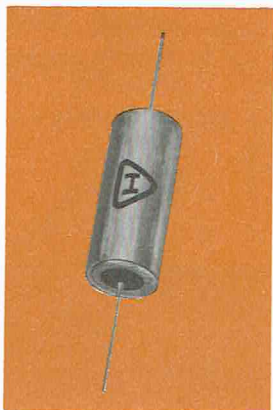


DATA·LOG



JULY 1957

NO. C-105



MICRO MINIATURE METALLIZED PAPER CAPACITORS

INTRODUCTION — Hopkins Engineering Company's metallized paper capacitors are ideally suited for use in R.F. and audio by-pass circuits, interference filters, power factor correction, and motor starting circuits. They are designed to meet or exceed MIL-C-18312 when hermetically sealed.

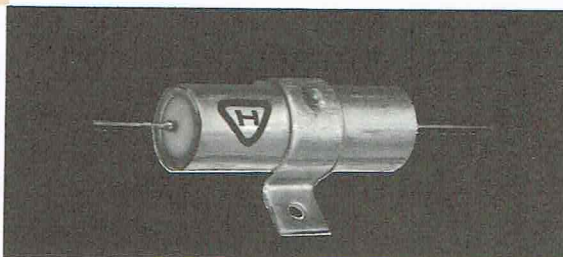
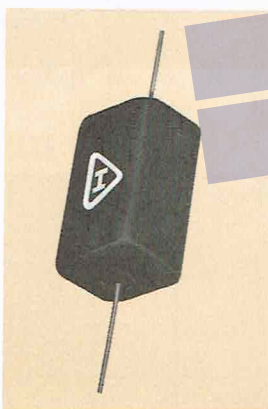
CONSTRUCTION — The basic difference in physical characteristics of paper and foil capacitors and metallized paper capacitors is the replacement of layers of metallic foil with a very thin metallic film deposited directly on a lacquered surface of the paper. The thinness of the deposited metallic film gives the capacitors the unique property of self-healing characteristics under excessive voltage stresses. This feature along with impregnation in a specially compounded high K thermosetting resin results in an approximate 10% smaller unit than the conventional mineral wax impregnated metallized paper capacitor. In addition to these factors, the rectangular shape of the Hopkins Engineering Co. metallized capacitor permits additional space saving features.

TEMPERATURE — The operating temperature range is from -55°C to 100°C .

POWER FACTOR — Less than 1% at 25°C and 1,000 cps up to and including 1.0 MFD., less than 1.5% at 25°C and 60cps on capacitors greater than 1.0 MFD.

INSULATION RESISTANCE — Will average 500 megohms \times microfarads for units less than 1 microfarad and 250 megohms \times microfarad for units greater than 1 microfarad, when measured at 200 VDC for 2 minutes at 25°C .

CAPACITANCE TOLERANCE — When measured at 1,000 cps at 25°C shall be within specified tolerances. Standard tolerance is $\pm 20\%$.



CAPACITANCE STABILITY — The temperature coefficient is approximately $+0.07\%/^{\circ}\text{C}$.

DIELECTRIC STRENGTH — Shall be not greater than 150% of the rated working voltage at 25°C not to exceed 3 seconds.

LIFE TEST — Hermetically sealed and phenolic coated metallized paper capacitors will withstand 125% of rated voltage for 1,000 hours. One failure in twelve units is allowable.

TERMINALS — Standard terminals are axial wire leads 2" + 1" - 0" long. Leads are available in axial, parallel or radial construction.

