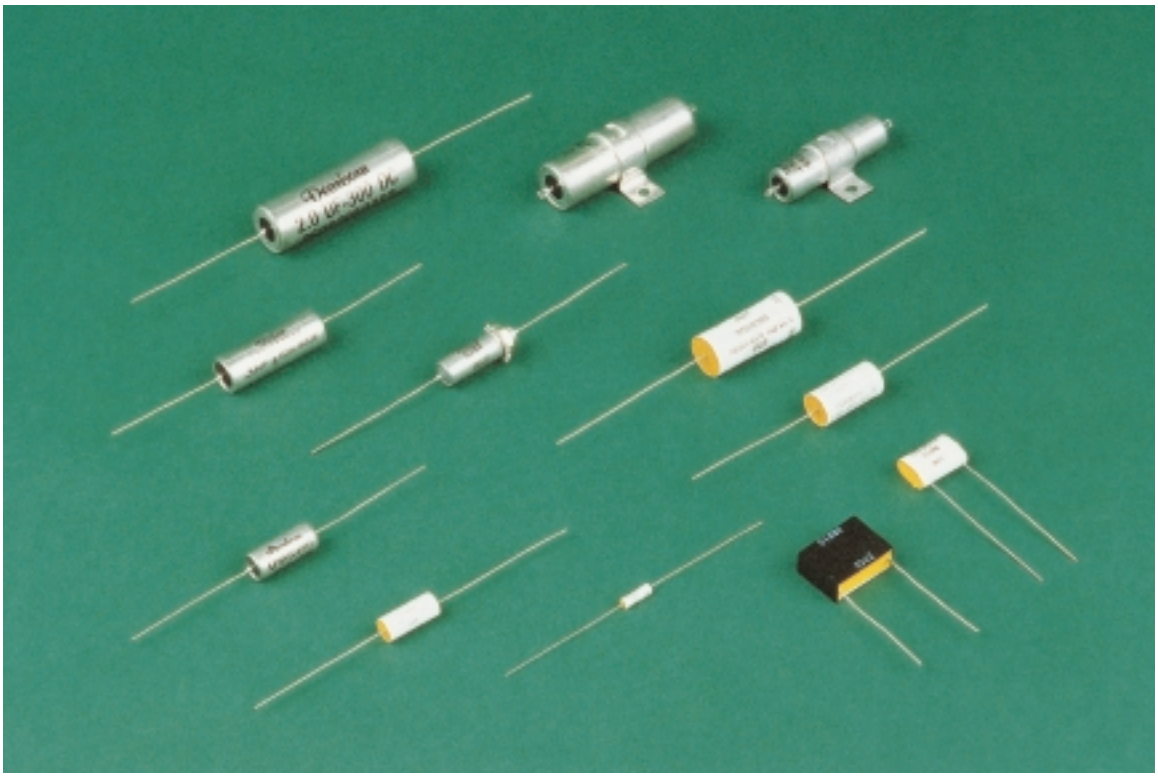
POLYPHENYLENE SULFIDE FILM CAPACITORS



General Electrical, Physical, and Environmental Characteristics

Test Procedures:
Section J of the catalog covers the applicable test procedures.

Electrical Characteristics:
Capacitance, Dissipation Factor, Insulation Resistance, and Dielectric Strength shall be measured as specified in section J.

Physical Characteristics:
The Lead Strength shall be measured as specified in section J.

Environmental Characteristics:

Vibration Test: (Condition B)
No mechanical damage, short, open or intermittent circuit.

Moisture Resistance:
The hermetically sealed units shall be tested as outlined in the Moisture Resistance testing of section J.
As a result of the test there shall be:

- No visible damage
- Max. Δ C of ± 5%
- Min. IR = 50% of initial limit
- Max. DF = .5%

Humidity Test:
The Non-Hermetically sealed units shall be tested as outlined in section J “Humidity Test”
As a result of the test there shall be:

- No visible damage
- Max. Δ C of ± 5%
- Min. IR = 50% of initial limit
- Max. DF = .5%

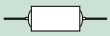
DC Life:
820P, 837P, 842P, 859P & 871P are tested in accordance with the applicable Mil Spec. see F-3
810P, 832P, 860P & 882P: 140% of rated voltage at 125°C for 250 hours
880P: 125% of rated voltage for 250 hours at 150°C
As a result of the test there shall be:

- No permanent open or short circuit
- No visible damage
- Max. Δ C of ± 5%
- Min. IR = 50% of initial limit
- Max. DF = 0.3%

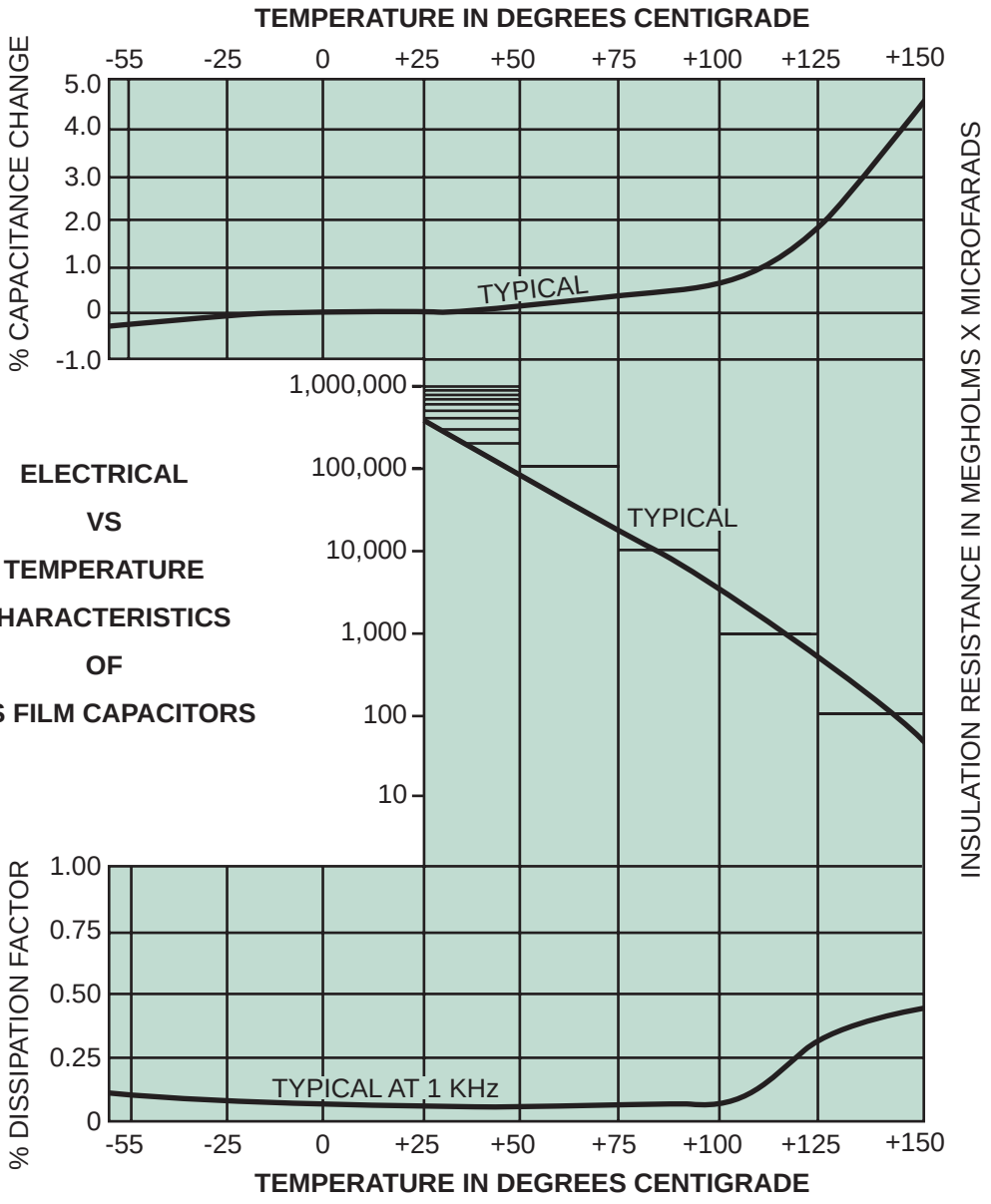
AC Life:
The 859P shall be tested at 110% of the rated rms voltage at 400 Hz for 250 hours at 85°C.
As a result of the test there shall be:

- No permanent open or short circuit
- No visible damage
- Max. Δ C of ± 5%
- Min. IR = 50% of initial limit
- Max. DF = 0.5%

