55	.687 x 2.250	601D556F150FL4
60	.812 x 1.750	601D606F150GJ4
65	.687 x 2.750	601D656F150FP4
85	.687 x 3.250	601D856F150FS4
90	.937 x 1.750	601D906F150HJ4
95	.812 x 2.250	601D956F150GL4
100	.687 x 3.750	601D107F150FT4
130	1.062 x 1.750	601D137F150JJ4
140	.812 x 3.250	601D147F150GS4
160	.937 x 2.750	601D167F150HP4
170	.812 x 3.750	601D177F150GT4
190	1.062 x 2.250	601D197F150JL4
210	.937 x 3.250	601D217F150HS4
230	1.062 x 2.750	601D237F150JP4
260	.937 x 3.750	601D267F150HT4
290	1.062 x 3.250	601D297F150JS4
360	1.062 x 3.750	601D367F150JT4

200 WVDC, 250 VDC SURGE

16	.687 x 1.250	601D166F200FE4
25	.812 x 1.250	601D256F200GE4
30	.687 x 1.750	601D306F200FJ4
35	.937 x 1.250	601D356F200HE4
45	.687 x 2.250	601D456F200FL4
50	.812 x 1.750	601D506F200GJ4
55	.687 x 2.750	601D556F200FP4
70	.687 x 3.250	601D706F200FS4
75	.812 x 2.250	601D756F200GL4
85	.687 x 3.750	601D856F200FT4
90	.812 x 2.750	

SPRAGUE CAPACITORS

TYPE 604D 4-TERMINAL EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS



- Premium-grade capacitors with true four-terminal construction, specifically designed for use in switching regulators and other high frequency applications.
- Low equivalent series resistance, low inductance, low impedance.
- Operating temperature range, -55 C to $+105\text{ C}$.
- Guaranteed inductance limit of 2 nH , with typical values of less than 1 nH when used in the four-terminal mode.

- Impedance limits at 10 kHz are as low as $17\text{ m}\Omega$.
- Capacitance tolerance: $5\text{- through } 50\text{-volt}$ capacitors, $-10, +50\%$. Above 50 volts , $-10, +75\%$.
- Outer plastic film insulation with polymer-coated end seals which permit degreasing in halogenated solvents.
- For complete technical data, refer to latest issue of Engineering Bulletin 3458.

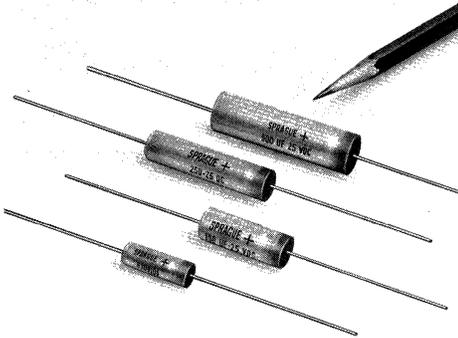
μF	Dia. x Length	Catalog Number
5 WVDC		
2400	.812 x 1.843	604D242G005GJ6
3300	.812 x 2.343	604D332G005GL6
3700	.937 x 1.843	604D372G005HJ6
4400	.812 x 2.843	604D442G005GP6
5000	.937 x 2.343	604D502G005HL6
5700	.812 x 3.343	604D572G005GS6
6200	.937 x 2.843	604D622G005HP6
7200	1.062 x 2.343	604D722G005JL6
8800	.937 x 3.343	604D882G005HS6
10000	1.062 x 2.843	604D103G005JP6
13000	1.062 x 3.343	604D133G005JS6
16000	1.062 x 3.843	604D163G005JT6
7.5 WVDC		
2000	.812 x 1.843	604D202G7R5GJ6
3000	.937 x 1.843	604D302G7R5HJ6
3800	.812 x 2.843	604D382G7R5GP6
4400	.937 x 2.343	604D442G7R5HL6
4800	1.062 x 1.843	604D482G7R5JL6
5000	.812 x 3.343	604D502G7R5GS6
5800	.937 x 2.843	604D582G7R5HP6
6200	1.062 x 2.343	604D622G7R5JL6
7500	.937 x 3.343	604D752G7R5HS6
9000	1.062 x 2.843	604D902G7R5JP6
11000	1.062 x 3.343	604D113G7R5JS6
14000	1.062 x 3.843	604D143G7R5JT6
10 WVDC		
1700	.812 x 1.843	604D172G010GJ6
2300	.812 x 2.343	604D232G010GL6
2600	.937 x 1.843	604D262G010HJ6
3000	.812 x 2.843	604D302G010GP6
3600	.937 x 2.343	604D362G010HL6
4100	.812 x 3.343	604D412G010GS6
4800	.937 x 2.843	604D482G010HP6
5100	1.062 x 2.343	604D512G010JL6
6300	.937 x 3.343	604D632G010HS6
7500	1.062 x 2.843	604D752G010JP6
9700	1.062 x 3.343	604D972G010JS6
12000	1.062 x 3.843	604D123G010JT6
16 WVDC		
1400	.812 x 1.843	604D142G016GJ6
1900	.812 x 2.343	604D192G016GL6
2100	.937 x 1.843	604D212G016HJ6
2700	.937 x 2.343	604D272G016HL6

μF	Dia. x Length	Catalog Number
3400	.812 x 3.343	604D342G016GS6
4200	1.062 x 2.343	604D422G016JL6
5200	.937 x 3.343	604D522G016HS6
6100	1.062 x 2.843	604D612G016JP6
6400	.937 x 3.843	604D642G016HT6
8000	1.062 x 3.343	604D802G016JS6
10000	1.062 x 3.843	604D103G016JT6
20 WVDC		
1200	.812 x 1.843	604D122G020GJ6
1800	.937 x 1.843	604D182G020HJ6
2200	.812 x 2.843	604D222G020GP6
2400	.937 x 2.343	604D242G020HL6
2900	.812 x 3.343	604D292G020GS6
3400	.937 x 2.843	604D342G020HP6
3700	1.062 x 2.343	604D372G020JL6
4500	.937 x 3.343	604D452G020HS6
5300	1.062 x 2.843	604D532G020JP6
7000	1.062 x 3.343	604D702G020JS6
8600	1.062 x 3.843	604D862G020JT6
25 WVDC		
900	.812 x 1.843	604D901G025GJ6
1200	.812 x 2.343	604D122G025GL6
1600	.812 x 2.843	604D162G025GP6
2000	.937 x 2.343	604D202G025HL6
2500	1.062 x 2.343	604D252G025JL6
2800	.937 x 2.843	604D282G025HP6
3600	1.062 x 2.843	604D362G025JP6
4700	1.062 x 3.343	604D472G025JS6
5700	1.062 x 3.843	604D572G025JT6
30 WVDC		
700	.812 x 1.843	604D701G030GJ6
900	.812 x 2.343	604D901G030GL6
1300	.812 x 2.843	604D132G030GP6
1600	.937 x 2.343	604D162G030HL6
2000	1.062 x 2.343	604D202G030JL6
2200	.937 x 2.843	604D222G030HP6
2800	1.062 x 2.843	604D282G030JP6
3000	.937 x 3.343	604D302G030HS6
3600	1.062 x 3.343	604D362G030JS6
4500	1.062 x 3.843	604D452G030JT6
40 WVDC		
550	.812 x 1.843	604D551G040GJ6
700	.812 x 2.343	604D701G040GL6
900	.937 x 1.843	604D901G040HJ6
1200	.937 x 2.343	604D122G040HL6

μF	Dia. x Length	Cat. Number
1500	1.062 x 2.343	604D152G040JL6
1700	.937 x 2.843	604D172G040HP6
2300	.937 x 3.343	604D232G040HS6
2900	1.062 x 3.343	604D292G040JS6
3600	1.062 x 3.843	604D362G040JT6
50 WVDC		
300	.812 x 1.843	604D301G050GJ6
400	.812 x 2.343	604D401G050GL6
530	.937 x 1.843	604D531G050HJ6
700	.937 x 2.343	604D701G050HL6
870	1.062 x 2.343	604D871G050JL6
1000	.937 x 2.843	604D102G050HP6
1200	1.062 x 2.843	604D122G050JP6
1600	1.062 x 3.343	604D162G050JS6
2000	1.062 x 3.843	604D202G050JT6
75 WVDC		
200	.812 x 1.843	604D201F075GJ6
260	.812 x 2.343	604D261F075GL6
350	.937 x 1.843	604D351F075HJ6
450	.937 x 2.343	604D451F075HL6
570	1.062 x 2.343	604D571F075JL6
650	.937 x 2.843	604D651F075HP6
850	.937 x 3.343	604D851F075HS6
1000	1.062 x 3.343	604D102F075JS6
1300	1.062 x 3.843	604D132F075JT6
100 WVDC		
130	.812 x 1.843	604D131F100GJ6
170	.812 x 2.343	604D171F100GL6
230	.937 x 1.843	604D231F100HJ6
300	.937 x 2.343	604D301F100HL6
380	1.062 x 2.343	604D381F100JL6
430	.937 x 2.843	604D431F100HP6
550	1.062 x 2.843	604D551F100JP6
700	1.062 x 3.343	604D701F100JS6
850	1.062 x 3.843	604D851F100JT6
200 WVDC		
50	.812 x 1.843	604D500F200GJ6
85	.937 x 1.843	604D850F200HJ6
100	.937 x 2.343	604D101F200GL6
150	.937 x 2.843	604D151F200HP6
200	1.062 x 2.843	604D201F200JP6
250	.937 x 3.343	604D251F200HT6
320	1.062 x 3.843	604D321F200JT6

SPRAGUE CAPACITORS

TYPE 630D EXTRALYTIC® ALUMINUM ELECTROLYTICS

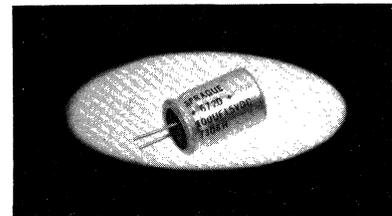


- Designed for use in long-interval timing circuits.
 - Extremely low leakage current levels, ranging from 1 μA max. for 10 μF capacitors to 5 μA max. for 500 μF capacitors.
 - Tight aluminum electrolytic capacitance tolerance of only $\pm 10\%$.
 - Excellent shelf and life characteristics over the temperature range of -55°C to $+125^\circ\text{C}$.
 - Exceptionally high capacitance stability and equivalent series resistance.
 - All terminal connections welded, eliminating possibility of "open" or intermittent contacts
- often encountered in pressure connections of conventional capacitors.
- Outer plastic film insulation and polymer-coated end seals eliminates possible problems with solvent-cleaning of assembled printed wiring boards.
 - For complete technical data, refer to latest issue of Engineering Bulletin 3454.

μF	WVDC	D. x L.	Cat. No.
10	25	.270 x .812	630D100
25	25	.332 x .812	630D101
50	25	.332 x .937	630D102
100	25	.395 x 1.062	630D103
250	25	.395 x 1.625	630D104
500	25	.505 x 1.875	630D105

TYPE 672D, 673D EXTRALYTIC® ALUMINUM ELECTROLYTICS

- Specifically designed for use in switching regulators and other high frequency applications.
- Miniature single-ended 'lytics feature low equivalent series resistance, inductance, and impedance.
- High capacitance values combined with low inductance and low ESR limits makes these capacitors very useful for bus bar decoupling in data processing applications.
- Premium-grade capacitors offer guaranteed inductance limit of 25nH with typical values in the 5 to 20nH range.
- Furnished with outer plastic-film insulation with supplementary polymer coated end-seal.
- Capacitance tolerance, $-10, +100\%$.
- Operating temperature range, -55°C to $+105^\circ\text{C}$.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3452.

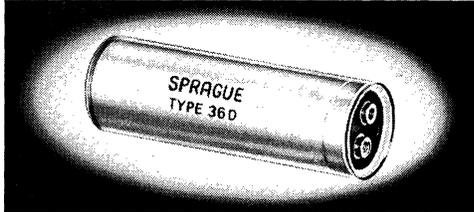


μF	Dia. x Length	Catalog Number	μF	Dia. x Length	Catalog Number	μF	Dia. x Length	Catalog Number
6.3 WVDC, 9 V SURGE			2200	.885 x 1.750	673D228H015HJ5C	180	.635 x 1.437*	672D187H050ET5C
150	.413 x .740	672D157H6R3CD5C	3300	1.010 x 1.750	673D338H015JJ5C	220	.635 x 1.437	672D227H050ET5C
220	.413 x .927	672D227H6R3CG5C	4700	1.010 x 2.250	673D478H015LJ5C	330	.885 x 1.250	673D337H050HE5C
680	.500 x 1.165	672D687H6R3DM5C	20 WVDC, 30 V SURGE			470	1.010 x 1.250	673D477H050JE5C
1000	.635 x 1.124	672D108H6R3EK5C	68	.413 x .740	672D686H020CD5C	680	.885 x 1.750	673D687H050HJ5C
1200	.635 x 1.437*	672D128H6R3ET5C	100	.413 x .927	672D107H020CG5C	60 WVDC, 85 V SURGE		
1500	.635 x 1.437	673D158H6R3ET5C	330	.500 x 1.165	672D337H020DM5C	15	.413 x .740	672D156H060CD5C
2200	1.010 x 1.250	673D228H6R3JE5C	470	.635 x 1.124	672D477H020EK5C	22	.413 x .927	672D226H060CG5C
7.5 WVDC, 10 V SURGE			560	.635 x 1.437*	672D567H020ET5C	68	.500 x 1.165	672D686H060DM5C
100	.413 x .677	672D107H7R5CC5C	680	.635 x 1.437	672D687H020ET5C	100	.635 x 1.124	672D107H060EK5C
150	.413 x .740	672D157H7R5CD5C	1000	1.010 x 1.250	673D108H020JE5C	120	.635 x 1.437*	672D127H060ET5C
680	.500 x 1.437	672D687H7R5DT5C	2200	1.010 x 1.750	673D228H020JJ5C	150	.635 x 1.437	672D157H060ET5C
1000	.635 x 1.437	672D108H7R5ET5C	25 WVDC, 35 V SURGE			220	1.010 x 1.250	673D227H060JE5C
1500	.885 x 1.250	673D158H7R5HE5C	47	.413 x .677	672D476H025CC5C	470	1.010 x 1.750	673D477H060JJ5C
4700	1.010 x 1.750	673D478H7R5JJ5C	68	.413 x .740	672D686H025CD5C	100 WVDC, 150 V SURGE		
12 WVDC, 16 V SURGE			330	.500 x 1.437	672D337H025DT5C	4.7	.413 x .677	672D475H100CC5C
100	.413 x .677	672D107H012CC5C	470	.635 x 1.437*	672D477H025ET5C	6.8	.413 x .740	672D685H100CD5C
150	.413 x .927	672D157H012CG5C	680	.885 x 1.250	673D687H025HE5C	33	.635 x 1.124	672D336H100EK5C
470	.500 x 1.165	672D477H012DM5C	1000	1.010 x 1.250	673D108H025JE5C	68	.635 x 1.437	672D686H100ET5C
680	.500 x 1.437	672D687H012DT5C	1500	.885 x 1.750	673D158H025HJ5C	100	1.010 x 1.250	673D107H100JE5C
1000	.635 x 1.437*	672D108H012ET5C	40 WVDC, 55 V SURGE			200 WVDC, 250 V SURGE		
1500	1.010 x 1.250	673D158H012JE5C	47	.413 x .740	672D476H040CD5C	27	.885 x 1.250	673D276H200HE5C
3300	1.010 x 1.750	673D338H012JJ5C	220	.635 x 1.124	672D227H040EK5C	56	.885 x 1.750	673D566H200HJ5C
15 WVDC, 20 V SURGE			330	.635 x 1.437	672D337H040ET5C	68	1.010 x 1.750	673D686H200JJ5C
100	.413 x .740	672D107H015CD5C	390	.635 x 1.437*	672D397H040ET5C	120	1.010 x 2.250	673D127H200JJ5C
150	.413 x .927	672D157H015CG5C	470	.884 x 1.250	673D477H040HE5C	250 WVDC, 300 V SURGE		
470	.500 x 1.437	672D477H015DT5C	680	1.010 x 1.250	673D478H040JE5C	22	.885 x 1.250	673D226H250HE5C
680	.635 x 1.124	672D687H015EK5C	50 WVDC, 75 V SURGE			33	1.010 x 1.250	673D336H250JE5C
820	.635 x 1.437*	672D827H015ET5C	22	.413 x .740	672D226H050CD5C	39	.885 x 1.750	673D396H250HJ5C
1000	.635 x 1.437	672D108H015ET5C	100	.500 x 1.437	672D107H050DT5C	100	1.010 x 2.250	673D107H250JL5C
1500	1.010 x 1.250	673D158H015JE5C	150	.635 x 1.124	672D157H050EK5C			

*Also available in .500" x 1.790 size. Change 12th and 13th characters in cat. no. from ET to DS.

SPRAGUE CAPACITORS

TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTICS



RECOMMENDED FOR REPLACEMENT APPLICATIONS

- Excellent space economy at operating temperatures to 85 C.
- Uses most reliable seal developed by Sprague for aluminum electrolytic capacitors.
- Low ESR, low leakage currents.
- Pressure-type safety vents employing silicone rubber are used on all cases.
- Extremely long shelf life.
- For technical data, refer to Sprague Engineering Bulletin 3431.

μF	Size Code	Catalog Number*
3 WVDC, 4 VDC SURGE		
10000	AA	36D103G003AA2A
20000	AB	36D203G003AB2A
30000	AC	36D303G003AC2A
36000	AD	36D463G003AD2A
41000	AE	36D413G003AE2A
46000	AF	36D463G003AF2A
47000	BB	36D473G003BB2A
70000	BC	36D703G003BC2A
80000	CB	36D803G003CB2A
82000	BD	36D823G003BD2A
94000	BE	36D943G003BE2A
100000	BF	36D104G003BF2A
120000	CC	36D124G003CC2A
140000	CD	36D144G003CD2A
160000	CE	36D164G003CE2A
170000	DC	36D174G003DC2A
180000	CF	36D184G003CF2A
200000	DD	36D204G003DD2A
230000	DE	36D234G003DE2A
270000	DF	36D274G003DF2A

μF	Size Code	Catalog Number*
6 WVDC, 8 VDC SURGE		
7000	AA	36D70G006AA2A
14000	AB	36D143G006AB2A
21000	AC	36D213G006AC2A
25000	AD	36D253G006AD2A
29000	AE	36D293G006AE2A
32000	AF	36D323G006AF2A
33000	BB	36D333G006BB2A
50000	BC	36D503G006BC2A
57000	CB	36D573G006CB2A
58000	BD	36D583G006BD2A
66000	BE	36D663G006BE2A
75000	BF	36D753G006BF2A
86000	CC	36D863G006CC2A
100000	CD	36D104G006CD2A
110000	CE	36D114G006CE2A
120000	DC	36D124G006DC2A
140000	DD	36D144G006DD2A
160000	DE	36D164G006DE2A
190000	DF	36D194G006DF2A

μF	Size Code	Catalog Number*
10 WVDC, 12 VDC SURGE		
6000	AA	36D60G010AA2A
12000	AB	36D123G010AB2A
18000	AC	36D183G010AC2A
21000	AD	36D213G010AD2A
24000	AE	36D243G010AE2A
27000	AF	36D273G010AF2A
28000	BB	36D283G010BB2A
42000	BC	36D423G010BC2A
48000	CB	36D483G010CB2A
49000	BD	36D493G010BD2A
56000	BE	36D563G010BE2A
63000	BF	36D633G010BF2A
72000	CC	36D723G010CC2A
84000	CD	36D843G010CD2A
96000	CE	36D963G010CE2A
100000	CF	36D104G010CF2A
100000	DC	36D104G010DC2A
120000	DD	36D124G010DD2A
140000	DE	36D144G010DE2A
160000	DF	36D164G010DF2A

μF	Size Code	Catalog Number*
15 WVDC, 18 VDC SURGE		
4600	AA	36D462G015AA2A
9200	AB	36D922G015AB2A
13000	AC	36D133G015AC2A
16000	AD	36D163G015AD2A
18000	AE	36D183G015AE2A
20000	AF	36D203G015AF2A

μF	Size Code	Catalog Number*
25 WVDC, 30 VDC SURGE		
2700	AA	36D272G025AA2A
5500	AB	36D552G025AB2A
8200	AC	36D822G025AC2A
9600	AD	36D962G025AD2A
11000	AE	36D113G025AE2A
12000	AF	36D123G025AF2A
18000	BC	36D183G025BC2A
21000	CB	36D213G025CB2A
22000	BD	36D223G025BD2A
25000	BE	36D253G025BE2A
28000	BF	36D283G025BF2A
32000	CC	36D323G025CC2A
38000	CD	36D383G025CD2A
43000	CE	36D433G025CE2A
47000	DC	36D473G025DC2A
48000	CF	36D483G025CF2A
55000	DD	36D553G025DD2A
63000	DE	36D633G025DE2A
71000	DF	36D713G025DF2A

μF	Size Code	Catalog Number*
30 WVDC, 40 VDC SURGE		
2000	AA	36D202G030AA2A
4000	AB	36D402G030AB2A
6000	AC	36D602G030AC2A
7200	AD	36D722G030AD2A
8300	AE	36D832G030AE2A
9300	AF	36D932G030AF2A
9500	BB	36D952G030BB2A
14000	BC	36D143G030BC2A
16000	BD	36D163G030BD2A
19000	BE	36D193G030BE2A
21000	BF	36D213G030BF2A
24000	CC	36D243G030CC2A
28000	CD	36D283G030CD2A
32000	CE	36D323G030CE2A
36000	DC	36D363G030DC2A
37000	CF	36D373G030CF2A
42000	DD	36D423G030DD2A
48000	DE	36D483G030DE2A
54000	DF	36D543G030DF2A

μF	Size Code	Catalog Number*
40 WVDC, 50 VDC SURGE		
1800	AA	36D182G040AA2A
3600	AB	36D362G040AB2A
5500	AC	36D552G040AC2A
6400	AD	36D642G040AD2A
7300	AE	36D732G040AE2A
8300	AF	36D832G040AF2A
8400	BB	36D842G040BB2A
12000	BC	36D123G040BC2A
14000	BD	36D143G040BD2A
16000	BE	36D163G040BE2A
19000	BF	36D193G040BF2A
21000	CC	36D213G040CC2A
25000	CD	36D253G040CD2A
28000	CE	36D283G040CE2A

μF	Size Code	Catalog Number*
50 WVDC, 65 VDC SURGE		
1300	AA	36D132G050AA2A
2600	AB	36D262G050AB2A
3900	AC	36D392G050AC2A
4600	AD	36D462G050AD2A
5200	AE	36D522G050AE2A
5900	AF	36D592G050AF2A
6000	BB	36D602G050BB2A
9000	BC	36D902G050BC2A
10000	BD	36D103G050BD2A
12000	BE	36D123G050BE2A
13000	BF	36D133G050BF2A
15000	CC	36D153G050CC2A
18000	CD	36D183G050CD2A
20000	CE	36D203G050CE2A
22000	DC	36D223G050DC2A
23000	CF	36D233G050CF2A
26000	DD	36D263G050DD2A
30000	DE	36D303G050DE2A
34000	DF	36D343G050DF2A

μF	Size Code	Catalog Number*
75 WVDC, 95 VDC SURGE		
850	AA	36D851G075AA2A
1700	AB	36D172G075AB2A
2500	AC	36D252G075AC2A
3000	AD	36D302G075AD2A
3400	AE	36D342G075AE2A
3800	AF	36D382G075AF2A
3900	BB	36D392G075BB2A
5900	BC	36D592G075BC2A
6700	CB	36D672G075CB2A
6900	BD	36D692G075BD2A
7800	BE	36D782G075BE2A
8800	BF	36D882G075BF2A
10000	CC	36D103G075CC2A
11000	CD	36D113G075CD2A
13000	CE	36D133G075CE2A
14000	DC	36D143G075DC2A
15000	CF	36D153G075CF2A
17000	DD	36D173G075DD2A
20000	DE	36D203G075DE2A
22000	DF	36D223G075DF2A

μF	Size Code	Catalog Number*
100 WVDC, 125 VDC SURGE		
450	AA	36D451G100AA2A
900	AB	36D901G100AB2A
1300	AC	36D132G100AC2A
1500	AD	36D152G100AD2A
1800	AE	36D182G100AE2A
2000	AF	36D202G100AF2A
3000	BC	36D302G100BC2A
3500	CB	36D352G100CB2A
3600	BD	36D362G100BD2A
4000	BE	36D402G100BE2A
4500	BF	36D452G100BF2A
5300	CC	36D532G100CC2A
6100	CD	36D612G100CD2A
7000	CE	36D702G100CE2A

μF	Size Code	Catalog Number*
150 WVDC, 175 VDC SURGE		
300	AA	36D301F150AA2A
600	AB	36D601F150AB2A
900	AC	36D901F150AC2A
1100	AD	36D112F150AD2A
1200	AE	36D122F150AE2A
1300	AF	36D132F150AF2A
1400	BB	36D142F150BB2A
2100	BC	36D212F150BC2A
2400	BD	36D242F150BD2A
2700	BE	36D272F150BE2A
3100	BF	36D312F150BF2A
3600	CC	36D362F150CC2A
4200	CD	36D422F150CD2A
4700	CE	36D472F150CE2A
5300	CF	36D532F150CF2A
5300	DC	36D532F150DC2A
6200	DD	36D622F150DD2A
7000	DE	36D702F150DE2A
7800	DF	36D782F150DF2A

μF	Size Code	Catalog Number*
200 WVDC, 250 VDC SURGE		
250	AA	36D251F200AA2A
430	AB	36D431F200AB2A
640	AC	36D641F200AC2A
770	AD	36D771F200AD2A
850	AE	36D851F200AE2A
950	AF	36D951F200AF2A
1400	BC	36D142F200BC2A
1600	CB	36D162F200CB2A
1700	BD	36D172F200BD2A
1900	BE	36D192F200BE2A
2100	BF	36D212F200BF2A
2500	CC	36D252F200CC2A
2900	CD	36D292F200CD2A
3300	CE	36D332F200CE2A
3700	CF	36D372F200CF2A
3700	DC	36D372F200DC2A
4500	DD	36D452F200DD2A
4800	DE	36D482F200DE2A
5500	DF	36D552F200DF2A

μF	Size Code	Catalog Number*
250 WVDC, 300 VDC SURGE		
170	AA	36D171F250AA2A
350	AB	36D351F250AB2A
530	AC	36D531F250AC2A
630	AD	36D631F250AD2A
700	AE	36D701F250AE2A
780	AF	36D781F250AF2A
800	BB	36D801F250BB2A
1200	BC	36D122F250BC2A
1300	CB	36D132F250CB2A
1400	BD	36D142F250BD2A
1500	BE	36D152F250BE2A
1700	BF	36D172F250BF2A
2000	CC	36D202F250CC2A
2400	CD	36D242F250CD2A

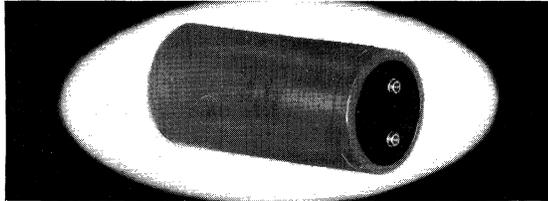
DIMENSIONS

Code	D. x L.						
AA	1.453 x 2.250	AF	1.453 x 5.750	BF	2.078 x 5.750	CF	2.578 x 5.750
AB	1.453 x 3.250	BB	2.078 x 3.250	CB	2.578 x 3.250	DC	3.078 x 4.250
AC	1.453 x 4.250	BC	2.078 x 4.250	CC	2.578 x 4.250	DD	3.078 x 4.750
AD	1.453 x 4.750	BD	2.078 x 4.750	CD	2.578 x 4.750	DE	3.078 x 5.250
AE	1.453 x 5.250	BE	2.078 x 5.250	CE	2.578 x 5.250	DF	3.078 x 5.750

*Capacitors listed have outer plastic-film insulation. For bare case, change 13th character of cat. no. from "2" to "0" and subtract .078" from diameter and .125" from length. Capacitors listed have low-insert terminals. For "special" high-insert or solder-lug terminals, change last character of cat. no. from "A" to "B" or "C," respectively.

SPRAGUE CAPACITORS

TYPE 32DR COMPULYTIC® ALUMINUM ELECTROLYTICS MINIMUM ESR - - HIGH RIPPLE CURRENT CAPABILITY



DIMENSIONS

Code	D. x L.	Code	D. x L.	Code	D. x L.
AA	1.453 x 2.250	BB	2.078 x 3.250	CF	2.578 x 5.750
AB	1.453 x 3.250	BC	2.078 x 4.250	DC	3.078 x 4.250
AC	1.453 x 4.250	BF	2.078 x 5.750	DF	3.078 x 5.750
AF	1.453 x 5.750	CC	2.578 x 4.250	DJ	3.078 x 8.750

- Designed for long, trouble-free power supply filtering applications in digital computers and allied equipment.
- Low ESR, low impedance . . . as little as 1/3 the ESR of standard capacitors of this type . . . ideally suited for use on the output of a power supply.
- Will safely handle up to 24 amperes of ripple current at 85 C and 120 Hz.
- Superior seal . . . beaded aluminum can is crimped onto rubber gasket recessed in rigid molded cover.
- Case cover has reliable rubber pressure-type safety vent.
- Operating temperature range: -40 C to +85 C.
- Capacitance tolerance: 7.5 thru 50V . . . +75, -10%. 60 thru 100V . . . +50, -10%.
- For complete technical data, including ripple current limits for each rating, refer to latest issue of Engineering Bulletin 3441.

μF	Case Code	Catalog No.*	μF	Case Code	Catalog No.*	μF	Case Code	Catalog No.*	μF	Case Code	Catalog No.*
7.5 WVDC, 10V SURGE			87000	DC	32DR873G015DC2A	26000	BF	32DR263G030BF2A	4800	AF	32DR482F060AF2A
8600	AA	32DR862G7R5AA2A	130000	DF	32DR134G015DF2A	30000	CC	32DR303G030CC2A	5300	BB	32DR532F060BB2A
16000	AB	32DR163G7R5AB2A	200000	DJ	32DR204G015DJ2A	44000	CF	32DR443G030CF2A	7700	BC	32DR772F060BC2A
22000	AC	32DR223G7R5AC2A	20 WVDC, 30V SURGE			45000	DC	32DR453G030DC2A	11000	BF	32DR113F060BF2A
33000	AF	32DR333G7R5AF2A	3900	AA	32DR392G020AA2A	66000	DF	32DR663G030DF2A	13000	CC	32DR133F060CC2A
37000	BB	32DR373G7R5BB2A	7000	AB	32DR702G020AB2A	100000	DJ	32DR104G030DJ2A	19000	CF	32DR193F060CF2A
53000	BC	32DR533G7R5BC2A	10000	AC	32DR103G020AC2A	40 WVDC, 55V SURGE			19000	DC	32DR193F060DC2A
78000	BF	32DR783G7R5BF2A	15000	AF	32DR153G020AF2A	2300	AA	32DR232G040AA2A	28000	DF	32DR283F060DF2A
92000	CC	32DR923G7R5CC2A	17000	BB	32DR173G020BB2A	4200	AB	32DR422G040AB2A	45000	DJ	32DR453F060DJ2A
130000	CF	32DR134G7R5CF2A	24000	BC	32DR243G020BC2A	6000	AC	32DR602G040AC2A	75 WVDC, 100V SURGE		
140000	DC	32DR144G7R5DC2A	35000	BF	32DR353G020BF2A	8900	AF	32DR892G040AF2A	820	AA	32DR821F075AA2A
200000	DF	32DR204G7R5DF2A	41000	CC	32DR413G020CC2A	10000	BB	32DR103G040BB2A	1600	AB	32DR162F075AB2A
310000	DJ	32DR314G7R5DJ2A	60000	CF	32DR603G020CF2A	14000	BC	32DR143G040BC2A	2300	AC	32DR232F075AC2A
10 WVDC, 15V SURGE			61000	DC	32DR613G020DC2A	21000	BF	32DR213G040BF2A	3300	AF	32DR332F075AF2A
6900	AA	32DR692G010AA2A	90000	DF	32DR903G020DF2A	25000	CC	32DR253G040CC2A	3700	BB	32DR372F075BB2A
12000	AB	32DR123G010AB2A	140000	DJ	32DR144G020DJ2A	36000	CF	32DR363G040CF2A	5400	BC	32DR542F075BC2A
18000	AC	32DR183G010AC2A	25 WVDC, 40V SURGE			37000	DC	32DR373G040DC2A	7900	BF	32DR792F075BF2A
26000	AF	32DR263G010AF2A	3300	AA	32DR332G025AA2A	54000	DF	32DR543G040DF2A	9200	CC	32DR922F075CC2A
30000	BB	32DR303G010BB2A	6000	AB	32DR602G025AB2A	85000	DJ	32DR853G040DJ2A	14000	CF	32DR143F075CF2A
43000	BC	32DR433G010BC2A	8700	AC	32DR872G025AC2A	50 WVDC, 75V SURGE			14000	DC	32DR143F075DC2A
63000	BF	32DR633G010BF2A	13000	AF	32DR133G025AF2A	1400	AA	32DR142G050AA2A	20000	DF	32DR203F075DF2A
74000	CC	32DR743G010CC2A	14000	BB	32DR143G025BB2A	2700	AB	32DR272G050AB2A	31000	DJ	32DR313F075DJ2A
110000	CF	32DR114G010CF2A	21000	BC	32DR213G025BC2A	3900	AC	32DR392G050AC2A	100 WVDC, 150V SURGE		
110000	DC	32DR114G010DC2A	30000	BF	32DR303G025BF2A	5700	AF	32DR572G050AF2A	410	AA	32DR411F100AA2A
160000	DF	32DR164G010DF2A	36000	CC	32DR363G025CC2A	9200	BB	32DR922G050BB2A	810	AB	32DR811F100AB2A
250000	DJ	32DR254G010DJ2A	52000	CF	32DR523G025CF2A	13000	BF	32DR133G050BF2A	1200	AC	32DR122F100AC2A
15 WVDC, 20V SURGE			53000	DC	32DR533G025DC2A	16000	CC	32DR163G050CC2A	1700	AF	32DR172F100AF2A
5500	AA	32DR552G015AA2A	77000	DF	32DR773G025DF2A	23000	CF	32DR233G050CF2A	1900	BB	32DR192F100BB2A
9900	AB	32DR992G015AB2A	120000	DJ	32DR124G025DJ2A	23000	DC	32DR233G050DC2A	2800	BC	32DR282F100BC2A
14000	AC	32DR143G015AC2A	30 WVDC, 45V SURGE			34000	DF	32DR343G050DF2A	4100	BF	32DR412F100BF2A
21000	AF	32DR213G015AF2A	2800	AA	32DR282G030AA2A	53000	DJ	32DR533G050DJ2A	4800	CC	32DR482F100CC2A
24000	BB	32DR243G015BB2A	5100	AB	32DR512G030AB2A	60 WVDC, 85V SURGE			7000	CF	32DR702F100CF2A
34000	BC	32DR343G015BC2A	7400	AC	32DR742G030AC2A	1200	AA	32DR122F060AA2A	7000	DC	32DR702F100DC2A
50000	BF	32DR503G015BF2A	11000	AF	32DR113G030AF2A	2300	AB	32DR232F060AB2A	10000	DF	32DR103F100DF2A
59000	CC	32DR593G015CC2A	12000	BB	32DR123G030BB2A	3300	AC	32DR332F060AC2A	16000	DJ	32DR163F100DJ2A
86000	CF	32DR863G015CF2A	18000	BC	32DR183G030BC2A						

*Capacitors listed have outer plastic-film insulation. For bare case, change 13th character of cat. no. from "2" to "0" and subtract .078" from diameter and .125" from length. Capacitors listed have low-insert terminals. For "special" high-insert or solder-lug terminals, change last character of cat. no. from "A" to "B" or "C," respectively.

SPRAGUE CAPACITORS

TYPE 622D EXTRALYTIC® ALUMINUM ELECTROLYTICS



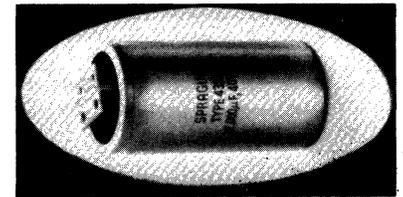
- Output filter capacitors for switching regulator power supplies and allied applications.
- Low internal inductance, low equivalent series resistance.
- First to have their ESR specified, and to be held within tolerance of $\pm 30\%$ of the nominal value at 20 kHz.
- Have symmetrical capacitance tolerance of tight $\pm 20\%$ instead of wide asymmetrical tolerance associated with low-voltage 'lytics.
- For operation over wide temperature range of -55°C to $+85^\circ\text{C}$.
- Choice of low- or high-threaded No. 10-32 terminals.
- Capacitance range from 18,000 μF to 67,000 μF at 5 volts with corresponding nominal ESR of 5.8 milliohms down to 3.0 milliohms.
- At 55 volts, maximum capacitance values in the various ranges from 2,800 μF to 10,000 μF , with corresponding nominal ESR of 8.7 milliohms down to 3.6 milliohms.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3459.

μF	Dia. x Length	Catalog Number*	μF	Dia. x Length	Catalog Number*	μF	Dia. x Length	Catalog Number*
5 WVDC, 6 VDC SURGE								
18,000	1.375 x 2.250	622D183M005AA2A	14,000	1.375 x 2.750	622D143M016AM2A	16,000	1.375 x 4.250	622D163M028AC2A
25,000	1.375 x 2.750	622D253M005AM2A	18,000	1.375 x 3.250	622D183M016AB2A	19,000	1.375 x 4.750	622D193M028AD2A
32,000	1.375 x 3.250	622D323M005AB2A	22,000	1.375 x 3.750	622D223M016AL2A	22,000	1.375 x 5.250	622D223M028AE2A
39,000	1.375 x 3.750	622D393M005AL2A	26,000	1.375 x 4.250	622D263M016AC2A	24,000	1.375 x 5.750	622D243M028AF2A
46,000	1.375 x 4.250	622D463M005AC2A	30,000	1.375 x 4.750	622D303M016AD2A	35 WVDC, 40 VDC SURGE		
53,000	1.375 x 4.750	622D533M005AD2A	34,000	1.375 x 5.250	622D343M016AE2A	4,500	1.375 x 2.250	622D452M035AA2A
60,000	1.375 x 5.250	622D603M005AE2A	38,000	1.375 x 5.750	622D383M016AF2A	6,300	1.375 x 2.750	622D632M035AM2A
67,000	1.375 x 5.750	622D673M005AF2A	20 WVDC, 22 VDC SURGE			8,100	1.375 x 3.250	622D812M035AB2A
7.5 WVDC, 9 VDC SURGE								
15,000	1.375 x 2.250	622D153M7R5AA2A	8,800	1.375 x 2.250	622D882M020AA2A	10,000	1.375 x 3.750	622D103M035AL2A
21,000	1.375 x 2.750	622D213M7R5AM2A	12,000	1.375 x 2.750	622D123M020AM2A	12,000	1.375 x 4.250	622D123M035AC2A
27,000	1.375 x 3.250	622D273M7R5AB2A	16,000	1.375 x 3.250	622D163M020AB2A	14,000	1.375 x 4.750	622D143M035AD2A
33,000	1.375 x 3.750	622D333M7R5AL2A	20,000	1.375 x 3.750	622D203M020AL2A	16,000	1.375 x 5.250	622D163M035AE2A
39,000	1.375 x 4.250	622D393M7R5AC2A	22,000	1.375 x 4.250	622D223M020AA2A	17,000	1.375 x 5.750	622D173M035AF2A
45,000	1.375 x 4.750	622D453M7R5AD2A	27,000	1.375 x 4.750	622D273M020AM2A	55 WVDC, 64 VDC SURGE		
51,000	1.375 x 5.250	622D513M7R5AE2A	30,000	1.375 x 5.250	622D303M020AE2A	2,800	1.375 x 2.250	622D282M055AA2A
57,000	1.375 x 5.750	622D573M7R5AF2A	34,000	1.375 x 5.750	622D343M020AF2A	3,900	1.375 x 2.750	622D392M055AM2A
16 WVDC, 18 VDC SURGE								
10,000	1.375 x 2.250	622D103M016AA2A	6,300	1.375 x 2.250	622D632M028AA2A	5,000	1.375 x 3.250	622D502M055AB2A
			8,800	1.375 x 2.750	622D882M028AM2A	6,200	1.375 x 3.750	622D622M055AL2A
			11,000	1.375 x 3.250	622D113M028AB2A	7,300	1.375 x 4.250	622D732M055AC2A
			14,000	1.375 x 3.750	622D143M028AL2A	8,400	1.375 x 4.750	622D842M055AD2A
						9,500	1.375 x 5.250	622D952M055AE2A
						10,000	1.375 x 5.750	622D103M055AF2A

*These capacitors have outer thermoplastic insulating sleeve. For units with bare case, change last digit in Cat. No. from "2" to "0" and subtract .125" from length. Capacitors listed also have low-insert terminals. For high-insert terminals, change last character of Cat. No. from "A" to "B."

TYPE 432D COMPULYTIC® ALUMINUM ELECTROLYTICS

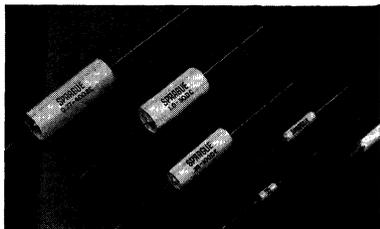
- Revolutionary electrolytic capacitors for ultra-low-impedance applications.
- Impedance limits at 10 kHz are as low as .001 ohm, with typical values of only half the specified limits.
- Special strip-line terminals are ideal for use with laminated-bus power distribution systems found in modern EDP equipment.
- Stacked-foil construction allows capacitance values to 100,000 μF with extremely low ESR of typically less than .001 ohm and inductance of only 1 nH.
- Operating temperature range, -40°C to $+85^\circ\text{C}$.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3443.



μF	Dia. x Length	Catalog Number	μF	Dia. x Length	Catalog Number	μF	Dia. x Length	Catalog Number
6 WVDC			15 WVDC			30 WVDC		
3,900	1.453 x 2.250	432D392006AA2	1,800	1.453 x 2.250	432D182015AA2	820	1.453 x 2.250	432D821030AA2
10,000	1.453 x 4.250	432D103006AC2	4,700	1.453 x 4.250	432D472015AC2	2,200	1.453 x 4.250	432D222030AC2
56,000	3.078 x 4.250	432D563006DC2	27,000	3.078 x 4.250	432D273015DC2	12,000	3.078 x 4.250	432D123030DC2
100,000	3.078 x 5.750	432D104006DF2	39,000	3.078 x 5.750	432D393015DF2	18,000	3.078 x 5.750	432D183030DF2
7.5 WVDC			20 WVDC			40 WVDC		
2,700	1.453 x 2.250	432D2727R5AA2	1,200	1.453 x 2.250	432D122020AA2	560	1.453 x 2.250	432D561040AA2
6,800	1.453 x 4.250	432D6827R5AC2	3,300	1.453 x 4.250	432D332020AC2	1,500	1.453 x 4.250	432D152040AC2
47,000	3.078 x 4.250	432D4737R5DC2	18,000	3.078 x 4.250	432D183020DC2	8,200	3.078 x 4.250	432D822040DC2
68,000	3.078 x 5.750	432D6837R5DF2	27,000	3.078 x 5.750	432D273020DF2	12,000	3.078 x 5.750	432D123040DF2
10 WVDC			25 WVDC			50 WVDC		
2,200	1.453 x 2.250	432D222010AA2	1,000	1.453 x 2.250	432D102025AA2	470	1.453 x 2.250	432D471050AA2
5,600	1.453 x 4.250	432D562010AC2	2,700	1.453 x 4.250	432D272025AC2	1,000	1.453 x 4.250	432D102050AC2
33,000	3.078 x 4.250	432D333010DC2	15,000	3.078 x 4.250	432D153025DC2	6,800	3.078 x 4.250	432D682050DC2
56,000	3.078 x 5.750	432D563010DF2	22,000	3.078 x 5.750	432D223025DF2	10,000	3.078 x 5.750	432D103050DF2

SPRAGUE CAPACITORS

TYPE 416P YELLOW JACKET® FILMITE® 'E' CAPACITORS

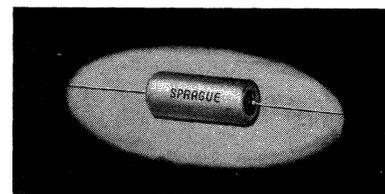


- Economy-priced for commercial applications. Made in Taiwan by Taiwan Sprague Corp.
- Extended-foil construction.
- Protected against moisture by outer wrap of polyester film and plastic resin end seals.
- Light-weight capacitors of minimum size.
- Rated for -55 C to +85 C operation (to +105 C with voltage derating).
- High insulation resistance.
- For complete technical data, refer to latest issue of Engineering Bulletin 2063C.

μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.
50 WVDC											
0.012	.190 x 0.531	416P1239R5	0.018	See 200 WVDC Listing		0.033	.190 x 0.844	416P33392	0.15	.405 x 1.562	416P15494
0.015	.190 x 0.531	416P1539R5	0.022	See 200 WVDC Listing		0.039	.210 x 0.844	416P39392	0.18	.480 x 1.562	416P18494
0.018	.200 x 0.594	416P1839R5	0.027	.190 x 0.718	416P27391	0.047	.210 x 0.844	416P47392	0.22	.480 x 1.562	416P22494
0.022	.200 x 0.594	416P2239R5	0.033	.190 x 0.718	416P33391	0.056	.240 x 0.844	416P56392	0.27	.650 x 1.750	416P27494
0.027	.210 x 0.656	416P2739R5	0.039	.215 x 0.718	416P39391	0.068	.240 x 0.844	416P68392	0.33	.650 x 1.750	416P33494
0.033	.210 x 0.656	416P3339R5	0.047	.215 x 0.718	416P47391	0.082	.275 x 0.969	416P82392	0.39	.725 x 1.937	416P39494
0.039	See 100 WVDC Listing		0.056	.215 x 0.844	416P56391	0.1	.275 x 0.969	416P10492	0.47	.725 x 1.937	416P47494
0.047	See 100 WVDC Listing		0.068	.215 x 0.844	416P68391	0.12	.345 x 1.000	416P12492			
0.056	.250 x 0.718	416P5639R5	0.082	.245 x 0.844	416P82391	0.15	.345 x 1.000	416P15492	600 WVDC		
0.068	.250 x 0.718	416P6839R5	0.1	.245 x 0.844	416P10491	0.18	.355 x 1.250	416P18492	0.001	.190 x 0.718	416P10296
0.082	.290 x 0.750	416P8239R5	0.12	.285 x 0.844	416P12491	0.22	.355 x 1.250	416P22492	0.0012	.190 x 0.718	416P12296
0.1	.290 x 0.750	416P1049R5	0.15	.285 x 0.844	416P15491	0.27	.425 x 1.250	416P27492	0.0015	.190 x 0.718	416P15296
0.12	.315 x 0.812	416P1249R5	0.18	.290 x 1.250	416P18491	0.33	.425 x 1.250	416P33492	0.0018	.190 x 0.718	416P18296
0.15	.315 x 0.812	416P1549R5	0.22	.290 x 1.250	416P22491	0.39	.440 x 1.562	416P39492	0.0022	.190 x 0.718	416P22296
0.18	.315 x 1.062	416P1849R5	0.27	.325 x 1.250	416P27491	0.47	.440 x 1.562	416P47492	0.0027	.205 x 0.718	416P27296
0.22	.315 x 1.062	416P2249R5	0.33	.325 x 1.250	416P33491	0.56	.610 x 1.750	416P56492	0.0033	.205 x 0.718	416P33296
0.27	.375 x 1.062	416P2749R5	0.39	.380 x 1.250	416P39491	0.68	.610 x 1.750	416P68492	0.0039	.235 x 0.718	416P39296
0.33	.375 x 1.062	416P3349R5	0.47	.380 x 1.250	416P47491	0.82	.710 x 1.875	416P82492	0.0047	.235 x 0.718	416P47296
0.39	.430 x 1.062	416P3949R5	0.56	.455 x 1.562	416P56491	1.0	.710 x 1.875	416P10492	0.0056	.240 x 0.844	416P56296
0.47	.430 x 1.062	416P4749R5	0.68	.455 x 1.562	416P68491	400 WVDC			0.0068	.240 x 0.844	416P68296
0.56	.450 x 1.375	416P5649R5	0.82	.535 x 1.562	416P82491	0.0027	.190 x 0.718	416P27294	0.0082	.270 x 0.844	416P82296
0.68	.450 x 1.375	416P6849R5	1.0	.535 x 1.562	416P10591	0.0033	.190 x 0.718	416P33294	0.01	.270 x 0.844	416P10396
0.82	.500 x 1.375	416P8249R5	200 WVDC			0.0039	.190 x 0.718	416P39294	0.012	.315 x 0.875	416P12396
1.0	.500 x 1.375	416P1059R5	0.001	.190 x 0.450	416P10292	0.0047	.190 x 0.718	416P47294	0.015	.315 x 0.875	416P15396
			0.0012	.190 x 0.450	416P12292	0.0056	.200 x 0.718	416P56294	0.018	.375 x 0.875	416P18396
			0.0015	.190 x 0.450	416P15292	0.0068	.200 x 0.718	416P68294	0.022	.375 x 0.875	416P22396
			0.0018	.190 x 0.450	416P18292	0.0082	.210 x 0.844	416P82294	0.027	.395 x 1.000	416P27396
			0.0022	.190 x 0.450	416P22292	0.01	.210 x 0.844	416P82294	0.033	.395 x 1.000	416P33396
			0.0027	.190 x 0.450	416P27292	0.012	.230 x 0.844	416P12394	0.039	.400 x 1.250	416P39396
			0.0033	.190 x 0.450	416P33292	0.015	.230 x 0.844	416P15394	0.047	.400 x 1.250	416P47396
			0.0039	.190 x 0.450	416P39292	0.018	.265 x 0.844	416P18394	0.056	.455 x 1.250	416P56396
			0.0047	.190 x 0.450	416P47292	0.022	.265 x 0.844	416P22394	0.068	.455 x 1.250	416P68396
			0.0056	.190 x 0.718	416P56292	0.027	.315 x 0.875	416P27394	0.082	.470 x 1.562	416P82396
			0.0068	.190 x 0.718	416P68292	0.033	.315 x 0.875	416P33394	0.1	.470 x 1.562	416P10496
			0.0082	.190 x 0.718	416P82292	0.039	.325 x 1.000	416P39394	0.12	.545 x 1.562	416P12496
	.190 x 0.450	416P56291	0.01	.190 x 0.718	416P10392	0.047	.325 x 1.000	416P47394	0.15	.545 x 1.562	416P15496
0.0068	.190 x 0.450	416P68291	0.012	.190 x 0.718	416P12392	0.056	.340 x 1.250	416P56394	0.18	.590 x 1.937	416P18496
0.0082	.190 x 0.450	416P82291	0.015	.190 x 0.718	416P15392	0.068	.340 x 1.250	416P68394	0.22	.590 x 1.937	416P22496
0.01	.190 x 0.450	416P10391	0.018	.190 x 0.718	416P18392	0.082	.400 x 1.250	416P82394	0.27	.800 x 1.937	416P27496
0.012	See 200 WVDC Listing		0.022	.190 x 0.718	416P22392	0.1	.400 x 1.250	416P10494	0.33	.800 x 1.937	416P33496
0.015	See 200 WVDC Listing		0.027	.190 x 0.844	416P27392	0.12	.405 x 1.562	416P12494	0.39	.890 x 2.125	416P39496
									0.47	.890 x 2.125	416P47496

TYPE 260P METALLIZED FILMITE® 'K' CAPACITORS

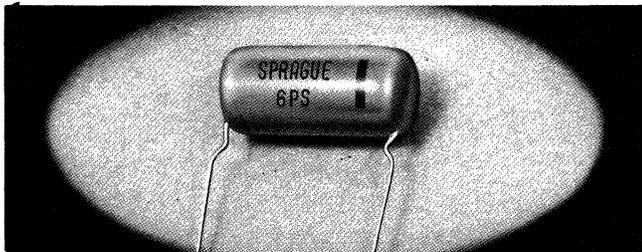
- Designed for applications such as low-frequency tuned circuits, analog computer reference capacitors and precision timing and integrated circuits.
- High insulation resistance, high stability, minimum capacitance change with temperature, low dielectric absorption, low dissipation factor.
- Capacitor sections are of non-inductive construction.
- Will operate at full rated voltage over the temperature range of -55 C to +105 C.
- Capacitance tolerance, ±5%.
- Voltage rating, 200 WVDC.
- For complete technical data, refer to latest issue of Engineering Bulletin 2705.



μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.
.01	.175 x 3/4	260P10352S4	.068	.312 x 7/8	260P68352S4	.47	.400 x 1 3/8	260P47452S4	4.0	.750 x 2 1/8	260P40552S4
.015	.195 x 3/4	260P15352S4	.1	.312 x 7/8	260P10452S4	.68	.562 x 1 1/8	260P68452S4	5.0	.750 x 2 3/8	260P50552S4
.022	.235 x 3/4	260P22352S4	.15	.312 x 1 1/8	260P15452S4	1.0	.562 x 1 3/8	260P10552S4	7.0	1.000 x 1 7/8	260P70552S4
.033	.235 x 3/4	260P33352S4	.22	.400 x 7/8	260P22452S4	2.0	.670 x 1 5/8	260P20552S4	8.0	1.000 x 2 1/8	260P80552S4
.047	.312 x 7/8	260P47352S4	.33	.400 x 1 1/8	260P33452S4	3.0	.750 x 1 7/8	260P30552S4	10.0	1.000 x 2 5/8	260P10652S4
.056	.312 x 7/8	260P56352S4									

SPRAGUE CAPACITORS

TYPE PS ORANGE DROP® DIPPED TUBULARS

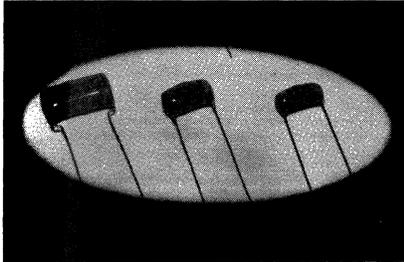


- Widely Used in TV, Radio and Allied Commercial Equipment
- Crimped Wire Leads for Correct Spacing When Mounted On Printed Wiring Boards.
- Outside Foil on All Units Identified by Black Striping
- Double Dipped in Bright Orange Epoxy Resin—Beats Heat and Humidity
- Won't Leak or Drip
- Capacitance Tolerance, $\pm 10\%$

μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.
200 WVDC			.004	25/64 x 45/64	6PS-D40	.015	31/64 x 1 13/64	10PS-S15
.02	11/32 x 45/64	2PS-S20	.0047	25/64 x 45/64	6PS-D47	.022	37/64 x 1 39/64	10PS-S22
.022	11/32 x 45/64	2PS-S22	.005	25/64 x 45/64	6PS-D50	.033	21/32 x 1 39/64	10PS-S33
.047	25/64 x 29/32	2PS-S47	.0056	13/32 x 45/64	6PS-D56	.039	21/32 x 1 39/64	10PS-S39
.05	25/64 x 29/32	2PS-S50	.006	13/32 x 45/64	6PS-D60	.047	21/32 x 1 39/64	10PS-S47
.1	13/32 x 1 13/64	2PS-P10	.0068	13/32 x 45/64	6PS-D68	.056	3/4 x 1 39/64	10PS-S56
.15	29/64 x 1 13/64	2PS-P15	.0075	13/32 x 45/64	6PS-D75	.068	3/4 x 1 39/64	10PS-S68
.2	1/2 x 1 13/64	2PS-P20	.008	13/32 x 29/32	6PS-D80	.082	55/64 x 1 39/64	10PS-S82
.22	1/2 x 1 13/64	2PS-P22	.0082	13/32 x 29/32	6PS-D82	.1	55/64 x 1 39/64	10PS-P1C
.25	1/2 x 1 13/64	2PS-P25	.01	13/32 x 29/32	6PS-S10	1600 WVDC		
.33	31/64 x 1 39/64	2PS-P33	.012	13/32 x 29/32	6PS-S12	.001	1/2 x 1 5/16	16PS-D10
.47	9/16 x 1 39/64	2PS-P47	.015	13/32 x 29/32	6PS-S15	.0015	1/2 x 1 5/16	16PS-D15
.5	9/16 x 1 39/64	2PS-P50	.02	29/64 x 29/32	6PS-S20	.002	1/2 x 1 5/16	16PS-D20
400 WVDC			.022	29/64 x 29/32	6PS-S22	.0022	1/2 x 1 5/16	16PS-D22
.01	23/64 x 45/64	4PS-S10	.025	29/64 x 29/32	6PS-S25	.003	1/2 x 1 5/16	16PS-D30
.015	35/64 x 45/64	4PS-S15	.027	29/64 x 1 13/64	6PS-S27	.0033	1/2 x 1 5/16	16PS-D33
.02	25/64 x 29/32	4PS-S20	.03	29/64 x 1 13/64	6PS-S30	.0039	1/2 x 1 5/16	16PS-D39
.022	25/64 x 29/32	4PS-S22	.033	29/64 x 1 13/64	6PS-S33	.004	1/2 x 1 5/16	16PS-D40
.025	25/64 x 29/32	4PS-S25	.035	29/64 x 1 13/64	6PS-S35	.0047	1/2 x 1 5/16	16PS-D47
.03	13/32 x 29/32	4PS-S30	.039	9/16 x 1 13/64	6PS-S39	.005	1/2 x 1 5/16	16PS-D50
.033	13/32 x 29/32	4PS-S33	.04	9/16 x 1 13/64	6PS-S40	.006	9/16 x 1 5/16	16PS-D60
.04	13/32 x 1 13/64	4PS-S40	.047	9/16 x 1 13/64	6PS-S47	.0068	9/16 x 1 5/16	16PS-D68
.047	13/32 x 1 13/64	4PS-S47	.05	9/16 x 1 13/64	6PS-S50	.007	9/16 x 1 5/16	16PS-D70
.05	13/32 x 1 13/64	4PS-S50	.056	39/64 x 1 13/64	6PS-S56	.0075	9/16 x 1 5/16	16PS-D75
.056	29/64 x 1 13/64	4PS-S56	.06	39/64 x 1 13/64	6PS-S60	.008	39/64 x 1 5/16	16PS-D80
.068	29/64 x 1 13/64	4PS-S68	.068	39/64 x 1 13/64	6PS-S68	.01	39/64 x 1 5/16	16PS-S10
.075	29/64 x 1 13/64	4PS-S75	.075	39/64 x 1 13/64	6PS-S75	.015	21/32 x 1 5/16	16PS-S15
.1	17/32 x 1 13/64	4PS-P10	.082	21/32 x 1 13/64	6PS-S82	.018	21/32 x 1 45/64	16PS-S18
.15	37/64 x 1 13/64	4PS-P15	.1	21/32 x 1 13/64	6PS-P10	.02	21/32 x 1 45/64	16PS-S20
.2	39/64 x 1 39/64	4PS-P20	.15	45/64 x 1 39/64	6PS-P15	.022	21/32 x 1 45/64	16PS-S22
.22	39/64 x 1 39/64	4PS-P22	.2	13/16 x 1 39/64	6PS-P20	.03	3/4 x 1 45/64	16PS-S30
.25	39/64 x 1 39/64	4PS-P25	.22	13/16 x 1 39/64	6PS-P22	.033	3/4 x 1 45/64	16PS-S33
600 WVDC			.25	53/64 x 1 13/16	6PS-P25	.04	55/64 x 1 45/64	16PS-S40
.001	5/16 x 45/64	6PS-D10	.33	57/64 x 1 13/16	6PS-P33	.047	55/64 x 1 45/64	16PS-S47
.0012	11/32 x 45/64	6PS-D12	.47	57/64 x 1 5/8	6PS-P47	.05	55/64 x 1 45/64	16PS-S50
.0015	11/32 x 45/64	6PS-D15	1000 WVDC			2000 WVDC		
.0018	11/32 x 45/64	6PS-D18	.001	5/16 x 45/64	10PS-D10	.001	1/2 x 1 5/16	20PS-D10
.002	11/32 x 45/64	6PS-D20	.0015	21/64 x 45/64	10PS-D15	.0015	1/2 x 1 5/16	20PS-D15
.0022	11/32 x 45/64	6PS-D22	.002	23/64 x 45/64	10PS-D20	.0022	1/2 x 1 5/16	20PS-D22
.0025	11/32 x 45/64	6PS-D25	.0022	23/64 x 45/64	10PS-D22	.0033	9/16 x 1 5/16	20PS-D33
.0027	23/64 x 45/64	6PS-D27	.003	23/64 x 29/32	10PS-D30	.0047	39/64 x 1 5/16	20PS-D47
.003	23/64 x 45/64	6PS-D30	.0033	23/64 x 29/32	10PS-D33	.0056	21/32 x 1 5/16	20PS-D56
.0033	23/64 x 45/64	6PS-D33	.004	13/32 x 29/32	10PS-D40	.0068	21/32 x 1 5/16	20PS-D68
.0039	25/64 x 45/64	6PS-D39	.0047	13/32 x 29/32	10PS-D47	.0082	45/64 x 1 5/16	20PS-D82
800 WVDC			.005	13/32 x 29/32	10PS-D50	.027	61/64 x 1 45/64	20PS-S27
.005	13/32 x 29/32	10PS-D50	.0068	7/16 x 29/32	10PS-D68			
.0068	7/16 x 29/32	10PS-D68	.01	31/64 x 29/32	10PS-S10			

SPRAGUE CAPACITORS

TYPE 225P FILMITE® 'E' ORANGE DROP® CAPACITORS

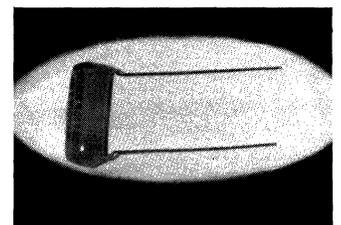


- Designed specifically for printed wiring board applications and are furnished with radial leads to facilitate insertion on boards.
 - find wide application in television receivers, radio sets, and commercial electronic equipment.
 - Designed for operation at temperatures to 85 C.
 - Capacitor sections are wound from polyester film and thin-gage foil under carefully controlled atmospheric conditions.
 - Protected against moisture by a wax-free conformal coating of epoxy.
 - Capacitance tolerance, $\pm 10\%$.
 - For complete technical data, refer to latest issue of Sprague Engineering Bulletin 2062.
- May be operated to 125 C with voltage derating.

μF	H. x T. x L.	Cat. No.	μF	H. x T. x L.	Cat. No.	μF	H. x T. x L.	Cat. No.
100 WVDC						400 WVDC		
.001	5/16 x 13/64 x 45/64	225P10291WD3	.1	17/32 x 21/64 x 45/64	225P10491WD3	.068	41/64 x 5/16 x 13/16	225P68392XD3
.0012	5/16 x 13/64 x 45/64	225P12291WD3	.12	19/32 x 3/8 x 13/16	225P12491XD3	.1	23/32 x 3/8 x 13/16	225P10492XD3
.0015	5/16 x 13/64 x 45/64	225P15291WD3	.15	5/8 x 13/32 x 13/16	225P15491XD3	.15	3/4 x 27/64 x 13/16	225P15492XD3
.0018	5/16 x 13/64 x 45/64	225P18291WD3	.18	11/16 x 7/16 x 13/16	225P18491XD3	.22	25/32 x 15/32 x 13/16	225P22492XD3
.0022	5/16 x 13/64 x 45/64	225P22291WD3	.22	23/32 x 15/32 x 13/16	225P22491XD3	.33	23/32 x 27/64 x 1-3/16	225P33492YD3
.0027	5/16 x 13/64 x 45/64	225P27291WD3	.27	3/4 x 1/2 x 13/16	225P27491XD3	.47	27/32 x 1/2 x 1-3/16	225P47492YD3
.0033	5/16 x 13/64 x 45/64	225P33291WD3	.33	25/32 x 17/32 x 13/16	225P33491XD3	.68	1 9/64 x 27/32 x 1-3/16	225P68492YD3
.0039	5/16 x 13/64 x 45/64	225P39291WD3	.39	13/16 x 9/16 x 13/16	225P39491XD3	200 WVDC		
.0047	5/16 x 13/64 x 45/64	225P47291WD3	.47	7/8 x 5/8 x 13/16	225P47491XD3	.001	9/16 x 15/64 x 13/16	225P10292XD3
.0056	5/16 x 13/64 x 45/64	225P56291WD3	.56	57/64 x 9/16 x 1 3/16	225P56491YD3	.0015	9/16 x 15/64 x 13/16	225P15292XD3
.0068	5/16 x 13/64 x 45/64	225P68291WD3	.68	29/32 x 19/32 x 1 3/16	225P68491YD3	.0022	9/16 x 15/64 x 13/16	225P22292XD3
.0082	5/16 x 13/64 x 45/64	225P82291WD3	.82	61/64 x 21/32 x 1 3/16	225P82491YD3	.0033	9/16 x 15/64 x 13/16	225P33292XD3
.01	5/16 x 13/64 x 45/64	225P10391WD3	1.0	63/64 x 47/64 x 1 3/16	225P10591YD3	.0047	9/16 x 15/64 x 13/16	225P47292XD3
.012	5/16 x 13/64 x 45/64	225P12391WD3				.0068	19/32 x 1/4 x 13/16	225P68292XD3
.015	5/16 x 13/64 x 45/64	225P15391WD3				.01	19/32 x 1/4 x 13/16	225P10392XD3
.018	5/16 x 13/64 x 45/64	225P18391WD3				.015	19/32 x 9/32 x 13/16	225P15394XD3
.022	5/16 x 13/64 x 45/64	225P22391WD3				.022	19/32 x 5/16 x 13/16	225P22394XD3
.027	21/64 x 15/64 x 45/64	225P27391WD3				.033	21/32 x 11/32 x 13/16	225P33394XD3
.033	21/64 x 15/64 x 45/64	225P33391WD3				.047	21/32 x 27/64 x 13/16	225P47394XD3
.039	11/32 x 1/4 x 45/64	225P39391WD3				.068	13/16 x 31/64 x 13/16	225P68394XD3
.047	11/32 x 1/4 x 45/64	225P47391WD3				.1	27/32 x 17/32 x 13/16	225P10494XD3
.056	3/8 x 9/32 x 45/64	225P56391WD3				.15	13/16 x 31/64 x 1-3/16	225P15494YD3
.068	3/8 x 9/32 x 45/64	225P68391WD3				.22	57/64 x 9/16 x 1-3/16	225P22494YD3
.082	17/32 x 21/64 x 45/64	225P82391WD3				.33	1 x 47/64 x 1-3/16	225P33494YD3
						.47	1 9/64 x 27/32 x 1-3/16	225P47494YD3

TYPE 418P ORANGE DROP® FILMITE® 'E' CAPACITORS

- Widely used in TV, radio, and allied commercial equipment.
- Combine excellent electrical characteristics, compactness, and low cost.
- "Hockeystick" crimped radial-lead design for easy insertion on printed wiring boards.
- Wound with polyester film and thin gage foil under carefully controlled atmospheric conditions.
- Protected against moisture by wax-free conformal coating of epoxy.
- Designed for operation at temperatures to 85 C.
- May be operated to 125 C with voltage derating.
- Capacitance tolerance, $\pm 10\%$.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 2062.



μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.	μF	D. x L.	Cat. No.
100 WVDC						200 WVDC		
.033	.350 x .700	418P33391JD3	.33	.500 x 1.200	418P33491LD3	.039	.380 x .900	418P39392KD3
.039	.350 x .700	418P39391JD3	.39	.500 x 1.600	418P39491MD3	.047	.380 x .900	418P47392KD3
.047	.350 x .700	418P47391JD3	.47	.500 x 1.600	418P47491MD3	.056	.380 x 1.200	418P56392LD3
.056	.380 x .700	418P56391JD3	.56	.600 x 1.600	418P56491MD3	.068	.380 x 1.200	418P68392LD3
.068	.380 x .700	418P68391JD3	.68	.600 x 1.600	418P68491MD3	.082	.400 x 1.200	418P82392LD3
.082	.400 x .900	418P82391KD3	.82	.700 x 1.600	418P82491MD3	.10	.400 x 1.200	418P10492LD3
.10	.400 x .900	418P10491KD3	1.0	.700 x 1.600	418P10591MD3	.12	.450 x 1.200	418P12492LD3
.12	.450 x .900	418P12491KD3	400 WVDC			.15	.450 x 1.200	418P15492LD3
.15	.450 x .900	418P15491KD3	.018	.330 x .700	418P18392JD3	.18	.500 x 1.200	418P18492LD3
.18	.450 x 1.200	418P18491LD3	.022	.330 x .700	418P22392JD3	.22	.500 x 1.200	418P22492LD3
.22	.450 x 1.200	418P22491LD3	.027	.380 x .700	418P27392JD3	.27	.470 x 1.600	418P27492MD3
.27	.470 x 1.200	418P27491LD3	.033	.380 x .900	418P33392KD3	.33	.470 x 1.600	418P33492MD3
						.39	.550 x 1.600	418P39492MD3

SPRAGUE CAPACITORS

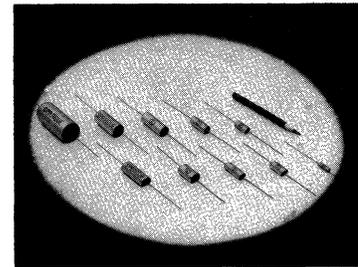
TYPE 418P ORANGE DROP CAPACITORS, continued

μ F	D. x L.	Cat. No.	μ F	D. x L.	Cat. No.	μ F	D. x L.	Cat. No.
.47	.550 x 1.600	418P47492MD3	.18	.600 x 1.600	418P18494MD3	.0068	.400 x .700	418P68296JD3
400 WVDC			.22	.600 x 1.600	418P22494MD3	.0082	.400 x .900	418P82296KD3
.0082	.350 x .700	418P82294JD3	.27	.650 x 1.600	418P27494MD3	.010	.400 x .900	418P10396KD3
.010	.350 x .700	418P10394JD3	.33	.650 x 1.600	418P33494MD3	.012	.400 x .900	418P12396KD3
.012	.380 x .700	418P12394JD3	.39	.720 x 1.600	418P39494MD3	.015	.400 x .900	418P15396KD3
.015	.380 x .700	418P15394JD3	.47	.720 x 1.600	418P47494MD3	.018	.450 x .900	418P18396KD3
.018	.380 x .900	418P18394KD3	600 WVDC			.022	.450 x .900	418P22396KD3
.022	.380 x .900	418P22394KD3	.0010	.300 x .700	418P10296JD3	.027	.450 x 1.200	418P27396LD3
.027	.400 x .900	418P27394KD3	.0012	.330 x .700	418P12296JD3	.033	.450 x 1.200	418P33396LD3
.033	.400 x .900	418P33394KD3	.0015	.330 x .700	418P15296JD3	.039	.550 x 1.200	418P39396LD3
.039	.400 x 1.200	418P39394LD3	.0018	.330 x .700	418P18296JD3	.047	.550 x 1.200	418P47396LD3
.047	.400 x 1.200	418P47394LD3	.0022	.330 x .700	418P22296JD3	.056	.600 x 1.200	418P56396LD3
.056	.450 x 1.200	418P56394LD3	.0027	.350 x .700	418P27296JD3	.068	.600 x 1.200	418P68396LD3
.068	.500 x 1.200	418P68394LD3	.0033	.350 x .700	418P33296JD3	.082	.650 x 1.200	418P82396LD3
.082	.520 x 1.200	418P82394LD3	.0039	.380 x .700	418P39296JD3	.10	.650 x 1.200	418P10496LD3
.10	.520 x 1.200	418P10494LD3	.0047	.380 x .700	418P47296JD3	.12	.700 x 1.600	418P12496MD3
.12	.570 x 1.200	418P12494LD3	.0056	.400 x .700	418P56296JD3	.15	.700 x 1.600	418P15496MD3
.15	.570 x 1.200	418P15494LD3				.18	.800 x 1.600	418P18496MD3
						.22	.800 x 1.600	418P22496MD3

TYPE 431P METFILM® 'E' CAPACITORS

- Unique Construction Gives Definite Space Advantages Over Metal-Encased, Molded, or Wax-Coated Cardboard-Case Tubulars of Comparable Ratings.
- Axial-Lead Polyester-Film Capacitor Section Protected Against Moisture By An Outer Wrap of Polyester-Film Tape.
- An Improved End Seal of a Plastic Resin Which Bonds With the Film Wrap and the Tinned Leads Provides Superior Humidity Resistance.

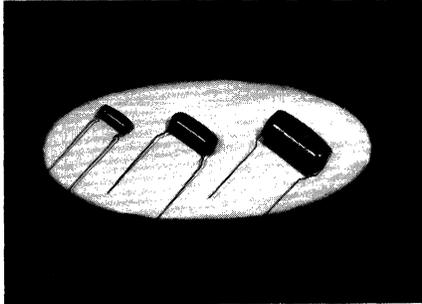
- Because of Their Small Size, These Capacitors Are Particularly Well-Suited For Potting or Encapsulating in Electronic Sub-Assemblies.
- For Complete Technical Data, Refer to The Latest Issue of Sprague Engineering Bulletin 2445.
- Call Your Sprague Industrial Distributor For Current Quantity Prices.



μ F	T. x W. x L.	Cat. No.	μ F	T. x W. x L.	Cat. No.	μ F	T. x W. x L.	Cat. No.
50 WVDC			.15	7/32 x 11/32 x 3/4	431P15492	.15	5/16 x 17/32 x 1	431P15494
.047	3/32 x 3/16 x 5/8	431P4739R5	.22	1/4 x 13/32 x 3/4	431P22492	.22	13/32 x 19/32 x 1	431P22494
.068	1/8 x 7/32 x 5/8	431P6839R5	.33	7/32 x 13/32 x 1	431P33492	.33	11/32 x 9/16 x 1-1/2	431P33494
.10	5/32 x 7/32 x 5/8	431P1049R5	.47	7/32 x 13/32 x 1-1/4	431P47492	.47	3/8 x 9/16 x 1-3/4	431P47494
.15	3/16 x 1/4 x 5/8	431P1549R5	.68	5/16 x 17/32 x 1	431P68492	.68	15/32 x 21/32 x 1-3/4	431P68494
.22	5/32 x 9/32 x 3/4	431P2249R5	1.0	5/16 x 17/32 x 1-1/4	431P10592	1.0	1/2 x 23/32 x 2	431P10594
.33	3/16 x 5/16 x 3/4	431P3349R5	1.5	11/32 x 9/16 x 1-1/2	431P15592	1.5	1/2 x 25/32 x 2-1/2	431P15594
.47	3/16 x 5/16 x 1	431P4749R5	2.0	3/8 x 9/16 x 1-3/4	431P20592	600 WVDC		
.68	3/16 x 3/8 x 1	431P6849R5	2.5	15/32 x 21/32 x 1-1/2	431P25592	.0015	3/32 x 3/16 x 5/8	431P15296
1.0	1/4 x 13/32 x 1	431P1059R5	3.0	15/32 x 21/32 x 1-3/4	431P30592	.0022	1/8 x 3/16 x 5/8	431P22296
1.5	9/32 x 1/2 x 1	431P1559R5	4.0	17/32 x 3/4 x 1-3/4	431P40592	.0033	5/32 x 7/32 x 5/8	431P33296
2.0	3/8 x 9/16 x 1	431P2059R5	5.0	15/32 x 3/4 x 2-1/4	431P50592	.0047	1/8 x 1/4 x 3/4	431P47296
2.5	11/32 x 17/32 x 1-1/4	431P2559R5	6.0	15/32 x 25/32 x 2-1/2	431P60592	.0068	5/32 x 9/32 x 3/4	431P68296
3.0	3/8 x 19/32 x 1-1/4	431P3059R5	7.0	3/4 x 15/16 x 1-3/4	431P70592	.01	3/16 x 5/16 x 3/4	431P10396
4.0	3/8 x 19/32 x 1-1/2	431P4059R5	10.0	23/32 x 1 x 2-1/4	431P10692	.015	3/16 x 3/8 x 3/4	431P15396
5.0	13/32 x 19/32 x 1-3/4	431P5059R5	12.0	23/32 x 1 x 2-1/2	431P12692	.022	1/4 x 13/32 x 3/4	431P22396
6.0	15/32 x 11/16 x 1-1/2	431P6059R5	400 WVDC			.033	7/32 x 3/8 x 1	431P33396
7.0	15/32 x 11/16 x 1-3/4	431P7059R5	.0033	3/32 x 3/16 x 5/8	431P33294	.047	7/32 x 3/8 x 1-1/4	431P47396
10.0	9/16 x 25/32 x 1-3/4	431P1069R5	.0047	1/8 x 3/16 x 5/8	431P47294	.068	5/16 x 1/2 x 1	431P68396
12.0	1/2 x 13/16 x 2-1/4	431P1269R5	.0068	5/32 x 7/32 x 5/8	431P68294	.1	3/8 x 19/32 x 1	431P10496
200 WVDC			.01	3/16 x 1/4 x 5/8	431P10394	.15	3/8 x 19/32 x 1-1/4	431P15496
.015	3/32 x 3/16 x 5/8	431P15392	.015	5/32 x 9/32 x 3/4	431P15394	.22	11/32 x 9/16 x 1-3/4	431P22496
.022	1/8 x 3/16 x 5/8	431P22392	.022	3/16 x 5/16 x 3/4	431P22394	.33	7/16 x 21/32 x 1-3/4	431P33496
.033	1/8 x 7/32 x 5/8	431P33392	.033	7/32 x 11/32 x 3/4	431P33394	.47	9/16 x 3/4 x 1-3/4	431P47496
.047	5/32 x 1/4 x 5/8	431P47392	.047	1/4 x 13/32 x 3/4	431P47394	.68	15/32 x 25/32 x 2-1/2	431P68496
.068	5/32 x 9/32 x 3/4	431P68392	.068	7/32 x 3/8 x 1	431P68394	1.0	3/4 x 31/32 x 2	431P10596
.1	3/16 x 5/16 x 3/4	431P10492	.1	9/32 x 7/16 x 1	431P10494	1.5	3/4 x 1-1/16 x 2-1/2	431P15596

SPRAGUE CAPACITORS

TYPE 715P FILMITE® 'L' ORANGE DROP® DIPPED TUBULARS



- Polypropylene film capacitors similar to polystyrene units with their high a-c current-carrying capability, but have added advantage of operating temperatures to 105 C and extremely low dissipation factor.
- Ideal for applications where high a-c current flow is found, as in certain solid-state TV vertical circuits, r-f generators, and pulse-forming networks.
- Exhibit capacitance change of less than 3% over entire operating temperature range.
- Temperature coefficient is negative and virtually linear at 180 ppm/°C over the temperature range

of +25 C to +105 C, making capacitors suitable for matching with positive TC resistors and inductors to maintain circuit stability.

- Conformally coated with flame-retardant epoxy which also provides protection from humidity and mechanical damage.
- Capacitance tolerance, $\pm 5\%$.
- Furnished with 1.250" long "hockeystick" crimped leads.
- For complete technical data, refer to latest issue of Engineering Bulletin 2090.

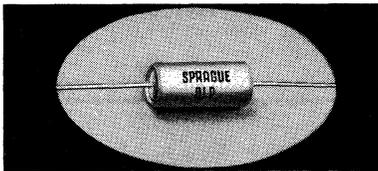
μF	Dia. x Length	Catalog Number	μF	Dia. x Length	Catalog Number
200 WVDC					
.015	.375 x .750	715P15352JD3	.022	.550 x .950	715P22356KD3
.022	.375 x .750	715P22352JD3	.047	.600 x 1.300	715P47356LD3
.033	.425 x .750	715P33352JD3	.068	.650 x 1.300	715P68356LD3
.047	.425 x .950	715P47352KD3	.1	.750 x 1.300	715P10456LD3
.068	.450 x .950	715P68352KD3	.15	.750 x 1.700	715P15456MD3
0.1	.450 x 1.300	715P10452LD3	.22	.850 x 1.700	715P22456MD3
0.15	.550 x 1.300	715P15452LD3	800 WVDC		
0.22	.625 x 1.300	715P22452LD3	.015	.550 x 1.300	715P15358LD3
0.33	.650 x 1.700	715P33452MD3	.022	.600 x 1.300	715P22358LD3
0.47	.750 x 1.700	715P47452MD3	.033	.700 x 1.300	715P33358LD3
400 WVDC					
.01	.400 x .750	715P10354JD3	.068	.800 x 1.700	715P68358MD3
.015	.450 x .750	715P15354JD3	.1	.900 x 1.700	715P10458MD3
.033	.500 x .950	715P33354KD3	1200 WVDC		
.15	.650 x 1.300	715P15454LD3	.015	.650 x 1.300	715P153512LD3
.22	.700 x 1.700	715P22454MD3	.047	.850 x 1.700	715P473512MD3
.33	.800 x 1.700	715P33454MD3	1600 WVDC		
.47	.900 x 1.700	715P47454MD3	.0022	.500 x 1.300	715P222516LD3
600 WVDC					
.001	.400 x .750	715P10256JD3	.0033	.550 x 1.300	715P332516LD3
.0015	.400 x .750	715P15256JD3	.0047	.600 x 1.300	715P472516LD3
.0022	.400 x .750	715P22256JD3	.0068	.650 x 1.300	715P682516LD3
.0033	.400 x .750	715P33256JD3	.01	.700 x 1.300	715P103516LD3
.0047	.450 x .750	715P47256JD3	.015	.750 x 1.700	715P153516MD3
.0068	.450 x .750	715P68256JD3	.022	.850 x 1.700	715P223516MD3
.01	.450 x .950	715P10356KD3	.033	.950 x 1.700	715P333516MD3
.015	.500 x .950	715P15356KD3			

EQUIVALENT VAC RMS RATINGS

Volts D-C	Capacitance Range (μF)	@ 1000 Hz		@ 5000 Hz		@ 10000 Hz		@ 15000 Hz		@ 20000 Hz	
		85°C	105°C	85°C	105°C	85°C	105°C	85°C	105°C	85°C	105°C
200	.015—.068	140	70	140	70	140	50	140	35	100	25
	.1—.47	140	70	140	50	100	25	70	20	50	15
400	.01—.033	250	130	250	100	250	70	220	50	170	45
	.15—.47	250	125	180	50	100	25	70	18	20	13
600	.001—.022	250	190	250	140	250	100	250	65	205	55
	.047—.22	250	180	250	70	150	40	100	25	80	15
800	.015—.033	500	250	500	165	500	115	450	85	405	60
	.068—.10	500	250	400	105	240	65	185	50	140	35
1200	.015—.047	500	390	500	175	400	150	295	75	230	60
	.0022—.01	500	500	500	370	500	215	500	175	490	130
1600	.015—.033	500	500	500	220	500	155	410	110	315	85

SPRAGUE CAPACITORS

VITAMIN Q[®] SUBMINIATURE PAPER CAPACITORS



- Most widely used of all paper capacitors in commercial and military electronic equipment.

- Hermetically sealed in metal cases.
- Electrically and mechanically designed to meet stringent operating requirements.
- Impregnated with Vitamin Q[®], a substantially linear, controlled molecular weight hydrocarbon polymer, exclusive with Sprague.
- Vitamin Q impregnation provides higher insulation resistance, longer life than

ordinary oils used in conventional capacitors.

- Exceed performance requirements of MIL-C-25A.
- Capacitance tolerance, $\pm 10\%$. For $\pm 20\%$ tolerance, change 7th character in cat. no. from 9 to 0.
- For complete data, see latest issue of Engineering Bulletin 2110.

μF	WVDC	D. x L.	Cat. No.*	μF	WVDC	D. x L.	Cat. No.*	μF	WVDC	D. x L.	Cat. No.*
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TYPE 91P, INSERTED TAB CONSTRUCTION, 85°C OPERATION

.001	100 600	.238 x .812 .297 x .812	91P10291S4 91P10296S4	.015	300	.297 x .812	91P15393S4	1.	400 600	.463 x 1.437 .625 x 1.187	91P10494S4 91P10496S4
.0015	100 600	.238 x .812 .297 x .812	91P15291S4 91P15296S4	.022	100 200 600	.258 x .812 .297 x .812 .375 x .937	91P22391S4 91P22392S4 91P22396S4	.22	100 200 300 400 600	.463 x 1.187 .463 x 1.437 .625 x 1.187 .625 x 1.437 .625 x 1.937	91P22491S4 91P22492S4 91P22493S4 91P22494S4 91P22496S4
.0022	600	.297 x .812	91P22296S4	.033	100 400	.297 x .812 .375 x .937	91P33391S4 91P33394S4	.47	100 200 400 600	.463 x 1.437 .625 x 1.437 .733 x 1.937 .812 x 2.187	91P47491S4 91P47492S4 91P47494S4 91P47496S4
.0033	100 600	.238 x .812 .297 x .812	91P33291S4 91P33296S4	.047	300 400 600	.375 x .937 .463 x .937 .463 x 1.187	91P47393S4 91P47394S4 91P47396S4	.068	200 300	.375 x .937 .463 x .937	91P68392S4 91P68393S4
.0047	100 600	.238 x .812 .297 x .812	91P47291S4 91P47296S4	.1	100 200 300	.375 x .937 .463 x .937 .463 x 1.187	91P10491S4 91P10492S4 91P10493S4	1.0	100 200 400	.625 x 1.937 .733 x 1.937 1.062 x 1.937	91P10591S4 91P10592S4 91P10594S4
.0068	600	.297 x .812	91P68296S4								
.01	100 400 600	.238 x .812 .297 x .812 .375 x .937	91P10391S4 91P10394S4 91P10396S4								

TYPE 96P, INSERTED TAB CONSTRUCTION, 125°C OPERATION

.001	100 600	.238 x .812 .297 x .812	96P10291S4 96P10296S4	.015	300	.297 x .812	96P15393S4	.1	600 1000	.625 x 1.187 .625 x 1.687	96P10496S4 96P104910S4
.0015	100 600	.238 x .812 .297 x .812	96P15291S4 96P15296S4	.022	100 200 600	.258 x .812 .297 x .812 .375 x .937	96P22391S4 96P22392S4 96P22396S4	.22	100 200 300 400 600	.463 x 1.187 .463 x 1.437 .625 x 1.187 .625 x 1.437 .625 x 1.937	96P22491S4 96P22492S4 96P22493S4 96P22494S4 96P22496S4
.0022	600	.297 x .812	96P22296S4	.033	100 400	.297 x .812 .375 x .937	96P33391S4 96P33394S4	.47	100 200 400 600	.625 x 1.187 .625 x 1.437 .733 x 1.937 .812 x 2.187	96P47491S4 96P47492S4 96P47494S4 96P47496S4
.0033	100 600	.238 x .812 .297 x .812	96P33291S4 96P33296S4	.047	300 400 600	.375 x .937 .463 x .937 .463 x 1.187	96P47393S4 96P47394S4 96P47396S4	.068	200 300	.375 x .937 .463 x .937	96P68392S4 96P68393S4
.0047	100 600	.238 x .812 .297 x .812	96P47291S4 96P47296S4	.1	100 200 300 400	.375 x .937 .463 x .937 .463 x 1.187 .463 x 1.437	96P10491S4 96P10492S4 96P10493S4 96P10494S4	1.0	100 200 400	.625 x 1.937 .733 x 1.937 1.062 x 1.937	96P10591S4 96P10592S4 96P10594S4
.0068	600	.297 x .812	96P68296S4								
.01	100 400 600	.238 x .812 .297 x .812 .375 x .937	96P10391S4 96P10394S4 96P10396S4								

TYPE 191P, EXTENDED FOIL CONSTRUCTION, 85°C OPERATION

.001	600	.297 x .812	191P10296S4	.047	100 300	.375 x .937 .463 x .937	191P47391S4 191P47393S4	.22	100 200 400 600	.463 x 1.437 .625 x 1.187 .625 x 1.687 .733 x 1.687	191P22491S4 191P22492S4 191P22494S4 191P22496S4
.0022	600	.297 x .812	191P22296S4					.33	100	.625 x 1.187	191P33491S4
.0047	100 300	.238 x .812 .297 x .812	191P47291S4 191P47293S4	.068	200	.463 x .937	191P68392S4	.47	100 200 400 600	.625 x 1.437 .625 x 1.687 .812 x 2.187 .812 x 2.437	191P47491S4 191P47492S4 191P47494S4 191P47496S4
.01	100 600	.297 x .812 .375 x .937	191P10391S4 191P10396S4	.1	100 200 300 400 600	.463 x .937 .463 x 1.187 .463 x 1.437 .625 x 1.187 .625 x 1.437	191P10491S4 191P10492S4 191P10493S4 191P10494S4 191P10496S4	.68	100	.625 x 1.687	191P68491S4
.015	100 400	.297 x .812 .375 x .937	191P15391S4 191P15394S4	.15	200 400	.463 x 1.437 .625 x 1.437	191P15492S4 191P15494S4	1.0	100 200	.733 x 1.687 .812 x 2.187	191P10591S4 191P10592S4
.022	300 600	.375 x .937 .463 x .937	191P22393S4 191P22396S4								
.033	200 600	.375 x .937 .463 x 1.187	191P33392S4 191P33396S4								

*Capacitors shown have plastic insulating sleeve. For bare metal case, change last digit in cat. no. from 4 to 2 and subtract .0625" from diameter and length.

SPRAGUE CAPACITORS

VITAMIN Q® SUBMINIATURE PAPER CAPACITORS, continued

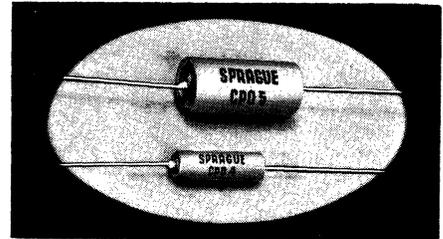
TYPE 196P, EXTENDED FOIL CONSTRUCTION, 125°C OPERATION

μF	WVDC	D. x L.	Cat. No.*	μF	WVDC	D. x L.	Cat. No.*	μF	WVDC	D. x L.	Cat. No.*
.001	600	.297 x .812	196P10296S4	.039	100	.375 x .937	196P39391S4	.22	100	.463 x 1.437	196P22491S4
.0022	600	.297 x .812	196P22296S4	.047	100	.375 x .937	196P47391S4	200	200	.625 x 1.187	196P22492S4
.0047	100	.238 x .812	196P47291S4	300	300	.463 x .937	196P47393S4	400	400	.625 x 1.687	196P22494S4
	300	.297 x .812	196P47293S4	400	400	.463 x 1.187	196P47394S4	600	600	.733 x 1.687	196P22496S4
.01	100	.297 x .812	196P10391S4	600	600	.463 x 1.437	196P47396S4	1000	1000	.812 x 2.187	196P224910S4
	600	.375 x .937	196P10396S4	.056	200	.463 x .937	196P56392S4	.33	100	.625 x 1.187	196P33491S4
	1000	.463 x .937	196P103910S4	.068	200	.463 x .937	196P68392S4	.47	100	.625 x 1.487	196P47491S4
.015	100	.297 x .812	196P15391S4	.1	100	.463 x .937	196P10491S4	200	200	.625 x 1.687	196P47492S4
	400	.375 x .937	196P15394S4	200	200	.463 x 1.187	196P10492S4	400	400	.812 x 2.187	196P47494S4
.022	300	.375 x .937	196P22393S4	300	300	.463 x 1.437	196P10493S4	600	600	.812 x 2.437	196P47496S4
	600	.463 x .937	196P22396S4	400	400	.625 x 1.187	196P10494S4	1000	1000	1.062 x 2.437	196P474910S4
.027	200	.375 x .937	196P27392S4	600	600	.625 x 1.437	196P10496S4	.68	100	.625 x 1.687	196P68491S4
.033	200	.375 x .937	196P33392S4	1000	1000	.733 x 1.687	196P104910S4	1.0	100	.733 x 1.687	196P10591S4
	600	.463 x 1.187	196P33396S4	.15	200	.463 x 1.437	196P15492S4	200	200	.812 x 2.187	196P10592S4
				400	400	.625 x 1.437	196P15494S4				

*Capacitors shown have plastic insulating sleeve. For bare metal case, change last digit in cat. no. from 4 to 2 and subtract .0625" from diameter and length.

