WRAP-AND-FILL METALIZED POLYPHENYLENE SULFIDE FILM CAPACITORS

FEATURES

- High temperature to +150°C
- Close tolerances
- Rugged / lightweight
- Extensive standard ratings

MAJOR APPLICATIONS:
Timing, feedback 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 WIRE SIZES:

Case Dia.	Lead AWG
< 0.200	0.020 (No. 24)
0.200 - 0.300	0.025 (No. 22)
0.301 - 0.500	0.032 (No. 20)
> 0.500	0.040 (No. 18)

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: 0.0047 µF to 10.0 µF

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 1 min.

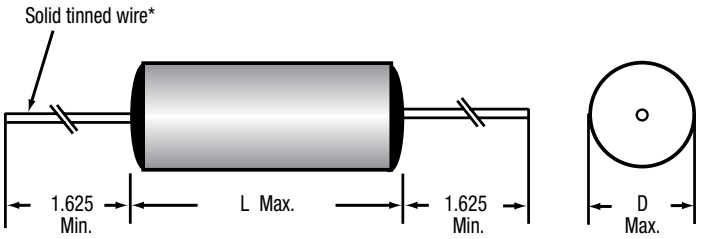
INSULATION RESISTANCE:
Measured at rated VDC after a 2 minute charge.

- At +25°C, 100,000 Megaohm-Microfarads, need not exceed 200,000 Megaohms
- At +85°C, 2,000 Megaohm-Microfarads, need not exceed 4,000 Megaohms
- At +125°C, 250 Megaohm-Microfarads, need not exceed 500 Megaohms
- At +150°C, 10 Megaohm-Microfarads, need not exceed 100 Megaohms

MAXIMUM PULSE RISE TIME

Capacitor Length (inch)	Rise Time dv / dt (V / µs)			
	50 V	100 V	200 V	400 V
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

DIMENSIONS (in inches)



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

TYPE 880P

WRAP-AND-FILL METALIZED POLYPHENYLENE SULFIDE FILM CAPACITORS

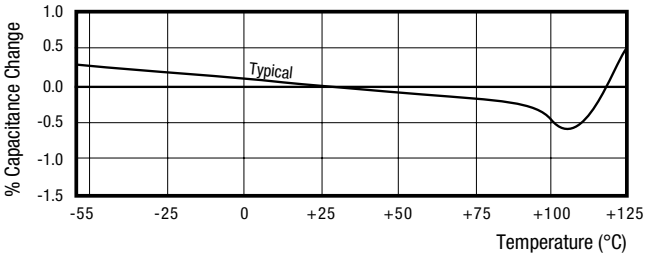
STANDARD RATINGS

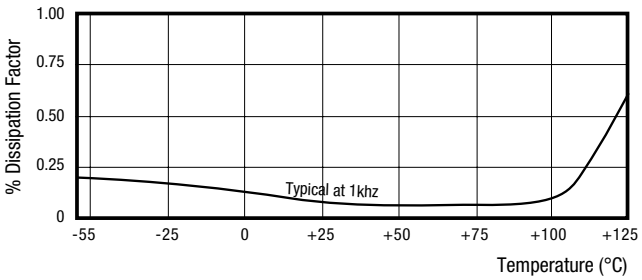
Capacitance		Voltage Code 050 50 VDC / 32 VAC*		Voltage Code 100 100 VDC / 63 VAC*		Voltage Code 200 200 VDC / 126 VAC*		Voltage Code 400 400 VDC / 240 VAC*	
µF	Code	D	L	D	L	D	L	D	L
0.0047	472	-	-	-	-	0.170	0.400	-	-
0.0068	682	-	-	-	-	0.170	0.400	-	-
0.010	103	0.170	0.400	0.170	0.400	0.170	0.400	0.260	0.400
0.015	153	0.170	0.400	0.170	0.400	0.190	0.400	0.260	0.530
0.022	223	0.170	0.400	0.170	0.400	0.230	0.400	0.310	0.530
0.033	333	0.170	0.400	0.190	0.400	0.230	0.400	0.390	0.530
0.047	473	0.170	0.400	0.230	0.400	0.260	0.400	0.350	0t.750
0.068	683	0.170	0.400	0.230	0.400	0.260	0.530	0.400	1.030
0.10	104	0.190	0.400	0.260	0.400	0.350	0.530	0.400	1.030
0.15	154	0.230	0.400	0.260	0.400	0.310	0.750	0.490	1.030
0.22	224	0.260	0.400	0.260	0.530	0.350	0.750	0.490	1.250
0.33	334	0.260	0.530	0.350	0.530	0.350	1.030	0.490	1.500
0.47	474	0.310	0.530	0.310	0.750	0.400	1.030	0.610	1.500
0.68	684	0.310	0.530	0.350	0.750	0.490	1.030	0.670	1.750
1.00	105	0.310	0.750	0.440	0.750	0.490	1.250	0.740	1.750
1.50	155	0.350	0.750	0.440	1.030	0.560	1.250	-	-
2.00	205	0.400	0.750	0.490	1.030	0.560	1.500	-	-
2.70	275	0.350	1.030	0.560	1.030	0.670	1.500	-	-
3.00	305	0.350	1.030	0.490	1.250	0.670	1.500	-	-
4.00	405	0.440	1.030	0.610	1.250	-	-	-	-
5.00	505	0.490	1.030	0.610	1.250	-	-	-	-
6.80	685	0.490	1.250	-	-	-	-	-	-
8.00	805	0.560	1.250	-	-	-	-	-	-
10.00	106	0.610	1.250	-	-	-	-	-	-