CONVERSION FROM POLYCARBONATE TO POLYPHENYLENE SULFIDE CAPACITORS

Metalized Polycarbonate/Polyphenylene Sulfide								
Polyphenylene Sulfide (Replacement for Polycarbonate)			Polycarbonate		Polycarbonate/Polyphenylene Sulfide			
Part Number	Mil Spec Number	Catalog Page	Part Number	Mil Spec Number	Outline Drawing	Description	Cap Range µF	DC Voltage Range
859P	39022/12	F-14	259P	39022/7		AC Rated -55°C to +105°C	0.01 - 10.0	80 - 440 VAC
860P	-	F-16	260P	-		Various Configurations -55°C to +105°C	0.01 - 10.0	200 - 600
820P	39022/13	F-5	620P	39022/10		Small Size -55°C to +125°C	0.01 - 15.0	50 - 400
871P	83421/6	I-2	621P	83421/1		Mil Spec -65°C to +125°C	0.001 - 22.0	30 -400
-	95008	-	629P	83439/4/6 95008		Feed Thru -55°C to +125°C	0.01 - 15.0	50 - 400
832P	-	F-8	632P	-		Wrap & Fill -55°C to +125°C	0.001 - 10.0	63 - 400
842P	55514/13	F-11	642P	55514/7		Miniature Wrap & Fill -55°C to +125°C	0.01 - 15.0	50 - 200
880P	-	F-19	-	-		High Temp, PPS -55°C to +150°C	0.0047 - 10.0	50 - 400
Film/Foil Polycarbonate/Polyphenylene Sulfide								
837P	19978/22	I-2	237P	19978/8		Mil Spec -55°C to +125°C	0.001 - 1.0	30 - 600
810P	-	F-22	610P	-		Pulse Capacitor -55°C to +125°C	0.001 - 1.0	50 - 400
882P	-	F-24	-	-		Zero TCC PPS -55°C to +125°C	0.001 - 0.22	200

ELECTRICAL VS TEMPERATURE CHARACTERISTICS OF PPS FILM CAPACITORS



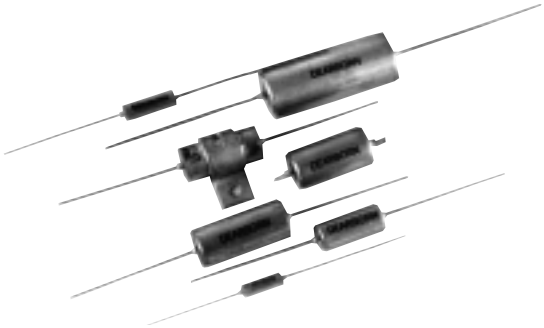
Dwg. No. A-14,582

TYPE 820P

Metal-Case Tubular Metalized PPS Film Capacitors

Features—

- **Superior Performance, Polycarbonate Replacement**
- **High Current**
- **High Q, Low TCC**
- **High Reliability**
- **Rugged Construction**
- **Small Size**
- **Hermetically Sealed**
- **Meets the Requirements of Mil-C-39022/13**



Major Applications:
Storage, filtering, timing, integrating, and applications where severe environments require hermetically sealed cases

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound metalized polyphenylene sulfide

Case:
Hermetically sealed metal enclosure. Styles available are shown in picture to right and in the general section in the front of the catalog

Lead Material:
Solder coated solid wire

Lead Wire Sizes:

Case Dia.	Lead AWG	Case Dia.	Lead AWG
0.175 and 0.195	No. 24	0.235 and 0.312	No. 22
0.400 THRU 0.750	No. 20	1.000	No. 18

Lead Pull:
5 lbs. (2.3KG) for one minute; no physical damage

Lead Bend:
After three complete consecutive bends; no damage

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.01µF to 15.0µF

DC Voltage Range:
50 VDC to 400 VDC

AC Voltage Range:
32 to 240 VRMS

Capacitance Tolerance:
±10%, ±5%, ±2%, ±1%

Operating Temperature:
-55°C to +125°C
AC operation limited to +105°C

Voltage Derating:
At +105°C, 70% of the rating
At +125°C, 50% of the rating

Dissipation Factor:
0.15% maximum when measured @ 1kHz @ 25°C

Voltage Test:
200% of rated voltage for 2 minutes

Insulation Resistance:
Measured at rated VDC after a 2 minute charge
At +25°C, 100,000 Megohm-Microfarads, need not exceed 200,000 Megohms
At +85°C, 6,000 Megohm-Microfarads, need not exceed 25,000 Megohms
At +125°C, 1,000 Megohm-Microfarads, need not exceed 15,000 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	50V	100V	200V	400V
0.531	24	-	-	-
0.625	13	27	55	-
0.688	-	20	36	80
0.812	-	17	27	60
0.843	8	-	-	-
0.938	-	13	22	44
1.125	4	10	13	-
1.312	3	7	12	24
1.562	-	5	9	19
1.625	-	-	-	-
1.812	-	4	7	13
1.875	-	-	-	-
2.062	-	-	6	10

STANDARD RATINGS

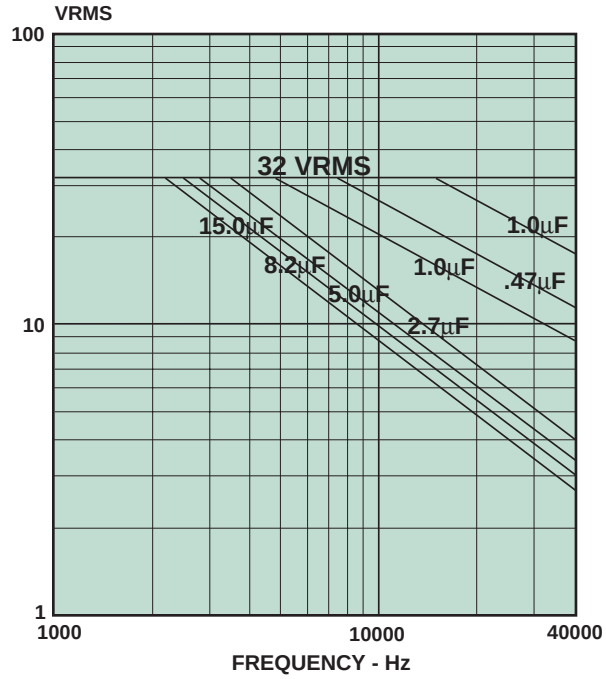
Capacitance		Voltage Code 050 50 VDC/32 VAC*		Voltage Code 100 100 VDC/63 VAC*		Voltage Code 200 200 VDC/126 VAC*		Voltage Code 400 400 VDC/240 VAC*	
µF	Code	D	L	D	L	D	L	D	L
0.010	103	-	-	.174	.625	.174	.625	.235	.688
0.015	153	-	-	.174	.625	.174	.625	.235	.812
0.022	223	-	-	.174	.625	.193	.625	.312	.688
0.033	333	-	-	.174	.625	.235	.625	.312	.812
0.047	473	.174	.531	.193	.625	.235	.688	.400	.812
0.068	683	.174	.625	.235	.625	.312	.625	.400	.938
0.10	104	.174	.625	.235	.688	.312	.688	.400	1.125
0.15	154	.193	.625	.312	.625	.312	.812	.400	1.312
0.22	224	.235	.625	.312	.688	.400	.812	.562	1.125
0.33	334	.312	.625	.312	.812	.400	.938	.562	1.562
0.47	474	.312	.625	.400	.688	.400	1.125	.562	1.812
0.68	684	.312	.843	.400	.812	.500	1.125	.670	1.812
1.00	105	.312	.843	.400	.938	.562	1.125	.750	2.062
1.50	155	.400	.843	.500	.938	.562	1.312	1.000	1.812
2.00	205	.400	.843	.500	1.125	.562	1.812	1.000	2.062
2.70	275	.400	1.125	.562	1.312	.670	1.562	-	-
3.00	305	.400	1.125	.562	1.312	.750	1.562	-	-
4.00	405	.500	1.125	.562	1.562	.750	1.812	-	-
5.00	505	.500	1.125	.670	1.312	.750	2.062	-	-
6.80	685	.562	1.125	.670	1.562	-	-	-	-
8.20	825	.562	1.312	.670	1.812	-	-	-	-
10.00	106	.670	1.312	.750	1.812	-	-	-	-
12.00	126	.670	1.312	-	-	-	-	-	-
15.00	156	.750	1.375	-	-	-	-	-	-

Additional capacitance values, voltages, and tolerances are available upon request.

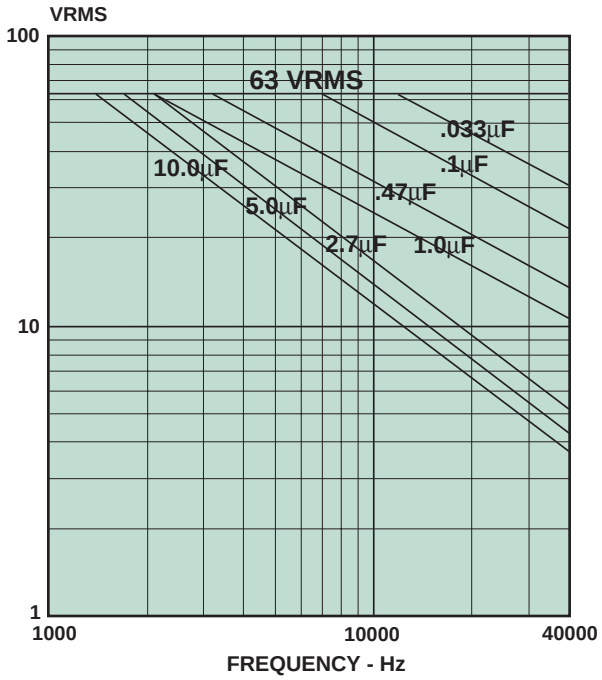
* AC voltage rating is at 400Hz. 1.4 x VRMS + VDC should not exceed the rated VDC.
* Graphs of AC voltage vs frequency follow.