TYPE CP04, CP05 CAPACITORS TO MIL-C-25C

- Impregnation with Vitamin Q assures capacitors exceed MIL-C-25 C performance requirements.
- Inserted tab construction for applications where minimum size is needed.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP04 has plain metal case.
- Type CP05 has insulating sleeve.
- Available in Characteristic K (-55 C to +125 C). ±10% Capacitance Tolerance.
- Only popular insulated section (ungrounded case) capacitors are listed. For grounded case units, consult your Sprague Distributor.
- Call your Sprague Industrial Distributor for Quantity Prices.



μF	WVDC	D. x L.	Cat. No.★†	μF	WVDC	D. x L.	Cat. No.★†
.001	600	.235 x 3/4	CP04A1KF102K3	.068	200	.312 x 7/8	CP04A1KC683K3
.0015	600	.235 x 3/4	CP04A1KF152K3	.1	100	.312 x 7/8	CP04A1KB104K3
.0022	600	.235 x 3/4	CP04A1KF222K3	200	200	.400 x 7/8	CP04A1KC104K3
.0033	600	.235 x 3/4	CP04A1KF332K3	400	400	.400 x 1 1/8	CP04A1KE104K3
.0047	600	.235 x 3/4	CP04A1KF472K3	600	600	.562 x 1 1/8	CP04A1KF104K3
.0068	600	.235 x 3/4	CP04A1KF682K3	1000	1000	.562 x 1 1/8	CP04A1KG104K3
.01	400	.235 x 3/4	CP04A1KE103K3	.22	100	.400 x 1 1/8	CP04A1KB224K3
	600	.312 x 7/8	CP04A1KF103K3	200	200	.400 x 1 3/8	CP04A1KC224K3
.022	200	.235 x 3/4	CP04A1KC223K3	400	400	.562 x 1 3/8	CP04A1KE224K3
	600	.312 x 7/8	CP04A1KF223K3	600	600	.562 x 1 7/8	CP04A1KF224K3
.033	100	.235 x 3/4	CP04A1KB333K3	.47	100	.562 x 1 1/8	CP04A1KB474K3
	400	.312 x 7/8	CP04A1KE333K3	200	200	.562 x 1 3/8	CP04A1KC474K3
.047	400	.400 x 7/8	CP04A1KE473K3	400	400	.670 x 1 7/8	CP04A1KE474K3
	600	.400 x 1 1/8	CP04A1KF473K3	600	600	.750 x 2 1/8	CP04A1KF474K3
				1.0	100	.562 x 1 7/8	CP04A1KB105K3
				200	200	.670 x 1 7/8	CP04A1KC105K3
				400	400	1.000 x 1 7/8	CP04A1KE105K3

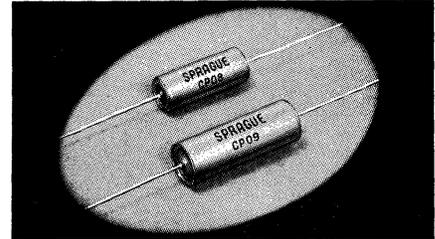
★Capacitors shown have bare metal case. For plastic insulating sleeve, change 4th digit in Cat. No. from 4 to 5 and add .063" to diam. and 1/16" to length.

†For Vibration Grade 1, change last digit of Cat. No. to 1.

SPRAGUE CAPACITORS

TYPE CP08, CP09 CAPACITORS TO MIL-C-25C

- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Capacitance Tolerance $\pm 10\%$.
- Characteristic K Temperature Range (-55°C to $+125^{\circ}\text{C}$).
- Type CP08 has plain metal case.
- Type CP09 has insulating sleeve.
- Extended foil (so-called non-inductive section) construction.
- Available with insulated section (ungrounded case) or with grounded case construction.
- Capacitance/voltage range: .01-.22 μF @ 100 WVDC to .01-.22 μF @ 1000 WVDC.



μF	WVDC	D. x L.	Cat. No.*†	Call Your Sprague Industrial Distributor for Current Quantity Prices	μF	WVDC	D. x L.	Cat. No.*†	Call Your Sprague Industrial Distributor for Current Quantity Prices
.001	600	.235 x 3/4	CP08A1KF102K3		.056	200	.400 x 7/8	CP08A1KC563K3	
.0022	600	.235 x 3/4	CP08A1KF222K3	.068	200	.400 x 7/8	CP08A1KC683K3		
.01	100	.235 x 3/4	CP08A1KB103K3	.1	100	.400 x 7/8	CP08A1KB104K3		
	600	.312 x 7/8	CP08A1KF103K3		200	.400 x 1 1/8	CP08A1KC104K3		
.015	1000	.400 x 7/8	CP08A1KG103K3	400	.562 x 1 1/8	CP08A1KE104K3	CP08A1KE104K3		
	400	.235 x 3/4	CP08A1KB153K3	600	.562 x 1 1/8	CP08A1KF104K3	CP08A1KG104K3		
	600	.312 x 7/8	CP08A1KE153K3	1000	.670 x 1 1/8	CP08A1KG104K3			
.022	600	.400 x 7/8	CP08A1KF223K3	.15	200	.400 x 1 1/8	CP08A1KC154K3		
.027	200	.312 x 7/8	CP08A1KC273K3		400	.562 x 1 1/8	CP08A1KE154K3		
.033	200	.312 x 7/8	CP08A1KC333K3	.22	100	.400 x 1 1/8	CP08A1KB224K3		
	600	.400 x 1 1/8	CP08A1KF333K3		200	.562 x 1 1/8	CP08A1KC224K3		
.039	100	.312 x 7/8	CP08A1KB393K3	400	.562 x 1 1/8	CP08A1KE224K3	CP08A1KE224K3		
.047	100	.312 x 7/8	CP08A1KB473K3	600	.670 x 1 1/8	CP08A1KF224K3	CP08A1KG224K3		
	400	.400 x 1 1/8	CP08A1KE473K3	1000	.750 x 2 1/8				
	600	.400 x 1 3/8	CP08A1KF473K3						

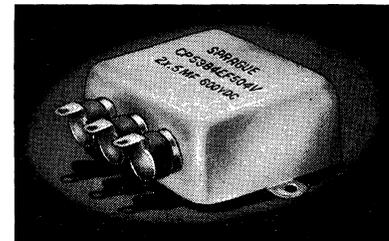
†For Vibration Grade 1, change last digit of Catalog Number to "1."

*Capacitors shown have bare metal case. For plastic insulating sleeve, change 4th digit in Cat. No. from 8 to 9 and add .063" to diam. and 1/16" to length.

TYPE CP53 CAPACITORS TO MIL-C-25

- Impregnated with specially processed mineral oil to exceed performance requirements of MIL-C-25A
- Hermetically sealed, with silicone rubber compression terminals
- Rated for -55°C to $+85^{\circ}\text{C}$ operation
- Drawn metal cases have mounting flanges as integral part of containers
- Single and dual capacitance units have insulated sections—triple capacitance units have grounded cases

Call Your Sprague Industrial Distributor for Current Quantity Prices



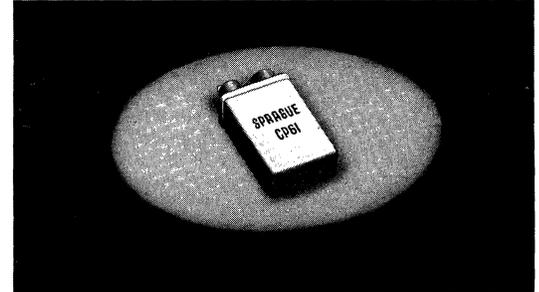
NOTE: Capacitors listed below have capacitance tolerances of $\pm 20\%$, -10% (V) or $\pm 10\%$ (K). For $\pm 20\%$ units, change last letter in catalog number from K to M or V to M.

μF	Volts	L. x W. x H.	Cat. No.	Call Your Sprague Industrial Distributor for Prices	μF	Volts	L. x W. x H.	Cat. No.	Call Your Sprague Industrial Distributor for Prices
Single Capacitance					Dual Capacitance				
.05	1000	1 13/16 x 1 x 3/4	CP53B1EG503K1	.1 + .1	600	1 13/16 x 1 x 3/4	CP53B4EF104V1		
.1	1000	1 13/16 x 1 x 3/4	CP53B1EG104K1	.1 + .1	1000	1 13/16 x 1 x 7/8	CP53B4EG104V1		
.25	600	1 13/16 x 1 x 3/4	CP53B1EF254K1	.25 + .25	600	1 13/16 x 1 x 1	CP53B4EF254V1		
.25	1000	1 13/16 x 1 x 7/8	CP53B1EG254K1	.25 + .25	1000	2 x 1 3/4 x 7/8	CP53B4EG254V1		
.5	600	1 13/16 x 1 x 1	CP53B1EF504K1	.5 + .5	600	2 x 1 3/4 x 1	CP53B4EF504V1		
.5	1000	2 x 1 3/4 x 7/8	CP53B1EG504K1	.5 + .5	1000	2 x 2 x 1 1/8	CP53B4EG504V1		
1.0	600	2 x 1 3/4 x 1	CP53B1EF105K1	1.0 + 1.0	600	2 x 2 x 1 1/8	CP53B4EF105V1		
1.0	1000	2 x 2 x 1 1/8	CP53B1EG105K1	Triple Capacitance					
2.0	200	2 x 2 x 1	CP53B1EC205K1	.1 + .1 + .1	600	1 13/16 x 1 x 7/8	CP53B5EF104V1		
2.0	600	2 x 2 x 1 1/8	CP53B1EF205K1						

SPRAGUE CAPACITORS

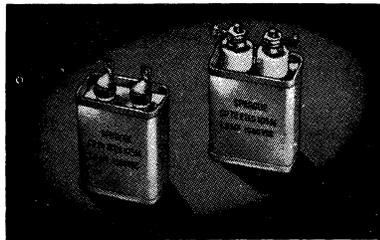
TYPE CP61* CAPACITORS to MIL-C-25 C

- Mineral Oil Impregnated for Minimum Capacitance Change with Temperature
- Hermetically Sealed in Drawn Metal Cases
- Silicone Rubber Compression Terminals for Prevention Against Entrance of Moisture or Leakage of Impregnant
- Designed and Manufactured for Service Life Beyond Specification Requirements
- Units Listed are Most Popular Ratings. Complete Military Line Available from Sprague
- These Units Have Capacitance Tolerance of $\pm 10\%$ (K) or $+20, -10\%$ (V).



μF	WVDC	Cat. No.	Size	Mounting Brackets Cat. No.
TYPE CP61				
.05	600	CP61B1EF503K1	1 5/16 x 11/16 x 1 1/16	CP091SB1
.1-.1	600	CP61B6EF104V1	1 5/16 x 11/16 x 1 3/8	CP091SB2
.25	600	CP61B1EF254K1	1 5/16 x 11/16 x 1 5/8	CP091SB3
.25-.25	600	CP61B6EF254V1	1 5/16 x 11/16 x 1 5/8	CP091SB3
.5-.5	600	CP61B6EF504V1	1 5/16 x 11/16 x 2	CP091SB4

**Call Your Sprague
Industrial Distributor
For Current
Quantity Prices**



TYPE CP72* CAPACITORS to MIL-C-25

- Ruggedly Designed for Heavy-Duty Applications
- Long Life and Reliable Service under High Ambient Temperatures
- Terminals have Ceramic Pillar Insulators (E) or Rubber Compression Seals (B)
- Impregnated with a Specially Processed Mineral Oil to Withstand Severe Operating Conditions
- Char. F Units Designed for Ground Equipment Where Low Temperatures are not Encountered

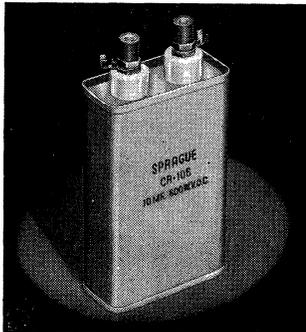
**Call Your Sprague Industrial Distributor
For Current Quantity Prices**

μF	WVDC	Char. E (E Term.) MIL-C-25C Cat. No.	Case Code	Char. F (B Term.) MIL-C-25C Cat. No.	Case Code	Char. E (B Term.) MIL-C-25C Cat. No.	Case Code	Dimensions			
								Code	W.	T.	H.
.25	2000	CP72E1EJ254K1	B1	—	—	—	—	A2	1 13/16	x 1 1/16	x 2 1/4
	1000	CP72E1EG504K1	A2	—	—	—	—				
1.0	600	CP72E1EF105K1	A2	—	—	—	—	A4	1 13/16	x 1 1/16	x 3 1/4
	1000	CP72E1EG105K1	A3	—	—	CP72B1EG105K1	A3				
1.0	2000	CP72E1EJ105K1	B6	—	—	—	—	B1	1 13/16	x 1 1/16	x 4 3/4
	2.0	600	CP72E1EF205K1	A4	—	—	—				
2.0	1000	CP72E1EG205K1	A6	—	—	CP72B1EG205K1	A6	B3	2 1/2	x 1 3/16	x 3 1/2
	4.0	600	CP72E1EF405K1	B4	—	—	—				
4.0	1500	CP72E1EH405K1	D4	CP72B1FF405K1	B3	CP72B1EF405K1	B4	B4	2 1/2	x 1 3/16	x 3 7/8
	6.0	600	CP72E1EF605K1	C2	—	—	—				
6.0	1000	CP72E1EG605K1	D3	—	C4	—	—	C2	3 3/4	x 1 1/4	x 3 7/8
	8.0	600	—	C3	—	—	—				
8.0	1000	CP72E1EG805K1	D5	—	—	—	—	D3	3 3/4	x 1 3/4	x 4
	8.0	1500	—	—	—	—	—				
10.0	600	CP72E1EF106K1	D3	CP72B1FF106K1	C4	CP72B1EF106K1	D3	D4	3 3/4	x 1 3/4	x 4 1/4
	12.0	1000	—	—	—	—	—				

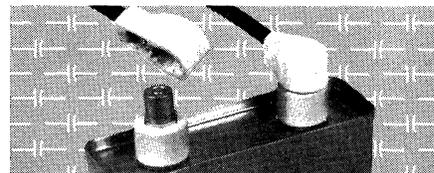
*Available until present stocks are exhausted.

SPRAGUE CAPACITORS

TYPE CR* RECTANGULAR OIL CAPACITORS



- Hermetically sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Widely Used in Transmitter Power Supplies and Other High-Voltage Applications



- Furnished With Adapters (as shown above) to Fit Standard Transmitting Tube Plate Caps

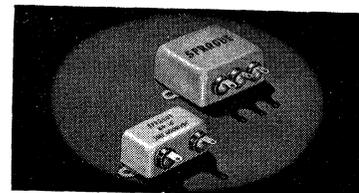
Call your Sprague Industrial Distributor for Current Quantity Prices

μ F	T. x W. x L.	Cat. No.	μ F	T. x W. x L.	Cat. No.	μ F	T. x W. x L.	Cat. No.
600 WVDC			2.0	$1\frac{1}{16} \times 1\frac{13}{16} \times 4\frac{3}{4}$	CR-21	4000 WVDC		
1.0	$1\frac{1}{16} \times 1\frac{13}{16} \times 2\frac{1}{4}$	CR-16	8.0	$1\frac{3}{4} \times 3\frac{3}{4} \times 4\frac{3}{4}$	CR-81	0.5	$2\frac{1}{4} \times 3\frac{3}{4} \times 3\frac{7}{8}$	CR-054
2.0	$1\frac{1}{16} \times 1\frac{13}{16} \times 3\frac{1}{4}$	CR-26	10.0	$2\frac{1}{4} \times 3\frac{3}{4} \times 4\frac{3}{4}$	CR-101	1.0	$2\frac{1}{4} \times 3\frac{3}{4} \times 5\frac{1}{8}$	CR-14
4.0	$1\frac{3}{16} \times 2\frac{1}{2} \times 3\frac{3}{8}$	CR-46	12.0	$2\frac{1}{4} \times 3\frac{3}{4} \times 4\frac{1}{2}$	CR-121	5000 WVDC		
6.0	$1\frac{1}{4} \times 3\frac{3}{4} \times 3\frac{3}{8}$	CR-66	2000 WVDC			0.2	$1\frac{3}{4} \times 3\frac{3}{4} \times 3\frac{3}{8}$	CR-025
10.0	$1\frac{3}{4} \times 3\frac{3}{4} \times 4$	CR-106	0.25	$1\frac{3}{16} \times 2\frac{1}{2} \times 2\frac{1}{2}$	CR-0252	7500 WVDC		
1000 WVDC			3000 WVDC			0.2	$1\frac{3}{4} \times 3\frac{3}{4} \times 4\frac{3}{4}$	CR-0275
0.1	$1\frac{1}{16} \times 1\frac{13}{16} \times 1\frac{5}{8}$	CR-011	4.0	$4\frac{9}{16} \times 3\frac{3}{4} \times 4\frac{3}{4}$	CR-43			
0.25	$1\frac{1}{16} \times 1\frac{13}{16} \times 2\frac{1}{4}$	CR-0251						
0.5	$1\frac{1}{16} \times 1\frac{13}{16} \times 2\frac{1}{4}$	CR-051						
1.0	$1\frac{1}{16} \times 1\frac{13}{16} \times 2\frac{3}{8}$	CR-11						

*Available until present stocks are exhausted.

TYPE BP BATHTUB CAPACITORS

- For Applications Where Severe Operating Conditions Are Found
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-Impregnated for Long, Dependable Service Life
- Convenient Mounting Ears are Integral Part of Metal Container

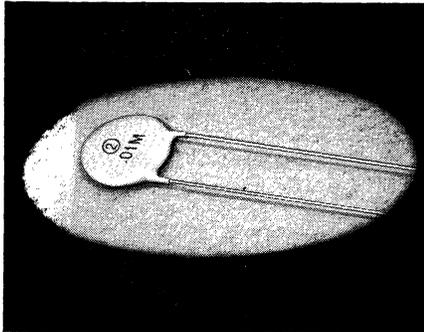


μ F	L. x W. x H.	Cat. No.	μ F	L. x W. x H.	Cat. No.	μ F	L. x W. x H.	Cat. No.
400 WVDC			600 WVDC			1000 WVDC		
0.1	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-1*	0.05	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-56*	0.05	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-51
.1+.1	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-21*	0.25	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-256	0.1	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-11
.25+.25	$1\frac{13}{16} \times 1 \times \frac{7}{8}$	BP-225*	0.5	$1\frac{13}{16} \times 1 \times 1$	BP-506	0.25	$1\frac{13}{16} \times 1 \times \frac{7}{8}$	BP-251
.5+.5	$2 \times 1\frac{1}{4} \times \frac{7}{8}$	BP-250*	1.0	$2 \times 1\frac{1}{4} \times 1$	BP-106	0.5	$2 \times 1\frac{1}{4} \times \frac{7}{8}$	BP-501
.1+.1+.1	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-31*	2.0	$2 \times 2 \times 1\frac{1}{8}$	BP-206	1.0	$2 \times 2 \times 1\frac{1}{8}$	BP-101
			.05+.05	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-2056*	.05+.05	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-2051*
			.1+.1	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-216	.1+.1	$1\frac{13}{16} \times 1 \times \frac{3}{4}$	BP-211
			.25+.25	$1\frac{13}{16} \times 1 \times 1$	BP-2256	.25+.25	$2 \times 1\frac{3}{4} \times \frac{3}{4}$	BP-2251
			.5+.5	$2 \times 1\frac{1}{4} \times 1$	BP-2506	.5+.5	$2 \times 2 \times 1\frac{1}{8}$	BP-2501
			1.0+1.0	$2 \times 2 \times 1\frac{1}{8}$	BP-116	.25+.25+.25	$2 \times 2 \times 1\frac{1}{8}$	BP-3251*
			.1+.1+.1	$1\frac{13}{16} \times 1 \times \frac{7}{8}$	BP-316			
			.25+.25+.25	$2 \times 1\frac{1}{4} \times \frac{7}{8}$	BP-3256*			

*Available until present stocks are exhausted.

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS



- Tiny, Tough, Dependable In Every Application
- Low Self-Inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85C (185F) Continuous Operation

Call your Sprague Industrial Distributor for Current Quantity Prices

GENERAL APPLICATION TYPES

- For Use in All Applications Where Temperature Coefficient of Capacitance Need Not be Specified
- Available in Voltage Ratings from 500 Working Volts D-C to 7500 Working Volts D-C

pF	Size D. x T	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.
1000 WVDC (CAP. TOL., ±20%)											
5.0	.290 x .156	561C00HBA102AE5R0M	5GA-V50	.0012	.290 x .156	562CZ5UBA102AE122M	5GA-D12	20	.360 x .280	564CP3KAA302AE200M	30GA-Q20
6.8	.290 x .156	561C00HBA102AE6R8M	5GA-V68	.0015	.290 x .156	562CZ5UBA102AE152M	5GA-D15	22	.360 x .280	564CR3LAA302AE220M	30GA-Q22
7.5	.290 x .156	561C00HBA102AE7R5M	5GA-V75	.0018	.290 x .156	562CZ5UBA102AE182M	5GA-D18	25	.360 x .280	564CR3LAA302AE250M	30GA-Q25
8.2	.290 x .156	561C00HBA102AE8R2M	5GA-V82	.002	.290 x .156	562CZ5UBA102AE202M	5GA-D20	27	.360 x .280	564CR3LAA302AE270M	30GA-Q27
10	.290 x .156	561C00GBA102AE100M	5GA-Q10	.0022	.290 x .156	562CZ5UBA102AE222M	5GA-D22	30	.360 x .280	564CR3LAA302AE300M	30GA-Q30
12	.290 x .156	561C00GBA102AE120M	5GA-Q12	.0025	.350 x .156	562CZ5UBA102AF252M	5GA-D25	33	.360 x .280	564CR3LAA302AE330M	30GA-Q33
15	.290 x .156	561CR2GBA102AE150M	5GA-Q15	.0027	.350 x .156	562CZ5UBA102AF272M	5GA-D27	39	.360 x .280	564CX5EAA302AE390M	30GA-Q39
18	.290 x .156	561CS2HBA102AE180M	5GA-Q18	.003	.350 x .156	562CZ5UBA102AF302M	5GA-D30	47	.360 x .280	564CX5EAA302AE470M	30GA-Q47
20	.290 x .156	561CT2HBA102AE200M	5GA-Q20	.0033	.350 x .156	562CZ5UBA102AF332M	5GA-D33	50	.360 x .280	564CX5EAA302AE500M	30GA-Q50
22	.290 x .156	561CU2JBA102AE220M	5GA-Q22	.0039	.350 x .156	562CZ5UBA102AF392M	5GA-D39	56	.360 x .280	564CX5EAA302AE560M	30GA-Q56
25	.290 x .156	561CU2JBA102AE250M	5GA-Q25	.004	.410 x .156	562CZ5UBA102AG402M	5GA-D40	60	.360 x .280	564CX5EAA302AE600M	30GA-Q60
27	.290 x .156	561CU2JBA102AE270M	5GA-Q27	.0047	.410 x .156	562CZ5UBA102AG472M	5GA-D47	62	.360 x .280	564CX5EAA302AE620M	30GA-Q62
30	.290 x .156	561CU2JBA102AE300M	5GA-Q30	.005	.410 x .156	562CZ5UBA102AG502M	5GA-D50	68	.360 x .280	564CX5EAA302AE680M	30GA-Q68
33	.290 x .156	561CU2JBA102AE330M	5GA-Q33	.0068	.480 x .156	562CZ5UBA102AH682M	5GA-D68	75	.360 x .280	564CX5EAA302AE750M	30GA-Q75
39	.290 x .156	561CU2JBA102AE390M	5GA-Q39	.0082	.480 x .156	562CZ5UAA102AH822M	5GA-D82	82	.360 x .280	564CX5EAA302AE820M	30GA-Q82
47	.290 x .156	561CR3LBA102AE470M	5GA-Q47	.01	.560 x .156	562CZ5UAA102AJ103M	5GA-S10	100	.360 x .280	564CX5EAA302AE101M	30GA-T10
50	.290 x .156	561CR3LBA102AE500M	5GA-Q50	.015	.670 x .156	562CZ5UAA102AL153M	5GA-S15	120	.360 x .280	564CX5DAA302AE121M	30GA-T12
56	.290 x .156	561CR3LBA102AE560M	5GA-Q56	.02	.740 x .156	562CZ5UAA102AM203M	5GA-S20	150	.360 x .280	564CX5DAA302AE151M	30GA-T15
68	.290 x .156	561CR3LBA102AE680M	5GA-Q68	500 WVDC (CAP. TOL., ±20%)							
75	.290 x .156	561CR3LBA102AE750M	5GA-Q75	.01μF	.410 x .156	562CZ5UBA501AG103M	5GAS-S10	180	.360 x .280	564CX5DAA302AE181M	30GA-T18
82	.250 x .156	562CX5EBA102AC820M	5GA-Q82	.02	.560 x .156	562CZ5UAA501AJ203M	5GAS-S20	200	.360 x .280	564CX5DAA302AE201M	30GA-T20
100	.250 x .156	562CX5EBA102AC101M	5GA-T10	.025	.610 x .156	562CZ5UAA501AK253M	5GA-S25	220	.360 x .280	564CX5FAA302AE221M	30GA-T22
120	.250 x .156	562CX5EBA102AC121M	5GA-T12	.04	.870 x .156	562CZ5UAA501AP403M	5GA-S40	250	.360 x .280	564CX5FAA302AE251M	30GA-T25
150	.250 x .156	562CX5EBA102AC151M	5GA-T15	.05	.870 x .156	562CZ5UAA501AP503M	5GA-S50	270	.360 x .280	564CX5FAA302AE271M	30GA-T27
180	.290 x .156	562CX5EBA102AE181M	5GA-T18	.1	.900 x .187	562CZ5UBA501AY104M	5GA-P10	300	.360 x .280	564CX5FAA302AE301M	30GA-T30
200	.290 x .156	562CX5EBA102AE201M	5GA-T20	3000 WVDC (CAP. TOL., ±20%)							
220	.290 x .156	562CX5EBA102AE221M	5GA-T22	1.5	.360 x .280	564C00HAA302AE1R5M	30GA-V15	330	.360 x .280	564CX5PAA302AE331M	30GA-T33
250	.290 x .156	562CX5EBA102AE251M	5GA-T25	3.3	.360 x .280	564C00HAA302AE3R3M	30GA-V33	390	.360 x .280	564CX5RAA302AE391M	30GA-T39
270	.290 x .156	562CX5DBA102AE271M	5GA-T27	4.7	.360 x .280	564CS1HAA302AE4R7M	30GA-V47	400	.360 x .280	564CX5RAA302AE401M	30GA-T40
300	.290 x .156	562CX5DBA102AE301M	5GA-T30	5.0	.360 x .280	564CS1HAA302AE5R0M	30GA-V50	470	.360 x .280	564CX5SAA302AE471M	30GA-T47
330	.290 x .156	562CX5DBA102AE331M	5GA-T33	6.0	.360 x .280	564CU1HAA302AE6R0M	30GA-V60	500	.360 x .280	564CZ5UAA302AE501M	30GA-T50
360	.290 x .156	562CX5DBA102AE361M	5GA-T36	6.8	.360 x .280	564CR2HAA302AE6R8M	30GA-V68	560	.360 x .280	564CZ5UAA302AE561M	30GA-T56
390	.290 x .156	562CX5DBA102AE391M	5GA-T39	7.5	.360 x .280	564CS2HAA302AE7R5M	30GA-V75	680	.360 x .280	564CZ5UAA302AE681M	30GA-T68
470	.290 x .156	562CX5DBA102AE471M	5GA-T47	8.2	.360 x .280	564CT1HAA302AE8R2M	30GA-V82	750	.360 x .280	564CZ5UAA302AE751M	30GA-T75
500	.290 x .156	562CX5DBA102AE501M	5GA-T50	10	.360 x .280	564CT2JAA302AE100M	30GA-Q10	820	.400 x .280	564CZ5UAA302AF821M	30GA-T82
560	.290 x .156	562CX5DBA102AE561M	5GA-T56	12	.360 x .280	564CU2JAA302AE120M	30GA-Q12	.001μF	.400 x .280	564CZ5UAA302AF102M	30GA-D10
680	.290 x .156	562CX5FBA102AE681M	5GA-T68	15	.360 x .280	564CP3KAA302AE150M	30GA-Q15	.0012	.400 x .280	564CZ5UAA302AF122M	30GA-D12
750	.290 x .156	562CX5FBA102AE751M	5GA-T75	18	.360 x .280	564CP3KAA302AE180M	30GA-Q18	.0015	.400 x .280	564CZ5UAA302AF152M	30GA-D15
800	.290 x .156	562CX5FBA102AE801M	5GA-T80	10	.460 x .280	564CT2JAA302AG202M	30GA-D20	.002	.460 x .280	564CZ5UAA302AG222M	30GA-D22
820	.290 x .156	562CX5FBA102AE821M	5GA-T82	12	.460 x .280	564CZ5UAA302AG222M	30GA-D22				

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

3000 WVDC (cont.)				7500 WVDC (CAP. TOL., ±20%)				100			
pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.
.0025	.530 x .280	564CZ5UAA302AH252M	30GA-D25	4.7	.620 x .380	564CR3LAA752AJ4R7M	75GA-V47	220	.620 x .380	564CX5PAA752AJ221M	75GA-T22
.0027	.530 x .280	564CZ5UAA302AH272M	30GA-D27	8.2	.620 x .380	564CR3LAA752AJ8R2M	75GA-V82	470	.620 x .380	564CX5RAA752AJ471M	75GA-T47
.003	.530 x .280	564CZ5UAA302AH302M	30GA-D30	10	.620 x .380	564CR3LAA752AJ100M	75GA-Q10	500	.620 x .380	564CX5RAA752AJ501M	75GA-T50
.0033	.620 x .280	564CZ5UAA302AJ332M	30GA-D33	12	.620 x .380	564CR3LAA752AJ120M	75GA-Q12	560	.620 x .380	564CX5RAA752AJ561M	75GA-T56
.0039	.620 x .280	564CZ5UAA302AJ392M	30GA-D39	15	.620 x .380	564CR3LAA752AJ150M	75GA-Q15	680	.620 x .380	564CX5RAA752AJ681M	75GA-T68
.004	.620 x .280	564CZ5UAA302AJ402M	30GA-D40	18	.620 x .380	564CR3LAA752AJ180M	75GA-Q18	750	.620 x .380	564CX5RAA752AJ751M	75GA-T75
.0047	.690 x .280	564CZ5UAA302AK472M	30GA-D47	20	.620 x .380	564CR3LAA752AJ200M	75GA-Q20	820	.620 x .380	564CX5RAA752AJ821M	75GA-T82
.005	.690 x .280	564CZ5UAA302AK502M	30GA-D50	22	.620 x .380	564CX5EAA752AJ220M	75GA-Q22	.001	.680 x .380	564CX5SAA752AK102M	75GA-D10
.006	.720 x .280	564CZ5UAA302AL602M	30GA-D60	30	.620 x .380	564CX5EAA752AJ300M	75GA-Q30	.0012	.720 x .380	564CX5SAA752AL122M	75GA-D12
.0068	.720 x .280	564CZ5UAA302AL682M	30GA-D68	33	.620 x .380	564CX5EAA752AJ330M	75GA-Q33	.0015	.930 x .380	564CX5SAA752AP152M	75GA-D15
.008	.790 x .280	564CZ5UAA302AM802M	30GA-D80	47	.620 x .380	564CX5EAA752AJ470M	75GA-Q47	.0018	.930 x .380	564CX5SAA752AP182M	75GA-D18
.0082	.790 x .280	564CZ5UAA302AM822M	30GA-D82	56	.620 x .380	564CX5EAA752AJ560M	75GA-Q56	.002	.930 x .380	564CX5SAA752AP202M	75GA-D20
.01	.930 x .280	564CZ5UAA302AP103M	30GA-S10					.0022	.930 x .380	564CX5SAA752AP222M	75GA-D22
								.0025	.930 x .380	564CX5SAA752AP252M	75GA-D25

6000 WVDC (CAP. TOL., ±20%)

1.5	.620 x .380	564CC0KAA602AJ1R5M	60GA-V15
4.7	.620 x .380	564CC0HAA602AJ4R7M	60GA-V47
6.8	.620 x .380	564CC0HAA602AJ6R8M	60GA-V68
8.2	.620 x .380	564CU2JAA602AJ8R2M	60GA-V82
10	.620 x .380	564CC0GAA602AJ100M	60GA-Q10
12	.620 x .380	564CC0GAA602AJ120M	60GA-Q12
15	.620 x .380	564CT2GAA602AJ150M	60GA-Q15
18	.620 x .380	564CU2JAA602AJ180M	60GA-Q18
20	.620 x .380	564CT2GAA602AJ200M	60GA-Q20
22	.620 x .380	564CU2JAA602AJ220M	60GA-Q22
25	.620 x .380	564CU2JAA602AJ250M	60GA-Q25
27	.620 x .380	564CP3KAA602AJ270M	60GA-Q27
30	.620 x .380	564CU2JAA602AJ300M	60GA-Q30
33	.620 x .380	564CP3KAA602AJ330M	60GA-Q33
39	.620 x .380	564CP3KAA602AJ390M	60GA-Q39
47	.620 x .380	564CR3LAA602AJ470M	60GA-Q47
50	.620 x .380	564CR3LAA602AJ500M	60GA-Q50
56	.620 x .380	564CR3LAA602AJ560M	60GA-Q56
60	.620 x .380	564CR3LAA602AJ600M	60GA-Q60
68	.620 x .380	564CR3LAA602AJ680M	60GA-Q68
75	.620 x .380	564CX5EAA602AJ750M	60GA-Q75
82	.620 x .380	564CX5EAA602AJ820M	60GA-Q82
100	.620 x .380	564CX5EAA602AJ101M	60GA-T10
120	.620 x .380	564CX5EAA602AJ121M	60GA-T12
150	.620 x .380	564CX5EAA602AJ151M	60GA-T15
180	.620 x .380	564CX5EAA602AJ181M	60GA-T18
200	.620 x .380	564CX5EAA602AJ201M	60GA-T20
220	.620 x .380	564CX5EAA602AJ221M	60GA-T22
250	.620 x .380	564CX5EAA602AJ251M	60GA-T25
270	.620 x .380	564CX5DAA602AJ271M	60GA-T27
300	.620 x .380	564CX5DAA602AJ301M	60GA-T30
330	.620 x .380	564CX5DAA602AJ331M	60GA-T33
390	.620 x .380	564CX5DAA602AJ391M	60GA-T39
400	.620 x .380	564CX5DAA602AJ401M	60GA-T40
470	.620 x .380	564CX5FAA602AJ471M	60GA-T47
500	.620 x .380	564CX5FAA602AJ501M	60GA-T50
560	.620 x .380	564CX5FAA602AJ561M	60GA-T56
680	.620 x .380	564CX5FAA602AJ681M	60GA-T68
750	.620 x .380	564CX5FAA602AJ751M	60GA-T75
820	.620 x .380	564CX5FAA602AJ821M	60GA-T82

HIGH-K TYPES

- Designed for By-Pass and Coupling Applications Where Additional Capacitance Will Not Affect Circuit Operation
- Smallest Physical Size
- EIA Designation Z5U or better
- 5HKS-S10 thru 5HK-P10, 500 WVDC, Capacitance Tolerance: +80 -20%
- All Other 5HK are 1000 WVDC, Capacitance Tolerance: GMV

SINGLE UNITS				SINGLE UNITS, (cont.)			
μF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	μF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.
.001	.290 x .156	562CZ5UBA102AE102P	5HK-D10	.02	.560 x .156	562CZ5UAA501AJ203Z	5HK-S20
.0015	.290 x .156	562CZ5UBA102AE152P	5HK-D15	.025	.610 x .156	562CZ5UAA501AK253Z	5HK-S25
.002	.350 x .156	562CZ5UBA102AF202P	5HK-D20	.04	.640 x .187	562CZ5UBA501AU403Z	5HK-S40
.0022	.350 x .156	562CZ5UBA102AF222P	5HK-D22	.05	.700 x .187	562CZ5UBA501AW503Z	5HK-S50
.0033	.410 x .156	562CZ5UBA102AG332P	5HK-D33	.1	.900 x .187	562CZ5UBA501AY104Z	5HK-P10
.0039	.410 x .156	562CZ5UBA102AG392P	5HK-D39	DUAL UNITS			
.0047	.480 x .156	562CZ5UBA102AH472P	5HK-D47	2x.001	.410 x .156	562CBA102AG102PA02	5HK-2D10
.005	.480 x .156	562CZ5UBA102AH502P	5HK-D50	2x.0015	.480 x .156	562CBA102AH152PA04	5HK-2D15
.0068	.480 x .156	562CZ5UBA102AH682P	5HK-D68	2x.002	.560 x .156	562CBA102AJ202PA07	5HK-2D20
.0082	.560 x .156	562CZ5UAA102AJ822P	5HK-D82	2x.0022	.560 x .156	562CBA102AJ222PA08	5HK-2D22
.01	.610 x .156	562CZ5UAA102AK103P	5HK-S10	2x.0047	.740 x .156	562CBA102AM472PA01	5HK-2D47
.01	.410 x .156	562CZ5UBA501AG103Z	5HKS-S10	2x.01	.870 x .156	562CBA102AP103PA04	5HK-2S10
.015	.560 x .156	562CZ5UAA501AJ153Z	5HK-S15	2x.02	.900 x .187	562CBA102AP203PA05	5HK-2S20

MINIATURIZED DISC CERAMIC CAPACITORS

FOR TRANSISTORIZED CIRCUITRY

- Intended for Coupling and By-Pass Applications

Type TG Standard Tolerance ±20%							
μF	Volts	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.			
.005	100	.290 x .125	562CZ5UBA101AE502M	TG-D50			
.01	100	.350 x .125	562CZ5UBA101AF103M	TG-S10			
.02	100	.480 x .125	562CZ5UBA101AH203M	TG-S20			
.025	100	.560 x .125	562CZ5UBA101AJ253M	TG-S25			
.03	100	.560 x .125	562CZ5UBA101AJ303M	TG-S30			
.05	100	.510 x .156	562CZ5UBA101AR503M	TG-S50			
.1	100	.700 x .156	562CZ5UBA101AW104M	TG-P10			
.05	100	.670 x .125	562CZ5UBA101AL503M	TGL-S50			

SPRAGUE CAPACITORS

CERA-MITE[®] CERAMIC CAPACITORS, continued

FREQUENCY-STABLE TYPES

- Better Stability Than the General Application Types.
- Ideal for Replacing Other Types of Capacitors Such as Molded Micaps, Paper Tubulars, and Mylar Film Tubulars
- Available in 1KV and a Smaller Size 250 Volt Rating
- Tighter Tolerance of $\pm 10\%$ is Better Than General Application Types
- Small Size, Low Cost
- EIA Designation X5P or better

SEMI-STABLE 250 WVDC, STANDARD TOLERANCE $\pm 10\%$

μF	Size D. x T.	For Reference	ORDER BY:	μF	Size D. x T.	For Reference	ORDER BY:	μF	Size D. x T.	For Reference	ORDER BY:
		Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.
750pF	.290 x .125	562CX5FBA251AE751K	2SS-T75	.0022	.350 x .125	562CX5FBA251AF222K	2SS-D22	.0068	.560 x .125	562CX5FBA251AJ682K	2SS-D68
820pF	.290 x .125	562CX5PBA251AE821K	2SS-T82	.0027	.350 x .125	562CX5PBA251AF272K	2SS-D27	.0082	.610 x .125	562CX5FBA251AK822K	2SS-D82
.001	.290 x .125	562CX5PBA251AE102K	2SS-D10	.0033	.410 x .125	562CX5FBA251AG332K	2SS-D33	.01	.610 x .125	562CX5PBA251AK103K	2SS-S10
.0012	.290 x .125	562CX5PBA251AE122K	2SS-D12	.0039	.410 x .125	562CX5PBA251AG392K	2SS-D39	.012	.670 x .125	562CX5PBA251AL123K	2SS-S12
.0015	.290 x .125	562CX5PBA251AE152K	2SS-D15	.0047	.480 x .125	562CX5FBA251AH472K	2SS-D47	.015	.590 x .156	562CX5PBA251AT153K	2SS-S15
.0018	.350 x .125	562CX5PBA251AF182K	2SS-D18	.005	.480 x .125	562CX5FBA251AH502K	2SS-D50	.018	.640 x .156	562CX5PBA251AU183K	2SS-S18
.002	.350 x .125	562CX5FBA251AF202K	2SS-D20	.0056	.480 x .125	562CX5PBA251AH562K	2SS-D56	.02	.640 x .156	562CX5PBA251AU203K	2SS-S20

SEMI-STABLE 1000 WVDC STANDARD TOLERANCE $\pm 10\%$

pF	Size D. x T.	For Reference	ORDER BY:	μF	Size D. x T.	For Reference	ORDER BY:	μF	Size D. x T.	For Reference	ORDER BY:
		Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.
470pF	.290 x .156	562CX5FBA102AE471K	10SS-T47	.0018	.410 x .156	562CX5FBA102AG182K	10SS-D18	.0068	.740 x .156	562CX5PAA102AM682K	10SS-D68
500pF	.290 x .156	562CX5FBA102AE501K	10SS-T50	.002	.410 x .156	562CX5PBA102AG202K	10SS-D20	.0082	.870 x .156	562CX5FBA102AP822K	10SS-D82
560pF	.290 x .156	562CX5FBA102AE561K	10SS-T56	.0022	.480 x .156	562CX5FBA102AH222K	10SS-D22	.010	.870 x .156	562CX5PAA102AP103K	10SS-S10
680pF	.290 x .156	562CX5FBA102AE681K	10SS-T68	.0027	.480 x .156	562CX5PBA102AH272K	10SS-D27	.012	.700 x .187	562CX5PBA102AW123K	10SS-S12
750pF	.290 x .156	562CX5FBA102AE751K	10SS-T75	.0C33	.560 x .156	562CX5FBA102AJ332K	10SS-D33	.015	.770 x .187	562CX5PBA102AX153K	10SS-S15
820pF	.290 x .156	562CX5PBA102AE821K	10SS-T82	.0039	.560 x .156	562CX5PAA102AJ392K	10SS-D39	.018	.900 x .187	562CX5FBA102AY183K	10SS-S18
.001 μF	.350 x .156	562CX5PBA102AF102K	10SS-D10	.0047	.610 x .156	562CX5PAA102AK472K	10SS-D47	.02	.900 x .187	562CX5PBA102AY203K	10SS-S20
.0012	.350 x .156	562CX5FBA102AF122K	10SS-D12	.005	.610 x .156	562CX5PAA102AK502K	10SS-D50	.022	.900 x .187	562CX5PBA102AY223K	10SS-S22
.0015	.410 x .156	562CX5FBA102AG152K	10SS-D15	.0056	.670 x .156	562CX5PAA102AL562K	10SS-D56				