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

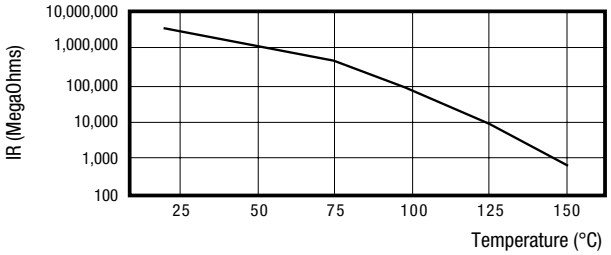
* AC voltage rating is at 400Hz 1.4 x VRMS + VDC should not exceed the rated VDC.

TYPICAL CHARACTERISTICS PPS FILM / FOIL TYPES





IR VS. TEMPERATURE



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 WIRE SIZES:

Case Dia.	Lead AWG
< 0.270	0.025 (No. 22)
≥ 0.270	0.032 (No. 20)

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: 0.001 µF to 0.22 µF

VOLTAGE RATING: 200 VDC

CAPACITANCE TOLERANCE: ±10%, ±5%, ±2%

OPERATING TEMPERATURE: -55°C to +125°C, without derating

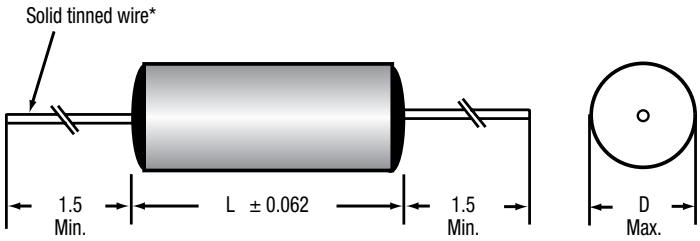
DISSIPATION FACTOR: 0.15% maximum

DC VOLTAGE TEST: 250% of rated voltage for 15 seconds

INSULATION RESISTANCE:
Measured at rated VDC after a 2 minute charge.

- At +25°C, 100,000 Megaohm-Microfarads, need not exceed 200,000 Megaohms

DIMENSIONS (in inches)



WRAP-AND-FILL ZERO TCC
POLYPHENYLENE SULFIDE FILM / FOIL CAPACITORS

STANDARD RATINGS

Capacitance		Voltage Code 200 200 VDC	
µF	Code	D	L
0.0010	102	0.210	0.438
0.0015	152	0.210	0.438
0.0022	222	0.210	0.438
0.0033	332	0.210	0.438
0.0047	472	0.210	0.438
0.0068	682	0.210	0.438
0.010	103	0.220	0.438
0.015	153	0.220	0.625
0.022	223	0.250	0.625
0.033	333	0.280	0.625
0.047	473	0.320	0.625
0.068	683	0.300	0.750
0.10	104	0.350	0.750
0.15	154	0.330	1.000
0.22	224	0.380	1.000

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

GENERAL INFORMATION ON POLYPHENLYENE SULFIDE CAPACITORS

GENERAL ELECTRICAL, PHYSICAL, AND ENVIRONMENTAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS:

Capacitance, dissipation factor, insulation resistance, and dielectric strength shall be measured as specified.

PHYSICAL CHARACTERISTICS:

The lead strength shall be measured as specified.