The dimensions shown above are for styles 02, 04 and 13. The dimensions for other styles are included in the general section in the front of the catalog.

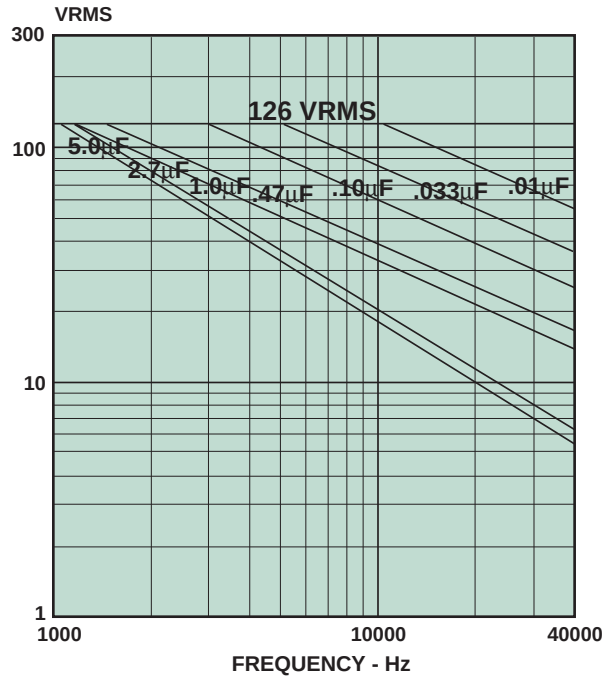
VOLTAGE vs FREQUENCY TYPE 820P 50VDC\32VAC



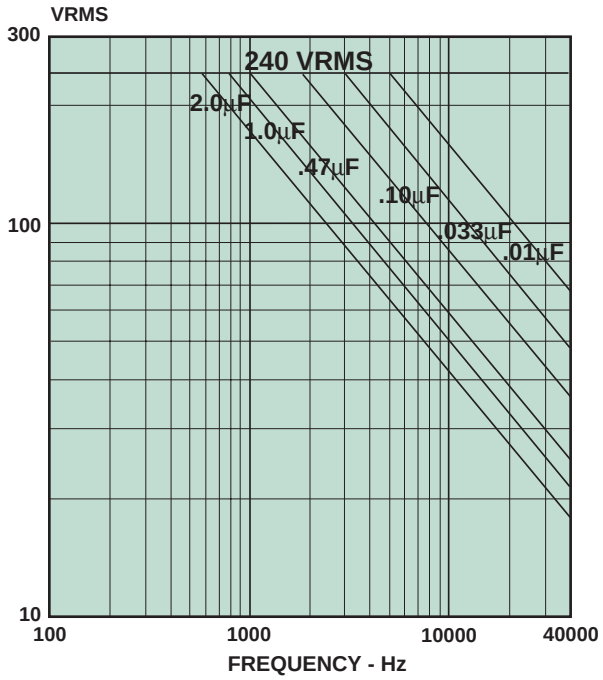
VOLTAGE vs FREQUENCY TYPE 820P 100VDC\63VAC



VOLTAGE vs FREQUENCY TYPE 820P 200VDC\126VAC

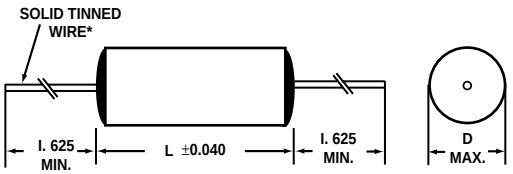


VOLTAGE vs FREQUENCY TYPE 820P 400VDC\240VAC



Wrap-and-Fill Metalized Polyphenylene Sulfide Film Capacitors

Dimensions in Inches



* Leads to be within ±0.062" of center line at egress, but not less than 0.031" from edge.

* Lead size=

D Max. < .230	0.020 (No. 24 AWG)
D Max. < .350	0.025 (No. 22 AWG)
D Max. ≥ .350	0.032 (No. 20 AWG)

Features—

- **High Temperature to 125°C**
- **Superior Performance**
- **High Efficiency**
- **High Stability**
- **High Reliability**
- **Rugged Construction**
- **Small Size**

Major Applications:
Filtering, timing, storage, and integrating circuits

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound metalized polyphenylene sulfide

Case:
Flame retardant tape wrap and epoxy endfill

Lead Material:
Solder coated solid wire

Lead Strength:
Capable of withstanding a five pound pull force on lead axis

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.001µF to 10.0µF

Voltage Rating:
63 VDC to 400 VDC
40 VRMS to 200 VRMS

Capacitance Tolerance:
±10%, ±5%, ±2%

Operating Temperature:
-55°C to +125°C without derating for DC operation

AC Operation:
Limited to +105°C

Dissipation Factor:
0.15% maximum when measured at 1kHz @ 25°C

DC Voltage Test:
200% of rated voltage for 1 minute

Insulation Resistance:
Measure at rated VDC after a 2 minute charge
At + 25°C, 50,000 Megohm-Microfarads, need not exceed 100,000 Megohms
At + 85°C, 2,000 Megohm-Microfarads, need not exceed 4,000 Megohms
At + 125°C, 250 Megohm-Microfarads, need not exceed 500 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	63V	100V	250V	400V
0.440	25	35	57	100
0.560	17	23	38	65
0.750	9	14	20	35
1.000	6	9	14	20
1.250	5	7	11	17
1.310	4	6	-	16
1.500	-	5	-	-
1.560	-	-	6	-
1.810	-	-	5	10
2.060	-	-	4	-
2.310	-	-	-	7

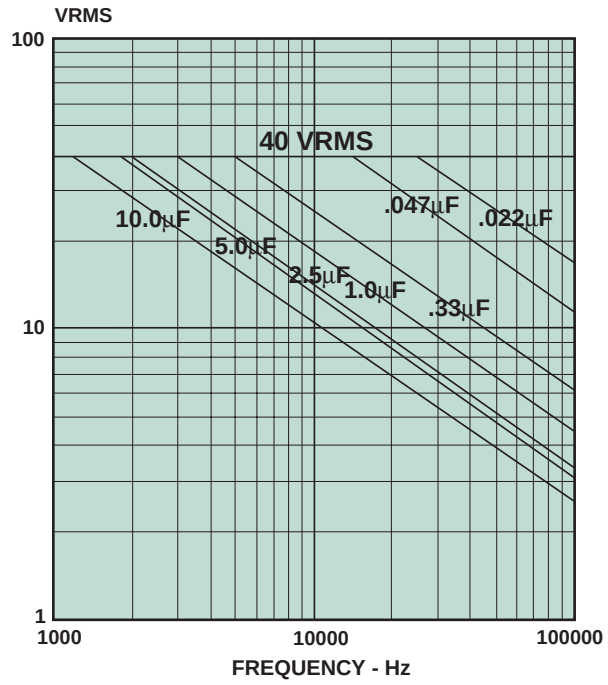
STANDARD RATINGS

Capacitance µF	Code	Voltage Code 063 63 VDC/40 VAC*		Voltage Code 100 100 VDC/63 VAC*		Voltage Code 250 250 VDC/160 VAC*		Voltage Code 400 400 VDC/200 VAC*	
		D	L	D	L	D	L	D	L
0.0010	102	-	-	-	-	.170	.440	.190	.440
0.0015	152	-	-	-	-	.170	.440	.190	.440
0.0022	222	-	-	-	-	.170	.440	.190	.440
0.0033	332	-	-	-	-	.170	.440	.230	.440
0.0047	472	-	-	-	-	.170	.440	.230	.440
0.0068	682	-	-	-	-	.170	.440	.230	.560
0.010	103	.170	.440	.170	.440	.190	.560	.230	.560
0.015	153	.170	.440	.170	.440	.190	.560	.230	.750
0.022	223	.170	.440	.190	.440	.190	.560	.310	.750
0.033	333	.170	.440	.190	.440	.230	.560	.310	.750
0.047	473	.170	.440	.190	.560	.230	.560	.400	.750
0.068	683	.170	.560	.230	.560	.270	.560	.400	.750
0.10	104	.190	.560	.230	.560	.310	.560	.400	1.000
0.15	154	.230	.440	.310	.560	.310	.750	.400	1.250
0.22	224	.230	.560	.250	.750	.350	.750	.500	1.250
0.33	334	.250	.560	.310	.750	.370	1.000	.550	1.310
0.47	474	.310	.560	.370	.750	.400	1.000	.550	1.810
0.68	684	.310	.560	.400	.750	.450	1.000	.650	1.810
1.00	105	.310	.750	.400	1.000	.550	1.000	.750	1.810
1.50	155	.350	.750	.450	1.000	.500	1.250	.900	2.310
2.00	205	.400	.750	.450	1.000	.550	1.810	1.000	2.310
2.50	255	.400	.750	.500	1.250	-	-	-	-
3.00	305	.400	1.000	.500	1.250	-	-	-	-
4.00	405	.400	1.250	.500	1.500	-	-	-	-
5.00	505	.500	1.250	.600	1.310	-	-	-	-
6.00	605	.550	1.000	-	-	-	-	-	-
7.00	705	.600	1.000	-	-	-	-	-	-
10.00	106	.600	1.310	-	-	-	-	-	-