TEMPERATURE-STABLE TYPES

- Used Where Minimum Capacitance Change With Temperature Is An Important Consideration
- EIA Designation X5E or better
- Standard Capacitance Tolerance: $\pm 10\%$
- Rated at 1000 WVDC

pF	Size D. x T.	For Reference	ORDER BY:	pF	Size D. x T.	For Reference	ORDER BY:	μF	Size D. x T.	For Reference	ORDER BY:
		Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.
3.3	.290 x .156	561CC0JBA102AE3R3K	10TS-V33	75	.290 x .156	562CX5EBA102AE750K	10TS-Q75	.001	.410 x .156	562CX5DBA102AG102K	10TS-D10
5.0	.290 x .156	561CC0HBA102AE5R0K	10TS-V50	82	.290 x .156	562CX5EBA102AE820K	10TS-Q82	.0012	.410 x .156	562CX5DBA102AG122K	10TS-D12
6.8	.290 x .156	561CC0HBA102AE6R8K	10TS-V68	91	.290 x .156	562CX5EBA102AE910K	10TS-Q91	.0015	.480 x .156	562CX5DBA102AH152K	10TS-D15
7.5	.290 x .156	561CC0HBA102AE7R5K	10TS-V75	100	.290 x .156	562CX5EBA102AE101K	10TS-T10	.0018	.560 x .156	562CX5DAA102AJ182K	10TS-D18
8.2	.290 x .156	561CC0HBA102AE8R2K	10TS-V82	120	.290 x .156	562CX5EBA102AE121K	10TS-T12	.0020	.560 x .156	562CX5DAA102AJ202K	10TS-D20
10	.290 x .156	561CS1GBA102AE100K	10TS-Q10	150	.290 x .156	562CX5EBA102AE151K	10TS-T15	.0022	.560 x .156	562CX5DAA102AJ222K	10TS-D22
12	.290 x .156	561CS1GBA102AE120K	10TS-Q12	180	.290 x .156	562CX5EBA102AE181K	10TS-T18	.0025	.610 x .156	562CX5DAA102AK252K	10TS-D25
15	.290 x .156	561CS1GBA102AE150K	10TS-Q15	200	.290 x .156	562CX5EBA102AE201K	10TS-T20	.0027	.610 x .156	562CX5DAA102AK272K	10TS-D27
18	.290 x .156	561CS2HBA102AE180K	10TS-Q18	220	.290 x .156	562CX5EBA102AE221K	10TS-T22	.0030	.670 x .156	562CX5DAA102AL302K	10TS-D30
20	.290 x .156	561CS2HBA102AE200K	10TS-Q20	250	.290 x .156	562CX5EBA102AE251K	10TS-T25	.0033	.670 x .156	562CX5DAA102AL332K	10TS-D33
22	.290 x .156	561CR2GBA102AE220K	10TS-Q22	270	.290 x .156	562CX5EBA102AE271K	10TS-T27	.0039	.740 x .156	562CX5DAA102AM392K	10TS-D39
25	.290 x .156	561CR2GBA102AE250K	10TS-Q25	300	.290 x .156	562CX5EBA102AE301K	10TS-T30	.0040	.740 x .156	562CX5DAA102AM402K	10TS-D40
27	.290 x .156	561CR2GBA102AE270K	10TS-Q27	330	.290 x .156	562CX5EBA102AE331K	10TS-T33	.0047	.870 x .156	562CX5DAA102AP472K	10TS-D47
30	.290 x .156	561CR2GBA102AE300K	10TS-Q30	390	.290 x .156	562CX5EBA102AE391K	10TS-T39	.0050	.870 x .156	562CX5DAA102AP502K	10TS-D50
33	.290 x .156	561CU2JBA102AE330K	10TS-Q33	470	.290 x .156	562CX5EBA102AE471K	10TS-T47	.0056	.870 x .156	562CX5DAA102AP562K	10TS-D56
39	.290 x .156	561CU2JBA102AE390K	10TS-Q39	500	.290 x .156	562CX5EBA102AE501K	10TS-T50	.0068	.870 x .156	562CX5DAA102AP682K	10TS-D68
47	.290 x .156	562CX5EBA102AE470K	10TS-Q47	560	.350 x .156	562CX5DBA102AF561K	10TS-T56	.0075	.700 x .187	562CX5DBA102AW752K	10TS-D75
50	.290 x .156	562CX5EBA102AE500K	10TS-Q50	680	.350 x .156	562CX5DBA102AF681K	10TS-T68	.0082	.770 x .187	562CX5DBA102AX822K	10TS-D82
56	.290 x .156	562CX5EBA102AE560K	10TS-Q56	750	.350 x .156	562CX5DBA102AF751K	10TS-T75	.01	.900 x .187	562CX5DBA102AY103K	10TS-S10
68	.290 x .156	562CX5EBA102AE680K	10TS-Q68	820	.350 x .156	562CX5DBA102AF821K	10TS-T82				

DISC CERAMICS FOR AC APPLICATIONS

- Rated at 125 VAC 60 Hz or 1400 VDC
- Standard Tolerance $\pm 20\%$
- For AC Line Bypass Application
- Heavy Duty for Long Life

DISC CERAMICS FOR BUFFER APPLICATIONS

- Rated at 2000 WVDC
- Standard Tolerance $\pm 20\%$

μF	Size D. x T.	For Reference	ORDER BY:	μF	Size D. x T.	For Reference	ORDER BY:
		Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.			Only: Sprague O.E.M. Part No.	Sprague Products Cat. No.
.001	.390 x .187	562CAA142AF102MA09	125L-D10	.001	.580 x .187	562CAA202AJ102MA12	BL-D10
.0015	.390 x .187	562CAA142AF152MA10	125L-D15	.002	.580 x .187	562CAA202AJ202MA05	BL-D20
.002	.390 x .187	562CAA142AF202MA10	125L-D20	.003	.580 x .187	562CBA202AJ302MA06	BL-D30
.0047	.580 x .187	562CAA142AG472MA09	125L-D47	.004	.580 x .187	562CAA202AJ402MA14	BL-D40
.005	.580 x .187	562CAA142AG502MA10	125L-D50	.005	.580 x .187	562CAA202AJ502MA15	BL-D50
.01	.780 x .187	562CAA142AM103MA02	125L-S10	.006	.640 x .187	562CAA202AK602MA02	BL-D60
.02	.830 x .234	562CAA142AX203MA07	125L-S20	.007	.700 x .187	562CAA202AL702MA06	BL-D70
2 x .005	.680 x .234	562CBA142AJ502MA11	125L-2D50	.0075	.700 x .187	562CAA202AL752MA06	BL-D75
2 x .01	.860 x .234	562CBA142AM103MA09	125L-2S10	.008	.700 x .187	562CAA202AL802MA06	BL-D80
				.01	.780 x .187	562CAA202AM103MA05	BL-S10

SPRAGUE CAPACITORS

CERA-MITE[®] CERAMIC CAPACITORS, continued

TEMPERATURE-COMPENSATING AND NPO TYPES

- Zero Temperature-coefficient Capacitors used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and IR
- Eliminate oscillator drift in TV, FM, VHF and AM receivers
- Negative Temperature Coefficient is 33 ppm/°C for N033 types, 75 ppm/°C for N075 types, 150 ppm/°C for N150 types, 220 ppm/°C for N220 types, 330 ppm/°C for N330 types, 470 ppm/°C for N470 types, 750 ppm/°C for N750 types, 1500 ppm/°C for N1500 types and 2200 ppm/°C for N2200 types.
- Capacitance Tolerance: 12 pF & up, ± 5%; 10 pF & below, ± 0.5 pF
- Rated at 1000 WVDC
- For use in Tuned Circuits
- Temp-compensating Types Have a Linear Negative Coefficient Curve
- Available in Standard 5% Decade Values.
- For complete technical data, refer to latest issue of Engineering Bulletin 6102.

pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.
NPO											
1.0	.360 x .234	561CC0KBA102AS1R0D	10TCC-V10	6.8	.290 x .156	561CS1HBA102AE6R8D	*10TCM-V68	82	.560 x .156	561CU1GAA102AJ820J	*10TCN-Q82
1.2	.360 x .234	561CC0KBA102AS1R2D	10TCC-V12	8.2	.290 x .156	561CS1HBA102AE8R2D	*10TCM-V82	100	.610 x .156	561CU1GAA102AK101J	10TCN-T10
1.5	.360 x .234	561CC0KBA102AS1R5D	10TCC-V15	10	.290 x .156	561CS1GBA102AE100D	10TCM-Q10	120	.670 x .156	561CU1GAA102AL121J	10TCN-T12
1.8	.290 x .156	561CC0KBA102AE1R8D	10TCC-V18	12	.290 x .156	561CS1GBA102AE120J	*10TCM-Q12	150	.670 x .156	561CU1GAA102AL151J	*10TCN-T15
2.2	.290 x .156	561CC0KBA102AE2R2D	10TCC-V22	15	.290 x .156	561CS1GBA102AE150J	*10TCM-Q15	180	.870 x .156	561CU1GAA102AP181J	*10TCN-T18
2.7	.290 x .156	561CC0KBA102AE2R7D	10TCC-V27	18	.350 x .156	561CS1GBA102AF180J	*10TCM-Q18	200	.870 x .156	561CU1GAA102AP201J	*10TCN-T20
3.0	.290 x .156	561CC0JBA102AE3R0D	10TCC-V30	20	.350 x .156	561CS1GBA102AF200J	10TCM-Q20	220	.870 x .156	561CU1GAA102AP221J	*10TCN-T22
3.3	.290 x .156	561CC0JBA102AE3R3D	10TCC-V33	22	.350 x .156	561CS1GBA102AF220J	*10TCM-Q22	270	.700 x .187	561CU1GAA102AW271J	*10TCN-T27
3.9	.290 x .156	561CC0JBA102AE3R9D	10TCC-V39	25	.350 x .156	561CS1GBA102AF250J	*10TCM-Q25	300	.700 x .187	561CU1GAA102AW301J	*10TCN-T30
4.7	.290 x .156	561CC0HBA102AE4R7D	10TCC-V47	27	.410 x .156	561CS1GBA102AG270J	10TCM-Q27	390	.900 x .187	561CU1GAA102AY391J	10TCN-T39
5.0	.290 x .156	561CC0HBA102AE5R0D	10TCC-V50	30	.410 x .156	561CS1GBA102AG300J	10TCM-Q30	470	.900 x .187	561CU1GAA102AY471J	10TCN-T47
5.6	.290 x .156	561CC0HBA102AE5R6D	10TCC-V56	33	.410 x .156	561CS1GBA102AG330J	10TCM-Q33	N150			
6.8	.290 x .156	561CC0HBA102AE6R8D	10TCC-V68	39	.410 x .156	561CS1GBA102AG390J	*10TCM-Q39	2.2	.360 x .234	561CP2KBA102AS2R2D	10TCP-V22
8.2	.290 x .156	561CC0HBA102AE8R2D	10TCC-V82	47	.480 x .156	561CS1GBA102AH470J	*10TCM-Q47	2.7	.360 x .234	561CP2KBA102AS2R7D	*10TCP-V27
10	.290 x .156	561CC0GBA102AE100D	10TCC-Q10	50	.480 x .156	561CS1GAA102AH500J	10TCM-Q50	3.0	.360 x .234	561CP2JBA102AS3R0D	*10TCP-V30
12	.290 x .156	561CC0GBA102AE120J	10TCC-Q12	56	.480 x .156	561CS1GBA102AH560J	*10TCM-Q56	3.3	.360 x .234	561CP2JBA102AS3R3D	*10TCP-V33
15	.290 x .156	561CC0GBA102AE150J	10TCC-Q15	68	.560 x .156	561CS1GAA102AJ680J	*10TCM-Q68	3.9	.360 x .234	561CP2JBA102AS3R9D	*10TCP-V39
18	.290 x .156	561CC0GBA102AE180J	10TCC-Q18	75	.560 x .156	561CS1GAA102AJ750J	*10TCM-Q75	4.7	.360 x .234	561CP2HBA102AS4R7D	*10TCP-V47
20	.290 x .156	561CC0GBA102AE200J	10TCC-Q20	82	.610 x .156	561CS1GAA102AK820J	*10TCM-Q82	5.0	.360 x .234	561CP2HBA102AS5R0D	*10TCP-V50
22	.290 x .156	561CC0GBA102AE220J	10TCC-Q22	100	.610 x .156	561CS1GAA102AK101J	*10TCM-T10	5.6	.290 x .156	561CP2HBA102AE5R6D	*10TCP-V56
25	.350 x .156	561CC0GBA102AF250J	10TCC-Q25	120	.670 x .156	561CS1GAA102AL121J	*10TCM-T12	6.8	.290 x .156	561CP2HBA102AE6R8D	10TCP-V68
27	.350 x .156	561CC0GBA102AF270J	10TCC-Q27	150	.740 x .156	561CS1GAA102AM151J	*10TCM-T15	8.2	.290 x .156	561CP2HBA102AE8R2D	10TCP-V82
30	.350 x .156	561CC0GBA102AF300J	10TCC-Q30	180	.870 x .156	561CS1GAA102AP181J	*10TCM-T18	10	.290 x .156	561CP2GBA102AE100D	10TCP-Q10
33	.350 x .156	561CC0GBA102AF330J	10TCC-Q33	200	.870 x .156	561CS1GAA102AP201J	*10TCM-T20	12	.290 x .156	561CP2GBA102AE120J	10TCP-Q12
39	.350 x .156	561CC0GBA102AF390J	10TCC-Q39	220	.870 x .156	561CS1GBA102AP221J	*10TCM-T22	15	.290 x .156	561CP2GBA102AE150J	*10TCP-Q15
47	.410 x .156	561CC0GBA102AG470J	10TCC-Q47	270	.700 x .187	561CS1GBA102AW271J	*10TCM-T27	18	.290 x .156	561CP2GBA102AE180J	*10TCP-Q18
50	.410 x .156	561CC0GBA102AG500J	10TCC-Q50	300	.770 x .187	561CS1GBA102AK301J	*10TCM-T30	20	.350 x .156	561CP2GBA102AF200J	*10TCP-Q20
56	.410 x .156	561CC0GBA102AG560J	10TCC-Q56	330	.900 x .187	561CS1GBA102AY331J	*10TCM-T33	22	.350 x .156	561CP2GBA102AF220J	10TCP-Q22
68	.480 x .156	561CC0GBA102AH680J	10TCC-Q68	N075							
75	.480 x .156	561CC0GBA102AH750J	10TCC-Q75	2.2	.360 x .234	561CU1KBA102AS2R2D	*10TCN-V22	25	.350 x .156	561CP2GBA102AF250J	*10TCP-Q25
82	.480 x .156	561CC0GBA102AH820J	10TCC-Q82	2.7	.360 x .234	561CU1KBA102AS2R7D	*10TCN-V27	27	.350 x .156	561CP2GBA102AF270J	10TCP-Q27
100	.560 x .156	561CC0GAA102AJ101J	10TCC-T10	3.0	.360 x .234	561CU1JBA102AS3R0D	*10TCN-V30	30	.350 x .156	561CP2GBA102AF300J	*10TCP-Q30
120	.560 x .156	561CC0GAA102AJ121J	10TCC-T12	3.3	.360 x .234	561CU1JBA102AS3R3D	*10TCN-V33	33	.410 x .156	561CP2GBA102AG330J	*10TCP-Q33
150	.610 x .156	561CC0GAA102AK151J	10TCC-T15	3.9	.360 x .234	561CU1JBA102AS3R9D	*10TCN-V39	39	.410 x .156	561CP2GBA102AG390J	*10TCP-Q39
180	.670 x .156	561CC0GAA102AL181J	10TCC-T18	4.7	.360 x .234	561CU1HBA102AS4R7D	*10TCN-V47	47	.410 x .156	561CP2GBA102AG470J	10TCP-Q47
200	.740 x .156	561CC0GAA102AM201J	10TCC-T20	5.0	.290 x .156	561CU1HBA102AE5R0D	*10TCN-V50	50	.410 x .156	561CP2GBA102AG500J	*10TCP-Q50
220	.740 x .156	561CC0GAA102AM221J	10TCC-T22	5.6	.290 x .156	561CU1HBA102AE5R6D	*10TCN-V56	56	.480 x .156	561CP2GBA102AH560J	*10TCP-Q56
270	.870 x .156	561CC0GAA102AP271J	10TCC-T27	6.8	.290 x .156	561CU1HBA102AE6R8D	*10TCN-V68	68	.480 x .156	561CP2GBA102AH680J	*10TCP-Q68
300	.870 x .156	561CC0GAA102AP301J	10TCC-T30	8.2	.290 x .156	561CU1HBA102AE8R2D	*10TCN-V82	75	.560 x .156	561CP2GAA102AJ750J	*10TCP-Q75
330	.700 x .187	561CC0GBA102AW331J	10TCC-T33	10	.290 x .156	561CU1GBA102AE100D	10TCN-Q10	82	.560 x .156	561CP2GAA102AJ820J	*10TCP-Q82
390	.770 x .187	561CC0GBA102AX391J	10TCC-T39	12	.290 x .156	561CU1GBA102AE120J	10TCN-Q12	100	.610 x .156	561CP2GAA102AK101J	*10TCP-T10
N033											
1.0	.360 x .234	561CS1KBA102AS1R0D	10TCM-V10	15	.290 x .156	561CU1GBA102AE150J	10TCN-Q15	120	.610 x .156	561CP2GAA102AK121J	*10TCP-T12
1.2	.360 x .234	561CS1KBA102AS1R2D	*10TCM-V12	18	.350 x .156	561CU1GBA102AF180J	10TCN-Q18	150	.670 x .156	561CP2GAA102AL151J	*10TCP-T15
1.5	.360 x .234	561CS1KBA102AS1R5D	*10TCM-V15	20	.350 x .156	561CU1GBA102AF200J	10TCN-Q20	180	.740 x .156	561CP2GAA102AM181J	*10TCP-T18
1.8	.360 x .234	561CS1KBA102AS1R8D	*10TCM-V18	22	.350 x .156	561CU1GBA102AF220J	*10TCN-Q22	200	.870 x .156	561CP2GAA102AP201J	10TCP-T20
2.2	.360 x .234	561CS1KBA102AS2R2D	10TCM-V22	25	.350 x .156	561CU1GBA102AF250J	*10TCN-Q25	220	.870 x .156	561CP2GAA102AP221J	*10TCP-T22
2.7	.360 x .234	561CS1KBA102AS2R7D	*10TCM-V27	27	.350 x .156	561CU1GBA102AF270J	10TCN-Q27	270	.700 x .187	561CP2GAA102AW271J	*10TCP-T27
3.0	.290 x .156	561CS1JBA102AE3R0D	*10TCM-V30	30	.410 x .156	561CU1GBA102AG300J	*10TCN-Q30	330	.770 x .187	561CP2GAA102AX331J	*10TCP-T33
3.3	.290 x .156	561CS1JBA102AE3R3D	10TCM-V33	33	.410 x .156	561CU1GBA102AG330J	10TCN-Q33	N220			
3.9	.290 x .156	561CS1JBA102AE3R9D	*10TCM-V39	39	.410 x .156	561CU1GBA102AG390J	10TCN-Q39	3.0	.360 x .234	561CR2JBA102AS3R0D	*10TCP-V30
4.7	.290 x .156	561CS1HBA102AE4R7D	*10TCM-V47	47	.480 x .156	561CU1GBA102AH470J	*10TCP-Q47	3.3	.360 x .234	561CR2JBA102AS3R3D	*10TCP-V33
5.0	.290 x .156	561CS1HBA102AE5R0D	10TCM-V50	50	.480 x .156	561CU1GBA102AH500J	*10TCP-Q50	3.9	.360 x .234	561CR2JBA102AS3R9D	*10TCP-V39
5.6	.290 x .156	561CS1HBA102AE5R6D	10TCM-V56	56	.480 x .156	561CU1GBA102AH560J	*10TCP-Q56	4.7	.360 x .234	561CR2HBA102AS4R7D	*10TCP-V47
6.8	.290 x .156	561CS1HBA102AE6R8D	*10TCN-Q68	68	.560 x .156	561CU1GAA102AJ680J	*10TCN-Q68	5.0	.360 x .234	561CR2HBA102AS5R0D	*10TCP-V50
8.2	.290 x .156	561CS1HBA102AE8R2D	*10TCN-Q82	75	.560 x .156	561CU1GAA102AJ750J	*10TCN-Q75				

*Available from distributors until present stocks are exhausted. However, units will continue to be available on direct factory orders under the corresponding OEM part no.

SPRAGUE CAPACITORS

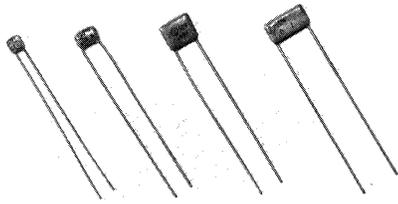
CERA-MITE® CERAMIC CAPACITORS, continued

N220(cont.)				N1500			
pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.	pF	Size D. x T.	For Reference Only: Sprague O.E.M. Part No.	ORDER BY: Sprague Products Cat. No.
5.6	.360 x .234	561CR2HBA102AS5R6D	*10TCR-V56	4.7	.360 x .234	561CT2JBA102AS4R7D	*10TCT-V47
6.8	.290 x .156	561CR2GBA102AE6R8D	*10TCR-V68	5.0	.360 x .234	561CT2JBA102AS5R6D	10TCT-V50
8.2	.290 x .156	561CR2HBA102AE8R2D	*10TCR-V82	5.6	.360 x .234	561CT2JBA102AS5R6D	*10TCT-V56
10	.290 x .156	561CR2GBA102AE100D	10TCR-Q10	6.8	.290 x .156	561CT2JBA102AE6R8D	*10TCT-V68
12	.290 x .156	561CR2GBA102AE120J	10TCR-Q12	8.2	.290 x .156	561CT2JBA102AE8R2D	*10TCT-V82
15	.290 x .156	561CR2GBA102AE150J	*10TCR-Q15	10	.290 x .156	561CT2GBA102AE100D	10TCT-Q10
18	.290 x .156	561CR2GBA102AE180J	10TCR-Q18	12	.290 x .156	561CT2GBA102AE120J	*10TCT-Q12
20	.290 x .156	561CR2GBA102AE200J	10TCR-Q20	15	.290 x .156	561CT2GBA102AE150J	*10TCT-Q15
22	.350 x .156	561CR2GBA102AF220J	10TCR-Q22	18	.290 x .156	561CT2GBA102AE180J	10TCT-Q18
25	.350 x .156	561CR2GBA102AF250J	*10TCR-Q25	20	.290 x .156	561CT2GBA102AE200J	10TCT-Q20
27	.350 x .156	561CR2GBA102AF270J	*10TCR-Q27	22	.290 x .156	561CT2GBA102AE220J	*10TCT-Q22
30	.350 x .156	561CR2GBA102AF300J	*10TCR-Q30	25	.290 x .156	561CT2GBA102AE250J	*10TCT-Q25
33	.350 x .156	561CR2GBA102AF330J	10TCR-Q33	27	.350 x .156	561CT2GBA102AF270J	*10TCT-Q27
39	.410 x .156	561CR2GBA102AF390J	*10TCR-Q39	30	.350 x .156	561CT2GBA102AF300J	*10TCT-Q30
47	.410 x .156	561CR2GBA102AF470J	10TCR-Q47	33	.350 x .156	561CT2GBA102AF330J	*10TCT-Q33
50	.410 x .156	561CR2GBA102AG500J	10TCR-Q50	39	.350 x .156	561CT2GBA102AF390J	10TCT-Q39
56	.410 x .156	561CR2GBA102AG560J	10TCR-Q56	47	.350 x .156	561CT2GBA102AF470J	10TCT-Q47
68	.480 x .156	561CR2GBA102AH680J	*10TCR-Q68	50	.410 x .156	561CT2GBA102AG500J	10TCT-Q50
75	.480 x .156	561CR2GBA102AH750J	*10TCR-Q75	56	.410 x .156	561CT2GBA102AG560J	10TCT-Q56
82	.560 x .156	561CR2GAA102AJ820J	10TCR-Q82	68	.410 x .156	561CT2GBA102AG680J	*10TCT-Q68
100	.560 x .156	561CR2GAA102AJ101J	*10TCR-T10	75	.480 x .156	561CT2GBA102AH750J	*10TCT-Q75
120	.610 x .156	561CR2GAA102AK121J	10TCR-T12	82	.480 x .156	561CT2GBA102AH820J	10TCT-Q82
150	.670 x .156	561CR2GAA102AL151J	*10TCR-T15	100	.480 x .156	561CT2GBA102AH101J	10TCT-T10
180	.740 x .156	561CR2GAA102AM181J	*10TCR-T18	120	.560 x .156	561CT2GAA102AJ121J	*10TCT-T12
200	.740 x .156	561CR2GAA102AM201J	*10TCR-T20	150	.610 x .156	561CT2GAA102AK151J	*10TCT-T15
220	.870 x .156	561CR2GAA102AP221J	*10TCR-T22	180	.610 x .156	561CT2GAA102AK151J	*10TCT-T18
270	.870 x .156	561CR2GAA102AP271J	*10TCR-T27	200	.670 x .156	561CT2GAA102AL201J	*10TCT-T20
300	.870 x .156	561CR2GAA102AP301J	*10TCR-T30	220	.670 x .156	561CT2GAA102AL221J	*10TCT-T22
330	.700 x .187	561CR2GBA102AW331J	*10TCR-T33	270	.870 x .156	561CT2GAA102AP271J	*10TCT-T27
390	.700 x .187	561CR2GBA102AW391J	*10TCR-T39	300	.870 x .156	561CT2GAA102AP301J	*10TCT-T30
470	.900 x .187	561CR2GBA102AY471J	*10TCR-T47	330	.870 x .156	561CT2GAA102AP331J	*10TCT-T33
				390	.870 x .156	561CT2GAA102AP391J	*10TCT-T39
				560	.900 x .187	561CT2GBA102AY561J	*10TCT-T56
				680	.900 x .187	561CT2GBA102AY681J	*10TCT-T68
				750	.900 x .187	561CT2GBA102AY751J	*10TCT-T75
N330				N750			
3.0	.360 x .234	561CS2JBA102AS3R0D	*10TCS-V30	4.7	.360 x .234	561CU2JBA102AS4R7D	10TCU-V47
3.3	.360 x .234	561CS2JBA102AS3R3D	*10TCS-V33	5.0	.360 x .234	561CU2JBA102AS5R6D	10TCU-V50
3.9	.360 x .234	561CS2JBA102AS3R9D	*10TCS-V39	5.6	.360 x .234	561CU2JBA102AS5R6D	10TCU-V56
4.7	.360 x .234	561CS2HBA102AS4R7D	*10TCS-V47	6.8	.290 x .156	561CU2JBA102AE6R8D	10TCU-V68
5.0	.360 x .234	561CS2HBA102AS5R6D	*10TCS-V50	8.2	.290 x .156	561CU2JBA102AE8R2D	10TCU-V82
5.6	.360 x .234	561CS2HBA102AS5R6D	*10TCS-V56	10	.290 x .156	561CU2JBA102AE100D	10TCU-Q10
6.8	.290 x .156	561CS2HBA102AE6R8D	*10TCS-V68	12	.290 x .156	561CU2JBA102AE120J	10TCU-Q12
8.2	.290 x .156	561CS2HBA102AE8R2D	*10TCS-V82	15	.290 x .156	561CU2JBA102AE150J	10TCU-Q15
10	.290 x .156	561CS2GBA102AE100D	10TCS-Q10	18	.290 x .156	561CU2JBA102AE180J	10TCU-Q18
12	.290 x .156	561CS2GBA102AE120J	*10TCS-Q12	20	.290 x .156	561CU2JBA102AE200J	10TCU-Q20
15	.290 x .156	561CS2GBA102AE150J	10TCS-Q15	22	.290 x .156	561CU2JBA102AE220J	10TCU-Q22
18	.290 x .156	561CS2GBA102AE180J	10TCS-Q18	25	.290 x .156	561CU2JBA102AE250J	10TCU-Q25
20	.290 x .156	561CS2HBA102AE200J	10TCS-Q20	27	.290 x .156	561CU2JBA102AE270J	10TCU-Q27
22	.290 x .156	561CS2HBA102AE220J	10TCS-Q22	30	.290 x .156	561CU2JBA102AE300J	10TCU-Q30
25	.350 x .156	561CS2HBA102AF250J	*10TCS-Q25	33	.350 x .156	561CU2JBA102AF330J	10TCU-Q33
27	.350 x .156	561CS2HBA102AF270J	*10TCS-Q27	39	.350 x .156	561CU2JBA102AF390J	10TCU-Q39
30	.350 x .156	561CS2HBA102AF300J	*10TCS-Q30	47	.350 x .156	561CU2JBA102AF470J	10TCU-Q47
33	.350 x .156	561CS2HBA102AF330J	10TCS-Q33	50	.350 x .156	561CU2JBA102AF500J	10TCU-Q50
39	.410 x .156	561CS2HBA102AG390J	*10TCS-Q39	56	.350 x .156	561CU2JBA102AF560J	10TCU-Q56
47	.410 x .156	561CS2HBA102AG470J	*10TCS-Q47	68	.410 x .156	561CU2JBA102AG680J	10TCU-Q68
50	.410 x .156	561CS2HBA102AG500J	*10TCS-Q50	75	.410 x .156	561CU2JBA102AG750J	10TCU-Q75
56	.410 x .156	561CS2HBA102AG560J	*10TCS-Q56	82	.410 x .156	561CU2JBA102AG820J	10TCU-Q82
68	.480 x .156	561CS2HBA102AH680J	*10TCS-Q68	100	.480 x .156	561CU2JBA102AH101J	10TCU-T10
75	.480 x .156	561CS2HBA102AH750J	*10TCS-Q75	120	.480 x .156	561CU2JBA102AH121J	10TCU-T12
82	.560 x .156	561CS2HAA102AJ820J	*10TCS-Q82	150	.560 x .156	561CU2JAA102AJ151J	10TCU-T15
100	.560 x .156	561CS2HAA102AJ101J	10TCS-T10	180	.560 x .156	561CU2JAA102AJ181J	10TCU-T18
120	.610 x .156	561CS2HAA102AK121J	*10TCS-T12	200	.610 x .156	561CU2JAA102AK201J	10TCU-T20
150	.670 x .156	561CS2HAA102AL151J	*10TCS-T15	220	.610 x .156	561CU2JAA102AK221J	10TCU-T22
180	.740 x .156	561CS2HAA102AM181J	*10TCS-T18	270	.670 x .156	561CU2JAA102AL271J	10TCU-T27
200	.740 x .156	561CS2HAA102AM201J	*10TCS-T20	300	.740 x .156	561CU2JAA102AM301J	10TCU-T30
220	.870 x .156	561CS2HAA102AP221J	*10TCS-T22	330	.740 x .156	561CU2JAA102AM331J	10TCU-T33
270	.870 x .156	561CS2HAA102AP271J	*10TCS-T27	390	.870 x .156	561CU2JAA102AP391J	10TCU-T39
300	.870 x .156	561CS2HAA102AP301J	*10TCS-T30	470	.870 x .156	561CU2JAA102AP471J	10TCU-T47
330	.700 x .187	561CS2HBA102AW331J	*10TCS-T33	560	.770 x .187	561CU2JBA102AX561J	10TCU-T56
470	.900 x .187	561CS2HBA102AY471J	*10TCS-T47	680	.770 x .187	561CU2JBA102AX681J	10TCU-T68
				750	.900 x .187	561CU2JBA102AY751J	10TCU-T75
				820	.900 x .187	561CU2JBA102AY821J	10TCU-T82
N470				N2200			
3.0	.360 x .234	561CT2JBA102AS3R0D	*10TCT-V30	10	.360 x .234	561CR3LBA102AS100D	10TCY-Q10
3.3	.360 x .234	561CT2JBA102AS3R3D	*10TCT-V33	12	.360 x .234	561CR3LBA102AS120J	*10TCY-Q12
3.9	.360 x .234	561CT2JBA102AS3R9D	*10TCT-V39	15	.360 x .234	561CR3LBA102AS150J	*10TCY-Q15
				18	.360 x .234	561CR3LBA102AS180J	10TCY-Q18
				20	.290 x .156	561CR3LBA102AS200J	10TCY-Q20
				22	.290 x .156	561CR3LBA102AE220J	10TCY-Q22
				25	.290 x .156	561CR3LBA102AE250J	*10TCY-Q25
				27	.290 x .156	561CR3LBA102AE270J	*10TCY-Q27
				30	.290 x .156	561CR3LBA102AE300J	*10TCY-Q30
				33	.290 x .156	561CR3LBA102AE330J	*10TCY-Q33
				39	.290 x .156	561CR3LBA102AE390J	10TCY-Q39
				47	.290 x .156	561CR3LBA102AE470J	10TCY-Q47
				50	.290 x .156	561CR3LBA102AE500J	*10TCY-Q50
				56	.290 x .156	561CR3LBA102AE560J	10TCY-Q56
				68	.290 x .156	561CR3LBA102AE680J	10TCY-Q68
				75	.290 x .156	561CR3LBA102AE750J	*10TCY-Q75
				82	.350 x .156	561CR3LBA102AF820J	10TCY-Q82
				100	.350 x .156	561CR3LBA102AF101J	10TCY-T10
				120	.350 x .156	561CR3LBA102AF121J	*10TCY-T12
				150	.410 x .156	561CR3LBA102AG151J	*10TCY-T15
				180	.410 x .156	561CR3LBA102AG181J	*10TCY-T18
				200	.410 x .156	561CR3LBA102AG201J	*10TCY-T20
				220	.480 x .156	561CR3LAA102AH221J	*10TCY-T22
				270	.480 x .156	561CR3LBA102AH271J	10TCY-T27
				300	.560 x .156	561CR3LAA102AJ301J	*10TCY-T30
				330	.560 x .156	561CR3LAA102AJ331J	*10TCY-T33
				390	.560 x .156	561CR3LAA102AJ391J	*10TCY-T39
				470	.610 x .156	561CR3LAA102AK471J	*10TCY-T47
				560	.670 x .156	561CR3LAA102AL561J	10TCY-T56
				680	.740 x .156	561CR3LAA102AM681J	*10TCY-T68
				750	.740 x .156	561CR3LAA102AM751J	*10TCY-T75
				820	.870 x .156	561CR3LAA102AP821J	*10TCY-T82
				1000	.870 x .156	561CR3LAA102AP102J	*10TCY-D10
				1200	.700 x .187	561CR3LBA102AW122J	*10TCY-D12
				1800	.900 x .187	561CR3LBA102AY182J	*10TCY-D18

*Available from distributors until present stocks are exhausted. However, units will continue to be available on direct factory orders under the corresponding OEM part no.

SPRAGUE CAPACITORS

1C, 2C, 3C, and 5C MONOLYTHIC[®] CERAMIC CAPACITORS



- Formulation X7R and COG Capacitors Are Rated at 100 WVDC; Formulation Z5U at 50 WVDC.
- Proven Reliable in Wide Usage Over Many Years of Extensive Service.
- Available in a Variety of Body Formulations, Capacitance Values, and Sizes.
- Made By Spraying Alternate Layers of Ceramic Dielectric Material and Metallic Electrodes, then Firing Into a Single, All But Indestructible

Homogeneous Block.

- For Complete Technical Data, See Latest Issue of Engineering Bulletin 6201.

TEMPERATURE CHARACTERISTICS

Formulation	Temp. Range	Max. Change Over Temp. Range
COG	-55 C to +125 C	NPO ± 30 ppm/°C
X7R	-55 C to +125 C	± 15%
Z5U	+10 C to +85 C	+22, -56%

DIMENSIONS AND LEAD SPACING (IN INCHES)

L. x W. x T.	Lead Spacing	L. x W. x T.	Lead Spacing	L. x W. x T.	Lead Spacing	L. x W. x T.	Lead Spacing
.200 x .200 x .125	.100	.300 x .300 x .150	.200	.500 x .200 x .125	.375	.500 x .400 x .150	.375
.200 x .200 x .150	.100	.390 x .200 x .125	.250	.500 x .200 x .150	.375	.500 x .500 x .125	.375
.300 x .200 x .125	.200	.390 x .200 x .150	.250	.500 x .296 x .125	.375	.500 x .500 x .150	.375
.300 x .200 x .150	.200	.400 x .400 x .125	.250	.500 x .296 x .150	.375	.500 x .500 x .150	.375
.300 x .300 x .125	.200	.400 x .400 x .150	.250	.500 x .400 x .125	.375	.500 x .500 x .238	.375

GENERAL-APPLICATION FORMULATION Z5U*

μF	L. x W. x T.	Catalog Number*	μF	L. x W. x T.	Catalog Number*	μF	L. x W. x T.	Catalog Number*
TYPE 1C—50 WVDC								
.01	.200 x .200 x .125	1CZ5U103X0050C4	.10	.300 x .200 x .125	2CZ5U104X0050C4	.22	.390 x .200 x .125	3CZ5U224X0050C5
.015	.200 x .200 x .125	1CZ5U153X0050C4	.15	.300 x .200 x .150	2CZ5U154X0050C4	.33	.390 x .200 x .150	3CZ5U334X0050C5
.022	.200 x .200 x .125	1CZ5U223X0050C4	.22	.300 x .200 x .150	2CZ5U224X0050C4	.47	.390 x .200 x .150	3CZ5U474X0050C5
.033	.200 x .200 x .125	1CZ5U333X0050C4	.33	.300 x .200 x .150	2CZ5U334X0050C4	.68	.390 x .200 x .125	3CZ5U684X0050C5
.047	.200 x .200 x .125	1CZ5U473X0050C4	.47	.300 x .200 x .150	2CZ5U474X0050C4	1.0	.390 x .200 x .125	3CZ5U105X0050C5
.068	.200 x .200 x .125	1CZ5U683X0050C4	.68	.300 x .200 x .150	2CZ5U684X0050C4	TYPE 5C—50 WVDC		
.10	.200 x .200 x .150	1CZ5U104X0050C4	TYPE 3C—50 WVDC			.10	.500 x .200 x .125	5CZ5U104X0050C5
TYPE 2C—50 WVDC								
.01	.300 x .200 x .125	2CZ5U103X0050C4	.01	.390 x .200 x .125	3CZ5U103X0050C5	.15	.500 x .200 x .125	5CZ5U154X0050C5
.015	.300 x .200 x .125	2CZ5U153X0050C4	.015	.390 x .200 x .125	3CZ5U153X0050C5	.22	.500 x .200 x .125	5CZ5U224X0050C5
.022	.300 x .200 x .125	2CZ5U223X0050C4	.022	.390 x .200 x .125	3CZ5U223X0050C5	.33	.500 x .200 x .125	5CZ5U334X0050C5
.033	.300 x .200 x .125	2CZ5U333X0050C4	.033	.390 x .200 x .125	3CZ5U333X0050C5	.47	.500 x .200 x .150	5CZ5U474X0050C5
.047	.300 x .200 x .125	2CZ5U473X0050C4	.047	.390 x .200 x .125	3CZ5U473X0050C5	.68	.500 x .200 x .150	5CZ5U684X0050C5
.068	.300 x .200 x .125	2CZ5U683X0050C4	.068	.390 x .200 x .125	3CZ5U683X0050C5	1.0	.500 x .200 x .150	5CZ5U105X0050C5
.10	.300 x .200 x .150	2CZ5U104X0050C4	.10	.390 x .200 x .125	3CZ5U104X0050C5	1.5	.500 x .200 x .150	5CZ5U155X0050C5
			.15	.390 x .200 x .125	3CZ5U154X0050C5	2.2	.500 x .296 x .150	5CZ5U225X0050C5
						3.3	.500 x .500 x .238	5CZ5U335X0050C5

TEMPERATURE-STABLE FORMULATION X7R**

μF	L. x W. x T.	Catalog Number**	μF	L. x W. x T.	Catalog Number**	μF	L. x W. x T.	Catalog Number**
TYPE 1C—50 WVDC ◊								
.001	.200 x .200 x .125	1CX7R102X0100C4	.012	.300 x .200 x .125	2CX7R123X0100C4	.056	.390 x .200 x .125	3CX7R563X0100C5
.0012	.200 x .200 x .125	1CX7R122X0100C4	.015	.300 x .200 x .125	2CX7R153X0100C4	.068	.390 x .200 x .125	3CX7R683X0100C5
.0015	.200 x .200 x .125	1CX7R152X0100C4	.018	.300 x .200 x .125	2CX7R183X0100C4	.082	.390 x .200 x .125	3CX7R823X0100C5
.0022	.200 x .200 x .125	1CX7R222X0100C4	.022	.300 x .200 x .125	2CX7R223X0100C4	.10	.390 x .200 x .125	3CX7R104X0100C5
.0027	.200 x .200 x .125	1CX7R272X0100C4	.033	.300 x .200 x .125	2CX7R333X0100C4	.12	.390 x .200 x .125	3CX7R124X0100C5
.0033	.200 x .200 x .125	1CX7R332X0100C4	.039	.300 x .200 x .125	2CX7R393X0100C4	.15	.390 x .200 x .125	3CX7R154X0100C5
.0039	.200 x .200 x .125	1CX7R392X0100C4	.047	.300 x .200 x .125	2CX7R473X0100C4	.18	.390 x .200 x .125	3CX7R184X0100C5
.0047	.200 x .200 x .125	1CX7R472X0100C4	.056	.300 x .200 x .125	2CX7R563X0100C4	.22	.390 x .200 x .125	3CX7R224X0100C5
.0056	.200 x .200 x .125	1CX7R562X0100C4	.068	.300 x .200 x .125	2CX7R683X0100C4	.27	.390 x .200 x .125	3CX7R274X0100C5
.0068	.200 x .200 x .125	1CX7R682X0100C4	.082	.300 x .200 x .125	2CX7R823X0100C4	.33	.390 x .200 x .125	3CX7R334X0100C5
.0082	.200 x .200 x .125	1CX7R822X0100C4	.10	.300 x .200 x .125	2CX7R104X0100C4	TYPE 5C—50 WVDC ◊		
TYPE 2C—50 WVDC ◊								
.010	.300 x .200 x .125	2CX7R103X0100C4	TYPE 3C—50 WVDC ◊			.10	.500 x .200 x .125	5CX7R104X0100C5
.012	.300 x .200 x .125	2CX7R123X0100C4	.010	.390 x .200 x .125	3CX7R103X0100C5	.12	.500 x .200 x .125	5CX7R124X0100C5
.015	.300 x .200 x .125	2CX7R153X0100C4	.012	.390 x .200 x .125	3CX7R123X0100C5	.15	.500 x .200 x .125	5CX7R154X0100C5
.018	.300 x .200 x .125	2CX7R183X0100C4	.015	.390 x .200 x .125	3CX7R153X0100C5	.18	.500 x .200 x .125	5CX7R184X0100C5
.022	.300 x .200 x .125	2CX7R223X0100C4	.018	.390 x .200 x .125	3CX7R183X0100C5	.22	.500 x .200 x .125	5CX7R224X0100C5
.027	.300 x .200 x .125	2CX7R273X0100C4	.022	.390 x .200 x .125	3CX7R223X0100C5	.27	.500 x .200 x .125	5CX7R274X0100C5
.033	.300 x .200 x .125	2CX7R333X0100C4	.027	.390 x .200 x .125	3CX7R273X0100C5	.33	.500 x .200 x .125	5CX7R334X0100C5
.039	.300 x .200 x .125	2CX7R393X0100C4	.033	.390 x .200 x .125	3CX7R333X0100C5	.39	.500 x .200 x .125	5CX7R394X0100C5
.047	.300 x .200 x .125	2CX7R473X0100C4	.039	.390 x .200 x .125	3CX7R393X0100C5	.47	.500 x .200 x .125	5CX7R474X0100C5
.056	.300 x .200 x .125	2CX7R563X0100C4	.047	.390 x .200 x .125	3CX7R473X0100C5	.56	.500 x .296 x .150	5CX7R564X0100C5
.068	.300 x .200 x .125	2CX7R683X0100C4				.68	.500 x .296 x .150	5CX7R684X0100C5

TEMPERATURE-COMPENSATING FORMULATION COG (100 WVDC @ 85°C, 50 WVDC @ 125°C)†

pF	L. x W. x T.	Catalog Number†	pF	L. x W. x T.	Catalog Number†	pF	L. x W. x T.	Catalog Number†
TYPE 1C								
10	.200 x .200 x .125	1CC0G100X9100C4	24	.200 x .200 x .125	1CC0G240X9100C4	56	.200 x .200 x .125	1CC0G560X9100C4
11	.200 x .200 x .125	1CC0G110X9100C4	27	.200 x .200 x .125	1CC0G270X9100C4	62	.200 x .200 x .125	1CC0G620X9100C4
12	.200 x .200 x .125	1CC0G120X9100C4	30	.200 x .200 x .125	1CC0G300X9100C4	68	.200 x .200 x .125	1CC0G680X9100C4
13	.200 x .200 x .125	1CC0G130X9100C4	33	.200 x .200 x .125	1CC0G330X9100C4	75	.200 x .200 x .125	1CC0G750X9100C4
15	.200 x .200 x .125	1CC0G150X9100C4	36	.200 x .200 x .125	1CC0G360X9100C4	82	.200 x .200 x .125	1CC0G820X9100C4
18	.200 x .200 x .125	1CC0G180X9100C4	39	.200 x .200 x .125	1CC0G390X9100C4	91	.200 x .200 x .125	1CC0G910X9100C4
20	.200 x .200 x .125	1CC0G200X9100C4	43	.200 x .200 x .125	1CC0G430X9100C4	100	.290 x .200 x .125	1CC0G101X9100C4
22	.200 x .200 x .125	1CC0G220X9100C4	47	.200 x .200 x .125	1CC0G470X9100C4	110	.200 x .200 x .125	1CC0G111X9100C4
			51	.200 x .200 x .125	1CC0G510X9100C4	120	.200 x .200 x .125	1CC0G121X9100C4

* Cap. tol., ±20%. For +80%, -20% capacitors, change "X0" in Cat. No. to "D8."
 ** Cap. tol., ±20%. For ±10% capacitors, change "X0" in Cat. No. to "X9."

† Cap. tol., ±10%. For ±5% capacitors, change "X9" in Cat. No. to "X5."
 ◊ May be operated at 100 WVDC by derating to 85°C.