ENVIRONMENTAL CHARACTERISTICS:

Vibration Test:

Units shall be tested as required. As a result of the test no mechanical damage, short, open or intermittent circuit.

MOISTURE RESISTANCE:

The hermetically sealed units shall be tested.

As a result of the test there shall be:

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

HUMIDITY TEST:

The non-hermetically sealed units shall be tested.

As a result of the test there shall be:

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

DC LIFE:

820P, 842P, 859P are tested in accordance with the applicable Mil Spec.

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:

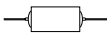
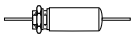
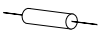
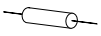
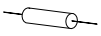
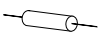
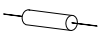
- No permanent open or short circuit
- Max. Δ C of ± 5%
- Max. DF = 0.3%
- No visible damage
- Min. IR = 50% of initial limit

AC LIFE:

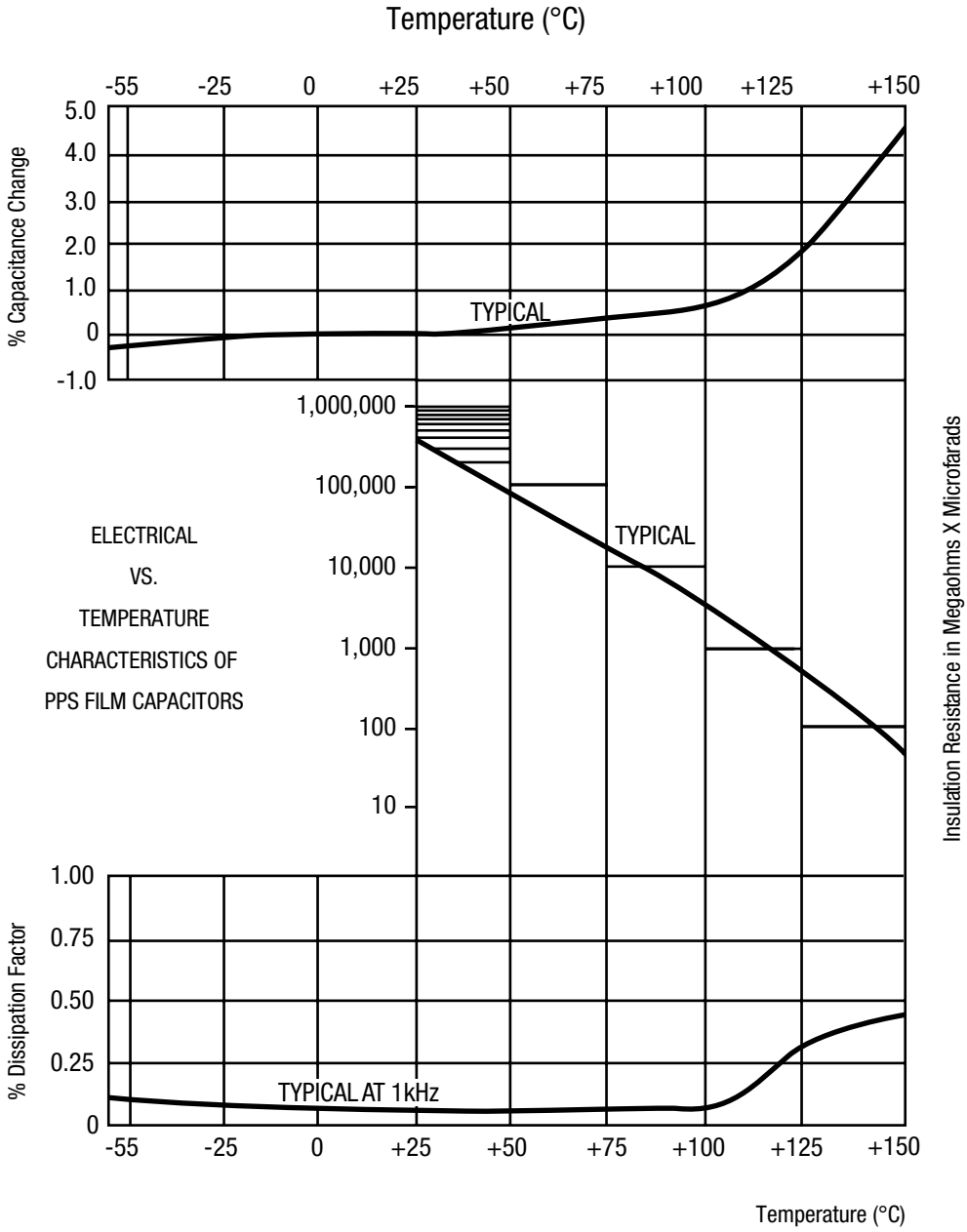
The Type 859P shall be tested at 110% of the rated rms voltage at 400Hz for 250 hours at 85°C.