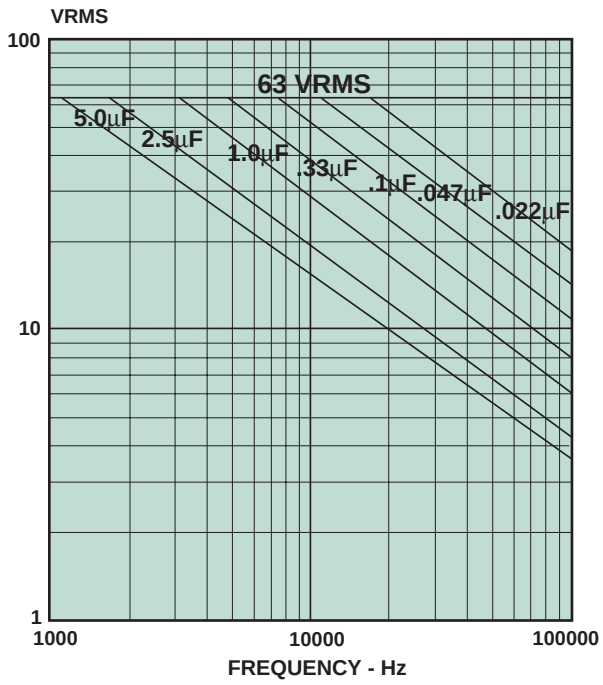
Additional capacitance values, voltages, and tolerances are available upon request.

* AC voltage rating is at 400Hz. 1.4 x VRMS + VDC should not exceed the rated VDC.
* Graphs of AC voltage vs frequency follow.

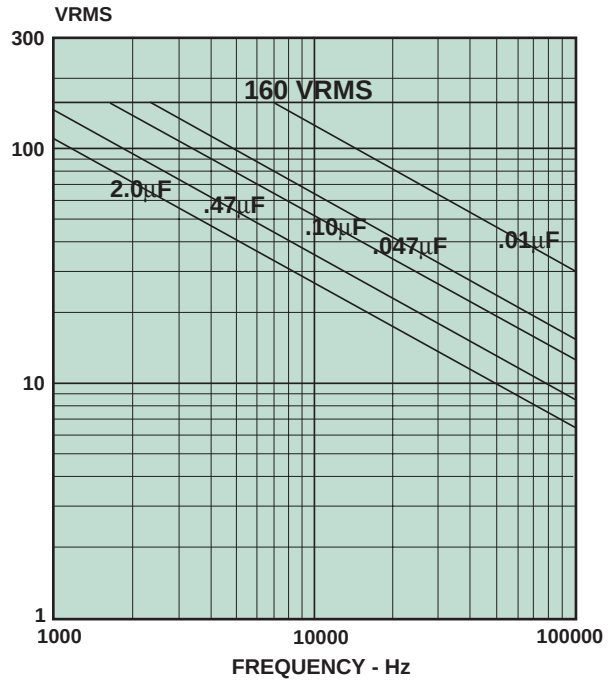
VOLTAGE vs FREQUENCY TYPE 832P 63VDC\40VAC



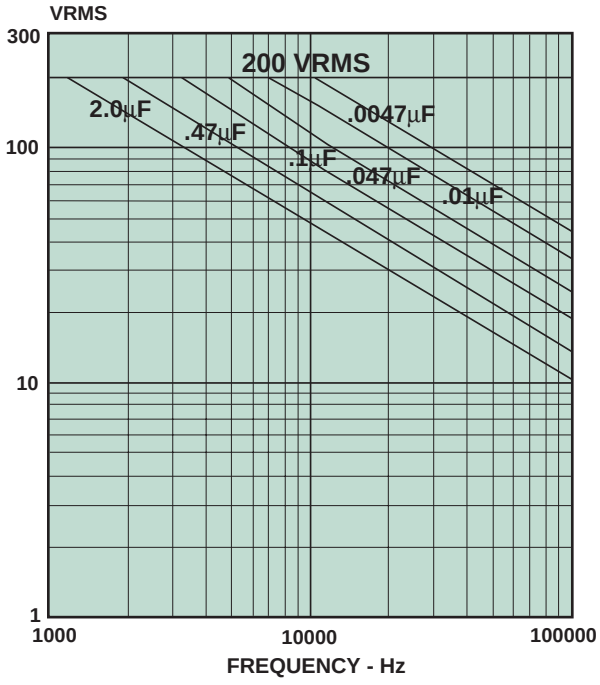
VOLTAGE vs FREQUENCY TYPE 832P 100VDC\63VAC



VOLTAGE vs FREQUENCY TYPE 832P 250VDC\160VAC



VOLTAGE vs FREQUENCY TYPE 832P 400VDC\200VAC



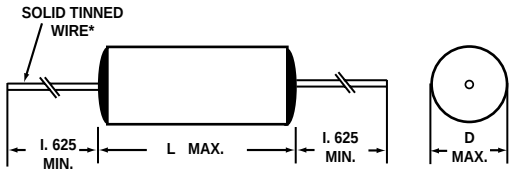
Wrap-and-Fill Metalized Polyphenylene Sulfide Film Capacitors

Features—

- **Superior Performance**
- **High Efficiency**
- **High Stability**
- **High Reliability**
- **Rugged Construction**
- **Small Size**
- **Meets the requirements of Mil-C-55514/13**

Major Applications:
Filtering, timing, storage, integrating, and other applications requiring the high stability and low retrace of polyphenylene sulfide

Dimensions in Inches



* Leads to be within ±0.062" of center line at egress, but not less than 0.031" from edge.

* Lead size=

D Max. < .230	0.020 (No. 24 AWG)
D Max. < .440	0.025 (No. 22 AWG)
D Max. ≥ .440	0.032 (No. 20 AWG)

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound metalized polyphenylene sulfide

Case:
Flame retardant tape wrap and epoxy endfill

Lead Material:
Solder coated solid wire

Lead Strength:
Capable of withstanding a five pound pull force on lead axis

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.01µF to 15.0µF

Voltage Rating:
50 VDC to 200 VDC
32 VRMS to 126 VRMS

Capacitance Tolerance:
±10%, ±5%, ±2%

Operating Temperature:
-55°C to +125°C without derating for DC operation

AC Operation:
Limited to +105°C

Dissipation Factor:
0.15% maximum when measured at 1kHz @ 25°C

DC Voltage Test:
200% of rated voltage for 2 minutes

Insulation Resistance:
Measure at rated VDC after a 2 minute charge
At + 25°C, 50,000 Megohm-Microfarads, need not exceed 100,000 Megohms
At + 85°C, 2,000 Megohm-Microfarads, need not exceed 4,000 Megohms
At + 125°C, 250 Megohm-Microfarads, need not exceed 500 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)		
	50V	100V	200V
0.400	25	35	57
0.530	13	20	38
0.750	7	14	20
1.030	6	9	14
1.250	4	7	11
1.500	-	-	9

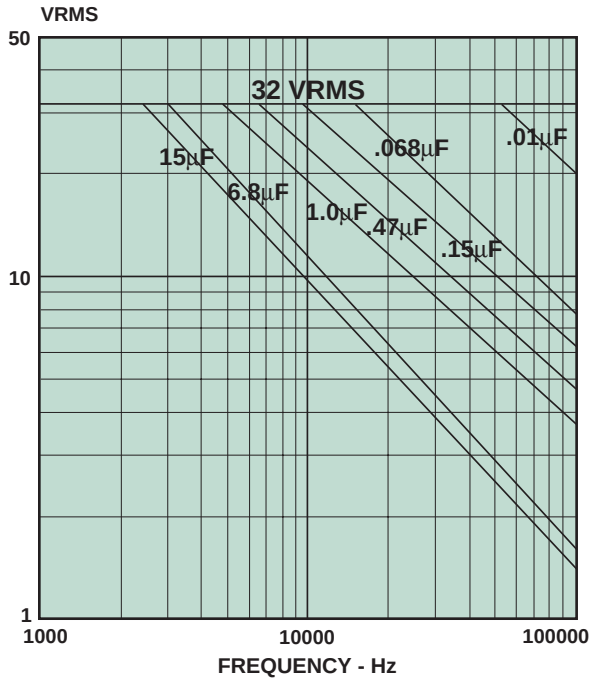
STANDARD RATINGS

Capacitance		Voltage Code 050 50 VDC/32 VAC*		Voltage Code 100 100 VDC/63 VAC*		Voltage Code 200 200 VDC/126 VAC*	
µF	Code	D	L	D	L	D	L
0.010	103	.17	.40	.17	.40	.17	.40
0.015	153	.17	.40	.17	.40	.19	.40
0.022	223	.17	.40	.17	.40	.23	.40
0.033	333	.17	.40	.19	.40	.26	.40
0.047	473	.17	.40	.23	.40	.23	.53
0.068	683	.17	.40	.26	.40	.26	.53
0.10	104	.23	.40	.23	.53	.31	.53
0.15	154	.23	.40	.26	.53	.31	.75
0.22	224	.26	.40	.31	.53	.35	.75
0.33	334	.26	.53	.35	.53	.40	.75
0.47	474	.31	.53	.31	.75	.40	1.03
0.68	684	.35	.53	.35	.75	.44	1.03
1.00	105	.31	.75	.40	.75	.49	1.25
1.50	155	.35	.75	.40	1.03	.56	1.25
2.00	205	.40	.75	.44	1.03	.56	1.50
2.70	275	.35	1.03	.51	1.03	.67	1.50
3.00	305	.40	1.03	.49	1.25	.67	1.50
3.90	395	.44	1.03	.56	1.25	.76	1.50
5.00	505	.49	1.03	.61	1.25	.87	2.06
5.60	565	.49	1.03	.56	1.50	-	-
6.80	685	.49	1.25	.61	1.50	-	-
10.00	106	.61	1.25	-	-	-	-
15.00	156	.61	1.50	-	-	-	-