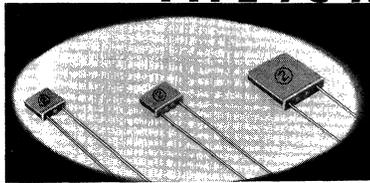
SPRAGUE CAPACITORS

TEMPERATURE-COMPENSATING FORMULATION COG (100 WVDC @ 85°C, 50 WVDC @ 125°C) - Continued

pF	L. x W. x T.	Catalog Number†	pF	L. x W. x T.	Catalog Number†	pF	L. x W. x T.	Catalog Number†
TYPE 1C - Cont.			TYPE 3C			TYPE 5C		
130	.200 x .200 x .125	1CC0G131X9100C4	910	.300 x .200 x .125	2CC0G911X9100C4	1300	.390 x .200 x .125	3CC0G132X9100C5
150	.200 x .200 x .125	1CC0G151X9100C4	1000	.300 x .200 x .125	2CC0G102X9100C4	1500	.390 x .200 x .125	3CC0G152X9100C5
160	.200 x .200 x .125	1CC0G161X9100C4	1100	.300 x .200 x .125	2CC0G112X9100C4	1600	.390 x .200 x .125	3CC0G162X9100C5
180	.200 x .200 x .125	1CC0G181X9100C4	1200	.300 x .200 x .125	2CC0G122X9100C4	1800	.390 x .200 x .150	3CC0G182X9100C5
200	.200 x .200 x .125	1CC0G201X9100C4	1300	.300 x .200 x .125	2CC0G132X9100C4	2000	.390 x .200 x .150	3CC0G202X9100C5
220	.200 x .200 x .125	1CC0G221X9100C4	1500	.300 x .200 x .125	2CC0G152X9100C4	2200	.390 x .200 x .150	3CC0G222X9100C5
240	.200 x .200 x .125	1CC0G241X9100C4	1600	.300 x .200 x .125	2CC0G162X9100C4	2400	.390 x .200 x .150	3CC0G242X9100C5
270	.200 x .200 x .125	1CC0G271X9100C4	1800	.300 x .200 x .125	2CC0G182X9100C4	2700	.390 x .200 x .125	3CC0G272X9100C5
300	.200 x .200 x .125	1CC0G301X9100C4	2000	.300 x .200 x .125	2CC0G202X9100C4	3000	.390 x .200 x .125	3CC0G302X9100C5
330	.200 x .200 x .125	1CC0G331X9100C4	2200	.300 x .200 x .125	2CC0G222X9100C4	3300	.390 x .200 x .125	3CC0G332X9100C5
360	.200 x .200 x .125	1CC0G361X9100C4	2400	.300 x .200 x .125	2CC0G242X9100C4	3600	.390 x .200 x .125	3CC0G362X9100C5
390	.200 x .200 x .125	1CC0G391X9100C4	2700	.300 x .200 x .125	2CC0G272X9100C4	3900	.390 x .200 x .125	3CC0G392X9100C5
430	.200 x .200 x .125	1CC0G431X9100C4	TYPE 3C			4300	.390 x .200 x .125	3CC0G432X9100C5
470	.200 x .200 x .125	1CC0G471X9100C4	51	.390 x .200 x .125	3CC0G510X9100C5	4700	.390 x .200 x .125	3CC0G472X9100C5
510	.200 x .200 x .125	1CC0G511X9100C4	56	.390 x .200 x .125	3CC0G560X9100C5	5100	.390 x .200 x .125	3CC0G512X9100C5
560	.200 x .200 x .125	1CC0G561X9100C4	62	.390 x .200 x .125	3CC0G620X9100C5	5600	.390 x .200 x .125	3CC0G562X9100C5
TYPE 2C			68	.390 x .200 x .125	3CC0G680X9100C5	6200	.390 x .200 x .125	3CC0G622X9100C5
51	.300 x .200 x .125	2CC0G510X9100C4	75	.390 x .200 x .125	3CC0G750X9100C5	TYPE 5C		
56	.300 x .200 x .125	2CC0G560X9100C4	82	.390 x .200 x .125	3CC0G820X9100C5	680	.500 x .200 x .125	5CC0G681X9100C5
62	.300 x .200 x .125	2CC0G620X9100C4	91	.390 x .200 x .125	3CC0G910X9100C5	750	.500 x .200 x .125	5CC0G751X9100C5
68	.300 x .200 x .125	2CC0G680X9100C4	100	.390 x .200 x .125	3CC0G101X9100C5	820	.500 x .200 x .125	5CC0G821X9100C5
75	.300 x .200 x .125	2CC0G750X9100C4	110	.390 x .200 x .125	3CC0G111X9100C5	910	.500 x .200 x .125	5CC0G911X9100C5
82	.300 x .200 x .125	2CC0G820X9100C4	120	.390 x .200 x .125	3CC0G121X9100C5	1000	.500 x .200 x .125	5CC0G102X9100C5
91	.300 x .200 x .125	2CC0G910X9100C4	130	.390 x .200 x .125	3CC0G131X9100C5	1100	.500 x .200 x .125	5CC0G112X9100C5
100	.300 x .200 x .125	2CC0G101X9100C4	150	.390 x .200 x .125	3CC0G151X9100C5	1200	.500 x .200 x .125	5CC0G122X9100C5
110	.300 x .200 x .125	2CC0G111X9100C4	160	.390 x .200 x .125	3CC0G161X9100C5	1300	.500 x .200 x .125	5CC0G132X9100C5
120	.300 x .200 x .125	2CC0G121X9100C4	180	.390 x .200 x .125	3CC0G181X9100C5	1500	.500 x .200 x .125	5CC0G152X9100C5
130	.300 x .200 x .125	2CC0G131X9100C4	200	.390 x .200 x .125	3CC0G201X9100C5	1600	.500 x .200 x .125	5CC0G162X9100C5
150	.300 x .200 x .125	2CC0G151X9100C4	220	.390 x .200 x .125	3CC0G221X9100C5	1800	.500 x .200 x .125	5CC0G182X9100C5
160	.300 x .200 x .125	2CC0G161X9100C4	240	.390 x .200 x .125	3CC0G241X9100C5	2000	.500 x .200 x .125	5CC0G202X9100C5
180	.300 x .200 x .125	2CC0G181X9100C4	270	.390 x .200 x .125	3CC0G271X9100C5	2200	.500 x .200 x .125	5CC0G222X9100C5
200	.300 x .200 x .125	2CC0G201X9100C4	300	.390 x .200 x .125	3CC0G301X9100C5	2400	.500 x .200 x .125	5CC0G242X9100C5
220	.300 x .200 x .125	2CC0G221X9100C4	330	.390 x .200 x .125	3CC0G331X9100C5	2700	.500 x .200 x .125	5CC0G272X9100C5
240	.300 x .200 x .125	2CC0G241X9100C4	360	.390 x .200 x .125	3CC0G361X9100C5	3000	.500 x .200 x .150	5CC0G302X9100C5
270	.300 x .200 x .125	2CC0G271X9100C4	390	.390 x .200 x .125	3CC0G391X9100C5	3300	.500 x .200 x .150	5CC0G332X9100C5
300	.300 x .200 x .125	2CC0G301X9100C4	430	.390 x .200 x .125	3CC0G431X9100C5	3600	.450 x .200 x .125	5CC0G362X9100C5
330	.300 x .200 x .125	2CC0G331X9100C4	470	.390 x .200 x .125	3CC0G471X9100C5	3900	.450 x .200 x .125	5CC0G392X9100C5
360	.300 x .200 x .125	2CC0G361X9100C4	510	.390 x .200 x .125	3CC0G511X9100C5	4300	.450 x .200 x .125	5CC0G432X9100C5
390	.300 x .200 x .125	2CC0G391X9100C4	560	.390 x .200 x .125	3CC0G561X9100C5	4700	.450 x .200 x .125	5CC0G472X9100C5
430	.300 x .200 x .125	2CC0G431X9100C4	620	.390 x .200 x .125	3CC0G621X9100C5	5100	.450 x .200 x .125	5CC0G512X9100C5
470	.300 x .200 x .125	2CC0G471X9100C4	680	.390 x .200 x .125	3CC0G681X9100C5	5600	.500 x .200 x .125	5CC0G562X9100C5
510	.300 x .200 x .125	2CC0G511X9100C4	750	.390 x .200 x .125	3CC0G751X9100C5	6200	.500 x .200 x .125	5CC0G622X9100C5
560	.300 x .200 x .125	2CC0G561X9100C4	820	.390 x .200 x .125	3CC0G821X9100C5	6800	.500 x .200 x .125	5CC0G682X9100C5
620	.300 x .200 x .125	2CC0G621X9100C4	910	.390 x .200 x .125	3CC0G911X9100C5	7500	.500 x .200 x .125	5CC0G752X9100C5
680	.300 x .200 x .125	2CC0G681X9100C4	1000	.390 x .200 x .125	3CC0G102X9100C5	8200	.500 x .200 x .125	5CC0G822X9100C5
750	.300 x .200 x .125	2CC0G751X9100C4	1100	.390 x .200 x .125	3CC0G112X9100C5	9100	.500 x .200 x .125	5CC0G912X9100C5
820	.300 x .200 x .125	2CC0G821X9100C4	1200	.390 x .200 x .125	3CC0G122X9100C5	.01μF	.500 x .200 x .125	5CC0G103X9100C5

†Cap. tol., ±10%. For ±5% cap. tol., change "X9" in Cat. No. to "X5."

TYPE 7C MONOLYTHIC[®] CERAMIC CAPACITORS



- Formulation X7R and COG Capacitors Are Rated at 100 WVDC Formulation Z5U at 50 WVDC.
- New Phenolic Terminal Base With Stand-Off "Feet" Provides these Advantages: No Resin Run-Down on Leads; Uniform Lead Spacing; No Dirt and Moisture Entrapment; Degreasing Fluid Flows Freely Between Capacitors and Board.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 6202.

Case Code	L.	W.	T.	Lead Spacing
D1	.400	.250	.160	.250
D2	.400	.400	.160	.250
E1	.500	.250	.160	.375
E2	.500	.300	.160	.375
E3	.500	.375	.160	.375
E4	.500	.500	.160	.375
E5	.625	.625	.160	.375

μF	Size Code	Cat. No.*	μF	Size Code	Cat. No.*	μF	Size Code	Cat. No.*	pF	Size Code	* Cat. No.*	μF	Size Code	Cat. No.*
GENERAL-APP. FORMULATION Z5U (50 WVDC @ 85°C)*														
.010	D1	7CZ5U103X0050D1	.0012	D1	7CX7R122X0100D1	.27	D2	7CX7R274X0100D2	180	D1	7CC0G181X9100D1	.0020	D1	7CC0G202X9100D1
.015	D1	7CZ5U153X0050D1	.0015	D1	7CX7R152X0100D1	.33	D2	7CX7R334X0100D2	200	D1	7CC0G201X9100D1	.0022	D1	7CC0G222X9100D1
.022	D1	7CZ5U223X0050D1	.0022	D1	7CX7R222X0100D1	.39	E3	7CX7R394X0100E3	220	D1	7CC0G221X9100D1	.0024	D1	7CC0G242X9100D1
.033	D1	7CZ5U333X0050D1	.0027	D1	7CX7R272X0100D1	.47	E4	7CX7R474X0100E4	240	D1	7CC0G241X9100D1	.0027	D2	7CC0G272X9100D2
.047	D1	7CZ5U473X0050D1	.0033	D1	7CX7R332X0100D1	.56	E4	7CX7R564X0100E4	270	D1	7CC0G271X9100D1	.0030	D2	7CC0G302X9100D2
.068	D1	7CZ5U683X0050D1	.0039	D1	7CX7R392X0100D1	.68	E4	7CX7R684X0100E4	300	D1	7CC0G301X9100D1	.0033	D2	7CC0G332X9100D2
.10	D1	7CZ5U104X0050D1	.0047	D1	7CX7R472X0100D1	.82	E5	7CX7R824X0100E5	330	D1	7CC0G331X9100D1	.0036	D2	7CC0G362X9100D2
.15	D1	7CZ5U154X0050D1	.0056	D1	7CX7R562X0100D1	1.0	E5	7CX7R105X0100E5	360	D1	7CC0G361X9100D1	.0039	D2	7CC0G392X9100D2
.22	D1	7CZ5U224X0050D1	.0068	D1	7CX7R682X0100D1	TEMP.-COMP. FORMULATION COG (100 WVDC @ 85°C, 50 WVDC @ 125°C)*								
.33	E1	7CZ5U334X0050E1	.0082	D1	7CX7R822X0100D1	51pF	D1	7CC0G510X9100D1	560	D1	7CC0G561X9100D1	.0062	E3	7CC0G622X9100E3
.47	E1	7CZ5U474X0050E1	.010	D1	7CX7R103X0100D1	56	D1	7CC0G560X9100D1	620	D1	7CC0G621X9100D1	.0068	E3	7CC0G682X9100E3
.68	E2	7CZ5U684X0050E2	.012	D1	7CX7R123X0100D1	62	D1	7CC0G620X9100D1	680	D1	7CC0G681X9100D1	.0075	E3	7CC0G752X9100E3
1.0	E2	7CZ5U105X0050E2	.015	D1	7CX7R153X0100D1	68	D1	7CC0G680X9100D1	750	D1	7CC0G751X9100D1	.0082	E4	7CC0G822X9100E4
1.5	E3	7CZ5U155X0050E3	.015	D1	7CX7R153X0100D1	75	D1	7CC0G750X9100D1	820	D1	7CC0G821X9100D1	.0091	E4	7CC0G912X9100E4
2.2	E4	7CZ5U225X0050E4	.022	D1	7CX7R223X0100D1	82	D1	7CC0G820X9100D1	910	D1	7CC0G911X9100D1	.010	E4	7CC0G103X9100E4
3.3	E5	7CZ5U335X0050E5	.027	D1	7CX7R273X0100D1	91	D1	7CC0G910X9100D1	.001μF	D1	7CC0G102X9100D1	.011	E5	7CC0G113X9100E5
4.7	E5	7CZ5U475X0050E5	.033	D1	7CX7R333X0100D1	100	D1	7CC0G101X9100D1	.0011	D1	7CC0G112X9100D1	.012	E5	7CC0G123X9100E5
TEMP.-STABLE FORMULATION X7R (100 WVDC @ 85°C, 50 WVDC @ 125°C)†														
.001	D1	7CX7R102X0100D1	.068	D1	7CX7R683X0100D1	110	D1	7CC0G111X9100D1	.0012	D1	7CC0G122X9100D1	.013	E5	7CC0G133X9100E5
*Cap. tol., ±20%. For +80%, -20% capacitors, change "X0" in Cat. No. to "D8."														
†Cap. tol., ±20%. For ±10% capacitors, change "X0" in Cat. No. to "X9."														

*Cap. tol., ±20%. For +80%, -20% capacitors, change "X0" in Cat. No. to "D8."

*Cap. tol., ±10%. For ±5% capacitors, change "X9" in Cat. No. to "X5."

SPRAGUE CAPACITORS

STYLE CK05, CKR05, CK06, and CKR06 CERAMIC CAPACITORS TO MIL-C-11015 and MIL-C-39014



- Molded rectangular-cased MONOLYTHIC® multi-layer capacitors for general purpose use where capacitance variations with respect to temperature, voltage, frequency, and life can be tolerated.
- Style CK05 and CK06 units manufactured to meet all requirements of MIL-C-11015; Style CKR05 and CKR06 units manufactured to MIL-C-39014.
- Style CK05, CK06 units not recommended for new designs, but for replacement only, and directly replaced by Style CKR05, CKR06 established reliability capacitors of same capacitance, tolerance, and voltage ratings.
- MIL temperature characteristic BX, operating temperature range -55 C to +125 C.
- Lead spacing, .200".
- For complete data, refer to latest issue of Engineering Bulletin 6251.7.

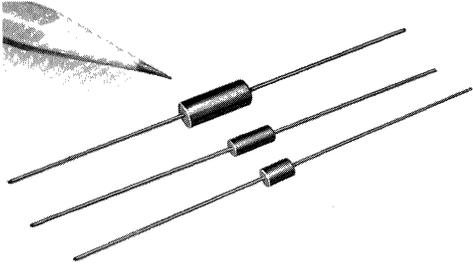
STYLES CK05 and CKR05 (.190" wide x .190" high x .090" thick)

pF	WVDC	Obsolete MIL-C-11015 Type Designation*	Popular MIL-C-39014 Type Designation*	MIL PART NUMBER M39014/01-							
				Failure Rate L (2%)		Failure Rate M (1%)		Failure Rate P (0.1%)		Failure Rate R (0.01%)	
				Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%	Cap. Tol. ±20%	Cap. Tol. ±10%
10	200	CK05BX100	CKR05BX100	1362	1361	1202	1201	1242	1241	1282	1281
12	200	CK05BX120K	CKR05BX120K	—	1363	—	1203	—	1243	—	1283
15	200	CK05BX150	CKR05BX150	1365	1364	1205	1204	1245	1244	1285	1284
18	200	CK05BX180K	CKR05BX180K	—	1366	—	1206	—	1246	—	1286
22	200	CK05BX220	CKR05BX220	1368	1367	1208	1207	1248	1247	1288	1287
27	200	CK05BX270K	CKR05BX270K	—	1369	—	1209	—	1249	—	1289
33	200	CK05BX330	CKR05BX330	1371	1370	1211	1210	1251	1250	1291	1290
39	200	CK05BX390K	CKR05BX390K	—	1372	—	1212	—	1252	—	1292
47	200	CK05BX470	CKR05BX470	1374	1373	1214	1213	1254	1253	1294	1293
56	200	CK05BX560K	CKR05BX560K	—	1375	—	1215	—	1255	—	1295
68	200	CK05BX680	CKR05BX680	1377	1376	1217	1216	1357	1356	1297	1296
82	200	CK05BX820K	CKR05BX820K	—	1378	—	1218	—	1258	—	1298
100	200	CK05BX101	CKR05BX101	1380	1379	1220	1219	1260	1259	1300	1299
120	200	CK05BX121K	CKR05BX121K	—	1381	—	1221	—	1261	—	1301
150	200	CK05BX151	CKR05BX151	1383	1382	1223	1222	1263	1262	1303	1302
180	200	CK05BX181K	CKR05BX181K	—	1384	—	1224	—	1264	—	1304
220	200	CK05BX221	CKR05BX221	1386	1385	1226	1225	1266	1265	1306	1305
270	200	CK05BX271K	CKR05BX271K	—	1387	—	1227	—	1267	—	1307
330	200	CK05BX331	CKR05BX331	1389	1388	1229	1228	1269	1268	1309	1308
390	200	CK05BX391K	CKR05BX391K	—	1390	—	1230	—	1270	—	1310
470	200	CK05BX471	CKR05BX471	1392	1391	1232	1231	1272	1271	1312	1311
560	200	CK05BX561K	CKR05BX561K	—	1393	—	1233	—	1273	—	1313
680	200	CK05BX681	CKR05BX681	1395	1394	1235	1234	1275	1274	1315	1314
820	200	CK05BX821K	CKR05BX821K	—	1396	—	1236	—	1276	—	1316
1000	200	CK05BX102	CKR05BX102	1398	1397	1238	1237	1278	1277	1318	1317
1200	100	CK05BX122K	CKR05BX122K	—	1399	—	1239	—	1279	—	1319
1500	100	CK05BX152	CKR05BX152	1401	1400	1441	1440	1481	1480	1521	1320
1800	100	CK05BX182K	CKR05BX182K	—	1402	—	1442	—	1482	—	1522
2200	100	CK05BX222	CKR05BX222	1404	1403	1444	1443	1484	1483	1524	1523
2700	100	CK05BX272K	CKR05BX272K	—	1405	—	1445	—	1485	—	1525
3300	100	CK05BX332	CKR05BX332	1407	1406	1447	1446	1487	1486	1527	1526
3900	100	CK05BX392K	CKR05BX392K	—	1408	—	1448	—	1488	—	1528
4700	100	CK05BX472	CKR05BX472	1410	1409	1450	1449	1490	1489	1530	1529
5600	100	CK05BX562K	CKR05BX562K	—	1411	—	1451	—	1491	—	1531
6800	100	CK05BX682	CKR05BX682	1413	1412	1453	1452	1493	1492	1533	1532
8200	100	CK05BX822K	CKR05BX822K	—	1414	—	1454	—	1494	—	1534
10000	100	CK05BX103	CKR05BX103	1416	1415	1456	1455	1496	1495	1536	1535
12000	50	CK05BX123K	CKR05BX123K	—	1417	—	1457	—	1497	—	1537
15000	50	CK05BX153	CKR05BX153	1419	1418	1459	1458	1499	1498	1539	1538
18000	50	CK05BX183K	CKR05BX183K	—	1420	—	1460	—	1500	—	1540
22000	50	CK05BX223	CKR05BX223	1422	1421	1462	1461	1502	1501	1542	1541
27000	50	CK05BX273K	CKR05BX273K	—	1423	—	1463	—	1503	—	1543
33000	50	CK05BX333	CKR05BX333	1425	1424	1465	1464	1505	1504	1545	1544
39000	50	CK05BX393K	CKR05BX393K	—	1426	—	1466	—	1506	—	1546
47000	50	CK05BX473	CKR05BX473	1428	1427	1468	1467	1508	1507	1548	1547
56000	50	CK05BX563K	CKR05BX563K	—	1429	—	1469	—	1509	—	1549
68000	50	CK05BX683	CKR05BX683	1431	1430	1471	1470	1511	1510	1551	1550
82000	50	CK05BX823K	CKR05BX823K	—	1432	—	1472	—	1512	—	1552
100000	50	CK05BX104	CKR05BX104	1434	1433	1474	1473	1514	1513	1554	1553

*Type Nos. shown are incomplete. Capacitance Tolerance and/or failure rate must be added to end of number. Where 10th character of Style "CK" number and 11th character of Style "CKR" number are blank, insert "K" for ±10% cap. tol., or "M" for ±20%. For "CKR" Capacitors only, a last character must be added to denote failure rate. ("CK" capacitors have no failure rate designation.) Insert "L" for 2%, "M" for 1%, "P" for 0.1%, "R" for 0.01%.

SPRAGUE CAPACITORS

TYPE 292C MOLDED MONOLYTHIC[®] CERAMIC CAPACITORS



- Miniature, low-cost, reliable, axial-leaded capacitors.
- Made by spraying alternate layers of ceramic dielectric material and metallic electrodes, then firing into a single, all but indestructible homogeneous block.
- Formulation Z5U and Y5U general application capacitors, well-suited for by-pass and other filtering jobs, have highest possible capacitance in smallest case size.
- Formulation X5R and X7R semi-stable type intended for by-pass and coupling applications where small size, low-cost are prime considerations.

- Formulation COG (NPO) temperature compensating type for use in circuits that require little or no change in capacitance with variations in temperature.
- For complete technical data, refer to latest issue of Engineering Bulletin G250.

DIMENSIONS

Case Code	D. x L. (inches)	D. x L. (mm)
B	.090 x .160	2.29 x 4.06
C	.090 x .250	2.29 x 6.35
E	.140 x .390	3.56 x 9.91

TEMPERATURE COMPENSATING FORMULATION COG (NPO)* (50 WVDC @ 125°C, 100 WVDC @ 85°C)

pF	Size Code	Cat. No.*	pF	Size Code	Cat. No.*	pF	Size Code	Cat. No.*	pF	Size Code	Cat. No.*
1.0	B	292CC0G1R0D050B	24	B	292CC0G240J050B	200	B	292CC0G201J050B	1600	E	292CC0G162J050E
1.2	B	292CC0G1R2D050B	27	B	292CC0G270J050B†	220	B	292CC0G221J050B†	1800	E	292CC0G182J050E†
1.5	B	292CC0G1R5D050B	30	B	292CC0G300J050B	240	B	292CC0G241J050B	2000	E	292CC0G202J050E
1.8	B	292CC0G1R8D050B	33	B	292CC0G330J050B†	270	B	292CC0G271J050B†	2200	E	292CC0G222J050E†
2.2	B	292CC0G2R2D050B	36	B	292CC0G360J050B	300	B	292CC0G301J050B	2400	E	292CC0G242J050E
2.7	B	292CC0G2R7D050B	39	B	292CC0G390J050B†	330	B	292CC0G331J050B†	2700	E	292CC0G272J050E†
3.3	B	292CC0G3R3D050B	43	B	292CC0G430J050B	360	B	292CC0G361J050B	3000	E	292CC0G302J050E
3.9	B	292CC0G3R9D050B	47	B	292CC0G470J050B†	390	B	292CC0G391J050B†	3300	E	292CC0G332J050E†
4.7	B	292CC0G4R7D050B	51	B	292CC0G510J050B	430	B	292CC0G431J050B	3600	E	292CC0G362J050E
5.6	B	292CC0G5R6D050B	56	B	292CC0G560J050B†	470	B	292CC0G471J050B†	3900	E	292CC0G392J050E†
6.8	B	292CC0G6R8D050B	62	B	292CC0G620J050B	510	B	292CC0G511J050B	4300	E	292CC0G432J050E
8.2	B	292CC0G8R2D050B	68	B	292CC0G680J050B†	560	B	292CC0G561J050B†	4700	E	292CC0G472J050E†
			75	B	292CC0G750J050B	620	C	292CC0G621J050C			
10	B	292CC0G100J050B†	82	B	292CC0G820J050B†	680	C	292CC0G681J050C†	5100	E	292CC0G512J050E
11	B	292CC0G110J050B	91	B	292CC0G910J050B	750	C	292CC0G751J050C†	5600	E	292CC0G562J050E†
12	B	292CC0G120J050B†	100	B	292CC0G101J050B†	820	C	292CC0G821J050C†	6200	E	292CC0G622J050E
13	B	292CC0G130J050B	110	B	292CC0G111J050B	910	C	292CC0G911J050C	6800	E	292CC0G682J050E†
15	B	292CC0G150J050B†	120	B	292CC0G121J050B†	1000	C	292CC0G102J050C†			
16	B	292CC0G160J050B	130	B	292CC0G131J050B	1100	E	292CC0G112J050E	7500	E	292CC0G752J050E
18	B	292CC0G180J050B†	150	B	292CC0G151J050B†	1200	E	292CC0G122J050E†	8200	E	292CC0G822J050E†
20	B	292CC0G200J050B	160	B	292CC0G161J050B	1300	E	292CC0G132J050E	9100	E	292CC0G912J050E
22	B	292CC0G220J050B†	180	B	292CC0G181J050B†	1500	E	292CC0G152J050E†	10000	E	292CC0G103J050E†

SEMI-STABLE FORMULATION X5R** (100 WVDC @ 85°C)

μF	Size Code	Cat. No.**	μF	Size Code	Cat. No.**
0.0010	B	292CX5R102K100B†	0.012	C	292CX5R123K100C
0.0012	B	292CX5R122K100B	0.015	C	292CX5R153K100C†
0.0015	B	292CX5R152K100B†	0.018	C	292CX5R183K100C
0.0018	B	292CX5R182K100B	0.022	C	292CX5R223K100C†
0.0022	B	292CX5R222K100B†			
			0.027	E	292CX5R273K100E
0.0027	B	292CX5R272K100B	0.033	E	292CX5R333K100E†
0.0033	B	292CX5R332K100B†	0.039	E	292CX5R393K100E
0.0039	B	292CX5R392K100B	0.047	E	292CX5R473K100E†
0.0047	B	292CX5R472K100B†	0.056	E	292CX5R563K100E
0.0056	B	292CX5R562K100B			
			0.068	E	292CX5R683K100E†
0.0068	B	292CX5R682K100B†	0.082	E	292CX5R823K100E
0.0082	B	292CX5R822K100B	0.10	E	292CX5R104K100E†
			0.12	E	292CX5R124K100E
0.010	B	292CX5R103K100B†	0.15	E	292CX5R154K100E†

SEMI-STABLE FORMULATION X7R** (50 WVDC @ 125°C, 100 WVDC @ 85°C)

μF	Size Code	Cat. No.**	μF	Size Code	Cat. No.**
0.0010	B	292CX7R102K050B†	0.012	C	292CX7R123K050C
0.0012	B	292CX7R122K050B	0.015	C	292CX7R153K050C†
0.0015	B	292CX7R152K050B†	0.018	C	292CX7R183K050C
0.0018	B	292CX7R182K050B	0.022	C	292CX7R223K050C†
0.0022	B	292CX7R222K050B†			
			0.027	E	292CX7R273K050E
0.0027	B	292CX7R272K050B	0.033	E	292CX7R333K050E†
0.0033	B	292CX7R332K050B†	0.039	E	292CX7R393K050E
0.0039	B	292CX7R392K050B	0.047	E	292CX7R473K050E†
0.0047	B	292CX7R472K050B†	0.056	E	292CX7R563K050E
0.0056	B	292CX7R562K050B			
			0.068	E	292CX7R683K050E†
0.0068	B	292CX7R682K050B†	0.082	E	292CX7R823K050E
0.0082	B	292CX7R822K050B	0.10	E	292CX7R104K050E†
			0.12	E	292CX7R124K050E
0.010	B	292CX7R103K050B†	0.15	E	292CX7R154K050E†

GENERAL APPLICATION FORMULATION Y5U◊ (50 WVDC @ 85°C)

μF	Size Code	Cat. No.◊	μF	Size Code	Cat. No.◊
0.01	B	292CY5U103M050B†	0.1	C	292CY5U104M050C†
0.015	B	292CY5U153M050B	0.15	E	292CY5U154M050E
0.022	B	292CY5U223M050B†			
0.033	B	292CY5U333M050B	0.22	E	292CY5U224M050E†
			0.33	E	292CY5U334M050E
0.047	B	292CY5U473M050B†	0.47	E	292CY5U474M050E†
0.068	C	292CY5U683M050C			

GENERAL APPLICATION FORMULATION Z5U◊ (50 WVDC @ 85°C)

μF	Size Code	Cat. No.◊	μF	Size Code	Cat. No.◊
0.010	B	292CZ5U103M050B†	0.10	C	292CZ5U104M050C†
0.015	B	292CZ5U153M050B	0.15	E	292CZ5U154M050E
0.022	B	292CZ5U223M050B†	0.22	E	292CZ5U224M050E†
0.033	B	292CZ5U333M050B	0.33	E	292CZ5U334M050E
			0.47	E	292CZ5U474M050E†
0.047	B	292CZ5U473M050B†	0.68	E	292CZ5U684M050E
0.068	C	292CZ5U683M050C	1.0	E	292CZ5U105M050E†

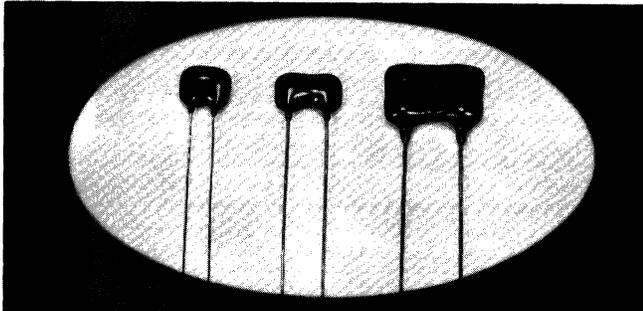
*Capacitance tolerance: 1.0 pF thru 8.2 pF, ±0.5pF. 10 pF and above, ±5%. Numbers followed by dagger (†) also available as ±10% units; change 11th character in catalog number from "J" to "K".

**Capacitance tolerance, ±10%. Numbers followed by dagger (†) also available as ±20% units; change 11th character in catalog number from "K" to "M".

◊Capacitance tolerance, ±20%. Numbers followed by dagger (†) also available as +80, -20% units; change 11th character in catalog number from "M" to "Z".

SPRAGUE CAPACITORS

TYPE MW and CM04/5/6 DIPPED MICA CAPACITORS



- Excellent electrical characteristics at low cost.
- For applications such as timing circuits and tuning circuits, where good capacitance stability and retrace are required.
- Operating temperature range: -55 C to +125 C.

- Multiple dipped coatings of phenolic and epoxy resins for high moisture resistance.
- Rated for operation at voltages to 500 WVDC.
- Capacitance tolerance: thru 10pF, ± 1/2 pF; 12 pF and above, ± 5%.

DIMENSIONS (in inches)

Code	L	W	T	Code	L	W	T	Code	L	W	T	Code	L	W	T
A	.360	.330	.190	M	.450	.360	.180	Y	.650	.510	.200	KK	.670	.530	.240
B	.370	.330	.190	N	.460	.360	.180	Z	.650	.510	.200	LL	.670	.530	.250
C	.370	.340	.190	O	.460	.370	.180	AA	.650	.510	.210	MM	.670	.540	.260
D	.370	.340	.200	P	.460	.370	.190	BB	.650	.510	.210	NN	.680	.540	.270
E	.370	.350	.200	Q	.460	.380	.190	CC	.650	.510	.210	OO	.680	.550	.280
F	.380	.350	.200	R	.460	.380	.200	DD	.650	.520	.220	PP	.680	.550	.290
G	.380	.360	.200	S	.470	.390	.210	EE	.650	.520	.220	QQ	.680	.560	.300
H	.380	.360	.210	T	.470	.400	.220	FF	.660	.520	.220	RR	.690	.560	.310
I	.350	.370	.210	U	.480	.400	.230	GG	.660	.520	.220	SS	.690	.570	.330
J	.350	.380	.220	V	.480	.410	.230	HH	.660	.520	.230	TT	.700	.580	.350
K	.390	.380	.230	W	.490	.420	.240	II	.660	.530	.230	UU	.710	.590	.370
L	.450	.360	.170	X	.640	.510	.200	JJ	.670	.530	.240				

pF	Size Code	Industrial/Commercial Cat. No.	MIL-C-5 Part No.	pF	Size Code	Industrial/Commercial Cat. No.	MIL-C-5 Part No.	pF	Size Code	Industrial/Commercial Cat. No.	MIL-C-5 Part No.
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TYPE MWA and CM04 (Lead Spacing, 0.140")

1	A	MWA-010	CM04CD010D03	36	C	MWA-360	CM04ED360J03	150	H	MWA-151	CM04FD151J03
5	A	MWA-050	CM04CD050D03	39	C	MWA-390	CM04ED390J03	160	H	MWA-161	CM04FD161J03
6	A	MWA-060	CM04CD060D03	43	C	MWA-430	CM04ED430J03	180	I	MWA-181	CM04FD181J03
7	A	MWA-070	CM04CD070D03	47	C	MWA-470	CM04ED470J03	200	J	MWA-201	CM04FD201J03
8	A	MWA-080	CM04CD080D03	51	C	MWA-510	CM04ED510J03	220	J	MWA-221	CM04FD221J03
10	A	MWA-100	CM04CD100D03	56	C	MWA-560	CM04ED560J03	240	J	MWA-241	CM04FD241J03
12	A	MWA-120	CM04CD120J03	62	C	MWA-620	CM04ED620J03	300	J	MWA-301	—
15	A	MWA-150	CM04CD150J03	68	C	MWA-680	CM04ED680J03	330	J	MWA-331	—
18	A	MWA-180	CM04CD180J03	75	C	MWA-750	CM04ED750J03	360	J	MWA-361	—
20	A	MWA-200	CM04ED200J03	82	D	MWA-820	CM04ED820J03	390	J	MWA-391	—
22	A	MWA-220	CM04ED220J03	91	E	MWA-910	CM04FD910J03	430	K	MWA-431	—
24	A	MWA-240	CM04ED240J03	100	E	MWA-101	CM04FD101J03	470	K	MWA-471	—
27	B	MWA-270	CM04ED270J03	110	F	MWA-111	CM04FD111J03	510	K	MWA-511	—
30	C	MWA-300	CM04ED300J03	120	F	MWA-121	CM04FD121J03				
33	C	MWA-330	CM04ED330J03	130	G	MWA-131	CM04FD131J03				

TYPE MWB and CM05 (Lead Spacing, 0.234")

1	L	MWB-010	CM05CD010D03	36	L	MWB-360	CM05ED360J03	150	P	MWB-151	CM05FD151J03
5	L	MWB-050	CM05CD050D03	39	L	MWB-390	CM05ED390J03	160	P	MWB-161	CM05FD161J03
6	L	MWB-060	CM05CD060D03	43	L	MWB-430	CM05ED430J03	180	P	MWB-181	CM05FD181J03
7	L	MWB-070	CM05CD070D03	47	L	MWB-470	CM05ED470J03	200	Q	MWB-201	CM05FD201J03
8	L	MWB-080	CM05CD080D03	51	L	MWB-510	CM05ED510J03	220	R	MWB-221	CM05FD221J03
10	L	MWB-100	CM05CD100D03	56	L	MWB-560	CM05ED560J03	240	R	MWB-241	CM05FD241J03
12	L	MWB-120	CM05CD120J03	62	L	MWB-620	CM05ED620J03	270	S	MWB-271	CM05FD271J03
15	L	MWB-150	CM05CD150J03	68	M	MWB-680	CM05ED680J03	300	S	MWB-301	CM05FD301J03
18	L	MWB-180	CM05CD180J03	75	M	MWB-750	CM05ED750J03	330	S	MWB-331	CM05FD331J03
20	L	MWB-200	CM05ED200J03	82	M	MWB-820	CM05ED820J03	360	T	MWB-361	CM05FD361J03
22	L	MWB-220	CM05ED220J03	91	N	MWB-910	CM05FD910J03	390	T	MWB-391	CM05FD391J03
24	L	MWB-240	CM05ED240J03	100	N	MWB-101	CM05FD101J03	430	U	MWB-431	—
27	L	MWB-270	CM05ED270J03	110	O	MWB-111	CM05FD111J03	470	V	MWB-471	—
30	L	MWB-300	CM05ED300J03	120	O	MWB-121	CM05FD121J03	510	W	MWB-511	—
33	L	MWB-330	CM05ED330J03	130	O	MWB-131	CM05FD131J03				

TYPE MWC and CM06 (Lead Spacing, 0.343")

430	X	MWC-431	CM06FD431J03	1000	DD	MWC-102	CM06FD102J03	2400	MM	MWC-242	CM06FD242J03
470	X	MWC-471	CM06FD471J03	1100	EE	MWC-112	CM06FD112J03	2700	NN	MWC-272	CM06FD272J03
510	Y	MWC-511	CM06FD511J03	1200	FF	MWC-122	CM06FD122J03	3000	OO	MWC-302	CM06FD302J03
560	Y	MWC-561	CM06FD561J03	1300	GG	MWC-132	CM06FD132J03	3300	PP	MWC-332	CM06FD332J03
620	Z	MWC-621	CM06FD621J03	1500	HH	MWC-152	CM06FD152J03	3600	QQ	MWC-362	CM06FD362J03
680	AA	MWC-681	CM06FD681J03	1600	II	MWC-162	CM06FD162J03	3900	RR	MWC-392	CM06FD392J03
750	BB	MWC-751	CM06FD751J03	1800	JJ	MWC-182	CM06FD182J03	4300	SS	MWC-432	CM06FD432J03
820	BB	MWC-821	CM06FD821J03	2000	KK	MWC-202	CM06FD202J03	4700	TT	MWC-472	CM06FD472J03
910	CC	MWC-911	CM06FD911J03	2200	LL	MWC-222	CM06FD222J03	5100	UU	MWC-512	—

SPRAGUE-GOODMAN CAPACITORS

PISTONCAP® PRECISION TRIMMER CAPACITORS

- Low Loss Glass or Quartz Dielectric.
- Simplified Long Life, Reliable Adjust Mechanism.
- High Stability Under Conditions of Changing Frequency, Voltage, Temperature, etc.
- Dielectric Strength, Twice Rated Voltage.
- Driving Torque, 1 to 10 ounce-inches.
- Insulation Resistance ,10⁶ Megohms at +25°C. (See Temperature Table for IR at Peak Temp.)
- Standard Sealed and Expanded Range Sealed Types Use Latest Design of Multi-lobed Seal at Adjust End.

TEMPERATURE TABLE

Temp. Char.	Operating Temperature Range	Temp. Coefficient (ppm/°C)	IR at Peak Temp. (M Ω)
G	-55 C to +125 C	± 150	10 ⁵
H	-55 C to +125 C	± 100	10 ⁵
J	-55 C to +125 C	± 50	10 ⁵
Q	-55 C to +150 C	+50, -0	10 ⁶
Y	-55 C to +125 C	+75, ± 75	10 ⁵

MIL-C-14409C CAPACITORS

Sprague-Goodman is an approved supplier of the following Series:

Style	Characteristics	Style	Characteristics
PC38	H, J	PC43	All
PC39	All	PC48	H, J
PC40	H, J	PC50	H, J
PC41	H, J	PC51	H, J
PC42	H, J	PC52	H, J

PRINTED CIRCUIT MOUNTING

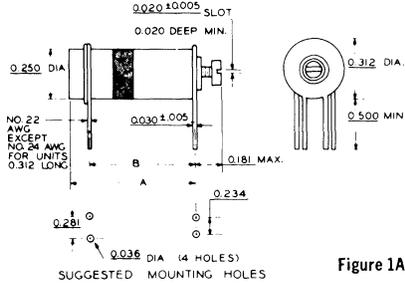


Figure 1A

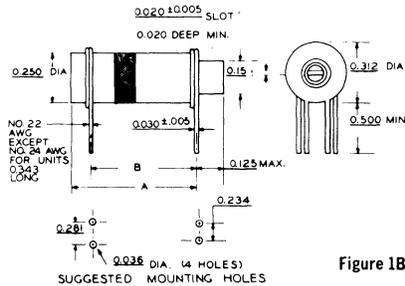


Figure 1B

Capacitance Range in pF	D-C Voltage Rating (Volts)	Temp. Char. (See Table)	Minimum Quality Factor Q	OPEN END (Fig. 1A)			COLLARED BUSHING (Fig. 1B)			
				Cat. No.	A Max. In.	B ± 0.031 In.	Cat. No.	A Max. In.	B ± 0.031 In.	
STANDARD GLASS DIELECTRIC										
0.8	4.5	750	J	500	GGC4R500	0.312	0.250	GGN4R500	0.343	0.250
0.8	8.5	750	J	500	GGC8R500	0.562	0.438	GGN8R500	0.593	0.438
0.8	12.0	750	H	500	GGC12000	0.766	0.625	GGN12000	0.797	0.625
0.8	18.0	750	H	500	GGC18000	1.000	0.875	GGN18000	1.031	0.875
0.8	30.0	750	H	350	GGC30000	1.609	1.375	GGN30000	1.640	1.375
HI-RANGE GLASS DIELECTRIC										
0.8	5.5	750	J	1000	GHC5R500	0.312	0.250	GHN5R500	0.343	0.250
0.8	11.0	750	J	900	GHC11000	0.562	0.438	GHN11000	0.593	0.438
0.8	16.0	750	H	800	GHC16000	0.766	0.625	GHN16000	0.797	0.625
0.8	23.0	750	H	700	GHC23000	1.000	0.875	GHN23000	1.031	0.875
0.8	38.0	750	H	500	GHC38000	1.609	1.375	GHN38000	1.640	1.375
QUARTZ DIELECTRIC										
0.6	1.8	750	Q	1500	GQC1R800	0.312	0.250			
0.6	5.5	750	Q	1500	GQC5R500	0.562	0.438			
0.6	9.5	750	Q	1500	GQC9R500	1.000	0.875			
0.8	16.0	750	Q	1500	GQC16000	1.609	1.375			

EXPANDED RANGE PRINTED CIRCUIT MOUNTING

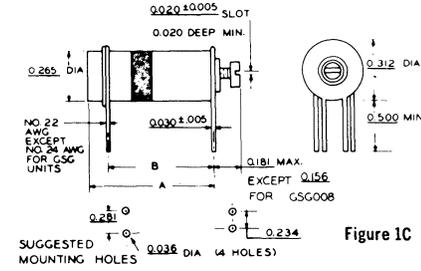


Figure 1C

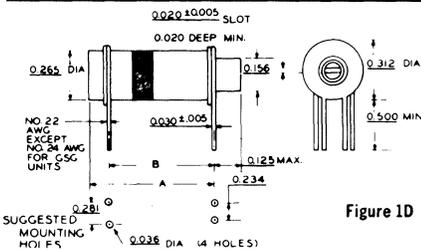


Figure 1D

Capacitance Range in pF	D-C Voltage Rating (Volts)	Temp. Char. (See Table)	Minimum Quality Factor Q	OPEN END (Fig. 1C)			COLLARED BUSHING (Fig. 1D)			
				Cat. No.	A Max. In.	B ± 0.031 In.	Cat. No.	A Max. In.	B ± 0.031 In.	
STANDARD GLASS DIELECTRIC										
1.2	10.0	500	Y	500	GSG008	0.277	0.250			
1.0	14.0	750	G	500	GEC14000	0.391	0.328	GEN14000	0.422	0.328
1.0	28.0	750	G	350	GEC28000	0.625	0.500	GEN28000	0.656	0.500
1.0	42.0	750	G	250	GEC42000	0.843	0.734	GEN42000	0.875	0.734
1.0	60.0	750	G	250	GEC60000	1.093	0.906	GEN60000	1.125	0.906
1.0	90.0	750	G	250	GEC90000	1.688	1.516	GEN90000	1.719	1.516
HI-RANGE GLASS DIELECTRIC										
1.2	16.0	500	Y	750	GSG009	0.323	0.250			
1.0	16.0	750	G	750	GFC16000	0.391	0.328	GFN16000	0.422	0.328
1.0	36.0	750	G	550	GFC36000	0.625	0.500	GFN36000	0.656	0.500
1.0	52.0	750	G	350	GFC52000	0.843	0.734	GFN52000	0.875	0.734
1.0	75.0	750	G	250	GFC75000	1.093	0.906	GFN75000	1.125	0.906
1.0	120.0	750	G	250	GFC12100	1.688	1.516	GFN12100	1.719	1.516