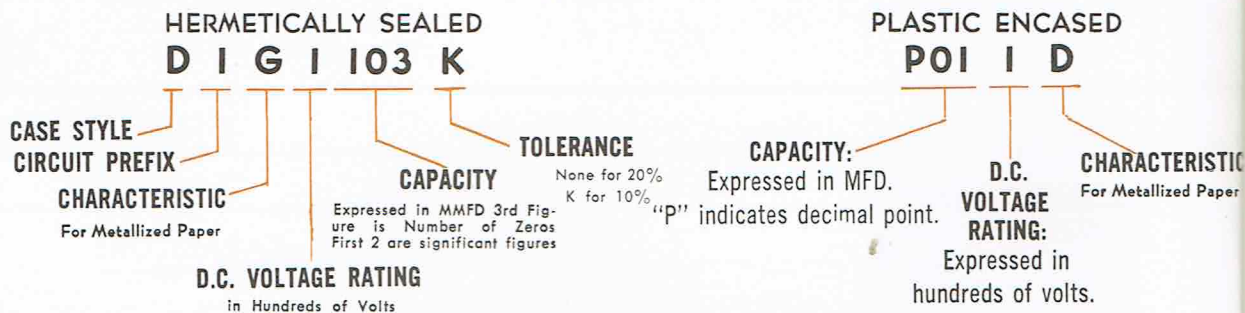


METALLIZED PAPER

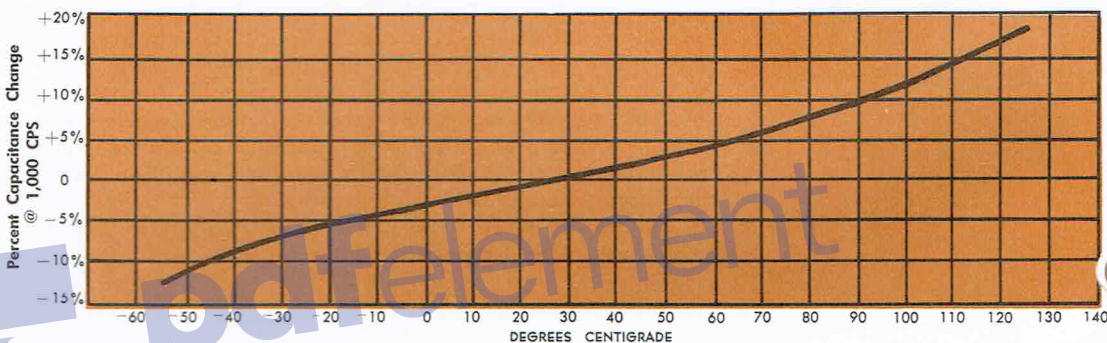
Remove Watermark Now

Catalog Numbering System

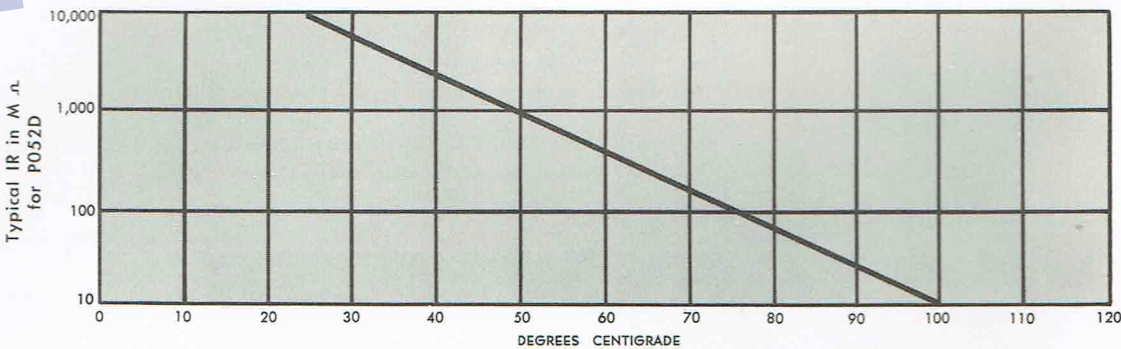
EXAMPLE: →



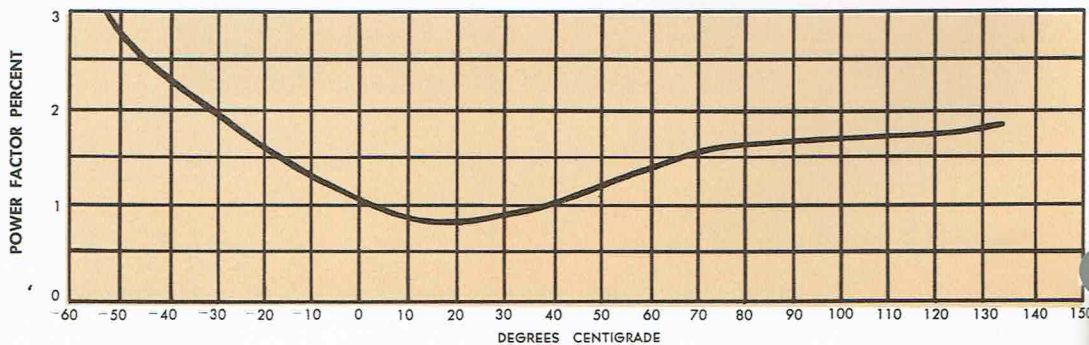
CAPACITANCE VS TEMPERATURE



INSULATION RESISTANCE VS TEMPERATURE



POWER FACTOR VS TEMPERATURE



CAPACITORS

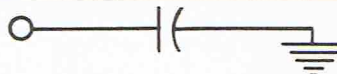
CASE STYLES

CIRCUIT DESIGNATIONS

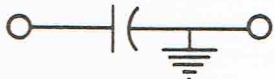
1. FLOATING CASE (Standard)



2. GROUNDED CASE (No ground lead)



3. GROUNDED CASE (With ground lead)



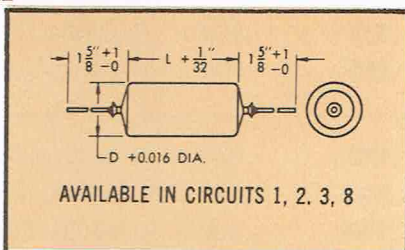
8. FEED THRU



STANDARD CASE STYLE



Case floating

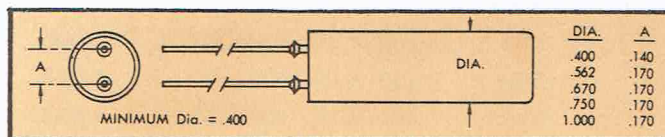


Available with sleeving by adding 9 to prefix case style.