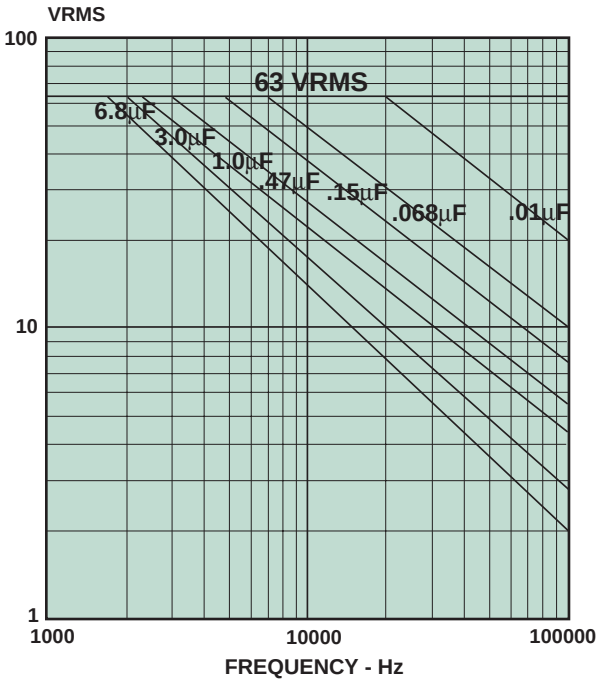
Additional capacitance values, voltages, and tolerances are available upon request.

* AC voltage rating is at 400Hz. 1.4 x VRMS + VDC should not exceed the rated VDC.
* Graphs of AC Voltage vs frequency follow.

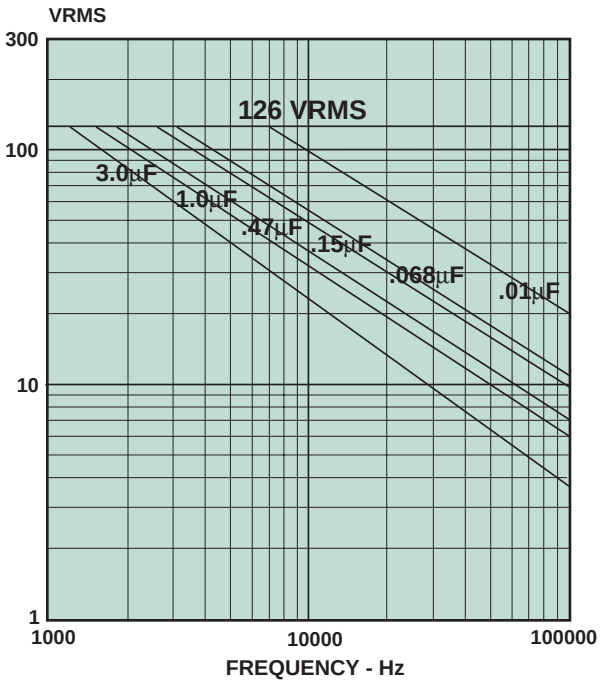
VOLTAGE vs FREQUENCY TYPE 842P
50VDC\32VAC



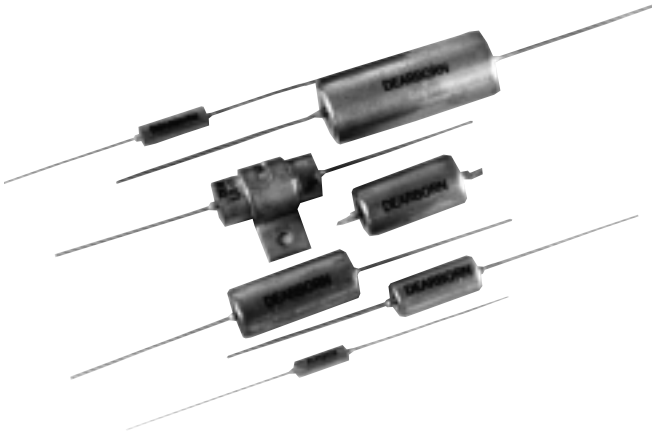
VOLTAGE vs FREQUENCY TYPE 842P
100VDC\63VAC



VOLTAGE vs FREQUENCY TYPE 842P
200VDC\126VAC



Metal-Case Hermetically-Sealed AC Rated Metalized Polyphenylene Sulfide Film Capacitors



Features —

- **Full Rating at 85°C and 400Hz**
- **High Stability, Polycarbonate Replacement**
- **Small Size**
- **Low Power Dissipation**
- **Low Dielectric Absorption**
- **Meets the requirements of Mil-C-39022/12**

Major Applications:
Motor run, speed control, filtering

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound metalized polyphenylene sulfide

Case:
Hermetically sealed metal enclosure. Styles available are shown in picture to right and in the general section in the front of the catalog

Lead Material:
Solder coated solid wire

Lead Wire Sizes:

Case Dia.	Lead AWG
0.312	No. 20
0.400 and over	No.18

Lead Pull:
5lbs. (2.3 KG) for one minute. No physical damage

Lead Bend:
After three complete consecutive bends. No damage

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.01µF to 10.0µF

AC Voltage Range:
80 VRMS to 440 VRMS at 400Hz

Capacitance Tolerance:
±20%, ±10%, ±5%

Operating Temperature:
-55°C to +105°C

Voltage Derating:
At +105°C, 70% of +85°C rating

Dissipation Factor:
0.15% maximum when measured at 1kHz @ 25°C

AC Voltage Test:
140% of rated voltage for 2 minutes

Insulation Resistance:
Measurements made after a 2 minute charge at 200 volts DC for AC ratings equal to or less than 330 VRMS and at 400 volts DC for AC ratings greater than 330 VRMS
At +25°C, 50,000 Megohm-Microfarads, need not exceed 100,000 Megohms
At +85°C, 10,000 Megohm-Microfarads, need not exceed 50,000 Megohms
At +105°C, 2,000 Megohm-Microfarads, need not exceed 10,000 Megohms

STANDARD RATINGS

Capacitance		LOW VOLTAGE RANGE 80 VRMS TO 165 VRMS				INTERMEDIATE VOLTAGE RANGE 215 VRMS TO 330 VRMS				HIGH VOLTAGE RANGE 390 VRMS TO 440 VRMS			
		400 Hz Volts RMS 85°C	Voltage Code	Inches		400 Hz Volts RMS 85°C	Voltage Code	Inches		400 Hz Volts RMS 85°C	Voltage Code	Inches	
µF	Code			D	L*			D	L*			D	L*
0.010	103	-	-	-	-	330	330	0.312	0.875	440	440	0.312	1.125
0.012	123	-	-	-	-	330	330	0.400	0.875	440	440	0.400	1.125
0.015	153	-	-	-	-	330	330	0.400	0.875	440	440	0.400	1.125
0.018	183	-	-	-	-	330	330	0.400	0.875	440	440	0.400	1.125
0.022	223	-	-	-	-	330	330	0.400	0.875	440	440	0.400	1.125
0.027	273	-	-	-	-	330	330	0.400	1.125	440	440	0.400	1.375
0.033	333	-	-	-	-	330	330	0.400	1.125	440	440	0.400	1.375
0.039	393	165	165	0.312	0.875	330	330	0.400	1.125	440	440	0.562	1.125
0.047	473	165	165	0.312	0.875	330	330	0.400	1.125	440	440	0.562	1.125
0.056	563	165	165	0.312	0.875	330	330	0.400	1.375	440	440	0.562	1.375
0.068	683	165	165	0.312	0.875	330	330	0.400	1.375	440	440	0.562	1.375
0.082	823	165	165	0.312	0.875	330	330	0.500	1.125	440	440	0.562	1.625
0.10	104	165	165	0.312	0.875	330	330	0.500	1.125	440	440	0.562	1.625
0.12	124	165	165	0.312	1.125	330	330	0.562	1.375	435	435	0.670	1.625
0.15	154	165	165	0.312	1.125	330	330	0.562	1.375	435	435	0.670	1.625
0.18	184	165	165	0.400	0.875	330	330	0.562	1.625	430	430	0.670	1.875
0.22	224	165	165	0.400	0.875	330	330	0562	1.625	430	430	0.670	1.875
0.27	274	165	165	0.400	1.125	330	330	0.562	1.875	425	425	0.750	2.375
0.33	334	165	165	0.400	1.125	330	330	0.562	1.875	425	425	0.750	2.375
0.39	394	165	165	0.400	1.375	330	330	0.670	1.625	410	410	1.000	1.875
0.47	474	165	165	0.400	1.375	330	330	0.670	1.625	410	410	1.000	1.875
0.56	564	165	165	0.562	1.125	320	320	0.750	1.875	390	390	1.000	2.375
0.68	684	165	165	0.562	1.125	320	320	0.750	1.875	390	390	1.000	2.375
0.82	824	165	165	0.562	1.375	300	300	0.750	2.125	-	-	-	-
1.0	105	165	165	0.562	1.375	300	300	0.750	2.125	-	-	-	-
1.5	155	155	155	0.562	1.625	265	265	1.000	1.875	-	-	-	-
2.0	205	150	150	0.670	1.625	215	215	1.000	2.625	-	-	-	-
2.2	225	150	150	0.670	1.625	215	215	1.000	2.625	-	-	-	-
2.5	255	145	145	0.670	1.875	-	-	-	-	-	-	-	-
3.0	305	140	140	0.750	1.875	-	-	-	-	-	-	-	-
3.3	335	140	140	0.750	1.875	-	-	-	-	-	-	-	-
4.0	405	135	135	0.750	2.125	-	-	-	-	-	-	-	-
4.7	475	130	130	0.750	2.375	-	-	-	-	-	-	-	-
5.0	505	130	130	0.750	2.375	-	-	-	-	-	-	-	-
6.8	685	110	110	1.000	1.875	-	-	-	-	-	-	-	-
8.0	805	100	100	1.000	2.125	-	-	-	-	-	-	-	-
9.0	905	090	090	1.000	2.375	-	-	-	-	-	-	-	-
10.0	106	080	080	1.000	2.625	-	-	-	-	-	-	-	-