SPRAGUE-GOODMAN CAPACITORS

PISTONCAP® PRECISION TRIMMER CAPACITORS, continued

SEALED PRINTED CIRCUIT MOUNTING

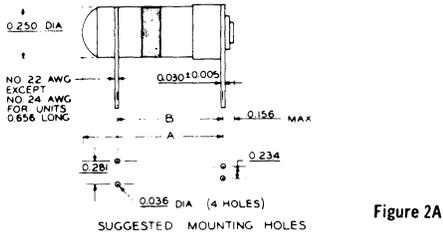


Figure 2A

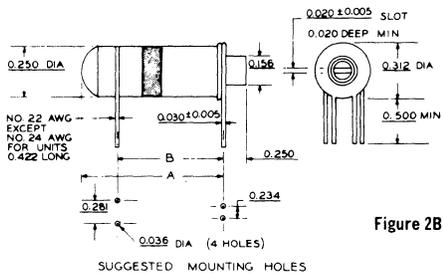


Figure 2B

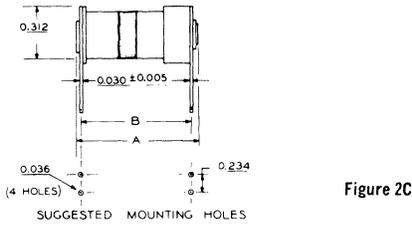


Figure 2C

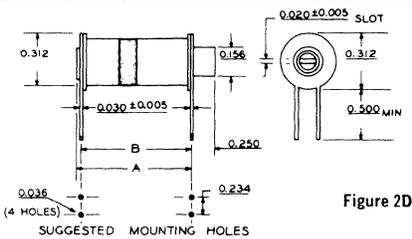


Figure 2D

Capacitance Range in pF	D-C Voltage Rating (Volts)	Temp. Char. (See Table)	Minimum Quality Factor Q	STANDARD SEALED (Fig. 2A)			COLLARED BUSHING SEALED (Fig. 2B)			
				Cat. No.	A Max. In.	B ± 0.031 In.	Cat. No.	A Max. In.	B ± 0.031 In.	
STANDARD GLASS DIELECTRIC										
0.8	4.5	750	J	500	GGL4R500	0.656	0.500	GGV4R500	0.422	0.250
0.8	8.5	1250	J	500	GGL8R500	0.906	0.703	GGV8R500	0.641	0.438
0.8	12.0	1250	H	500	GGL12000	1.109	0.844	GGV12000	0.859	0.625
0.8	18.0	1250	H	500	GGL18000	1.359	1.016	GGV18000	1.109	0.875
0.8	30.0	1250	H	350	GGL30000	1.953	1.469	GGV30000	1.703	1.375
HI-RANGE GLASS DIELECTRIC										
0.8	5.5	750	J	1000	GHL5R500	0.656	0.500	GHV5R500	0.422	0.250
0.8	11.0	1250	J	900	GHL11000	0.906	0.703	GHV11000	0.641	0.438
0.8	16.0	1250	H	800	GHL16000	1.109	0.844	GHV16000	0.859	0.625
0.8	23.0	1250	H	700	GHL23000	1.359	1.016	GHV23000	1.109	0.875
0.8	38.0	1250	H	500	GHL38000	1.953	1.469	GHV38000	1.703	1.375
QUARTZ DIELECTRIC										
0.6	1.8	750	Q	1500	GQL1R800	0.656	0.500			
0.6	5.5	1250	Q	1500	GQL5R500	0.922	0.703			
0.6	9.5	1250	Q	1500	GQL9R500	1.359	1.016			
0.8	16.0	1250	Q	1500	GQL16000	1.953	1.469			

EXPANDED RANGE SEALED PRINTED CIRCUIT MOUNTING

Capacitance Range in pF	D-C Voltage Rating (Volts)	Temp. Char. (See Table)	Minimum Quality Factor Q	SEALED END (Fig. 2C)			COLLARED BUSHING (Fig. 2D)			
				Cat. No.	A Max. In.	B ± 0.031 In.	Cat. No.	A Max. In.	B ± 0.031 In.	
STANDARD GLASS										
1.0	14.0	1000	G	500	GEL14000	0.780	0.700	GEV14000	0.484	0.422
1.0	28.0	1000	G	350	GEL28000	1.020	0.940	GEV28000	0.734	0.672
1.0	42.0	1000	G	250	GEL42000	1.235	1.155	GEV42000	0.938	0.875
1.0	60.0	1000	G	250	GEL60000	1.480	1.400	GEV60000	1.188	1.125
1.0	90.0	1000	G	250	GEL90000	2.080	2.000	GEV90000	1.781	1.734
HI-RANGE GLASS										
1.0	16.0	1000	G	750	GFL16000	0.780	0.700	GFV16000	0.484	0.422
1.0	36.0	1000	G	550	GFL36000	1.020	0.940	GFV36000	0.734	0.672
1.0	52.0	1000	G	350	GFL52000	1.235	1.155	GFV52000	0.938	0.875
1.0	75.0	1000	G	250	GFL75000	1.480	1.400	GFV75000	1.188	1.125
1.0	120.0	1000	G	250	GFL12100	2.080	2.000	GFV12100	1.781	1.734

PANEL MOUNTING

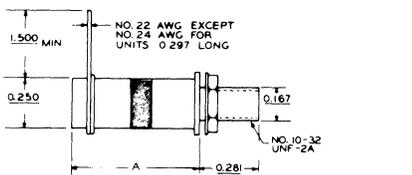


Figure 3A

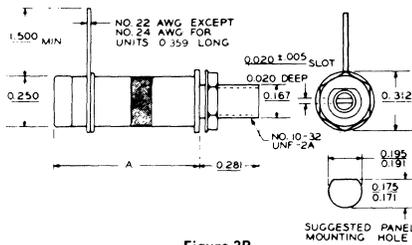


Figure 3B

Capacitance Range in pF	D-C Voltage Rating (Volts)	Min. Quality Factor Q	Temp. Char. (See Table)	Cat. No.	A ± 0.047 - 0.031 In.
STANDARD GLASS					
0.8	4.5	750	J	GGP4R500	0.297
0.8	8.5	750	J	GGP8R500	0.547
0.8	12.0	750	H	GGP12000	0.750
0.8	18.0	750	H	GGP18000	0.984
0.8	30.0	750	H	GGP30000	1.594
HI-RANGE GLASS					
0.8	5.5	750	J	GHP5R500	0.297
0.8	11.0	750	J	GHP11000	0.547
0.8	16.0	750	H	GHP16000	0.750
0.8	23.0	750	H	GHP23000	0.984
0.8	38.0	750	H	GHP38000	1.594
QUARTZ					
0.6	1.8	750	Q	GQP1R800	0.297
0.6	5.5	750	Q	GQP5R500	0.547
0.6	9.5	750	Q	GQP9R500	0.984
0.8	16.0	750	Q	GQP16000	1.594

SEALED PANEL MOUNTING

Capacitance Range in pF	D-C Voltage Rating (Volts)	Min. Quality Factor Q	Temp. Char. (See Table)	Cat. No.	Length A ± 0.031 In.
STANDARD GLASS					
0.8	4.5	750	J	GGR4R500	0.359
0.8	8.5	1250	J	GGR8R500	0.594
0.8	12.0	1250	H	GGR12000	0.812
0.8	18.0	1250	H	GGR18000	1.062
0.8	30.0	1250	H	GGR30000	1.656
HI-RANGE GLASS					
0.8	5.5	750	J	GHR5R500	0.359
0.8	11.0	1250	J	GHR11000	0.594
0.8	16.0	1250	H	GHR16000	0.812
0.8	23.0	1250	H	GHR23000	1.062
0.8	38.0	1250	H	GHR38000	1.656
QUARTZ					
0.6	1.8	750	Q	GQR1R800	0.359
0.6	5.5	1250	Q	GQR5R500	0.625
0.6	9.5	1250	Q	GQR9R500	1.062
0.8	16.0	1250	Q	GQR16000	1.656

SPRAGUE-GOODMAN CAPACITORS

PISTONCAP® PRECISION TRIMMER CAPACITORS, continued

EXPANDED RANGE PANEL MOUNTING

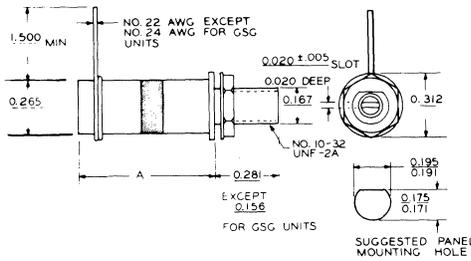


Figure 3C

Capacitance Range in pF Min. Max.	D-C Voltage Rating (Volts)	Minimum Quality Factor Q	Temp. Char. (See Table)	Cat. No. Figure 3C	A ± 0.031 In.
STANDARD GLASS DIELECTRIC					
1.2 10.0	500	500	Y	GSG006	0.266
1.0 14.0	750	500	G	GEP14000	0.375
1.0 28.0	750	350	G	GEP28000	0.609
1.0 42.0	750	250	G	GEP42000	0.828
1.0 60.0	750	250	G	GEP60000	1.078
1.0 90.0	750	250	G	GEP90000	1.672
HI-RANGE GLASS DIELECTRIC					
1.2 16.0	500	750	Y	GSG007	0.312
1.0 16.0	750	750	G	GFP16000	0.375
1.0 36.0	750	550	G	GFP36000	0.609
1.0 52.0	750	350	G	GFP52000	0.828
1.0 75.0	750	250	G	GFP75000	1.078
1.0 120.0	750	250	G	GFP12100	1.672

EXPANDED RANGE SEALED PANEL MOUNTING

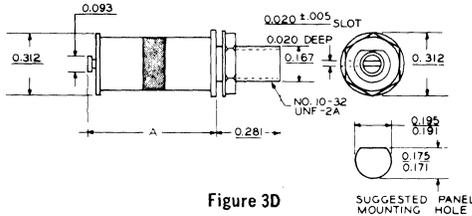
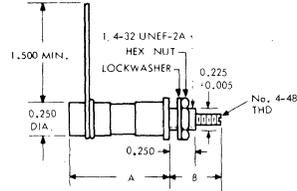


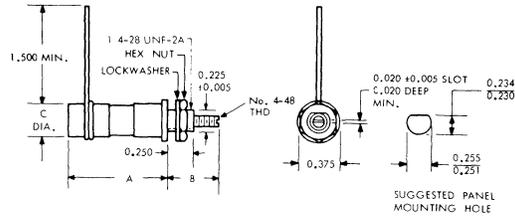
Figure 3D

Capacitance Range in pF Min. Max.	D-C Voltage Rating (Volts)	Min. Quality Factor Q	Temp. Char. (See Table)	Cat. No. Figure 3D	Length A ± 0.031 In.
STANDARD GLASS					
1.0 14	1000	500	G	GER14000	0.469
1.0 28	1000	350	G	GER28000	0.703
1.0 42	1000	250	G	GER42000	0.922
1.0 60	1000	250	G	GER60000	1.172
1.0 90	1000	250	G	GER90000	1.766
HI-RANGE GLASS					
1.0 16	1000	750	G	GFR16000	0.469
1.0 36	1000	550	G	GFR36000	0.703
1.0 52	1000	350	G	GFR52000	0.922
1.0 75	1000	250	G	GFR75000	1.172
1.0 120	1000	250	G	GFR12100	1.766

EXTENDED-SCREW, 1/4" DIA. MOUNTING BUSHING



TYPES GGW, GHW, GSG904 THRU 906



TYPES GQW, GSG900 THRU 903, AND GSG907 THRU 910

SPECIFICATIONS

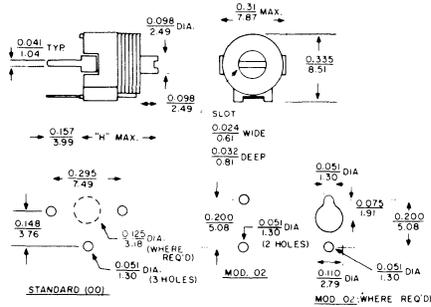
Operating Temperature Range: Wire Size:
 -55°C to +125°C (Glass) No. 22 AWG
 -55°C to +150°C (Quartz) Except GGW3R000
 Voltage Rating: 750 Volts D-C No. 24 AWG

Cap. Range in pF Min. Max.	Min. Q at 20 MHz	Temp. Coeff. in ppm/°C	Model	Length A ± 0.031	Screw Extension B Max.
STANDARD GLASS					
0.5 3.0	500	± 50	GGW3R000	0.484	0.625
0.8 8.5	500	± 75	GGW8R500	0.578	0.625
0.7 9.0	500	± 75	GGW9R000	0.656	0.656
0.8 12.0	500	± 100	GGW12000	0.765	0.750
0.8 18.0	500	± 100	GGW18000	1.000	0.843
0.8 30.0	500	± 100	GGW30000	1.594	1.141
HI-RANGE GLASS					
0.5 4.5	1000	± 100	GHW4R500	0.484	0.625
0.8 11.0	900	± 100	GHW11000	0.578	0.625
0.8 13.0	900	± 100	GHW13000	0.609	0.625
0.8 17.0	800	± 100	GHW17000	0.765	0.750
1.0 24.0	700	± 100	GHW24000	1.000	0.812
1.0 40.0	500	± 100	GHW40000	1.594	1.125
STANDARD GLASS - SPECIAL TEMP. COEFF.*					
0.7 9.0	500	+400 ± 100	GSG904	0.656	0.797
0.8 18.0	500	+400 ± 100	GSG905	1.000	0.938
0.8 30.0	500	+400 ± 100	GSG906	1.594	1.250
QUARTZ (C = 0.250 DIA. TUBE)					
0.6 5.5	1500	+50, -0	GQW5R500	0.563	0.765
0.6 9.5	1500	+50, -0	GQW9R500	1.000	0.891
0.8 16.0	1500	+50, -0	GQW16000	1.594	1.250
QUARTZ (C = 0.250 DIA. TUBE)*					
0.7 4.5	1500	+50, -0	GSG907	0.438	0.546
0.6 6.0	1500	+50, -0	GSG908	0.625	0.906
0.8 10.0	1500	+50, -0	GSG909	1.000	0.891
0.9 21.0	1500	+50, -0	GSG910	1.594	1.000
STANDARD GLASS (C = 0.250 DIA. TUBE)*					
0.7 9.0	500	+0, -150	GSG900	0.656	0.765
0.6 14.0	500	+0, -150	GSG901	1.000	1.000
0.8 18.0	500	+0, -150	GSG902	1.000	0.953
0.8 30.0	500	+0, -150	GSG903	1.594	1.250

*The "GSG" model prefix signifies a special design. Part numbers for these devices are assigned sequentially and are not in accordance with the standard part numbering system.

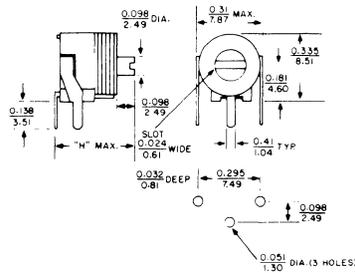
SPRAGUE-GOODMAN CAPACITORS

FILMTRIM® TRIMMER CAPACITORS



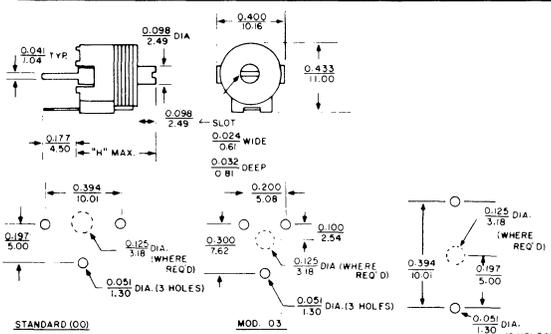
RECOMMENDED MOUNTING HOLES

8 mm TOP MOUNT



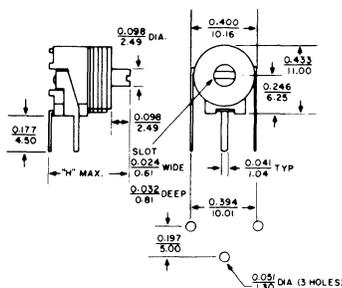
RECOMMENDED MOUNTING HOLES

8 mm SIDE MOUNT

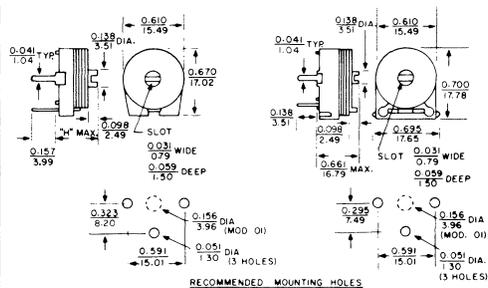


RECOMMENDED MOUNTING HOLES

10 mm TOP MOUNT



10 mm SIDE MOUNT

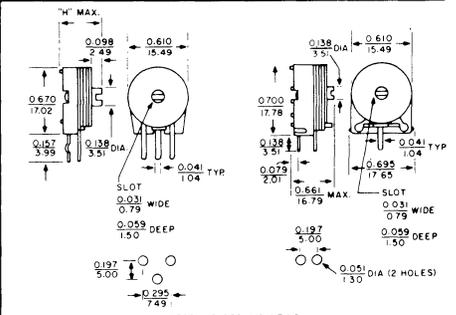


STYLE H

RECOMMENDED MOUNTING HOLES

STYLE N

16 mm TOP MOUNT



STYLE J

RECOMMENDED MOUNTING HOLES

STYLE P

16 mm SIDE MOUNT

- Teflon®, Polypropylene, Polycarbonate Dielectrics.
- Highly Resistant to Humidity.
- Very Wide Capacitance Ranges.
- Low Cost for Commercial/Industrial Applications.
- Compact, Conserves Board Space.
- All Models Tune from Both Sides.
- Most Stable TCC for Size.
- Special Modifications and Variations Available.

Catalog Number		Capacitance Range		Temp. Coeff. in ppm/°C	Q at 1 MHz	Torque Oz.-In.	H Max.	Color of Disc
Top Mount	Side Mount	Min.	Max.					
8 mm TEFLON								
GXA5R500	GXB5R500	1.4	5.5	0, ±300	1600	.30/2.2	0.422	Grey
GXA9R000	GXB9R000	2.0	9.0	0, ±300	2500	.30/2.2	0.422	Yellow
GXA18000	GXB18000	2.3	18.0	0, ±250	3300	.35/2.6	0.422	Green
GXA27000	GXB27000	2.5	27.0	-50, ±150	4000	.35/2.9	0.422	Red
GXA36000	GXB36000	3.5	36.0	-50, ±150	5000	.40/3.5	0.489	Violet
GXA45000	GXB45000	4.0	45.0	-50, ±150	5000	.40/4.0	0.489	Orange
8 mm POLYPROPYLENE								
GYA5R500	GYB5R500	1.4	5.5	+100, ±500	1250	.30/3.5	0.422	Grey
GYA10000	GYB10000	2.0	10.0	+100, ±300	1250	.40/4.0	0.422	Yellow
GYA22000	GYB22000	2.3	22.0	+100, ±250	1600	.40/4.0	0.422	Green
GYA27000	GYB27000	2.3	27.0	+100, ±250	1600	.40/4.0	0.422	Red
8 mm TEFLON HIGH TEMPERATURE								
GXE5R500	N/A	1.0	5.5	-50, ±150	2000	.40/3.5	0.422	Orange
GXE9R000	N/A	1.0	9.0	-50, ±150	2000	.40/3.5	0.422	Grey
GXE18000	N/A	1.5	18.0	-50, ±150	2500	.40/3.5	0.422	Red
10 mm TEFLON								
GXC13000	GXD13000	2.0	13.0	0, ±300	1600	.30/3.0	0.422	Blue
GXC26000	GXD26000	3.0	26.0	0, ±250	2000	.35/4.0	0.422	Green
GXC38000	GXD38000	4.0	38.0	-50, ±200	2500	.35/4.0	0.422	Grey
GXC60000	GXD60000	5.5	60.0	-50, ±150	3300	.40/4.0	0.489	Yellow
GXC75000	GXD75000	6.5	75.0	-50, ±150	5000	.35/4.0	0.489	Red
10 mm POLYPROPYLENE								
GYC20000	GYD20000	2.5	20.0	+400, ±400	1250	.40/4.0	0.422	Green
GYC40000	GYD40000	3.0	40.0	+300, ±250	1600	.40/5.0	0.422	Grey
GYC65000	GYD65000	3.5	65.0	+250, ±200	2000	.40/5.0	0.422	Yellow
10 mm POLYCARBONATE								
GZC70000	GZD70000	10.0	70.0	0, ±250	200	.40/5.0	0.489	Red
GZC90000	GZD90000	12.0	90.0	0, ±250	200	.40/5.0	0.489	Violet
GZC12100	GZD12100	14.0	115.0	0, ±250	250	.55/5.5	0.489	Orange
10 mm TEFLON HIGH TEMPERATURE								
GXF25000	N/A	3.0	25.0	0, ±150	3300	.70/4.0	0.422	Grey
GXF40000	N/A	4.0	40.0	0, ±150	3300	.70/4.0	0.422	Yellow
GXF60000	N/A	5.0	60.0	0, ±150	3300	.70/4.0	0.489	Blue
16 mm POLYCARBONATE								
GZH80000	GZJ80000	7.0	80.0	+50, ±500	400	.40/4.0	0.418	Green
GZH13100	---	8.0	125.0	0, ±350	330	.40/5.5	0.446	Red
GZN12100	GZP12100	7.0	120.0	-200, ±400	330	.40/5.5	---	Red
GZN16100	GZP16100	8.0	160.0	-175, ±325	330	.40/6.2	---	Violet
GZN20100	GZP20100	9.0	200.0	-150, ±250	330	.50/7.0	---	Orange
GZN30100	GZP30100	18.0	300.0	0, ±250	330	.70/5.5	---	Grey

All dimensions are in inches/millimetres. Unless otherwise specified, the tolerance on all dimensions of 0.100" or less is ±0.005", on dimensions of 0.101" or greater, tolerance is ±0.016".

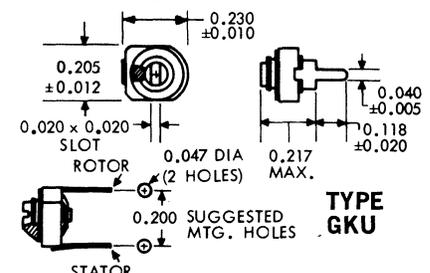
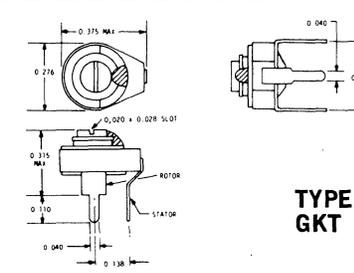
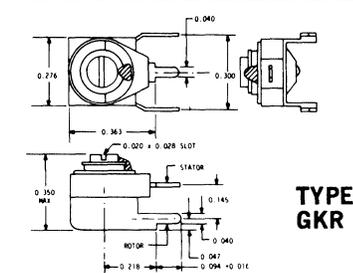
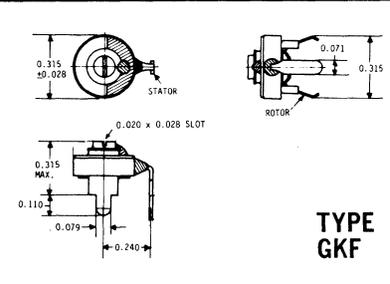
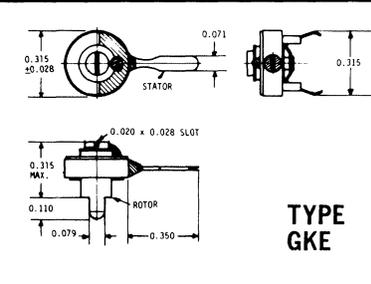
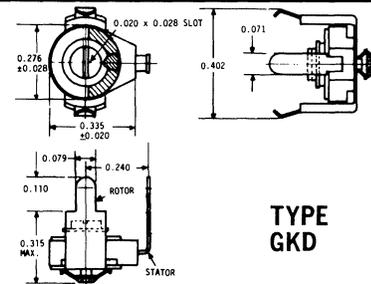
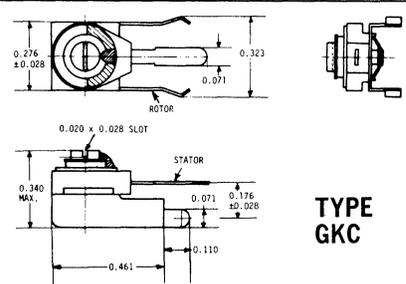
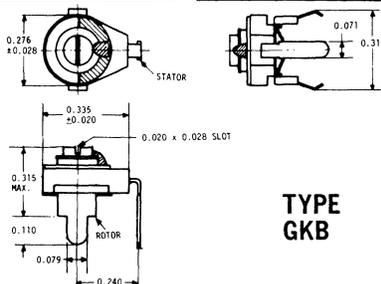
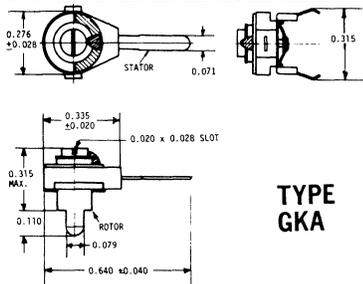
SPRAGUE-GOODMAN CAPACITORS

MINIATURE CERAMIC TRIMMER CAPACITORS

- Printed Circuit Mounting Type
- Low Cost for Industrial and Commercial Applications
- Operating Temp. Range: -55°C to +85°C
- Insulation Resistance: 10⁹ Megohms Min. at +25°C
- Compact Form Factor Conserves Mounting Space
- Variety of Mounting Configurations
- Voltage Rating: 250 Volts D-C
- Driving Torque: 0.5 to 2.5 ounce-inches (Types A-F, R, T)
- Straight Line Capacitance Curve
- Snap Fit in Printed Circuit Board
- Dielectric Strength: 500 Volts D-C
- 0.4 to 2.0 ounce-inches (Type U)

Cap. Range		Min. Q at 10 MHz	Temp.* Coeff. in ppm/°C	Cat. No.	Color Code
Min.	Max.				
1.5	4.0	300	NPO±250	GKU4R000	Black
2.0	6.0	300	NPO±200	GKA6R000 GKB6R000 GKC6R000 GKD6R000 GKR6R000 GKT6R000	Red
2.0	6.0	300	-100±200	GKU6R000	Red
2.0	10.0	300	NPO±200	GKA10000 GKB10000 GKC10000 GKD10000 GKR10000 GKT10000	None
2.8	10.0	300	-600±300	GKU10000	None
3.3	18.0	300	-800±300	GKU18000	Blue
2.5	20.0	500	-450±200	GKA20000 GKB20000 GKC20000 GKD20000 GKR20000 GKT20000	Blue

Cap. Range		Min. Q at 10 MHz	Temp.* Coeff. in ppm/°C	Cat. No.	Code Color
Min.	Max.				
5.0	25.0	200	-1400±700	GKU25000	Purple
4.0	30.0	300	-750±250	GKA30000 GKB30000 GKC30000 GKD30000 GKR30000 GKT30000	Orange
5.1	40.0	200	-1400±800	GKA40000 GKB40000 GKC40000 GKD40000 GKR40000 GKT40000	Brown
5.1	50.0	200	-1400±800	GKA50000 GKB50000 GKC50000 GKD50000 GKR50000 GKT50000	Green
6.0	60.0	200	-1400±800	GKE60000 GKF60000	Pink
6.0	70.0	200	-1400±800	GKE70000 GKF70000	Gray

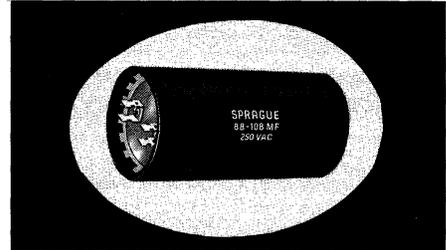


*Temp. coefficient measured over range of -20°C to +70°C for Types A-F, R, T, and -25°C to +85°C for Type U. IND-113-EFAB Sizes subject to change without notice.

SPRAGUE A-C CAPACITORS

TYPE AB MOTOR-STARTING ELECTROLYTIC CAPACITORS

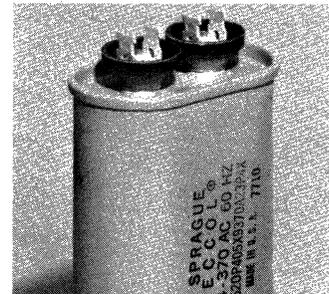
- Designed for intermittent duty cycles in motor-starting applications.
- Housed in molded phenolic cases for protection against moisture, dirt, and grease. Will not deteriorate in humid atmosphere, as with cardboard-encased capacitors.
- Universal terminals for use with quick-connect connectors. Terminals also have notches and eyes for wrapping leads if to be soldered.
- Operating temperature range, -30°C to $+65^{\circ}\text{C}$.
- Only a single end cap and clip-type bracket are needed for easy mounting on any modern motor.
- 2 clip-on terminal adapters included with each capacitor, for attaching lead wires without soldering.
- For complete technical data, see latest issue of Engineering Bulletin 4000.



μF Min.-Max.	D. x L.	Catalog Number	μF Min.-Max.	D. x L.	Catalog Number	μF Min. Max.	D. x L.	Catalog Number	μF Min.-Max.	D. x L.	Catalog Number
125 VOLTS A-C, 60 Hz			165 VOLTS A-C, 60 Hz			250 VOLTS A-C, 60 Hz			330 VOLTS A-C, 60 Hz		
At 125 volts a-c . . . 120,000 starts minimum with two 3/4-second starts per minute			At 165 volts a-c . . . 60,000 starts minimum with one 1-second start per minute			At 250 volts a-c . . . 40,000 starts minimum with forty 1-second starts per hour			At 330 volts a-c . . . 40,000 starts minimum with forty 1-second starts per hour		
21-25	1 1/16 x 2 3/4	AB-1201	270-324	1 1/16 x 3 3/8	AB-1240	21-25	1 1/16 x 2 3/4	AB-2501	21-25	1 1/16 x 3 3/8	AB-3201
25-30	1 1/16 x 2 3/4	AB-1202	324-388	1 13/16 x 3 3/8	AB-1242	25-30	1 1/16 x 2 3/4	AB-2502	25-30	1 1/16 x 3 3/8	AB-3202
30-36	1 1/16 x 2 3/4	AB-1203	340-408	1 13/16 x 3 3/8	AB-1243	30-36	1 1/16 x 3 3/8	AB-2503	30-36	1 13/16 x 3 3/8	AB-3203
38-46	1 1/16 x 2 3/4	AB-1204	378-440	1 13/16 x 3 3/8	AB-1246	36-43	1 1/16 x 3 3/8	AB-2504	36-43	1 13/16 x 3 3/8	AB-3204
43-53	1 1/16 x 2 3/4	AB-1205	400-480	1 13/16 x 3 3/8	AB-1249	43-53	1 1/16 x 3 3/8	AB-2505	43-53	1 13/16 x 3 3/8	AB-3205
			430-516	1 13/16 x 3 3/8	AB-1252				53-64	1 13/16 x 4 3/8	AB-3207
			460-552	1 13/16 x 3 3/8	AB-1255	47-56	1 1/16 x 3 3/8	AB-2506	64-77	1 13/16 x 4 3/8	AB-3208
			540-648	1 13/16 x 4 3/8	AB-1258	53-64	1 13/16 x 3 3/8	AB-2507	72-88	2 1/16 x 4 3/8	AB-3209
			590-708	1 13/16 x 4 3/8	AB-1261	64-77	1 13/16 x 3 3/8	AB-2508	88-108	2 1/16 x 4 3/8	AB-3210
			705-845	2 1/16 x 4 3/8	AB-1262	72-88	1 13/16 x 3 3/8	AB-2509			
			800-920	2 1/16 x 4 3/8	AB-1263	88-108	1 13/16 x 4 3/8	AB-2510	108-130	2 9/16 x 4 3/8	AB-3213
			1000-1200	2 9/16 x 4 3/8	AB-1265	124-149	1 13/16 x 4 3/8	AB-2516	124-149	2 9/16 x 4 3/8	AB-3216
						130-156	1 13/16 x 4 3/8	AB-2519	130-156	2 9/16 x 4 3/8	AB-3219
108-130	1 1/16 x 2 3/4	AB-1213				108-130	1 13/16 x 4 3/8	AB-2512	145-175	2 9/16 x 4 3/8	AB-3222
124-149	1 1/16 x 2 3/4	AB-1216	108-130	1 1/16 x 3 3/8	AB-1613	124-149	1 13/16 x 4 3/8	AB-2516	161-193	2 9/16 x 4 3/8	AB-3225
130-156	1 1/16 x 2 3/4	AB-1219	124-149	1 1/16 x 3 3/8	AB-1616	130-156	1 13/16 x 4 3/8	AB-2519	189-227	2 9/16 x 4 3/8	AB-3226
145-175	1 1/16 x 2 3/4	AB-1222	130-156	1 13/16 x 3 3/8	AB-1619				233-280	2 9/16 x 4 3/8	AB-3226
161-193	1 1/16 x 2 3/4	AB-1225							243-292	2 9/16 x 4 3/8	AB-3227
189-227	1 1/16 x 2 3/4	AB-1228	145-175	1 13/16 x 3 3/8	AB-1622						
200-240	1 1/16 x 2 3/4	AB-1230	161-193	1 13/16 x 3 3/8	AB-1625						
216-259	1 1/16 x 3 3/8	AB-1231	189-227	1 13/16 x 3 3/8	AB-1628						
233-280	1 1/16 x 3 3/8	AB-1234	216-259	1 13/16 x 3 3/8	AB-1631	145-175	2 1/16 x 4 3/8	AB-2522			
243-292	1 1/16 x 3 3/8	AB-1237	233-280	1 13/16 x 4 3/8	AB-1634	161-193	2 1/16 x 4 3/8	AB-2525			

TYPE OV ECCOL® OVAL-CASE MOTOR-RUN CAPACITORS

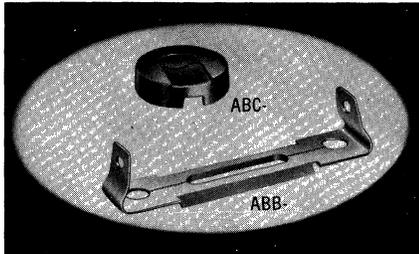
- Feature a non-toxic biodegradable impregnant.
- Dependable, small-size, low-cost a-c capacitors developed specifically for use where an alternate to capacitors containing PCB (askarel) impregnant is or will be required.
- For use in refrigeration and air conditioning equipment, phase-splitting and power factor correction applications, stabilizing transformers, similar general purpose a-c applications.
- Have internal current interrupter designed to disconnect capacitor element if excessive pressure should develop inside case.
- High-purity aluminum foil, controlled quality Kraft paper of uniform thickness and density, and drawn seamless can with steel cover, double-rolled to provide leakproof enclosure.
- Universal terminals for use with female quick-connect terminations found on wiring harnesses. Terminals have notches and eyes for wrapping leads if connections are to be soldered.
- For complete technical data, see latest issue of Sprague Engineering Bulletin 4551.



μF	L. x W. x H.	Cat. No.	μF	L. x W. x H.	Cat. No.
370 VOLTS A-C, 60 Hz					
3	2 5/32 x 1 5/16 x 2	OV-3030A	3	2 5/32 x 1 5/16 x 2 1/4	OV-4030A
4	2 5/32 x 1 5/16 x 2 3/8	OV-3040A	4	2 5/32 x 1 5/16 x 2 3/4	OV-4040A
5	2 5/32 x 1 5/16 x 2 7/8	OV-3050A	5	2 5/32 x 1 5/16 x 3 1/8	OV-4050A
6	2 5/32 x 1 5/16 x 3 1/8	OV-3060A	7.5	2 5/32 x 1 5/16 x 4 3/8	OV-4075A
7.5	2 5/32 x 1 5/16 x 3 3/8	OV-3075A	10	2 29/32 x 1 29/32 x 3 5/8	OV-4100A
10	2 5/32 x 1 5/16 x 4 3/4	OV-3100A	12.5	2 29/32 x 1 29/32 x 4 3/8	OV-4125A
15	2 29/32 x 1 29/32 x 4 3/8	OV-3150A			
17.5	2 29/32 x 1 29/32 x 4 3/4	OV-3175A	15	2 29/32 x 1 29/32 x 4 7/8	OV-4150A
			17.5	2 29/32 x 1 29/32 x 5 7/8	OV-4175A
20	2 29/32 x 1 29/32 x 4 7/8	OV-3200A	20	2 29/32 x 1 29/32 x 6 3/8	OV-4200A
25	2 29/32 x 1 29/32 x 5 7/8	OV-3250A	25	2 29/32 x 1 29/32 x 6 7/8	OV-4250A
30	3 21/32 x 1 31/32 x 4 7/8	OV-3300A	30	3 21/32 x 1 31/32 x 6 7/8	OV-4300A
35	3 21/32 x 1 31/32 x 5 1/2	OV-3350A	35	3 21/32 x 1 31/32 x 8 7/8	OV-4350A
40	3 21/32 x 1 31/32 x 6 3/8	OV-3400A	40	3 21/32 x 1 31/32 x 9 7/8	OV-4400A
45	3 21/32 x 1 31/32 x 7 1/2	OV-3450A			
50	3 21/32 x 1 31/32 x 8 3/4	OV-3500A			
440 VOLTS A-C, 60 Hz					
2	2 5/32 x 1 5/16 x 1 3/4	OV-4020A			
660 VOLTS A-C, 60 Hz					
			1	2 5/32 x 1 5/16 x 2	OV-6010A
			2	2 5/32 x 1 5/16 x 2 3/4	OV-6020A
			3	2 5/32 x 1 5/16 x 3 1/2	OV-6030A
			4	2 5/32 x 1 5/16 x 4 1/4	OV-6040A
			5	2 29/32 x 1 29/32 x 3 3/4	OV-6050A

SPRAGUE MOUNTING HARDWARE

MOUNTING HARDWARE FOR TYPE AB CAPACITORS

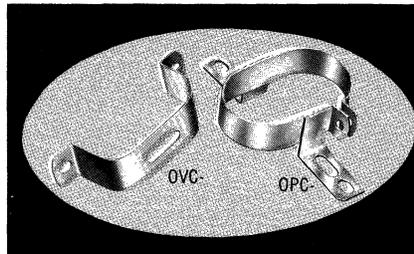


- Plastic end caps.
- Plated steel brackets.

Capacitor Size	Catalog Number
END CAPS	
1 ⁷ / ₁₆ D.	ABC-1 (lead hole at top)
1 ⁷ / ₁₆ D.	ABC-2 (lead hole at bot.)
1 ⁹ / ₁₆ D.	ABC-3 (lead hole at top)
1 ⁹ / ₁₆ D.	ABC-4 (lead hole at bot.)
2 ¹ / ₁₆ D.	ABC-5 (lead hole at top)
2 ¹ / ₁₆ D.	ABC-6 (lead hole at bot.)
2 ⁹ / ₁₆ D.	ABC-7 (lead hole at top)
2 ⁹ / ₁₆ D.	ABC-8 (lead hole at bot.)

MOUNTING BRACKETS	
1 ⁷ / ₁₆ D. x 2 ³ / ₄ L.	ABB-1
1 ⁷ / ₁₆ D. x 3 ³ / ₈ L.	ABB-2
1 ¹³ / ₁₆ D. x 3 ³ / ₈ L.	ABB-2
1 ¹³ / ₁₆ D. x 4 ³ / ₈ L.	ABB-3
2 ¹ / ₁₆ D. x 4 ³ / ₈ L.	ABB-3
2 ⁹ / ₁₆ D. x 4 ³ / ₈ L.	ABB-3

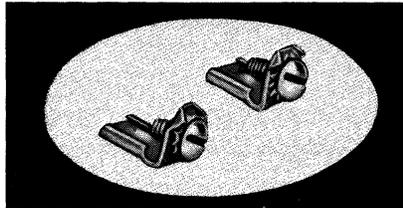
MOUNTING CLAMPS FOR TYPE OV CAPACITORS



- For oval capacitors.
- Plated steel.

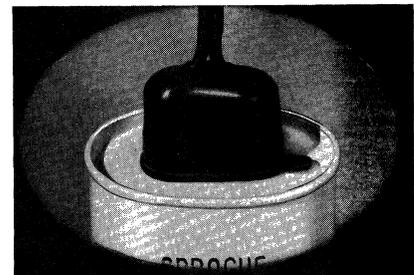
Capacitor Size	Catalog Number
2 ⁹ / ₃₂ W. x 1 ⁷ / ₁₆ T.	OPC-1
2 ⁹ / ₃₂ W. x 1 ⁷ / ₁₆ T.	OVC-1
2 ²⁹ / ₃₂ W. x 1 ²⁹ / ₃₂ T.	OVC-3
3 ²¹ / ₃₂ W. x 1 ³¹ / ₃₂ T.	OVC-4

SCREW ADAPTERS FOR MOTOR-START CAPACITORS



Clip-on terminal adapters, equipped with screws, for making lead wire connections without soldering.
 Catalog Number..... 4-10-14

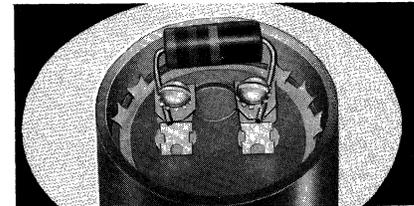
SAFETY BOOTS FOR TERMINALS OF MOTOR-RUN CAPACITORS



Oil-resistant neoprene rubber covers for terminal assemblies of Type OV capacitors, a safety feature desirable in appliance applications.

Catalog Number.....RG-1

BLEEDER RESISTORS



Cat. No. 2BR-1530 for Type AB motor-start capacitors.
 Cat. No. 1BR-2240 for Type OV, motor-run units.
 Reduce surge voltage feedback, bleed capacitor voltage to safe level after power is turned off. 5 to a box.

Catalog Number	Ohms	Watts
2BR-1530	15,000	2
1BR-2240	220,000	1

SPRAGUE SEMICONDUCTORS

Sprague makes available a broad line of semiconductors through its network of franchised semiconductor distributors, strategically located in major electronic areas throughout the country. Substantial stocks of the product lines mentioned here assure you of prompt delivery in production quantities at factory prices.

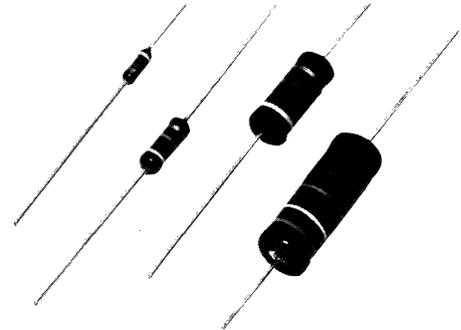
- Plastic-Molded Silicon Transistors
- Metal-Encased Silicon Transistors
- Metal-Encased Germanium Transistors
- DIP Transistor Arrays
- Interface Integrated Circuits
- Linear Integrated Circuits
- CMOS Integrated Circuits
- Hall Effect Integrated Circuits
- Silicon Zener Diodes
- Voltage-Variable Diodes
- Operational Amplifiers
- DIP Schmitt Triggers

FOR DESCRIPTIVE DATA, SEE LATEST ISSUE OF SEMICONDUCTOR SHORT-FORM CATALOG IND-843.

SPRAGUE RESISTORS

FILMISTOR® CARBON-FILM RESISTORS

- ±5% resistance tolerance . . . most conventional carbon-composition units have a ±10% tolerance.
- 80% greater stability with temperature change than conventional carbon-composition resistors.
- 4 times the shelf life of lower-quality carbon-composition resistors.
- Moisture resistance, temperature coefficient, noise, overload, and load-life characteristics are far superior to those of carbon-composition resistors.
- All of the most popular resistance values from 10 ohms to 10 megohms.
- Available now in ¼, ½, 1, and 2 watt ratings.