As a result of the test there shall be:

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

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	40	259P	39022 / 7		AC Rated -55°C to +105°C	0.01 - 10.0	80 - 440 VAC
860P	-	42	260P	-		Various Configurations 55°C to +105°C	0.01 - 10.0	200 - 600
820P	39022 / 13	37	620P	39022 / 10		Small Size -55°C to +125°C	0.01 - 15.0	50 - 400
-	95008	-	629P	83439 / 4 / 6 95008		Feed Thru -55°C to +125°C	0.01 - 15.0	50 - 400
832P	-	137	632P	-		Wrap & Fill -55°C to +125°C	0.001 - 10.0	63 - 400
842P	55514 / 13	140	642P	55514 / 7		Miniature Wrap & Fill -55°C to +125°C	0.01 - 15.0	50 - 200
880P	-	143	-	-		High Temp, PPS -55°C to +150°C	0.0047 - 10.0	50 - 400
FILM / FOIL POLYCARBONATE / POLYPHENYLENE SULFIDE								
810P	-	147	610P	-		Pulse Capacitor -55°C to +125°C	0.001 - 1.0	50 - 400
882P	-	149	-	-		Zero TCC PPS -55°C to +125°C	0.001 - 0.22	200

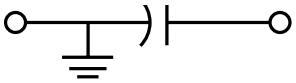
GENERAL INFORMATION ON POLYPHENLYENE SULFIDE CAPACITORS



Dwg. No. A-14,582

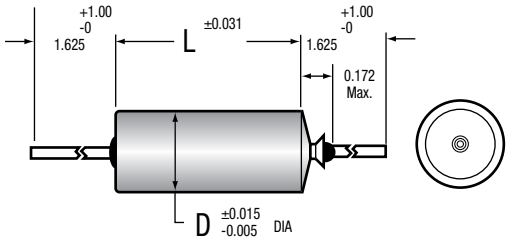
GUIDE TO ORDERING

SECTION GROUNDED TO CASE

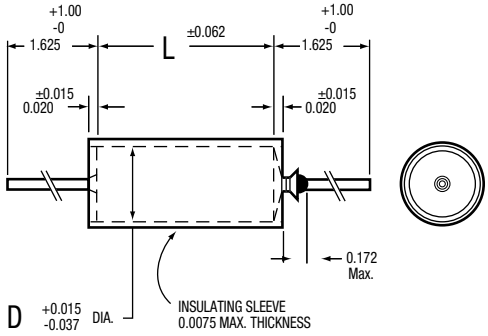


DIMENSIONS (in inches)

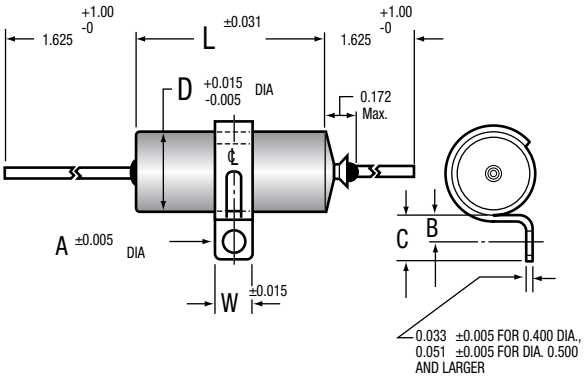
CASE STYLE 01



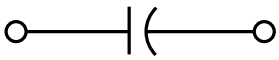
CASE STYLE 03



CASE STYLE 12

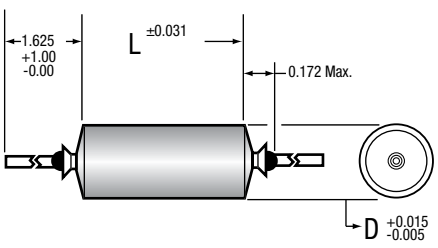


SECTION INSULATED FROM CASE

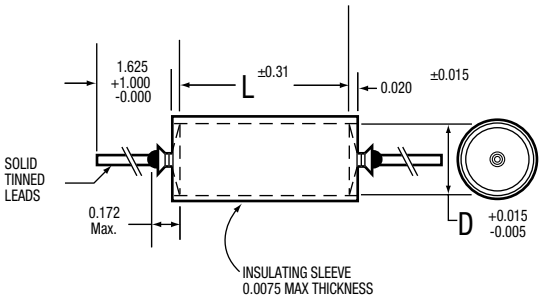


DIMENSIONS (in inches)