Additional capacitance values, voltages, and tolerances are available upon request.

*The dimensions tabulated above are for styles 02, 04, and 13. Subtract 0.062” from the length for styles 01, 03, and 12.

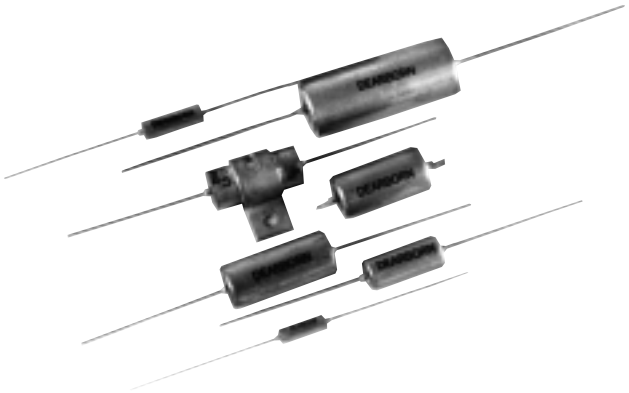
TYPE 860P

Metal-Case Hermetically-Sealed Metalized Polyphenylene Sulfide Film Capacitors

Features —

- **High Stability, Polycarbonate Replacement**
- **Small Size**
- **Low Power Dissipation**
- **Low Dielectric Absorption**
- **Wire Leads or Tab Terminals**

Major Applications:
Storage, filtering, timing, integrating, and applications where severe environments require hermetically sealed cases



PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound metalized polyphenylene sulfide

Case:
Hermetically sealed metal enclosure. Styles available are shown in picture to right and in the general section in the front of the catalog

Lead Material:
Solder coated solid wire

Lead Wire Sizes:

Case Dia.	Lead AWG
0.175 and 0.195	No. 24
0.235	No. 22
0.312	No. 20
0.400 and over	No. 18

Lead Pull:
5lbs. (2.3 KG) for one minute. No physical damage

Lead Bend:
After three complete consecutive bends. No damage

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.01µF to 10.0µF

DC Voltage Range:
200 VDC to 600 VDC

AC Voltage Range

126 to 250 VRMS

Capacitance Tolerance:

±20%, ±10%, ±5%

Operating Temperature:

-55°C to +125°C
AC operation limited to +105°C

Voltage Derating:
At +105°C, 70% of the DC rated voltage
At +125°C, 50% of the DC rated voltage

Dissipation Factor:
0.15% maximum when measured @ 1kHz @ 25°C

Voltage Test:
200% of rated voltage for 2 minutes

Insulation Resistance:
Measured at rated VDC after a 2 minute charge
At +25°C, 100,000 Megohm-Microfarads, need not exceed 200,000 Megohms
At +85°C, 10,000 Megohm-Microfarads, need not exceed 50,000 Megohms
At +125°C, 1,000 Megohm-Microfarads, need not exceed 2,000 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	200V	300V	400V	600V
0.750	40	80	-	-
0.875	24	45	70	100
1.125	16	30	41	75
1.375	13	23	28	50
1.625	10	-	21	38
1.875	7.6	13	18	27
2.125	6.4	-	15.5	-
2.375	5.5	9.6	-	19
2.625	4.8	8.5	10	-

STANDARD RATINGS

Capacitance		Voltage Code 200		Voltage Code 300		Voltage Code 400		Voltage Code 600	
µF	Code	200 VDC/126 VAC*		300 VDC/ 180 VAC*		400 VDC/ 220 VAC*		600 VDC/ 250 VAC*	
		D	L	D	L	D	L	D	L
0.010	103	0.174	0.750	0.235	0.750	0.312	0.875	0.312	0.875
0.015	153	0.193	0.750	0.312	0.875	0.312	0.875	0.400	1.125
0.022	223	0.235	0.750	0.312	0.875	0.312	0.875	0.400	1.125
0.033	333	0.235	0.750	0.312	0.875	0.312	1.125	0.400	1.125
0.047	473	0.312	0.875	0.312	0.875	0.312	1.125	0.400	1.375
0.068	683	0.312	0.875	0.312	1.125	0.400	1.125	0.562	1.125
0.10	104	0.312	0.875	0.400	1.125	0.400	1.375	0.562	1.375
0.15	154	0.312	1.125	0.400	1.375	0.500	1.125	0.562	1.625
0.22	224	0.400	0.875	0.500	1.125	0.562	1.375	0.670	1.625
0.33	334	0.400	1.125	0.562	1.125	0.562	1.625	0.750	1.875
0.47	474	0.400	1.375	0.562	1.375	0.670	1.625	0.750	2.375
0.68	684	0.562	1.125	0.562	1.875	0.670	1.875	1.000	1.875
1.00	105	0.562	1.375	0.670	1.875	0.750	2.125	1.000	2.375
2.00	205	0.670	1.625	0.750	2.375	1.000	2.125	-	-
2.50	255	0.670	1.875	0.750	2.625	1.000	2.625	-	-
3.00	305	0.750	1.875	1.000	1.875	-	-	-	-
4.00	405	0.750	2.125	1.000	2.375	-	-	-	-
5.00	505	0.750	2.375	-	-	-	-	-	-
6.00	605	1.000	1.875	-	-	-	-	-	-
7.00	705	1.000	1.875	-	-	-	-	-	-
10.00	106	1.000	2.625	-	-	-	-	-	-

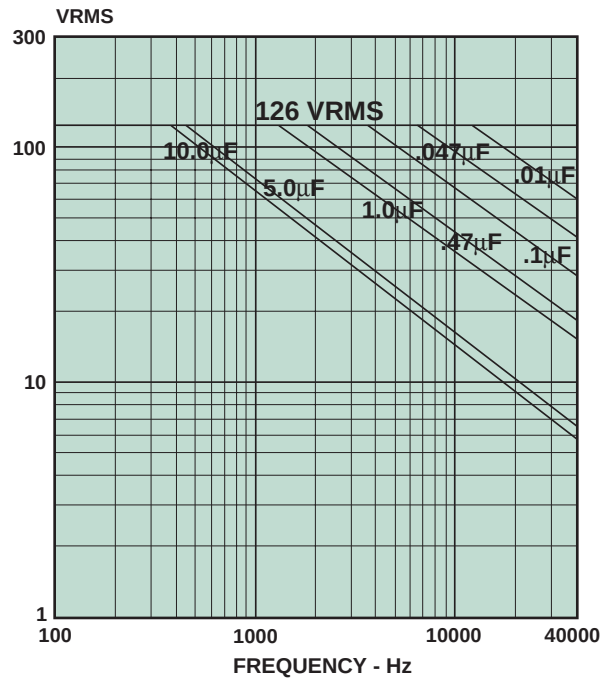
Additional capacitance values, voltages, and tolerances are available upon request.

* AC voltage rating is at 400Hz. 1.4 x VRMS + VDC should not exceed the rated VDC.