Ohms	Catalog Number				Ohms	Catalog Number				Ohms	Catalog Number			
	¼ WATT .091" D. .260" L.	½ WATT .150" D. .398" L.	1 WATT .268" D. .622" L.	2 WATTS .354" D. .945" L.		¼ WATT .091" D. .260" L.	½ WATT .150" D. .398" L.	1 WATT .268" D. .622" L.	2 WATTS .354" D. .945" L.		¼ WATT .091" D. .260" L.	½ WATT .150" D. .398" L.	1 WATT .268" D. .622" L.	2 WATTS .354" D. .945" L.
.5	RA-R505	RB-R505	RC-R505	RD-R505	330	RA-3315	RB-3315	RC-3315	RD-3315	56K	RA-5635	RB-5635	RC-5635	RD-5635
1.0	RA-1R05	RB-1R05	RC-1R05	RD-1R05	360	RA-3615	RB-3615	RC-3615	RD-3615	62K	RA-6235	RB-6235	RC-6235	RD-6235
1.2	RA-1R25	RB-1R25	RC-1R25	RD-1R25	390	RA-3915	RB-3915	RC-3915	RD-3915	68K	RA-6835	RB-6835	RC-6835	RD-6835
1.5	RA-1R55	RB-1R55	RC-1R55	RD-1R55	430	RA-4315	RB-4315	RC-4315	RD-4315	75K	RA-7535	RB-7535	RC-7535	RD-7535
1.8	RA-1R85	RB-1R85	RC-1R85	RD-1R85	470	RA-4715	RB-4715	RC-4715	RD-4715	82K	RA-8235	RB-8235	RC-8235	RD-8235
2.2	RA-2R25	RB-2R25	RC-2R25	RD-2R25	510	RA-5115	RB-5115	RC-5115	RD-5115	91K	RA-9135	RB-9135	RC-9135	RD-9135
2.7	RA-2R75	RB-2R75	RC-2R75	RD-2R75	560	RA-5615	RB-5615	RC-5615	RD-5615	100K	RA-1045	RB-1045	RC-1045	RD-1045
3.3	RA-3R35	RB-3R35	RC-3R35	RD-3R35	620	RA-6215	RB-6215	RC-6215	RD-6215	110K	RA-1145	RB-1145	RC-1145	RD-1145
3.9	RA-3R95	RB-3R95	RC-3R95	RD-3R95	680	RA-6815	RB-6815	RC-6815	RD-6815	120K	RA-1245	RB-1245	RC-1245	RD-1245
4.7	RA-4R75	RB-4R75	RC-4R75	RD-4R75	750	RA-7515	RB-7515	RC-7515	RD-7515	130K	RA-1345	RB-1345	RC-1345	RD-1345
5.6	RA-5R65	RB-5R65	RC-5R65	RD-5R65	820	RA-8215	RB-8215	RC-8215	RD-8215	150K	RA-1545	RB-1545	RC-1545	RD-1545
6.2	RA-6R25	RB-6R25	RC-6R25	RD-6R25	910	RA-9115	RB-9115	RC-9115	RD-9115	160K	RA-1645	RB-1645	RC-1645	RD-1645
6.8	RA-6R85	RB-6R85	RC-6R85	RD-6R85	1000	RA-1025	RB-1025	RC-1025	RD-1025	180K	RA-1845	RB-1845	RC-1845	RD-1845
7.5	RA-7R55	RB-7R55	RC-7R55	RD-7R55	1100	RA-1125	RB-1125	RC-1125	RD-1125	200K	RA-2045	RB-2045	RC-2045	RD-2045
8.2	RA-8R25	RB-8R25	RC-8R25	RD-8R25	1200	RA-1225	RB-1225	RC-1225	RD-1225	220K	RA-2245	RB-2245	RC-2245	RD-2245
9.1	RA-9R15	RB-9R15	RC-9R15	RD-9R15	1300	RA-1325	RB-1325	RC-1325	RD-1325	240K	RA-2445	RB-2445	RC-2445	RD-2445
10	RA-1005	RB-1005	RC-1005	RD-1005	1500	RA-1525	RB-1525	RC-1525	RD-1525	270K	RA-2745	RB-2745	RC-2745	RD-2745
11	RA-1105	RB-1105	RC-1105	RD-1105	1600	RA-1625	RB-1625	RC-1625	RD-1625	300K	RA-3045	RB-3045	RC-3045	RD-3045
12	RA-1205	RB-1205	RC-1205	RD-1205	1800	RA-1825	RB-1825	RC-1825	RD-1825	330K	RA-3345	RB-3345	RC-3345	RD-3345
13	RA-1305	RB-1305	RC-1305	RD-1305	2000	RA-2025	RB-2025	RC-2025	RD-2025	360K	RA-3645	RB-3645	RC-3645	RD-3645
15	RA-1505	RB-1505	RC-1505	RD-1505	2200	RA-2225	RB-2225	RC-2225	RD-2225	390K	RA-3945	RB-3945	RC-3945	RD-3945
16	RA-1605	RB-1605	RC-1605	RD-1605	2400	RA-2425	RB-2425	RC-2425	RD-2425	430K	RA-4345	RB-4345	RC-4345	RD-4345
18	RA-1805	RB-1805	RC-1805	RD-1805	2700	RA-2725	RB-2725	RC-2725	RD-2725	470K	RA-4745	RB-4745	RC-4745	RD-4745
20	RA-2005	RB-2005	RC-2005	RD-2005	3000	RA-3025	RB-3025	RC-3025	RD-3025	510K	RA-5145	RB-5145	RC-5145	RD-5145
22	RA-2205	RB-2205	RC-2205	RD-2205	3300	RA-3325	RB-3325	RC-3325	RD-3325	560K	RA-5645	RB-5645	RC-5645	RD-5645
24	RA-2405	RB-2405	RC-2405	RD-2405	3600	RA-3625	RB-3625	RC-3625	RD-3625	620K	RA-6245	RB-6245	RC-6245	RD-6245
27	RA-2705	RB-2705	RC-2705	RD-2705	3900	RA-3925	RB-3925	RC-3925	RD-3925	680K	RA-6845	RB-6845	RC-6845	RD-6845
30	RA-3005	RB-3005	RC-3005	RD-3005	4300	RA-4325	RB-4325	RC-4325	RD-4325	750K	RA-7545	RB-7545	RC-7545	RD-7545
33	RA-3305	RB-3305	RC-3305	RD-3305	4700	RA-4725	RB-4725	RC-4725	RD-4725	820K	RA-8245	RB-8245	RC-8245	RD-8245
36	RA-3605	RB-3605	RC-3605	RD-3605	5100	RA-5125	RB-5125	RC-5125	RD-5125	910K	RA-9145	RB-9145	RC-9145	RD-9145
39	RA-3905	RB-3905	RC-3905	RD-3905	5600	RA-5625	RB-5625	RC-5625	RD-5625	1.0M	RA-1055	RB-1055	RC-1055	RD-1055
43	RA-4305	RB-4305	RC-4305	RD-4305	6200	RA-6225	RB-6225	RC-6225	RD-6225	1.1M	RB-1155	RC-1155	RD-1155	
47	RA-4705	RB-4705	RC-4705	RD-4705	6800	RA-6825	RB-6825	RC-6825	RD-6825	1.2M	RB-1255	RC-1255	RD-1255	
51	RA-5105	RB-5105	RC-5105	RD-5105	7500	RA-7525	RB-7525	RC-7525	RD-7525	1.3M	RB-1355	RC-1355	RD-1355	
56	RA-5605	RB-5605	RC-5605	RD-5605	8200	RA-8225	RB-8225	RC-8225	RD-8225	1.5M	RB-1555	RC-1555	RD-1555	
62	RA-6205	RB-6205	RC-6205	RD-6205	9100	RA-9125	RB-9125	RC-9125	RD-9125	1.6M	RB-1655	RC-1655	RD-1655	
68	RA-6805	RB-6805	RC-6805	RD-6805	10K	RA-1035	RB-1035	RC-1035	RD-1035	1.8M	RB-1855	RC-1855	RD-1855	
75	RA-7505	RB-7505	RC-7505	RD-7505	11K	RA-1135	RB-1135	RC-1135	RD-1135	2.0M	RB-2055	RC-2055	RD-2055	
82	RA-8205	RB-8205	RC-8205	RD-8205	12K	RA-1235	RB-1235	RC-1235	RD-1235	2.2M	RB-2255	RC-2255	RD-2255	
91	RA-9105	RB-9105	RC-9105	RD-9105	13K	RA-1335	RB-1335	RC-1335	RD-1335	2.4M	RB-2455	RC-2455	RD-2455	
100	RA-1015	RB-1015	RC-1015	RD-1015	15K	RA-1535	RB-1535	RC-1535	RD-1535	2.7M	RB-2755	RC-2755	RD-2755	
110	RA-1115	RB-1115	RC-1115	RD-1115	16K	RA-1635	RB-1635	RC-1635	RD-1635	3.0M	RB-3055	RC-3055	RD-3055	
120	RA-1215	RB-1215	RC-1215	RD-1215	18K	RA-1835	RB-1835	RC-1835	RD-1835	3.3M	RB-3355	RC-3355	RD-3355	
130	RA-1315	RB-1315	RC-1315	RD-1315	20K	RA-2035	RB-2035	RC-2035	RD-2035	3.6M	RB-3655	RC-3655	RD-3655	
150	RA-1515	RB-1515	RC-1515	RD-1515	22K	RA-2235	RB-2235	RC-2235	RD-2235	3.9M	RB-3955	RC-3955	RD-3955	
160	RA-1615	RB-1615	RC-1615	RD-1615	24K	RA-2435	RB-2435	RC-2435	RD-2435	4.3M	RB-4355	RC-4355	RD-4355	
180	RA-1815	RB-1815	RC-1815	RD-1815	27K	RA-2735	RB-2735	RC-2735	RD-2735	4.7M	RB-4755	RC-4755	RD-4755	
200	RA-2015	RB-2015	RC-2015	RD-2015	30K	RA-3035	RB-3035	RC-3035	RD-3035	5.1M	RB-5155	RC-5155	RD-5155	
220	RA-2215	RB-2215	RC-2215	RD-2215	33K	RA-3335	RB-3335	RC-3335	RD-3335	5.6M	RB-5655	RC-5655	RD-5655	
240	RA-2415	RB-2415	RC-2415	RD-2415	36K	RA-3635	RB-3635	RC-3635	RD-3635	6.2M	RB-6255	RC-6255	RD-6255	
270	RA-2715	RB-2715	RC-2715	RD-2715	39K	RA-3935	RB-3935	RC-3935	RD-3935	6.8M	RB-6855	RC-6855	RD-6855	
300	RA-3015	RB-3015	RC-3015	RD-3015	43K	RA-4335	RB-4335	RC-4335	RD-4335	7.5M	RB-7555	RC-7555	RD-7555	
					47K	RA-4735	RB-4735	RC-4735	RD-4735	8.2M	RB-8255	RC-8255	RD-8255	
					51K	RA-5135	RB-5135	RC-5135	RD-5135	9.1M	RB-9155	RC-9155	RD-9155	
										10.0M	RB-1065	RC-1065	RD-1065	

SPRAGUE RESISTORS

KOOLOHM® AXIAL-LEAD WIREWOUND RESISTORS



Call Your Sprague Industrial Distributor
For Current Quantity Prices

- Feature Improved Internal Construction in Which Windings and Leads are Welded to End-Cap for Superior Mechanical Strength
- Special Insulated Wire is Space Wound and Cemented, to Prevent Turn-to-Turn Shorting. Permits Higher Resistance Values in a Given Size Than in Conventional Resistors
- Non-Porous Tubular Ceramic Shells Sealed With High Temperature Silicone Cement
- Unexcelled Insulation and Mechanical Protection. Can be Mounted in Direct Contact With Chassis
- Standard Resistance Tolerance $\pm 5\%$

KOOLOHM STANDARD RESISTORS

CATALOG NUMBER						CATALOG NUMBER					
Ohms	Type 450E 3 WATTS 1/4" x 3/16"	Type 452E 5 WATTS 1/4" x 1"	Type 454E 7 WATTS 1/2" x 1 1/16"	Type 456E 10 WATTS 1 1/2" x 1 1/32"	Type 458E 14 WATTS 1 3/32" x 1 1/32"	Ohms	Type 450E 3 WATTS 1/4" x 3/16"	Type 452E 5 WATTS 1/4" x 1"	Type 454E 7 WATTS 1/2" x 1 1/16"	Type 456E 10 WATTS 1 1/2" x 1 1/32"	Type 458E 14 WATTS 1 3/32" x 1 1/32"
1	450E1R05	452E1R05	454E1R05	456E1R05	458E1R05	800	450E8015	452E8015	454E8015	456E8015	458E8015
1.5	450E1R55	452E1R55	454E1R55	456E1R55	458E1R55	820	450E8215	—	—	—	—
2	450E2R05	452E2R05	454E2R05	456E2R05	458E2R05	900	450E9015	452E9015	454E9015	456E9015	458E9015
3	450E3R05	452E3R05	454E3R05	456E3R05	458E3R05	1000	450E1025	452E1025	454E1025	456E1025	458E1025
4	450E4R05	452E4R05	454E4R05	456E4R05	458E4R05	1100	—	452E1125	454E1125	456E1125	458E1125
5	450E5R05	452E5R05	454E5R05	456E5R05	458E5R05	1200	450E1225	452E1225	454E1225	456E1225	458E1225
7.5	450E7R55	452E7R55	454E7R55	456E7R55	458E7R55	1400	450E1425	452E1425	454E1425	456E1425	458E1425
10	450E1005	452E1005	454E1005	456E1005	458E1005	1500	450E1525	452E1525	454E1525	456E1525	458E1525
12	450E1205	452E1205	454E1205	456E1205	458E1205	1800	450E1825	452E1825	454E1825	456E1825	458E1825
15	450E1505	452E1505	454E1505	456E1505	458E1505	2000	450E2025	452E2025	454E2025	456E2025	458E2025
18	450E1805	—	—	—	—	2200	450E2225	452E2225	454E2225	456E2225	458E2225
20	450E2005	452E2005	454E2005	456E2005	458E2005	2500	450E2525	452E2525	454E2525	456E2525	458E2525
22	450E2205	—	—	—	—	2700	450E2725	—	—	—	—
25	450E2505	452E2505	454E2505	456E2505	458E2505	3000	450E3025	452E3025	454E3025	456E3025	458E3025
27	450E2705	—	—	—	—	3300	450E3325	—	454E3325	456E3325	458E3325
30	450E3005	452E3005	454E3005	456E3005	458E3005	3500	—	452E3525	454E3525	456E3525	458E3525
33	450E3305	—	—	—	—	3900	450E3925	—	454E3925	456E3925	458E3925
35	—	452E3505	454E3505	456E3505	458E3505	4000	450E4025	452E4025	454E4025	456E4025	458E4025
39	450E3905	—	—	—	—	4500	—	452E4525	454E4525	456E4525	458E4525
40	450E4005	452E4005	454E4005	456E4005	458E4005	4700	450E4725	—	—	—	—
47	450E4705	—	—	—	—	5000	450E5025	452E5025	454E5025	456E5025	458E5025
50	450E5005	452E5005	454E5005	456E5005	458E5005	5600	450E5625	—	—	—	—
56	450E5605	—	—	—	—	6000	450E6025	452E6025	454E6025	456E6025	458E6025
68	450E6805	—	—	—	—	6800	450E6825	—	—	—	—
75	450E7505	452E7505	454E7505	456E7505	458E7505	7000	—	452E7025	454E7025	456E7025	458E7025
82	450E8205	—	—	—	—	7500	450E7525	452E7525	454E7525	456E7525	458E7525
100	450E1015	452E1015	454E1015	456E1015	458E1015	8000	450E8025	452E8025	454E8025	456E8025	458E8025
120	450E1215	452E1215	454E1215	456E1215	458E1215	8200	450E8225	—	—	—	—
150	450E1515	452E1515	454E1515	456E1515	458E1515	9000	450E9025	452E9025	454E9025	456E9025	458E9025
180	450E1815	—	—	—	—	10000	450E1035	452E1035	454E1035	456E1035	458E1035
200	450E2015	452E2015	454E2015	456E2015	458E2015	11000	—	—	454E1135	456E1135	458E1135
220	450E2215	452E2215	454E2215	456E2215	458E2215	12000	—	452E1235	454E1235	456E1235	458E1235
250	450E2515	452E2515	454E2515	456E2515	458E2515	14000	—	452E1435	454E1435	456E1435	458E1435
270	450E2715	—	—	—	—	15000	—	452E1535	454E1535	456E1535	458E1535
300	450E3015	452E3015	454E3015	456E3015	458E3015	16000	—	—	454E1635	456E1635	458E1635
330	450E3315	—	—	—	—	18000	—	452E1835	454E1835	456E1835	458E1835
350	—	452E3515	454E3515	456E3515	458E3515	20000	—	452E2035	454E2035	456E2035	458E2035
390	450E3915	—	—	—	—	22000	—	—	454E2235	456E2235	—
400	450E4015	452E4015	454E4015	456E4015	458E4015	25000	—	—	454E2535	456E2535	—
450	—	452E4515	—	—	—	30000	—	—	454E3035	456E3035	—
470	450E4715	—	—	—	—	35000	—	—	454E3535	456E3535	—
500	450E5015	452E5015	454E5015	456E5015	458E5015	40000	—	—	454E4035	456E4035	—
560	450E5615	—	—	—	—	45000	—	—	—	456E4535	—
600	450E6015	452E6015	454E6015	456E6015	458E6015	50000	—	—	—	456E5035	—
680	450E6815	—	—	—	—	60000	—	—	—	456E6035	—
700	450E7015	452E7015	454E7015	456E7015	458E7015	70000	—	—	—	456E7035	—
750	—	452E7515	454E7515	—	458E7515	—	—	—	—	—	—

SPRAGUE RESISTORS

KOOLOHM® NON-INDUCTIVE RESISTORS

CATALOG NUMBER						CATALOG NUMBER					
Ohms	Type 451E 3 WATTS ¼" x ¾"	Type 453E 5 WATTS ¼" x 1"	Type 455E 7 WATTS ½" x 1½"	Type 457E 10 WATTS ½" x 1½"	Type 459E 14 WATTS ½" x 1½"	Ohms	Type 451E 3 WATTS ¼" x ¾"	Type 453E 5 WATTS ¼" x 1"	Type 455E 7 WATTS ½" x 1½"	Type 457E 10 WATTS ½" x 1½"	Type 459E 14 WATTS ½" x 1½"
1	451E1R05	453E1R05	455E1R05	457E1R05	459E1R05	250	451E2515	453E2515	455E2515	457E2515	459E2515
1.5	451E1R55	453E1R55	455E1R55	457E1R55	459E1R55	270	451E2715	—	—	—	—
2	451E2R05	453E2R05	455E2R05	457E2R05	459E2R05	300	451E3015	453E3015	455E3015	457E3015	459E3015
3	451E3R05	453E3R05	455E3R05	457E3R05	459E3R05	330	451E3315	—	—	—	—
4	451E4R05	453E4R05	455E4R05	457E4R05	459E4R05	350	451E3515	453E3515	455E3515	457E3515	459E3515
5	451E5R05	453E5R05	455E5R05	457E5R05	459E5R05	390	451E3915	—	—	—	—
7.5	451E7R55	453E7R55	455E7R55	457E7R55	459E7R55	400	451E4015	453E4015	455E4015	457E4015	459E4015
10	451E1005	453E1005	455E1005	457E1005	459E1005	450	451E4515	453E4515	—	—	—
12	451E1205	453E1205	455E1205	457E1205	459E1205	470	451E4715	—	—	—	—
15	451E1505	453E1505	455E1505	457E1505	459E1505	500	451E5015	453E5015	455E5015	457E5015	459E5015
18	451E1805	—	—	—	—	600	—	453E6015	455E6015	457E6015	459E6015
20	451E2005	453E2005	455E2005	457E2005	459E2005	700	—	453E7015	455E7015	457E7015	459E7015
22	451E2205	—	—	—	—	750	—	453E7515	455E7515	457E7515	459E7515
25	451E2505	453E2505	455E2505	457E2505	459E2505	800	—	453E8015	455E8015	457E8015	459E8015
27	451E2705	—	—	—	—	900	—	453E9015	455E9015	457E9015	459E9015
30	451E3005	453E3005	455E3005	457E3005	459E3005	1000	—	453E1025	455E1025	457E1025	459E1025
33	451E3305	—	—	—	—	1100	—	453E1125	455E1125	457E1125	459E1125
35	451E3505	453E3505	455E3505	457E3505	459E3505	1200	—	453E1225	455E1225	457E1225	459E1225
39	451E3905	—	—	—	—	1400	—	453E1425	455E1425	457E1425	459E1425
40	451E4005	453E4005	455E4005	457E4005	459E4005	1500	—	—	455E1525	457E1525	459E1525
47	451E4705	—	—	—	—	1800	—	—	455E1825	457E1825	459E1825
50	451E5005	453E5005	455E5005	457E5005	459E5005	2000	—	—	455E2025	457E2025	459E2025
56	451E5605	—	—	—	—	2200	—	—	455E2225	457E2225	459E2225
68	451E6805	—	—	—	—	2500	—	—	455E2525	457E2525	459E2525
75	451E7505	453E7505	455E7505	457E7505	459E7505	3000	—	—	—	457E3025	459E3025
82	451E8205	—	—	—	—	3300	—	—	—	457E3325	459E3325
100	451E1015	453E1015	455E1015	457E1015	459E1015	3500	—	—	—	457E3525	459E3525
120	451E1215	453E1215	455E1215	457E1215	459E1215	3900	—	—	—	457E3925	459E3925
150	451E1515	453E1515	455E1515	457E1515	459E1515	4000	—	—	—	457E4025	459E4025
180	451E1815	—	—	—	—	4500	—	—	—	457E4525	459E4525
200	451E2015	453E2015	455E2015	457E2015	459E2015	5000	—	—	—	457E5025	459E5025
220	451E2215	453E2215	455E2215	457E2215	459E2215						

KOOLOHM® TAB-TERMINAL* WIREWOUND RESISTORS

- Extremely High Insulation Resistance—10,000 Volts From Surface of Ceramic Jacket to Inner Resistance Elements
- Insulated Wire Permits Winding Higher Values in Layers Which Means Much Smaller Physical Sizes for Each Wattage Rating
- Standard Resistance Tolerance: ±5%
- Reliable Internal Construction — Terminals and Resistance Elements Are Securely Welded To Metal End Caps



TYPE KT*STANDARD RESISTORS

CATALOG NUMBER				CATALOG NUMBER			
Ohms	Type 25KT 25 WATTS ⅜" x 2⅞"	Type 50KT 50 WATTS ⅞" x 4"	Type 120KT 120 WATTS 1⅞" x 8⅞"	Ohms	Type 25KT 25 WATTS ⅜" x 2⅞"	Type 50KT 50 WATTS ⅞" x 4"	Type 120KT 120 WATTS 1⅞" x 8⅞"
5	25KT5R05	—	120KT5R05	2000	—	50KT2025	120KT2025
10	25KT1005	—	—	2500	—	50KT2525	—
25	25KT2505	50KT2505	—	3000	25KT3025	50KT3025	—
50	25KT5005	50KT5005	120KT5005	4000	—	50KT4025	—
75	25KT7505	50KT7505	120KT7505	5000	25KT5025	—	—
100	25KT1015	50KT1015	—	7500	25KT7525	50KT7525	120KT7525
150	25KT1515	—	120KT1515	10000	25KT1035	—	120KT1035
				12000	—	50KT1235	—
200	25KT2015	50KT2015	—	15000	25KT1535	50KT1535	120KT1535
250	25KT2515	50KT2515	120KT2515	20000	—	50KT2035	—
				25000	25KT2535	50KT2535	—
500	25KT5015	50KT5015	—	40000	25KT4035	—	—
750	25KT7515	50KT7515	120KT7515	50000	25KT5035	50KT5035	120KT5035
1000	—	50KT1025	—	75000	25KT7535	50KT7535	—
1500	25KT1525	50KT1525	120KT1525				120KT1045

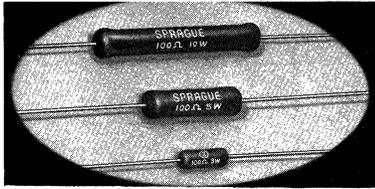
*Available until present stocks are exhausted.

SPRAGUE RESISTORS

TYPE NIT*NON-INDUCTIVE RESISTORS

Ohms	CATALOG NUMBER			Ohms	CATALOG NUMBER		
	Type 25NIT 25 WATTS 3/32" x 2 7/8"	Type 50NIT 50 WATTS 7/8" x 4"	Type 120NIT 120 WATTS 1 1/16" x 8 13/16"		Type 25NIT 25 WATTS 3/32" x 2 7/8"	Type 50NIT 50 WATTS 7/8" x 4"	Type 120NIT 120 WATTS 1 1/16" x 8 13/16"
25	—	—	120NIT2505	1500	25NIT1525	50NIT1525	—
50	—	—	120NIT5005	2000	25NIT2025	—	120NIT2025
75	25NIT7505	—	—	2500	25NIT2525	—	120NIT2525
150	25NIT1515	50NIT1515	—	3000	25NIT3025	50NIT3025	120NIT3025
200	25NIT2015	50NIT2015	—	4000	—	50NIT4025	—
250	25NIT2515	—	—	7500	—	50NIT7525	120NIT7525
390	—	—	120NIT3915	10000	—	50NIT1035	120NIT1035
750	25NIT7515	50NIT7515	120NIT7515	12000	—	50NIT1235	—
1000	25NIT1025	—	—	15000	—	50NIT1535	120NIT1535
				20000	—	—	120NIT2035
				25000	—	50NIT2535	120NIT2535
				50000	—	—	120NIT5035

BLUE JACKET® VITREOUS-ENAMEL WIREWOUND RESISTORS



- Improved Minified Resistors Designed for Thorough Reliability and Stability Under Extreme Operating Conditions
- Matched Coefficient of Expansion Allows Uniform Expansion of Vitreous Enamel Coating, Ceramic Base, and End Caps, Eliminating Cracking, Cracks, and Protects From Fumes and Humidity
- Windings and Leads Welded to End-Caps for Superior Mechanical Strength
- Standard Resistance Tolerance: ± 5%

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

Ohms	CATALOG NUMBER						Ohms	CATALOG NUMBER					
	239E 1 WATT 1/8" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 1/4" x 1/2"	243E 5 WATTS 3/16" x 1/2"	244E* 7 WATTS 3/16" x 1"	247E 10 WATTS 3/16" x 1 1/4"		239E 1 WATT 1/8" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 1/4" x 1/2"	243E 5 WATTS 3/16" x 1/2"	244E* 7 WATTS 3/16" x 1"	247E 10 WATTS 3/16" x 1 1/4"
1	239E1R05	240E1R05	242E1R05	243E1R05	—	247E1R05	35	—	—	—	243E3505*	244E3505	247E3505*
1.2	239E1R25*	—	—	—	—	—	39	239E3905*	240E3905	242E3905	—	—	—
1.5	239E1R55	240E1R55*	242E1R55	243E1R55	244E1R55	247E1R55	40	239E4005*	240E4005	242E4005	243E4005	244E4005	247E4005
1.8	239E1R85	—	—	—	—	—	47	239E4705*	240E4705	242E4705	243E4705	—	—
2	239E2R05	240E2R05	242E2R05	243E2R05	—	247E2R05	50	239E5005	—	242E5005	243E5005	244E5005	247E5005
2.2	239E2R25	—	—	—	—	—	56	239E5605*	240E5605*	242E5605*	—	—	—
2.7	239E2R75*	—	—	—	—	—	68	239E6805	240E6805	242E6805	—	—	—
3	239E3R05	240E3R05	242E3R05	243E3R05	244E3R05	247E3R05	75	239E7505	240E7505*	242E7505	243E7505	244E7505	247E7505
3.3	239E3R35*	—	—	—	—	—	82	239E8205	240E8205*	242E8205	—	—	—
3.9	239E3R95*	—	—	—	—	—	100	239E1015	240E1015	242E1015	243E1015	—	247E1015
4	239E4R05	240E4R05	242E4R05	243E4R05	—	247E4R05	120	239E1215	240E1215	242E1215	243E1215	244E1215	247E1215
4.7	239E4R75*	—	—	—	—	—	150	239E1515	240E1515	242E1515	243E1515	—	247E1515
5	239E5R05	240E5R05	242E5R05	243E5R05	—	247E5R05	180	239E1815	240E1815	242E1815	—	—	—
5.6	239E5R65*	—	—	—	—	—	200	239E2015	240E2015	242E2015	243E2015	244E2015	247E2015
6.8	239E6R85*	—	—	—	—	—	220	239E2215	240E2215	242E2215	243E2215	244E2215	247E2215
7.5	239E7R55	240E7R55	242E7R55	243E7R55	—	247E7R55	250	239E2515	240E2515	242E2515	243E2515	244E2515	247E2515
8.2	239E8R25*	—	—	—	—	—	270	239E2715	240E2715*	242E2715	—	—	—
10	239E1005	240E1005	242E1005	243E1005	244E1005	247E1005	300	239E3015	240E3015	242E3015	243E3015	—	247E3015
12	239E1205	240E1205	242E1205	243E1205	244E1205	247E1205	330	239E3315	240E3315	242E3315	—	—	—
15	239E1505	240E1505	242E1505	243E1505	244E1505	247E1505	350	—	—	—	243E3515*	244E3515	247E3515*
18	239E1805	240E1805*	242E1805	—	—	—	390	239E3915	240E3915*	242E3915	—	—	—
20	239E2005	240E2005	242E2005	243E2005	244E2005	247E2005	400	239E4015*	240E4015*	242E4015	243E4015	244E4015	247E4015
22	239E2205*	240E2205*	242E2205*	—	—	—	450	—	—	—	243E4515	—	—
25	239E2505*	240E2505	242E2505	243E2505	244E2505	247E2505	470	239E4715	240E4715	242E4715	—	—	—
27	239E2705*	240E2705*	242E2705*	—	—	—	500	239E5015	240E5015	242E5015	243E5015	244E5015	247E5015
30	239E3005	240E3005	242E3005	243E3005	—	247E3005	560	239E5615*	240E5615*	242E5615	—	—	—
33	239E3305*	240E3305*	242E3305*	—	—	—	600	239E6015	—	242E6015	243E6015	244E6015	247E6015

*Available until present stocks are exhausted.

SPRAGUE RESISTORS

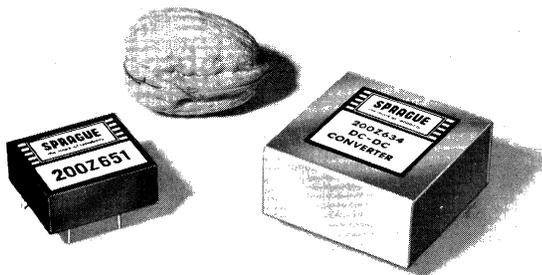
BLUE JACKET® VITREOUS-ENAMEL WIREWOUND RESISTORS, continued

CATALOG NUMBER						CATALOG NUMBER					
Ohms	239E 1 WATT 1/4" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 1/8" x 1/32"	243E 5 WATTS 1/8" x 1/16"	244E* 7 WATTS 3/16" x 1"	247E 10 WATTS 3/16" x 1 1/4"	Ohms	242E 3 WATTS 1/8" x 1/32"	243E 5 WATTS 1/8" x 1/16"	244E* 7 WATTS 3/16" x 1"	247E 10 WATTS 3/16" x 1 1/4"
680			242E6815*				5600	242E5625*			
700	239E7015*	240E7015*	242E7015	243E7015*	244E7015	247E7015*	6000	242E6025	243E6025	244E6025	247E6025
750				243E7515	244E7515	247E7515	6800	242E6825			
800	239E8015	240E8015*	242E8015	243E8015	244E8015	247E8015	7000		243E7025*	244E7025	247E7025*
820	239E8215	240E8215	242E8215				7500	242E7525	243E7525	244E7525	247E7525
900	239E9015*	240E9015*	242E9015*	243E9015*	244E9015	247E9015*	8000	242E8025*	243E8025*	244E8025	247E8025*
1000	239E1025	240E1025	242E1025	243E1025	244E1025	247E1025	8200	242E8225*			
1100				243E1125*	244E1125	247E1125*	9000	242E9025*	243E9025*	244E9025	247E9025*
1200	239E1225	240E1225	242E1225	243E1225	244E1225	247E1225	10000	242E1035	243E1035		247E1035
1400	239E1425*	240E1425*	242E1425*	243E1425*	244E1425	247E1425*	11000			244E1135	247E1135*
1500	239E1525	240E1525	242E1525	243E1525	244E1525	247E1525	12000		243E1235	244E1235	247E1235
1800	239E1825*	240E1825*	242E1825	243E1825*	244E1825	247E1825*	14000		243E1435*	244E1435	247E1435*
2000	239E2025	240E2025	242E2025	243E2025	244E2025	247E2025	15000		243E1535	244E1535	247E1535
2200	239E2225	240E2225	242E2225	243E2225	244E2225	247E2225	16000				247E1635*
2500	239E2525	240E2525*	242E2525	243E2525		247E2525	17000			244E1735	
2700		240E2725*	242E2725*				18000		243E1835*	244E1835	247E1835*
3000		240E3025*	242E3025	243E3025		247E3025	20000		243E2035	244E2035	247E2035
3300		240E3325*	242E3325		244E3325	247E3325	22000		243E2235		247E2235
3500		240E3525*		243E3525*	244E3525	247E3525*	25000		243E2535*		247E2535
3900		240E3925*	242E3925		244E3925	247E3925	30000		243E3035*	244E3035	247E3035*
4000			242E4025	243E4025	244E4025	247E4025	35000			244E3535	247E3535*
4200					244E4225		40000			244E4035	247E4035
4500				243E4525*	244E4525	247E4525*	45000				247E4535*
4700			242E4725				50000				247E5035*
5000			242E5025	243E5025		247E5025					

1-watt and 2-watt ratings not available in these resistance values

SPRAGUE CONVERTERS

SERIES 200Z D-C to D-C CONVERTERS



- Designed for use as display power sources, changing low voltage dc to higher voltage dc.
- Typical uses include point-of-sale machines such as scales and cash registers, timekeeping devices, instrumentation, appliances, automobile dashboards, etc.
- Types 200Z634 and 200Z641 intended for powering standard gas discharge displays measuring up to .700 in. (17 mm) high. Type 200Z635 intended for powering gas discharge dot matrix displays.
- Features include compact modular construction, easy PC board mounting, wide input voltage range, ±5% output voltage regulation for all specified operating conditions, and an enable pin for remote shut-down, input over-voltage protection, or current limiting.
- Designed for operation at case temperatures from 0°C to +85°C.
- For complete technical data, refer to latest issue of Engineering Bulletin 41510.

FOR GAS DISCHARGE DISPLAYS 1.750" W. x .850" H. x 1.750" L.

V _{out}	Output Current 8-16 VDC Input	Output Current 11-13 VDC Input	Output Ripple Voltage (max.)	Catalog Number
±100V	0-25mA	0-30mA	1.5V p-p	200Z634
+250V	0-20mA	0-25mA	3.75V p-p	200Z635
+200V	0-25mA	0-30mA	3.0V p-p	200Z641

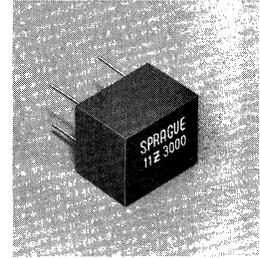
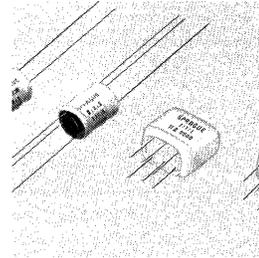
FOR VACUUM FLUORESCENT DISPLAYS 1.135" W. x .500" H. x 1.260" L.

V _{out}	V _{in} (vdc)	Output Current	Output Ripple Voltage (max.)	Catalog Number
24V	4-6	0-70mA	1.0V p-p	200Z651
30V	4-6	0-50mA	1.0V p-p	200Z652
40V	4-6	0-35mA	1.0V p-p	200Z653
24V	11-13	0-70mA	1.0V p-p	200Z654
30V	11-13	0-50mA	1.0V p-p	200Z655
40V	11-13	0-35mA	1.0V p-p	200Z656

SPRAGUE PULSE TRANSFORMERS

TYPE 11Z TRIGATE® PULSE TRANSFORMERS

- Specifically designed for commercial and industrial SCR triggering applications where low cost and excellent performance are required.
- Single-ended pulse transformers are designed with leads especially intended for mounting on printed wiring boards; these units are self supporting.
- Balanced pulse characteristics and energy transfer between windings.
- Minimum saturation effect to allow operation where increased pulse widths are required.
- Fast pulse rise time and increased current capability to prevent SCR di dt failure.
- Operating temperature range of -10°C to $+70^{\circ}\text{C}$.
- For complete technical data, see latest issue of Sprague Engineering Bulletin 40,003.



UNIT 1 UNIT 2

UNIT 3

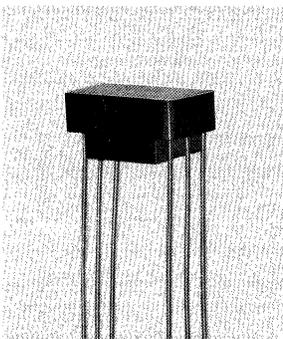
Turns Ratio	Catalog Number	Size	Min. L_p (μH)	Max. L_L (μH)	Max. C_C (pF)	Max. DCR (Ω)	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy A-C Line Voltage (Volts RMS)
FLEXIBLE LEAD DESIGN (Unit 1 in photo)								
1:1	11Z12	.593" D. x .828" L.	200	3	800	1.5-1.5	1600	240
1:1:1	11Z13	.593" D. x .828" L.	200	3	800	2-2-2	1600	240
2:1	11Z14	.593" D. x .828" L.	1000	10	1300	10-2	1600	240
2:1:1	11Z15	.593" D. x .828" L.	1000	15	1300	10-2-2	1600	240
5:1	11Z16	.593" D. x .828" L.	5000	1500	400	19-3	1600	240
PLUG-IN DESIGN with THERMOPLASTIC SHEATH (Unit 2 in photo)								
1:1	11Z2000	.775" W. x .968" L. x .800" H.	200	3.0	800	1.5-1.5	1600	240
1:1	11Z2001	.775" W. x .968" L. x .800" H.	1000	12.0	2000	8-8	1600	240
2:1	11Z2003	.775" W. x .968" L. x .800" H.	1000	10.0	1300	10-2	1600	240
5:1	11Z2004	.775" W. x .968" L. x .800" H.	5000	1500	400	19-3	1600	240
1:1:1	11Z2100	.775" W. x .968" L. x .800" H.	200	3.0	800	2-2-2	1600	240
1:1:1	11Z2101	.775" W. x .968" L. x .800" H.	1000	12.0	2000	10-10-10	1600	240
2:1:1	11Z2103	.775" W. x .968" L. x .800" H.	1000	15.0	1300	10-2-2	1600	240
5:1:1	11Z2104	.775" W. x .968" L. x .800" H.	5000	1500	400	20-4-4	1600	240
PLUG-IN DESIGN with PRE-MOLDED CASE (Unit 3 in photo)								
1:1	11Z3000	.775" W. x .950" L. x .750" H.	200	3.0	800	1.5-1.5	1600	240
1:1	11Z3001	.775" W. x .950" L. x .750" H.	1000	12.0	2000	8-8	1600	240
1:1	11Z3002	.775" W. x .950" L. x .750" H.	5000	15.0	3500	18-18	1600	240
2:1	11Z3003	.775" W. x .950" L. x .750" H.	1000	10.0	1300	10-2	1600	240
5:1	11Z3004	.775" W. x .950" L. x .750" H.	5000	1500	400	19-3	1600	240
1:1:1	11Z3100	.775" W. x .950" L. x .750" H.	200	3.0	800	2-2-2	1600	240
1:1:1	11Z3101	.775" W. x .950" L. x .750" H.	1000	12.0	2000	10-10-10	1600	240
1:1:1	11Z3102	.775" W. x .950" L. x .750" H.	5000	15.0	3500	27-27-27	1600	240
2:1:1	11Z3103	.775" W. x .950" L. x .750" H.	1000	15.0	1300	10-2-2	1600	240
5:1:1	11Z3104	.775" W. x .950" L. x .750" H.	5000	1500	400	20-4-4	1600	240

TYPE 66Z SCR TRIGGER TRANSFORMERS

- Pre-molded construction permits slightly lower cost than fully-molded units without sacrifice in humidity resistance.
- Small size for use on pc boards and in encapsulated

modular packages. Case measures .400" W. x .785" L. x .312" H.

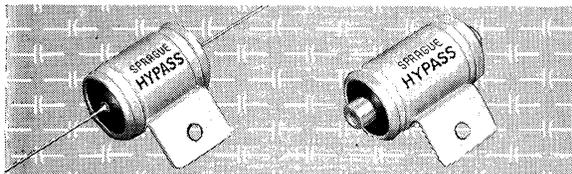
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 40,004.



Turns Ratio	Catalog Number	Min. L_p (μH)	Max. L_L (μH)	Max. C_C (pF)	Typ. V_{usec} Output Winding	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy. A-C Line Voltage
1:1:1	66Z900	700	300	25	60	1000	240
1:1:1	66Z903	700	300	25	60	2200	550
1:1:1	66Z930	4800	25	50	110	1000	240
1:1:1	66Z932	4800	25	50	110	2200	550

SPRAGUE FILTERS

HYPASS® CAPACITORS



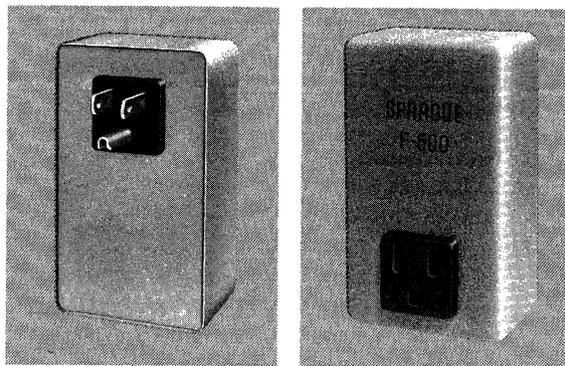
- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are Ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

μF	Amps.	WVDC	Dia. x Length	Cat. No.
.5	40	50	1 x 1 1/16	*48P18
.5	60	50	1 x 1 1/16	*48P100
.25	20	200	3/4 x 1 1/16	*48P10
.25	20	200	1 1/16 x 1 1/16	†80P5
.5	20	200	1 x 1 1/16	*48P14
.1	20	250(VAC)	1 1/16 x 1 1/16	*48P9
.1	20	400	1 1/16 x 1 1/16	*48P6
.1	20	400	1 1/16 x 1 1/16	†80P1
.1	20	600	1 1/16 x 1 1/16	,*48P8
.1	20	600	1 1/16 x 1 1/16	*†80P3
.25	20	600	1 x 1 1/16	*48P12
.5	20	600	1 x 2 1/4	*48P16★
.5	100	600	1 1/8 x 3	†80P500
.005	20	1000	7/16 x 1 1/4	47P12★
.01	20	2500	1 x 1 1/16	47P15★
.002	20	5000	1 x 1 1/16	47P16★

*Has female screw terminals

†Bulkhead mounting.

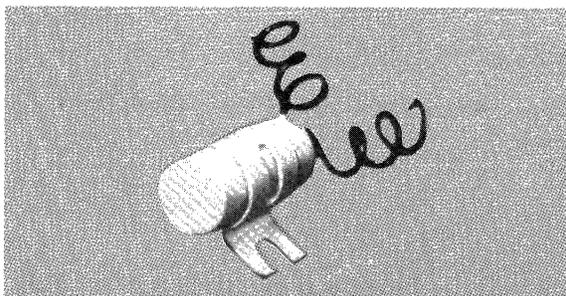
TYPE F-500 MIRACLE FILTEROL®



A LINE FILTER THAT REALLY WORKS!

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Lengths of Ground Lead
- Plugs into Standard Grounding Duplex Wall Outlet
- Direct Wall-Mounting Provides Neat Installation—No Un-sightly Cord—Receiver or Appliance Plugs into Standard Outlet on Face of F-500
- Handsomely Finished in Durable Alkyd Enamel
- Rated at 5 Amperes, 125 Volts AC, 60 Hz

TYPE IF FILTERS★



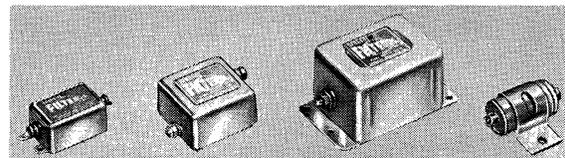
IF-21—COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.

IF-37—3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Also used on governor-type motors. Underwriters' Laboratories, Inc. listed.

Cat. No.	Volts AC or DC	Dia. x Length
IF-21	220	1 x 2 3/16
IF-37	220	1 x 2"

★Available until present stocks are exhausted.

FILTEROL FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

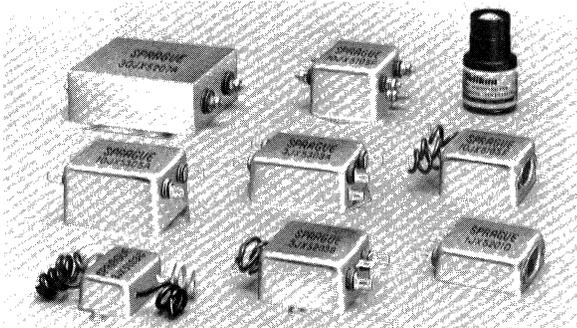
Filterol Types 1, 2, and 3—Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4—A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

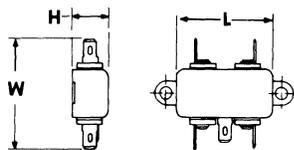
Cat. No.	Amps.	Volts AC or DC	Size
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4
Filterol 2	10	115	1 1/8 x 2 x 2
Filterol 3	35	115	1 7/8 x 2 7/8 x 3 1/8
Filterol 4	20	115	1" dia. x 1 13/16" long

SPRAGUE FILTERS

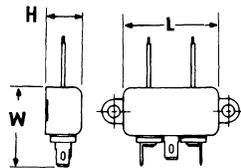
GENERAL-PURPOSE INTERFERENCE FILTERS



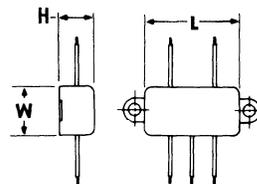
- General purpose interference filters for wide variety of applications . . . particularly useful in computers, business machines, medical electronic equipment, industrial controls, other high quality instruments.
- **U.L. RECOGNIZED** for operation to 250 VAC, 50-60 Hz or to 125 VAC, 400 Hz.
- Ideal for eliminating broadcast band and high-frequency interference. Also useful into the VHF range and in microwave oven applications.
- May be used at any combination of voltage and frequency up to and including the max. of 250 volts a-c, 60 Hz, at full rated current.
- Max. leakage current is 0.5 mA at 125 V, 60 Hz and 1.0 mA at 250 V, 60 Hz.
- Will withstand at 2250 volt d-c dielectric strength test.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 8211.