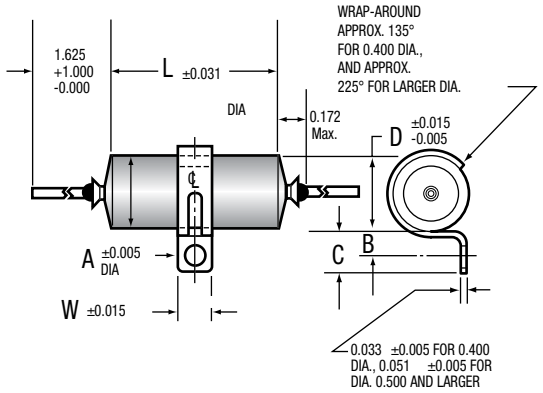
CASE STYLE 02



CASE STYLE 04



CASE STYLE 13



The length of grounded styles is 0.062" shorter than the length shown in tabulations in the catalog.

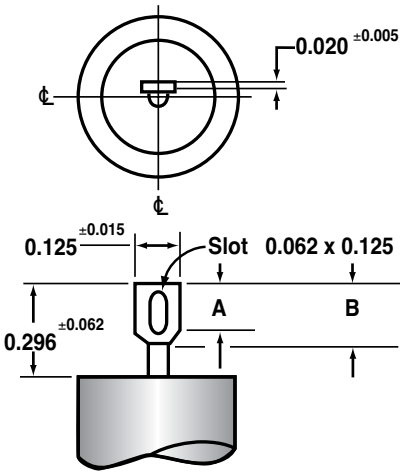
GUIDE TO ORDERING

BRACKET DIMENSIONS (Style 12 & 13 / in inches)

D	W	A	B	C
0.400	0.250	0.144	0.187±0.015	0.312±0.031
0.500	0.500	0.156	0.250±0.031	0.437±0.062
0.562	0.500	0.156	0.250±0.031	0.437±0.062
0.670	0.500	0.156	0.250±0.031	0.437±0.062
0.750	0.500	0.156	0.250±0.031	0.437±0.062
1.000	0.500	0.156	0.250±0.031	0.437±0.062

*Based on 1 in. = 25.4 mm

TYPICAL TAB TERMINAL DIMENSIONS



Dwg. No A-9525

A = 0.156 ± 0.015" (3.96 ± 0.38 mm)

B = 0.187 ± 0.015" (4.75 ± 0.38 mm)

Tab Terminal available only on case diameters equal to or greater than 0.400 inches.

T1 & T3 styles are supplied with one tab terminal on the insulated end and a ground lead on the opposite end.

ORDERING TABLES

METAL CASE

EXAMPLE:

218P 223 X9 100 S 02

CATALOG NUMBERING SYSTEM

Case style

Terminal: S = Wire leads T = Soldering tab*.

DC Voltage rating: Expressed in volts.
See standard ratings charts for voltage code.

Capacitance Tolerance: X0 = ±20%
X9 = ±10%
X5 = ±5%
X2 = ±2%

Capacitance: Expressed in picofarads, the first two digits are significant figures; the third is the number of zeros following. See standard ratings tables for capacitance code.

Dearborn type number: Identifies the basic capacitor.

* Soldering tabs are available only on case diameters equal to or greater then 0.400 inches.

WRAP AND FILL

EXAMPLE:

430P 183 X9 100 X F

CATALOG NUMBERING SYSTEM

"F" applies only to "ROHS" compliant parts.

Terminal: No suffix required unless specified on applicable specification sheet (Terminal style).

DC Voltage rating: Expressed in volts.
See standard ratings charts for voltage code.

Capacitance Tolerance: X0 = ±20%
X9 = ±10%
X5 = ±5%
X2 = ±2%

Capacitance: Expressed in picofarads, the first two digits are significant figures; the third is the number of zeros following. See standard ratings tables for capacitance code.

Dearborn type number: Identifies the basic capacitor.