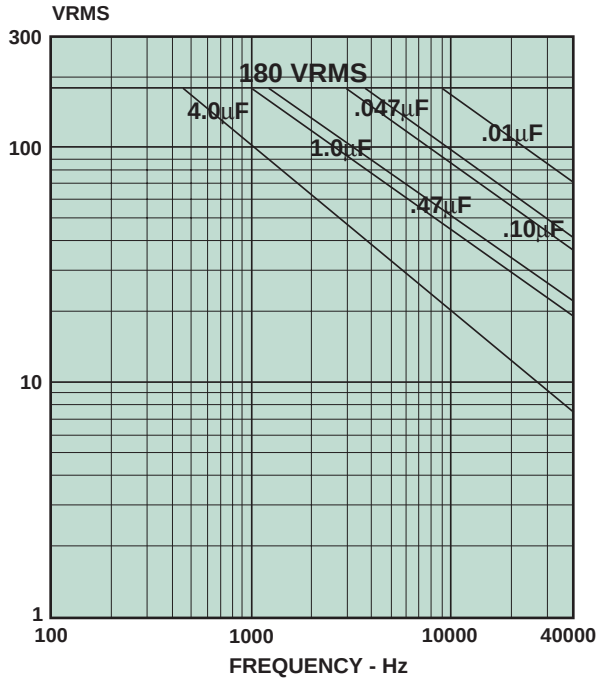
* Graphs of AC voltage vs frequency follow.

*The dimensions tabulated above are for styles 02, 04, and 13. Subtract 0.062” from the length for styles 01, 03, and 12.

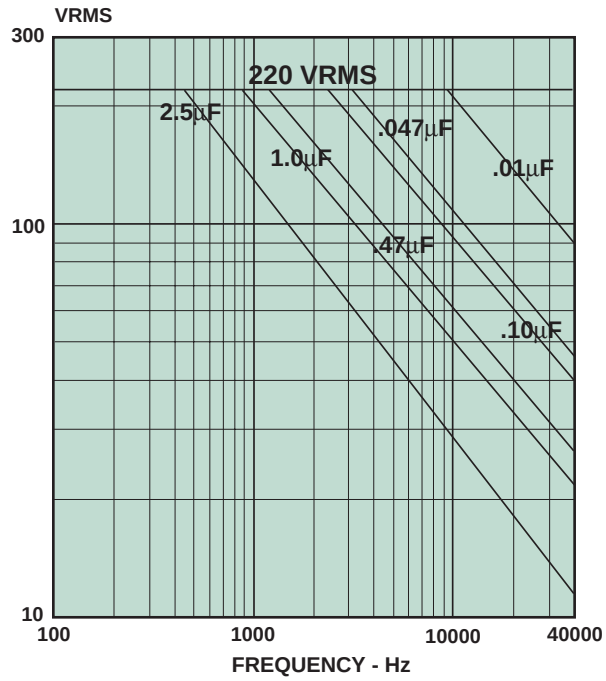
VOLTAGE vs FREQUENCY TYPE 860P 200VDC\126VAC



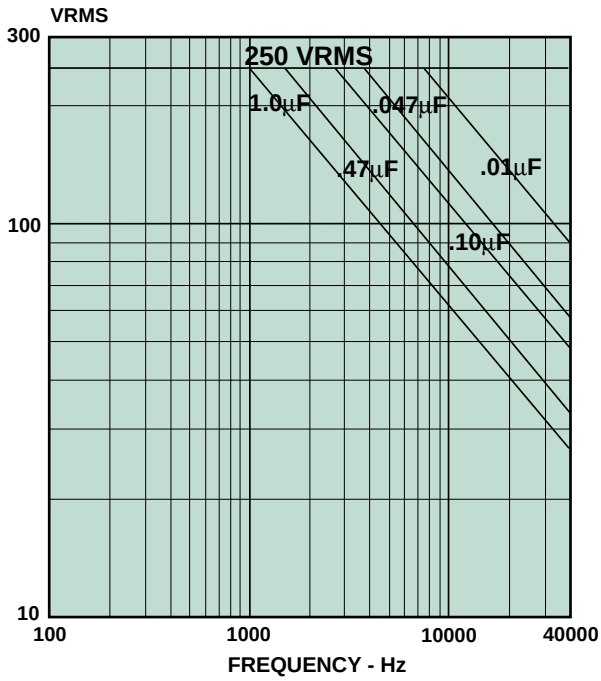
VOLTAGE vs FREQUENCY TYPE 860P 300VDC\180VAC



VOLTAGE vs FREQUENCY TYPE 860P 400VDC\220VAC

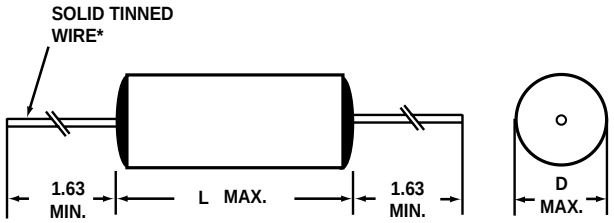


VOLTAGE vs FREQUENCY TYPE 860P 600VDC\250VAC



Wrap-and-Fill Metalized Polyphenylene Sulfide Film Capacitors

DIMENSIONS IN INCHES



*Lead Size

D MAX. = < 0.200	0.020	(No. 24 AWG)
D MAX. = 0.200-0.300	0.025	(No. 22 AWG)
D MAX. = 0.301-0.500	0.032	(N0. 20 AWG)
D MAX. = > 0.500	0.040	(N0. 18 AWG)

Features —

- **High Temperature to +150°C**
- **Close Tolerances**
- **Rugged/Lightweight**
- **Extensive Standard Ratings**

Major Applications:
Timing, feed back circuits, filtering, decoupling

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound metalized polyphenylene sulfide

Case:
Flame retardant tape wrap and epoxy endfill

Lead Material:
Solder coated solid wire

Lead Strength:
Capable of withstanding a five pound pull force on lead axis

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance, and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.0047µF to 10.0µF

Voltage Rating:
50 VDC to 400 VDC
32 VRMS to 240 VRMS

Capacitance Tolerance:
± 10%, ± 5%, ± 2%

Operating Temperature:
-55°C to +150°C without derating for DC operation
AC operation limited to +125°C

Dissipation Factor:
0.15% Max. when measured at 1kHz @ 25°C

DC voltage Test:
200% of rated voltage for l min.

Insulation Resistance:
Measured at rated VDC after a 2 Minute charge
At +25°C, 100,000 Megohm-Microfarads, need not exceed 200,000 Megohms
At +85°C, 2,000 Megohm-Microfarads, need not exceed 4,000 Megohms
At +125°C, 250 Megohm-Microfarads, need not exceed 500 Megohms
At +150°C, 10 Megohm-Microfarads, need not exceed 100 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	50V	100V	200V	400V
0.400	25	35	57	100
0.530	13	20	38	65
0.750	7	14	20	35
1.030	6	9	14	20
1.250	4	7	11	17
1.500	-	-	9	15
1.750	-	-	-	10

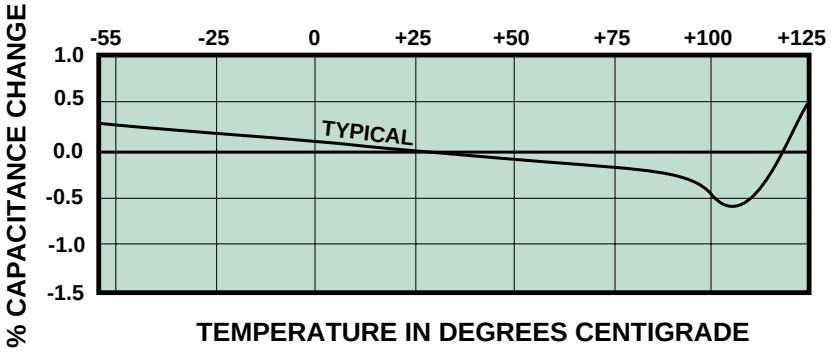
STANDARD RATINGS

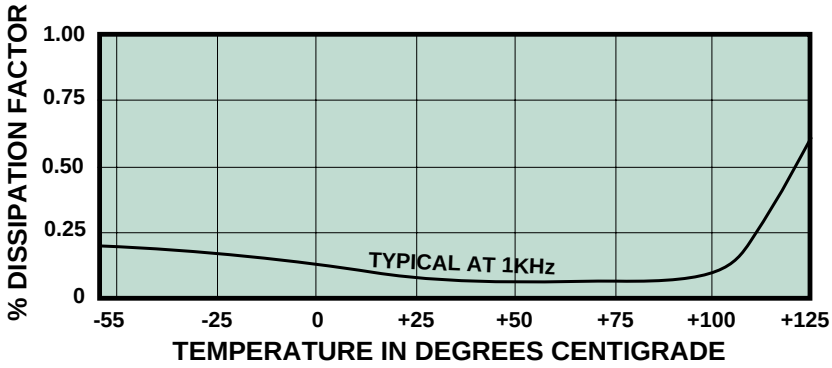
Capacitance		Voltage Code 050 50 VDC/32 VAC		Voltage Code 100 100 VDC/63 VAC		Voltage Code 200 200 VDC/126 VAC		Voltage Code 400 400 VDC/240 VAC	
µF	Code	D	L	D	L	D	L	D	L
0.0047	472	-	-	-	-	.170	.400	-	-
0.0068	682	-	-	-	-	.170	.400	-	-
0.010	103	.170	.400	.170	.400	.170	.400	.260	.400
0.015	153	.170	.400	.170	.400	.190	.400	.260	.530
0.022	223	.170	.400	.170	.400	.230	.400	.310	.530
0.033	333	.170	.400	.190	.400	.230	.400	.390	.530
0.047	473	.170	.400	.230	.400	.260	.400	.350	.750
0.068	683	.170	.400	.230	.400	.260	.530	.400	1.030
0.10	104	.190	.400	.260	.400	.350	.530	.400	1.030
0.15	154	.230	.400	.260	.400	.310	.750	.490	1.030
0.22	224	.260	.400	.260	.530	.350	.750	.490	1.250
0.33	334	.260	.530	.350	.530	.350	1.030	.490	1.500
0.47	474	.310	.530	.310	.750	.400	1.030	.610	1.500
0.68	684	.310	.530	.350	.750	.490	1.030	.670	1.750
1.00	105	.310	.750	.440	.750	.490	1.250	.740	1.750
1.50	155	.350	.750	.440	1.030	.560	1.250	-	-
2.00	205	.400	.750	.490	1.030	.560	1.500	-	-
2.70	275	.350	1.030	.560	1.030	.670	1.500	-	-
3.00	305	.350	1.030	.490	1.250	.670	1.500	-	-
4.00	405	.440	1.030	.610	1.250	-	-	-	-
5.00	505	.490	1.030	.610	1.250	-	-	-	-
6.80	685	.490	1.250	-	-	-	-	-	-
8.00	805	.560	1.250	-	-	-	-	-	-
10.00	106	.610	1.250	-	-	-	-	-	-