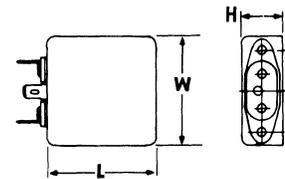
STYLE A



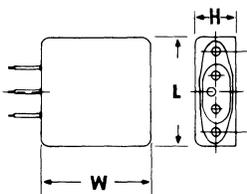
STYLE B



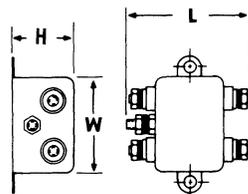
STYLE C



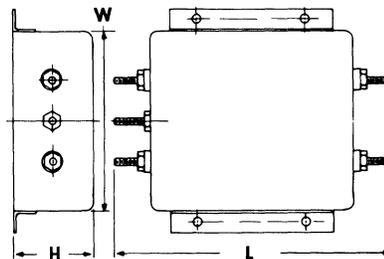
STYLE D



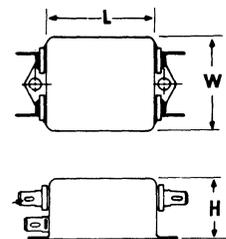
STYLE E



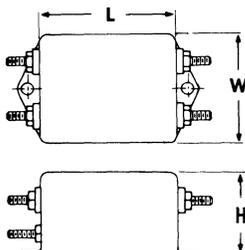
STYLE F



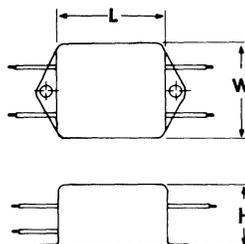
STYLE G



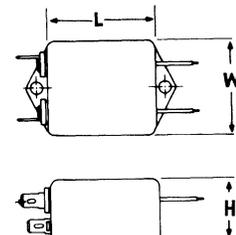
STYLE H



STYLE J



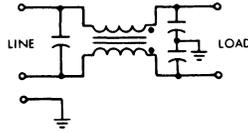
STYLE K



STYLE L

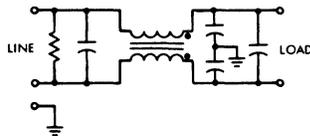
SPRAGUE FILTERS

GENERAL-PURPOSE INTERFERENCE FILTERS, continued



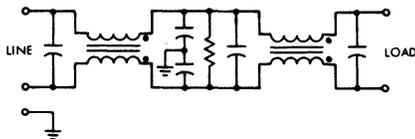
SERIES JX5100 FILTERS

Max. Current (Amperes)	Style	Dimensions in Inches			Catalog No.	Max. Current (Amperes)	Style	Dimensions in Inches			Catalog No.	
		L.	W.	H.				L.	W.	H.		
1	A	1.750	1.985	.635	1JX5101A	5	A	1.750	2.360	.760	5JX5104A	
	B	1.750	1.435	.635	1JX5101B		B	1.810	1.750	.760	5JX5104B	
	C	1.750	.885	.635	1JX5101C		C	1.260	1.750	.760	5JX5104C	
	D	2.310	2.000	.760	1JX5101D		D	2.560	2.000	.760	5JX5104D	
	E	2.000	1.760	.760	1JX5101E		E	2.010	2.000	.760	5JX5104E	
2	A	1.750	1.985	.635	2JX5102A	10	A	1.750	2.360	1.135	10JX5105A	
	B	1.750	1.435	.635	2JX5102B		B	1.810	1.750	1.135	10JX5105B	
	C	1.750	.885	.635	2JX5102C		C	1.260	1.750	1.135	10JX5105C	
	D	2.310	2.000	.760	2JX5102D		D	2.560	2.000	1.135	10JX5105D	
	E	2.000	1.760	.760	2JX5102E		E	2.010	2.000	1.135	10JX5105E	
3	A	1.750	2.360	.760	3JX5103A	20	A	2.000	3.110	1.135	20JX5106A	
	B	1.810	1.750	.760	3JX5103B		F	3.570	2.000	1.135	20JX5106B	
	C	1.750	1.260	.760	3JX5103C		30	G	5.450	3.312	1.510	30JX5107A
	D	2.560	2.000	.760	3JX5103D							
	E	2.010	2.000	.760	3JX5103E							



SERIES JX5200 FILTERS

Max. Current (Amperes)	Style	Dimensions in Inches			Catalog No.	Max. Current (Amperes)	Style	Dimensions in Inches			Catalog No.	
		L.	W.	H.				L.	W.	H.		
1	A	2.000	2.860	.885	1JX5201A	5	A	2.000	2.860	1.135	5JX5204A	
	B	2.000	2.310	.885	1JX5201B		B	2.000	2.310	1.135	5JX5204B	
	C	2.000	1.760	.885	1JX5201C		C	2.000	1.760	1.135	5JX5204C	
	D	2.560	2.000	.885	1JX5201D		D	2.560	2.000	1.135	5JX5204D	
	E	2.000	2.010	.885	1JX5201E		E	2.000	2.010	1.135	5JX5204E	
2	A	2.000	2.860	.885	2JX5202A	10	A	2.000	3.110	1.135	10JX5205A	
	B	2.000	2.310	.885	2JX5202B		B	2.000	2.560	1.135	10JX5205B	
	C	2.000	1.760	.885	2JX5202C		C	2.000	2.010	1.135	10JX5205C	
	D	2.560	2.000	.885	2JX5202D		F	3.580	2.000	1.135	10JX5205D	
	E	2.000	2.010	.885	2JX5202E		20	F	3.580	2.500	1.515	20JX5206A
3	A	2.000	2.860	1.135	3JX5203A	30		G	5.450	3.312	1.510	30JX5207A
	B	2.000	2.310	1.135	3JX5203B							
	C	2.000	1.760	1.135	3JX5203C							
	D	2.560	2.000	1.135	3JX5203D							
	E	2.000	2.010	1.135	3JX5203E							

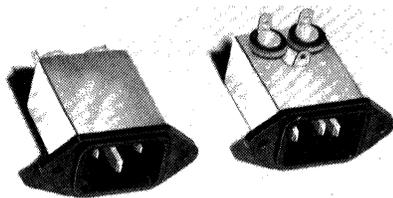


SERIES JX5300 FILTERS

Max. Current (Amperes)	Style	Dimensions in Inches			Catalog No.	Max. Current (Amperes)	Style	Dimensions in Inches			Catalog No.
		L.	W.	H.				L.	W.	H.	
1	H	2.000	1.765	1.140	1JX5301A	5	H	2.500	2.015	1.140	5JX5304A
	J	2.000	1.765	1.140	1JX5301B		J	2.500	2.015	1.140	5JX5304B
	K	2.000	1.765	1.140	1JX5301C		K	2.500	2.015	1.140	5JX5304C
2	H	2.000	1.765	1.140	2JX5302A	10	H	2.500	2.015	1.515	10JX5305A
	J	2.000	1.765	1.140	2JX5302B		J	2.500	2.015	1.515	10JX5305B
	K	2.000	1.765	1.140	2JX5302C		K	2.500	2.015	1.515	10JX5305C
3	H	2.500	2.015	1.140	3JX5303A	20	L	2.500	2.015	1.515	10JX5305D
	J	2.500	2.015	1.140	3JX5303B		G	5.450	3.312	1.510	20JX5306A
	K	2.500	2.015	1.140	3JX5303C						

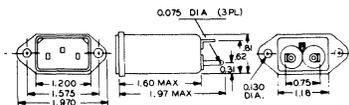
SPRAGUE FILTERS

SERIES JX5400 ELECTROMAGNETIC INTERFERENCE FILTERS

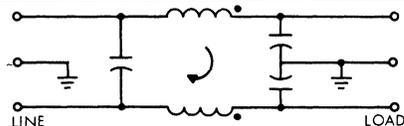
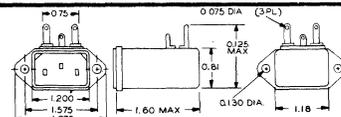


- Incorporate standard I.E.C. integral male line cord receptacle.
- **U.L. RECOGNIZED** for operation at 125 or 250 volts a-c over frequency range of 50 to 400 Hz.
- Offer 1, 3, 6, and 15 ampere ratings.
- Available in 4 circuit designs including general purpose common mode (UL478), general purpose differential mode (UL478), ultra-low leakage (UL544), telephone interconnect (FCC Part 68).
- Particularly effective in protecting equipment containing low level logic circuitry against external transients having significant energy in 150 kHz — 30 MHz range.
- Withstand 10 kV surge test prescribed in International Electrotechnical Commission (IEC) Publication 380.
- Choice of 2 standard cases . . . with load terminals extending from back of plated steel housing, or . . . with load terminals extending from top of housing.
- In both cases, combination mounting bracket/receptacle is backed with metal and is electrically-integral part of the shielded case, assuring high insertion loss and isolation.
- For complete technical data, see latest issue of Engineering Bulletin 8212.

CASE STYLE A



CASE STYLE B

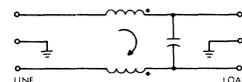


CIRCUIT STYLE 1
(FOR SUPPRESSION OF COMMON-MODE NOISE)

Max. Amp.	DB INSERTION LOSS AT												Catalog Number†										
	0.15 MHz		0.20 MHz		0.50 MHz		1 MHz		2 MHz		5 MHz			10 MHz		20 MHz		30 MHz		50 MHz		100 MHz	
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
1	25	20	29	24	38	33	48	40	54	45	56	45	57	45	56	45	44	40	48	*	38	*	1JX5411A
3	21	15	24	18	34	30	41	35	51	45	54	45	56	45	58	45	58	45	59	*	48	*	3JX5421A
6	16	10	18	12	28	22	34	25	46	35	50	45	54	45	60	45	60	45	59	*	43	*	6JX5431A
10	11	5	14	8	24	18	31	25	35	32	49	42	52	45	57	45	62	45	50	*	37	*	10JX5441A
15	5	*	7	*	17	12	29	18	30	24	43	33	45	40	52	45	58	45	47	*	35	*	15JX5451A

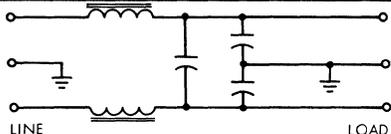
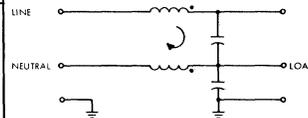
Max. Amp.	DB INSERTION LOSS AT										Catalog Number†						
	0.15 MHz		0.20 MHz		0.50 MHz		1 MHz		2 MHz			5 MHz		10 MHz		20 MHz	
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
1	26	20	28	22	37	31	40	34	39	33	30	24	24	18	25	18	1JX5412A
3	22	16	24	18	31	25	35	34	37	31	36	30	32	26	27	21	3JX5422A
6	16	10	18	12	25	19	28	22	30	24	31	25	28	22	25	19	6JX5432A
10	11	5	14	8	21	15	25	19	27	21	28	22	25	19	22	16	10JX5442A
15	5	*	7	*	14	8	18	12	20	14	21	15	19	13	17	11	15JX5452A

CIRCUIT STYLE 2
(FOR LOW LEAKAGE CURRENT APPLICATIONS)



Max. Amp.	DB INSERTION LOSS AT										Catalog Number†						
	0.15 MHz		0.20 MHz		0.50 MHz		1 MHz		2 MHz			5 MHz		10 MHz		20 MHz	
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
1	26	20	29	33	37	31	43	37	45	40	46	40	46	40	30	*	1JX5413A
3	22	16	25	19	33	27	39	33	45	40	50	40	52	40	36	30	3JX5423A
6	16	10	18	12	25	19	30	24	37	40	46	40	48	40	45	40	6JX5433A
10	12	6	15	9	22	16	27	21	33	27	40	34	44	38	44	38	10JX5443A
15	3	*	6	*	14	8	19	13	24	18	32	36	39	33	44	38	15JX5453A

CIRCUIT STYLE 3
(FOR TELEPHONE LINE INTERCONNECT APPLICATIONS)



CIRCUIT STYLE 4
(FOR SUPPRESSION OF DIFFERENTIAL MODE NOISE)

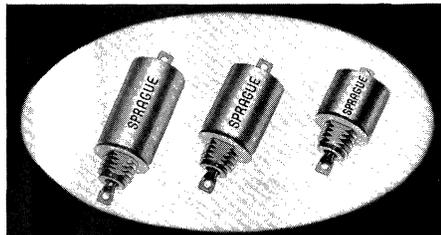
Max. Amp.	DB INSERTION LOSS AT												Catalog Number†										
	0.15 MHz		0.20 MHz		0.50 MHz		1 MHz		2 MHz		5 MHz			10 MHz		20 MHz		30 MHz		50 MHz		100 MHz	
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
1	1	*	2	*	11	5	21	15	32	26	49	43	64	45	54	45	56	*	50	*	29	*	1JX5414A
3	0	*	0	*	3	*	12	6	22	16	38	32	51	45	56	45	55	*	53	*	45	*	3JX5424A
6	0	*	0	*	1	*	5	*	13	7	28	22	39	33	46	40	52	*	57	*	44	*	6JX5434A

†Catalog numbers shown above are for filters with rear terminals. For units with top terminals, change last character in catalog number from "A" to "B".

*Represents an area of resonance or close to cut-off and minimums cannot be guaranteed.

SPRAGUE FILTERS

SUBMINIATURE EMI FILTERS



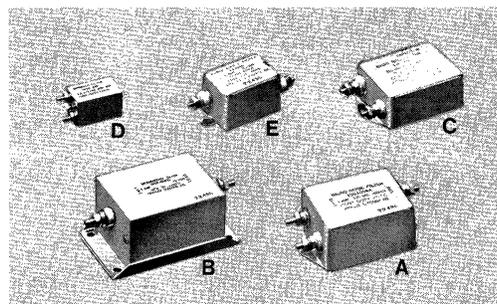
- The broadest line of subminiature interference control components available.
- Low terminal-to-terminal d-c resistance. Especially desirable in low-voltage circuitry where any reduction in power supply voltage is critical.
- Small size and high performance make them well suited for high-density packaging in a wide variety of applications, including power and control lines.
- Threaded-neck construction is ideal where leads being filtered pass through chassis or bulkhead.
- Hermetically sealed with glass-to-metal seals in corrosion resistant metal cases.
- For complete technical data, refer to Sprague Engineering Bulletins 8132 and 8132.1.

Circuit Type	Current (Amperes)	Voltage Rating			Max. D-C Resistance (Ohms)	Size Dia. x Length	Min. Full Load Insertion Loss (dB)						Catalog Number
		A-C@125 C	D-C@85 C	D-C@125 C;			30 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz	
feed-thru	15	—	50	30	—	.400 x .210	16	30	36	46	50	60	15JX2529
feed-thru	10	—	100	50	0.01	.400 x .250	10	24	30	40	50	60	7JX2503
feed-thru	5	125, 400 Hz	—	—	0.01	.400 x .250	—	15	21	31	48	60	5JX3502
	7	125, 60 Hz											
L	0.1	—	100	50	1.7	.400 x .440	19	47	60	70	70	70	1JX2603
L	0.5	—	100	50	0.35	.400 x .440	15	37	49	70	70	70	1JX2623
L	5	—	100	50	0.01	.400 x .440	11	24	30	40	70	70	5JX2693
L	0.1	—	100	50	1.7	.400 x .440	19	47	60	70	70	70	1JX2608
L	0.5	—	100	50	0.35	.400 x .440	15	37	49	70	70	70	1JX2628
L	5	—	100	50	0.01	.400 x .440	11	24	30	40	70	70	5JX2698
Pi	0.5	—	100	50	0.35	.400 x .540	24	68	80	80	80	80	1JX2713
Pi	1	—	100	50	0.14	.400 x .540	—	54	71	80	80	80	1JX2718
Pi	2	—	100	50	0.06	.400 x .540	—	47	65	80	80	80	2JX2723
Pi	5	—	100	50	0.01	.400 x .540	—	18	47	80	80	80	5JX2732
L	0.1	125, 400 Hz	250	150	1.7	.400 x .440	10	38	51	60	60	60	1JX3601
L	0.5	125, 400 Hz	250	150	0.35	.400 x .440	4	27	36	57	60	60	1JX3603
L	4	125, 400 Hz	250	150	0.01	.400 x .440	4	15	21	32	57	60	5JX3623
	5	125, 60 Hz											
L	0.1	125, 400 Hz	250	150	1.7	.400 x .440	10	38	51	60	60	60	1JX3606
L	0.5	125, 400 Hz	250	150	0.35	.400 x .440	4	27	36	57	60	60	1JX3608
L	4	125, 400 Hz	250	150	0.01	.400 x .440	4	15	21	32	57	60	5JX3613
	5	125, 60 Hz											
Pi	0.5	125, 400 Hz	250	150	0.35	.400 x .540	—	47	64	70	70	70	1JX3703
Pi	1.5	125, 400 Hz	250	150	0.06	.400 x .540	—	20	44	70	70	70	2JX3705
Pi	3.5	125, 400 Hz	250	150	0.01	.400 x .540	—	—	—	58	70	70	5JX3709
	5	125, 60 Hz											

RADIO INTERFERENCE FILTERS

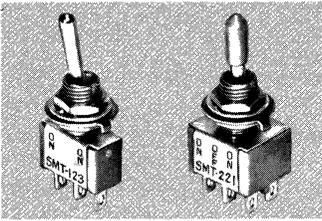
FOR AIRCRAFT APPLICATIONS

- Exact replacements for filters needed to control radio interference caused by noise-producing devices in aircraft as well as ground equipment.
- Constructed to meet the high quality standards demanded by the aircraft industry.
- Hermetically-sealed terminals. Corrosion-resistant metal cases.



Current (Amperes)	Volts A-C	Volts D-C	D-C Surge	Operating Temperature	Size L. x W. x H.	Unit in Photo	Catalog Number
0.5	—	50	75V	65C	1 $\frac{3}{4}$ x 1 $\frac{1}{4}$ x 1 $\frac{1}{8}$	E	18005A
0.5	—	50	75V	65C	2 $\frac{1}{2}$ x 2 x 1 $\frac{1}{8}$	C	1JX700A
2	125, 400 Hz	—	250V	125C	1 $\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$	D	JN10-358
5	115, 400 Hz	—	900V	85C	2 $\frac{1}{2}$ x 2 x 1 $\frac{3}{4}$	A	10S1034A
5	—	28	50V	125C	2 $\frac{7}{8}$ x 2 $\frac{1}{4}$ x 1 $\frac{13}{16}$	B	JN10-2002B1

SPRAGUE SWITCHES

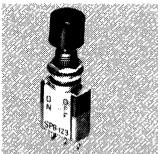
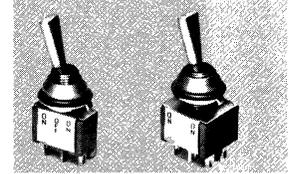


SERIES SMT SUBMINIATURE TOGGLE SWITCHES, BAT HANDLE

- SPDT and DPDT types listed by Underwriters' Labs.
- Combine drastic reduction in size and weight with trouble-free performance.
- Widely used in "today's" low-current, solid state equipment.
- Available in popular double-throw circuit configurations.
- Constructed of high-quality materials, featuring coin silver switching contacts, rockers.
- Toggle caps for color coding available. Cat. No. SWH-100 is assortment of 8 - 2 each black, blue, red, white, SWH-101, white; SWH-102, blue; SWH-103, black; SWH-104, yellow; SWH-105, green; SWH-106, grey; SWH-107, red. All except SWH-100, 50 per pkg.

SERIES SMF SUBMINIATURE TOGGLE SWITCHES, FLAT HANDLE

- Listed by Underwriters' Laboratories.
- Same quality construction as Series SMT.
- Specially-designed handles provide ease of grasp, good sense of direction of throw, enhance panel appearance.
- Satin-finish chrome flat handle (paddle lever).
- Ideal for quick visual alignment of 2 or 25 switches in a row.
- Unique pinned toggle design prevents rotation of handle.

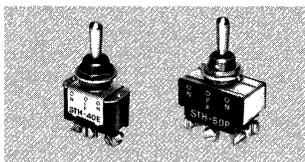


SERIES SPB SUBMINIATURE PUSH-BUTTON SWITCHES

- SPB-123 is a maintained action switch (push to make and break contact).
- SPB-126 is a momentary action switch (normally open, or normally closed).
- Caps for color coding (10 per pkg.) include Cat. No. SWH-201, white; SWH-203, black; SWH-207, red.

SERIES STM MEDIUM-DUTY TOGGLE SWITCHES

- Listed by Underwriters' Laboratories.
- For use where ruggedness, durability are more important than size.
- Self-wiping, heavily silver-plated double-grip contacts ensure dependability, long life.
- Includes standard mounting hardware.



SERIES STH HEAVY-DUTY TOGGLE SWITCHES

- Listed by Underwriters' Laboratories.
- Well constructed with specially selected materials.
- Silver alloys on contact surface areas insure extra over-load protection, heat dissipation, and low contact resistance for greater reliability.
- Solderable No. 6-32 electro-tinned screw terminals.

Description	Cat. No.	Circuit Type	Toggle Lever or Button Action	No. of Terminals	Nom. Rating (amperes)		Bushing Size L. x D.	Body Size L. x T. x H.	Lever Lgth.	Photo No.
					125 VAC	250 VAC				
Subminiature Toggle, Bat Handle	SMT-121	SPDT	ON-OFF-ON	3	5	3	.352 x .250	.500 x .260 x .350	.400	1
	SMT-123	SPDT	ON-NONE-ON	3	5	3	.352 x .250	.500 x .260 x .350	.400	1
	SMT-126	SPDT	ON-NONE-ON★	3	5	3	.352 x .250	.500 x .260 x .350	.400	1
	SMT-221	DPDT	ON-OFF-ON	6	5	3	.352 x .250	.500 x .450 x .350	.400	1
	SMT-223	DPDT	ON-NONE-ON	6	5	3	.352 x .250	.500 x .450 x .350	.400	1
	SMT-321	3PDT	ON-OFF-ON	9	5	3	.352 x .250	.500 x .652 x .415	.400	1
	SMT-323	3PDT	ON-NONE-ON	9	5	3	.352 x .250	.500 x .652 x .415	.400	1
	SMT-421	4PDT	ON-OFF-ON	12	5	3	.352 x .250	.500 x .834 x .415	.400	1
	SMT-423	4PDT	ON-NONE-ON	12	5	3	.352 x .250	.500 x .834 x .415	.400	1
	Subminiature Toggle, Flat Handle	SMF-121	SPDT	ON-OFF-ON	3	5	3	.352 x .250	.500 x .260 x .350	.448	2
SMF-123		SPDT	ON-NONE-ON	3	5	3	.352 x .250	.500 x .260 x .350	.448	2
SMF-221		DPDT	ON-OFF-ON	6	5	3	.352 x .250	.500 x .450 x .350	.448	2
SMF-223		DPDT	ON-NONE-ON	6	5	3	.352 x .250	.500 x .450 x .350	.448	2
Subminiature Push-button	SPB-123	SPDT	push ON, push OFF	3	5	3	.344 x .250†	.500 x .260 x .639	.766	3
	SPB-126	SPDT	momentary ON or OFF	3	5	3	.344 x .250†	.500 x .260 x .639	.719	3
Medium Duty Toggle	STM-12A	SPST	ON-NONE-OFF	2	6	3	.468 x .468	1.250 x .687 x .687	.687	4
	STM-12D	SPDT	ON-NONE-ON	3	3	1	.468 x .468	1.250 x .687 x .687	.687	4
	STM-22K	DPST	ON-NONE-OFF	4	6	3	.468 x .468	1.250 x .687 x .687	.687	4
	STM-22N	DPDT	ON-NONE-ON	6	6	3	.468 x .468	1.250 x .687 x .687	.687	4
Heavy Duty Toggle	STH-40A	SPST	ON-NONE-OFF	2	20	10	.468 x .468	1.125 x .625 x .750	.687	5
	STH-40D	SPDT	ON-NONE-ON	3	20	10	.468 x .468	1.125 x .625 x .750	.687	5
	STH-40E	SPDT	ON-OFF-ON	3	20	10	.468 x .468	1.125 x .625 x .750	.687	5
	STH-50K	DPST	ON-NONE-OFF	4	20	10	.468 x .468	1.327 x .750 x .750	.687	5
	STH-50N	DPDT	ON-NONE-ON	6	20	10	.468 x .468	1.327 x .750 x .750	.687	5
	STH-50P	DPDT	ON-OFF-ON	6	20	10	.468 x .468	1.327 x .750 x .750	.687	5
	STH-50S	DPDT	ON★-OFF-ON★	6	20	10	.468 x .468	1.327 x .750 x .750	.687	5

SPRAGUE MOUNTING HARDWARE

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

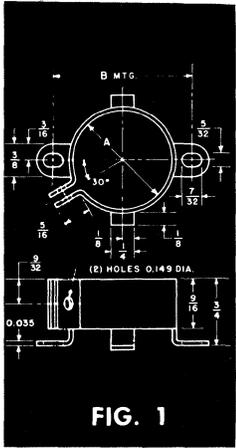
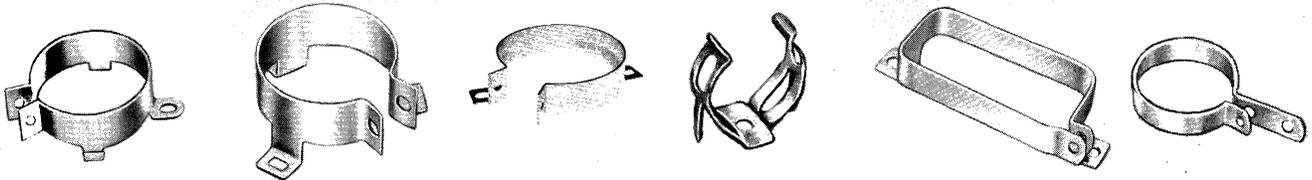


FIG. 1

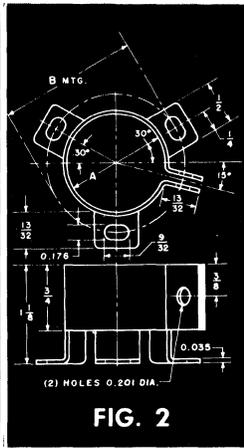


FIG. 2

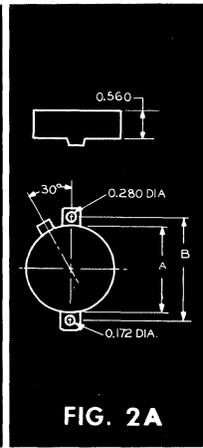


FIG. 2A

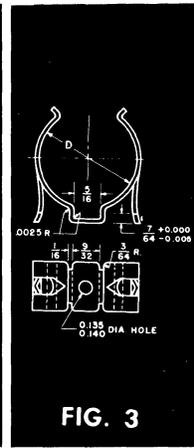


FIG. 3

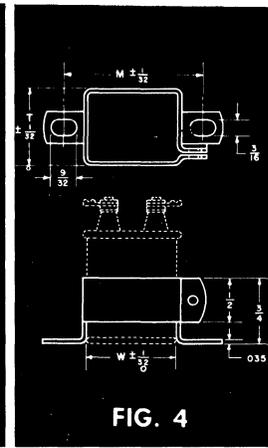


FIG. 4

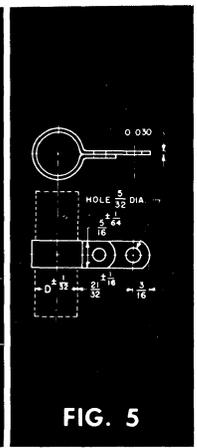


FIG. 5

VERTICAL MOUNTING CLAMPS FOR CYLINDRICAL CAPACITORS				
Old Cat. No.	New Cat. No.	Fig. No.	A	B
CMC-16	4586-97	1	1"	1 1/16"
CMC-20	4586-97F*	1	1 1/4"	1 11/16"
CMC-22	4586-97A	1	1 3/8"	1 23/32"
CMC-24	4586-97B	1	1 1/2"	1 15/16"
CMC-28	4586-97C	1	1 3/4"	2 3/16"
CMC-28A	4-36-14M	2	1 3/4"	2 3/16"
CMC-32	4586-48	2	2"	2 1/2"
CMC-40	4586-1	2	2 1/2"	3"
CMC-48	4586-2	2	3"	3 1/2"
—	12-4586-1	2A	2"	2 3/8"
—	12-4586-1A	2A	2 1/2"	3"
—	12-4586-1B	2A	3"	3 3/16"

HORIZONTAL MOUNTING CLIPS FOR CYLINDRICAL CAPACITORS			
Old Cat. No.	New Cat. No.	Fig. No.	D
UMC-6	36-520N*	3	3/8"
UMC-8	36-520J	3	1/2"
UMC-10	36-520K*	3	3/8"
UMC-12	36-520L*	3	3/4"
UMC-14	36-520M	3	7/8"
UMC-16	36-520G	3	1"
UMC-22	36-520H	3	1 3/8"

*Available until present stocks are exhausted

VERTICAL MOUNTING CLAMPS FOR RECTANGULAR CAPACITORS*					
Old Cat. No.	New Cat. No.	Fig. No.	T	W	M
RMC-17	36-627	4	1 1/16"	1 13/16"	2 1/4"
RMC-19	36-627A	4	1 3/16"	2 1/2"	3"
RMC-20	36-627B	4	1 1/4"	3 3/4"	4 3/8"
RMC-28	36-627C	4	1 3/4"	3 3/4"	4 3/8"
RMC-36	36-627D	4	2 1/4"	3 3/4"	4 3/8"
RMC-38	3-36-120	4	2 3/32"	2 31/32"	4 3/8"
RMC-40	36-627E	4	2 1/2"	3 3/4"	4 3/8"
RMC-45	3-36-119	4	2 27/32"	4 7/16"	4 3/8"
RMC-73	36-627Y	4	3 3/4"	4 1/16"	4 3/8"

*Available until present stocks are exhausted.

MOUNTING STRAPS FOR TUBULAR COMPONENTS							
Old Cat. No.	New Cat. No.	Fig. No.	D	Old Cat. No.	New Cat. No.	Fig. No.	D
TMS-4	36-68T	5	1/4"	TMS-14	36-59J	5	7/8"
TMS-5	36-59	5	5/16"	TMS-15	36-59K	5	1 1/16"
TMS-6	36-59A	5	3/8"	TMS-16	36-59L	5	1"
TMS-7	36-59B	5	7/16"	TMS-17	36-59M	5	1 1/16"
TMS-8	36-59C	5	1/2"	TMS-18	36-59N	5	1 1/8"
TMS-9	36-69D	5	9/16"	TMS-19	36-59P	5	1 3/16"
TMS-10	36-69E	5	5/8"	TMS-20	36-59R	5	1 1/4"
TMS-11	36-69F	5	1 1/16"	TMS-21	36-59S	5	1 3/16"
TMS-12	36-69G	5	3/4"	TMS-22	36-59T	5	1 3/8"
TMS-13	36-69H	5	1 1/16"				

KRAFTBOARD INSULATING TUBES

Tightly-fitting closed-top black Kraft. For "above-ground" use with can-type capacitors.

Old Cat. No.	New Cat. No.	Description	Old Cat. No.	New Cat. No.	Description
HKT-1	407-57A	For 1" x 2" can	HKT-7	407-57E	For 1 3/8" x 3" can
HKT-2	407-57N	For 1" x 2 1/2" can	HKT-8	407-57Z	For 1 3/8" x 3 1/2" can
HKT-3	407-57D	For 1" x 3" can	HKT-9	407-174C	For 1 3/8" x 4" can
HKT-4	407-174E	For 1" x 4" can	HKT-10	407-174P	For 1 3/8" x 4 1/2" can
HKT-5	407-57B	For 1 3/8" x 2" can	HKT-12	407-57	For 3/4" x 2" can
HKT-6	407-57R	For 1 3/8" x 2 1/2" can	HKT-14	407-57U	For 1" x 3 1/2" can

MOUNTING PLATES

For use with Twist-Lok® capacitors

Cat. No.	Description
36-17	Metal, for 1" D. capacitor
36-18	Metal, for 1 3/8" D. capacitor
36-19	Phenolic, for 3/4" D. capacitor
36-20	Phenolic, for 1" D. capacitor
36-21	Phenolic, for 1 3/8" D. capacitor

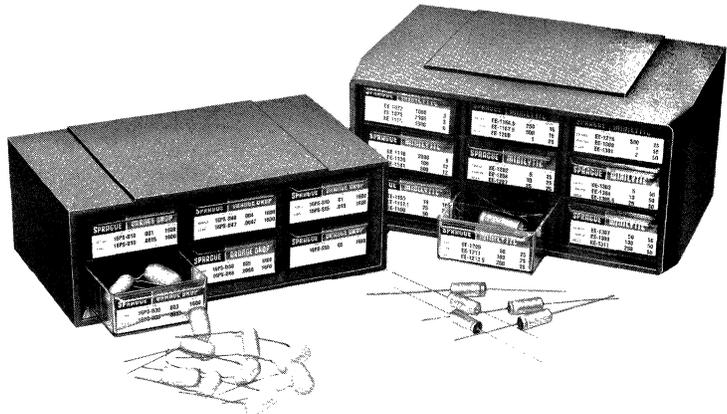
PRINTED WIRING BOARD ADAPTERS

Used on terminals and lugs of twist-prong-type units so that capacitors may be mounted on printed boards. Eight adapters per package, complete with instructions. Package of 8... Cat. No. PC-8

SPRAGUE COMPONENT ASSORTMENTS

29 CABINET ASSORTMENTS OF FREQUENTLY-USED COMPONENTS

- Make it easy to build and maintain practical-sized inventories of capacitors, resistors, transistors, diodes, and switches.
- Assortments prefilled within 6- or 9-drawer attractive, durable, compact, blue plastic cabinets.
- Clear plastic cabinet drawers compartmented with plastic dividers. Drawer fronts labeled to identify contents.
- Compact: 6-drawer cabinet is 9¾" wide x 3½" high x 6¼" deep. 9-drawer cabinet is 9¾" wide x 5" high x 6½" deep.
- For detailed information on assortments, refer to latest issue of Brochure M-946.



CAPACITORS

Type	Quantity	Number of Ratings	Capacitance Range (μF)	Voltage Range (WVDC)	Cabinet Drawers	Assortment Number
Aluminum Electrolytic Tubular	25	18	1 - 100	12 - 50	6	KE-10
Aluminum Electrolytic Tubular	61	27	1 - 200	6 - 50	9	KE-11
Aluminum Electrolytic Tubular	18	18	2 - 1000	25 - 450	9	KE-13
Aluminum Electrolytic Tubular	18	18	2 - 1000	25 - 450	6	KE-14
Vertical-mounting Tubular Electrolytic	27	18	.47 - 680	25 - 63	6	KE-16
Vertical-mounting Tubular Electrolytic	61	27	.47 - 3330	6.3 - 25	9	KE-17
Miniature Aluminum Electrolytic Tubular	27	18	1 - 100	12 - 50	6	KE-19
Miniature Aluminum Electrolytic Tubular	61	27	1 - 2500	3 - 50	9	KE-20
Dipped Tubular Radial-lead Film	80	15	.001 - .22	all 600	6	KF-10
Dipped Tubular Radial-lead Film	104	21	.001 - .25	all 600	9	KF-11
Dipped Tubular Radial-lead Film	49	10	.001 - .05	all 1600	6	KF-13
Dipped Tubular Radial-lead Film	20	11	.001 - .05	all 1600	6	KF-14
Dipped Tubular Radial-lead Film	20	9	.001 - .027	all 2000	6	KF-16
Dipped Tubular Radial-lead Film	96	13	.001 - .47	all 100	6	KF-18
Dipped Tubular Radial-lead Film	136	18	.001 - 1.0	all 100	9	KF-19
Mylar-sleeved Axial-lead Film	45	17	.00047 - .22	all 200	6	KF-21
Polypropylene/Polycarbonate Film	43	20	.0018 - 1.5	150 - 1600	6	KF-28
Ultra-miniature Single-ended Film	115	23	.001 - .47	all 100	9	KF-30
Film-wrapped Tubular Film	52	26	.001 - 1.0	200 - 1000	9	KF-31
Gen. Application & High-K Ceramic Disc	110	18	100 pF - .1 μF	500 - 1000	6	KC-20
Gen. Application & High-K Ceramic Disc	167	27	10 pF - .1 μF	500 - 1000	9	KC-21
Temperature-stable Ceramic Disc	85	18	3.3 pF - .01 μF	all 1000	6	KC-22
Dipped Radial-lead Solid Tantalum	70	16	.1 - 33	all 35	6	KT-10
Dipped Radial-lead Mica	28	14	47 pF - 1000 pF	all 500	6	KM-10

RESISTORS

Type	Quantity	Number of Values	Range of Values (ohms)	Cabinet Drawers	Assortment Number
Carbon-film, ¼ Watt	130	23	47 - 470K	9	KR-10
Carbon-film, ½ Watt	127	24	100 - 4.7M	9	KR-15

DIODES

Type	Quantity	Number of Configurations	Zener Voltage Range (Volts)	Test Current Range (mA)	Zener Impedance Range (ohms)	Cabinet Drawers	Assortment Number
Zener, One Watt	37	18	3.6 - 39.0	6.5 - 69	2 - 60	6	KS-20

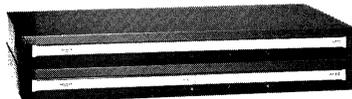
TRANSISTORS

General Description	Quantity	Number of Types	Designs	Cabinet Drawers	Assortment Number
Small-signal and Power — Silicon and Germanium	40	27	NPN and PNP	9	KS-25

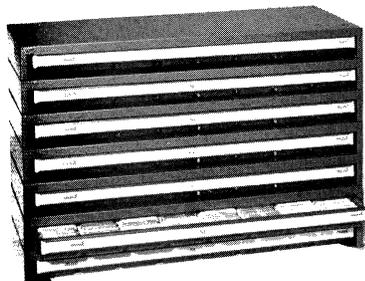
SWITCHES

Description	Quantity	Types	Circuits	Cabinet Drawers	Assortment Number
Toggle and Push-button	18	Tog. SPST, Tog. SPDT, Tog. DPDT, Tog. 3PDT, P.B. SPDT.	on-off, on-off-on, on-none-on, on-none-off, mom. on-off.	6	KX-11

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2-DRAWER LITTL-LYTIC® CENTER J-141 containing Type TE Littl-lytic® Capacitors

Capacitor Type	Quantity	No. of Ratings	Capacitance Range (μF)	Voltage Range (WVDC)
Aluminum Electrolytic Tubular	200	40	1 - 500	3 - 150

2-DRAWER VERTI-LYTIC® CENTER J-152 containing Type EV Verti-lytic® Capacitors

Capacitor Type	Quantity	No. of Ratings	Capacitance Range (μF)	Voltage Range (WVDC)
Aluminum Electrolytic Tubular	392	36	1 - 1000	6.3 - 63

2-DRAWER CERAMICENTER® J-150 containing 795 Cera-mite® Ceramic Capacitors

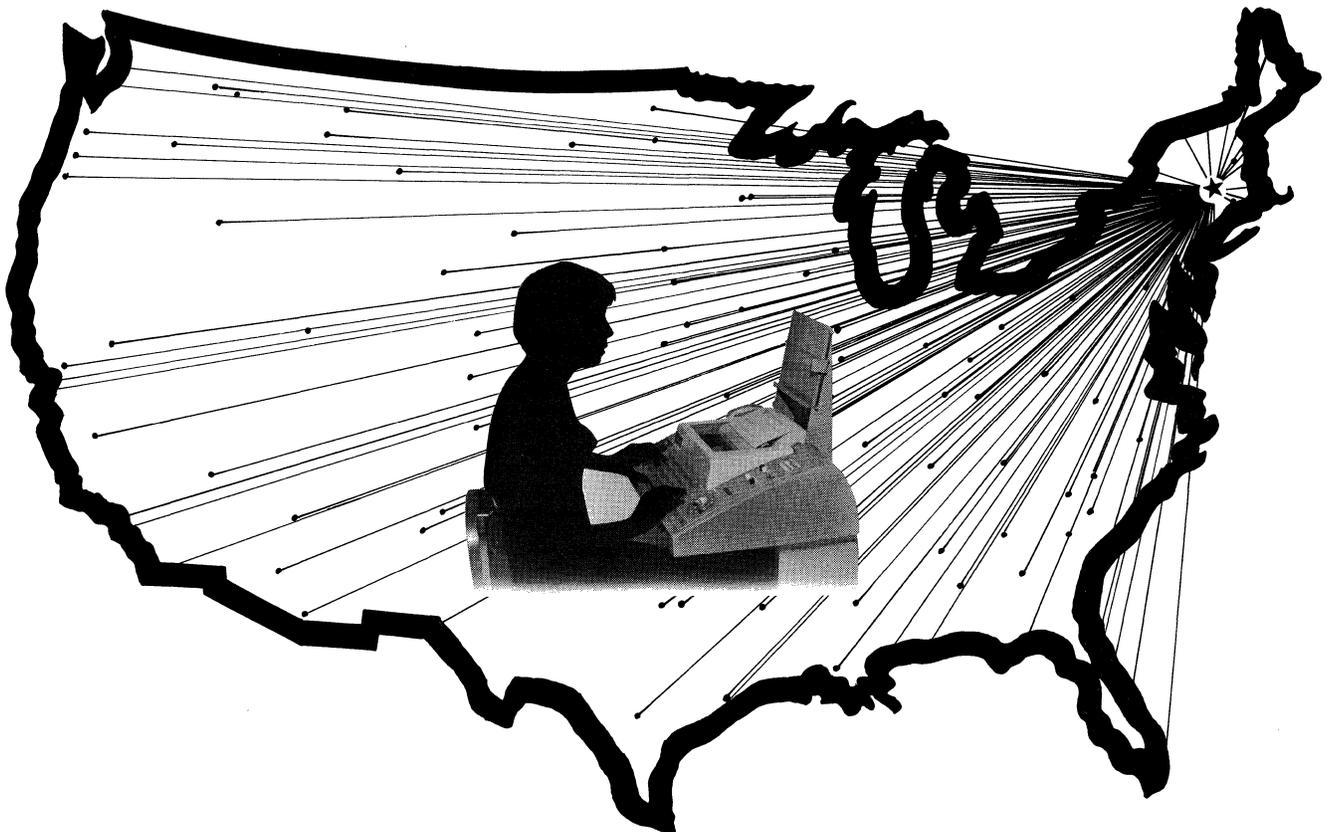
Capacitor Type	Quantity	No. of Ratings	Capacitance Range	Voltage (WVDC)
General Application	290	31	5 pF - .02 μF	1000
General Application	150	6	.005 μF - .1 μF	100
High-K	140	7	.001 μF - .1 μF	500 - 1000
Temperature-stable	100	11	100 pF - .01 μF	1000
Ultra-miniature	115	23	.002 μF - .1 μF	12 to 25

7-DRAWER CERAMICENTER® J-153 containing 2,740 Cera-mite® Ceramic Capacitors

Capacitor Type	Quantity	No. of Ratings	Capacitance Range	Voltage Range (WVDC)
General Application	1285	197	1.5 pF - .1 μF	500 - 7500
General Application	40	8	.005 μF - .05 μF	all 100
High-K	210	25	.001 μF - .1 μF	500 - 1000
Semi-stable	235	47	470 pF - .022 μF	all 1000
Temperature-stable	300	59	3.3 pF - .01 μF	all 1000
NPO	215	41	1.0 pF - 390 pF	all 1000
N750	195	39	4.7 pF - 1000 pF	all 1000
AC	45	9	.001 μF - .02 μF	125 VAC, 60 Hz
Buffer	35	7	.001 μF - .01 μF	all 2000
Buttonhead (3 styles)	15	1	all 1000 pF	all 500

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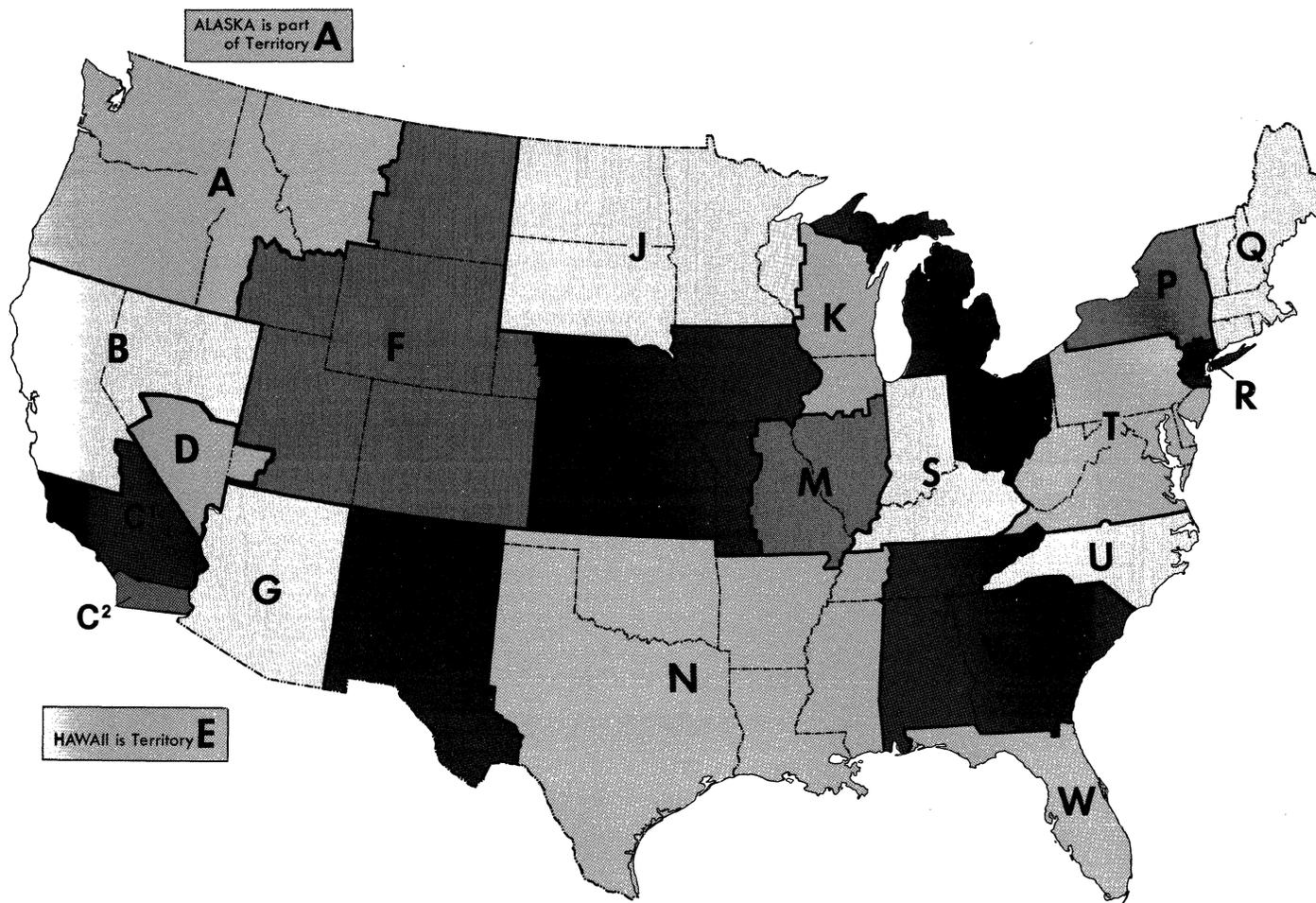


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