Additional capacitance values, voltages, and tolerances are available upon request.

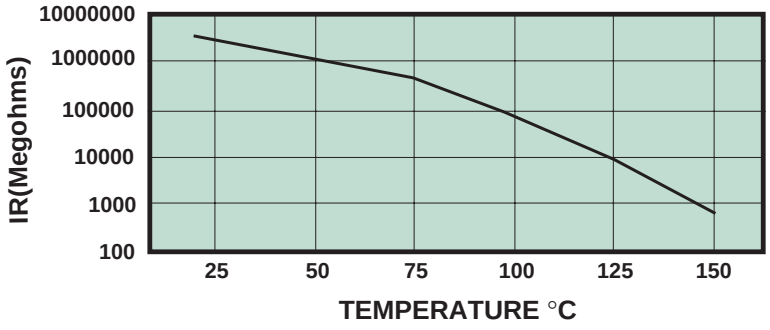
*AC voltage rating is at 400Hz. 1.4 times the RMS voltage plus the DC voltage should not exceed the rated VDC.

TYPICAL CHARACTERISTICS
PPS FILM/FOIL TYPES





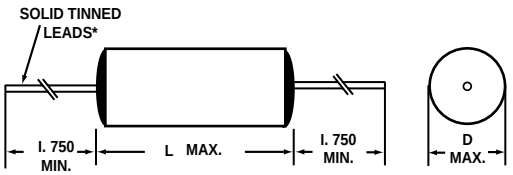
IR vs TEMPERATURE



TYPE 810P

Wrap-and-Fill
Small Size
Polyphenylene Sulfide Dielectric
Film/Foil Construction

Dimensions in Inches



* Leads to be within ±0.062" of center line at egress, but not less than 0.031" from edge.
* Lead size=

D Max. ≤ .327	0.025 (No. 22 AWG)
D Max. > .327	0.032 (No. 20 AWG)

Features —

- **Extended Foil Construction**
- **+ 125°C Rated**
- **Replacement for 610P Polycarbonate Capacitors**
- **Moisture Resistant**
- **Low Dissipation Factor**

Major Applications:
Oscillator, timing, coupling and decoupling at high frequency, filter circuits

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound polyphenylene sulfide film and extended foil

Case:
Flame retardant tape wrap and epoxy endfill

Lead Material:
Solder coated solid wire

Lead Strength:
Capable of withstanding a five pound pull force on lead axis

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance, and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.001µF to 1.0µF

DC Voltage Rating:
50 VDC to 400 VDC

Capacitance Tolerance:
±20%, ±10%, ±5%

Operating Temperature:
-55°C to +125°C

Voltage Derating:
At +125°C, 50% of the +85°C rating

Dissipation Factor:
0.15% maximum when measured at 1kHz @ 25°C

Voltage Test:
200% of rated voltage for 1 minute

Insulation Resistance:
Measured at rated VDC after a 2 minute charge
At +25°C, 50,000 Megohm-Microfarads, need not exceed 100,000 Megohms
At +85°C, 2,000 Megohm-Microfarads, need not exceed 4,000 Megohms
At +125°C, 250 Megohm-Microfarads, need not exceed 500 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	50V	100V	200V	400V
0.560	3200	3700	4400	6000
0.625	1300	-	-	3617
0.750	630	1200	1727	2900
1.000	-	680	1147	1636
1.062	470	-	1100	1500
1.250	440	-	-	1100
1.312	-	727	-	1000
1.562	-	433	-	900
1.812	270	368	578	-
2.062	-	-	442	612
2.312	-	300	-	-
2.562	-	-	-	491

STANDARD RATINGS

Capacitance µF	Code	Voltage Code 050 50 VDC		Voltage Code 100 100 VDC		Voltage Code 200 200 VDC		Voltage Code 400 400 VDC	
		D	L	D	L	D	L	D	L
0.0010	102	.260	.560	.260	.560	.260	.560	.260	.560
0.0015	152	.260	.560	.260	.560	.260	.560	.260	.560
0.0022	222	.260	.560	.260	.560	.260	.560	.327	.560
0.0033	332	.260	.560	.260	.560	.260	.560	.327	.560
0.0047	472	.327	.560	.327	.560	.327	.560	.312	.625
0.0068	682	.327	.560	.327	.560	.327	.560	.312	.750
0.010	103	.235	.625	.340	.560	.312	.750	.400	.750
0.015	153	.235	.625	.312	.750	.312	.750	.400	1.000
0.022	223	.235	.750	.312	.750	.400	.750	.400	1.250
0.033	333	.312	.750	.312	.750	.400	1.000	.500	1.000
0.047	473	.312	.750	.400	.750	.400	1.000	.562	1.062
0.068	683	.400	.750	.400	1.000	.500	1.000	.562	1.312
0.10	104	.400	.750	.400	1.000	.562	1.062	.670	1.562
0.15	154	.400	1.250	.562	1.312	.562	1.812	.750	2.062
0.22	224	.562	1.062	.562	1.562	.670	1.812	.750	2.562
0.33	334	.562	1.062	.670	1.562	.750	2.062	1.000	2.062
0.47	474	.562	1.812	.750	1.812	1.000	1.812	1.000	2.562
0.68	684	.562	1.812	.750	2.312	-	-	-	-
1.00	105	.750	1.812	1.000	1.812	-	-	-	-

Additional capacitance values, voltages, and tolerances are available upon request.

Wrap-and-Fill Zero TCC Polyphenylene Sulfide Film/Foil Capacitors

Features —

- **High Current Capacity**
- **Close Tolerances**
- **Low Losses**

Major Applications:
Critical timing, sample and hold, high stability

PHYSICAL CHARACTERISTICS —

Construction:
Non-inductive wound polyphenylene sulfide film and extended foil

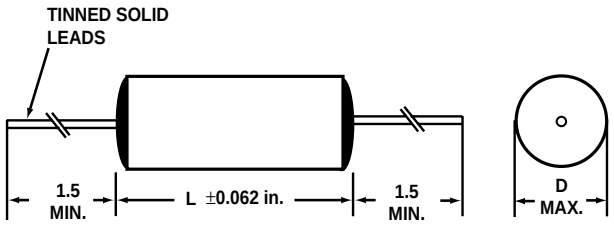
Case:
Flame retardant tape wrap and epoxy endfill

Lead Material:
Solder coated solid wire

Lead Strength:
Capable of withstanding a five pound pull force on lead axis

Marking:
Dearborn trademark, type or catalog number, capacitance, tolerance, and voltage

DIMENSIONS IN INCHES



*Lead Size

D MAX < 0.270	0.025 (No. 22 AWG)
D MAX ≥ 0.270	0.032 (No. 20 AWG)

ELECTRICAL SPECIFICATIONS —

Capacitance Range:
0.001µF to .22µF

Voltage Rating:
200 VDC

Capacitance Tolerance:
±10%, ±5%, ±2%

Operating Temperature:
-55°C to +125°C, without derating

Dissipation Factor:
0.15% maximum

DC Voltage Test:
250% of rated voltage for 15 seconds

Insulation Resistance:
Measure at rated VDC after a 2 minute charge
At +25°C, 100,000 Megohm-Microfarads, need not exceed 200,000 Megohms

STANDARD RATINGS

Capacitance µF	Code	Voltage Code 200 200 VDC	
		D	L
0.0010	102	.210	.438
0.0015	152	.210	.438
0.0022	222	.210	.438
0.0033	332	.210	.438
0.0047	472	.210	.438
0.0068	682	.210	.438
0.010	103	.220	.438
0.015	153	.220	.625
0.022	223	.250	.625
0.033	333	.280	.625
0.047	473	.320	.625
0.068	683	.300	.750
0.10	104	350	.750
0.15	154	.330	1.000
0.22	224	.380	1.000

Additional capacitance values, voltages, and tolerances are available upon request.