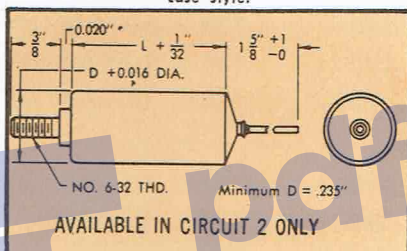
CASE STYLE B



AVAILABLE IN CIRCUIT 1 ONLY



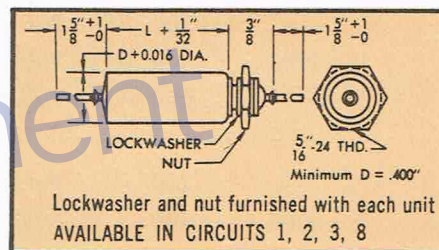
CASE STYLE C



CASE STYLE D



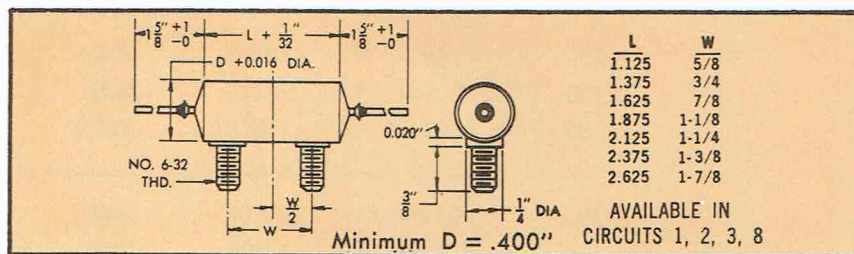
Case floating



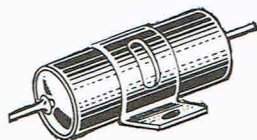
CASE STYLE E



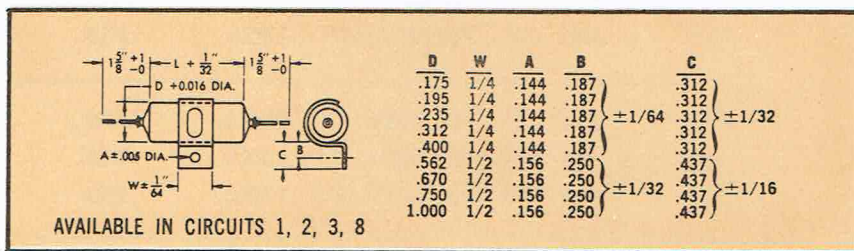
Case floating



CASE STYLE J



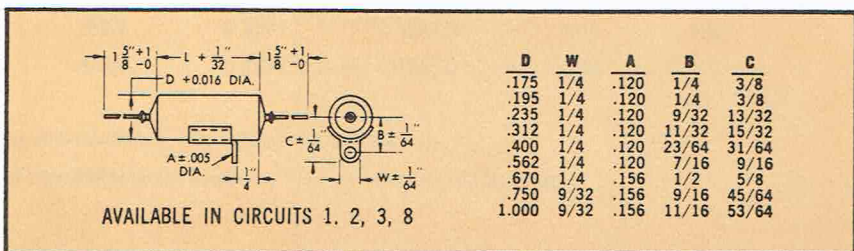
Case floating



CASE STYLE L



Case floating



Tab terminals available on all case styles by adding H to prefix of case style



METALLIZED PAPER

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PART NUMBERS AND SIZES ARE FOR STANDARD UNITS WITH A CAPACITY TOLERANCE OF $\pm 20\%$

RATINGS			PHENOLIC COATED			HERMETICALLY SEALED CASE FLOATING		
CAP.	VOLTS	PART NO.	T \pm .050"	W \pm .050"	L \pm .050"	PART NO.	DIA.	LGTH.
.005	200	P0052D	.110	.180	.375	1G2502	.175	.500
	400	P0054D	.150	.225	.375	1G4502	.235	.500
	600	P0056D	.110	.180	.500	1G6502	.195	.625
.006	200	P0062D	.120	.190	.375	1G2602	.175	.500
	400	P0064D	.165	.240	.375	1G4602	.235	.500
	600	P0066D	.120	.190	.500	1G6602	.195	.625
.007	200	P0072D	.120	.195	.375	1G2702	.175	.500
	400	P0074D	.175	.240	.375	1G4702	.235	.500
	600	P0076D	.120	.195	.500	1G6702	.195	.625
.008	200	P0082D	.125	.200	.375	1G2802	.175	.500
	400	P0084D	.190	.260	.375	1G4802	.195	.625
	600	P0086D	.125	.200	.625	1G6802	.195	.750
.009	200	P0092D	.135	.210	.375	1G2902	.175	.500
	400	P0094D	.200	.270	.375	1G4902	.195	.625
	600	P0096D	.135	.210	.625	1G6902	.195	.750
.01	200	P012D	.090	.160	.500	1G2103	.175	.625
	200	P012DS	.140	.215	.375	1G52103	.195	.500
	400	P014D	.140	.215	.500	1G4103	.195	.625
	600	P016D	.150	.230	.625	1G6103	.235	.750
.015	200	P0152D	.095	.170	.500	1G2153	.175	.625
	400	P0154D	.160	.235	.500	1G4153	.235	.625
	600	P0156D	.170	.250	.625	1G6153	.312	.875
.02	200	P022D	.110	.185	.500	1G2203	.175	.625
	400	P024D	.190	.265	.500	1G4203	.235	.625
	600	P026D	.200	.270	.625	1G6203	.312	.875

For hermetically sealed case grounded units subtract $\frac{1}{16}$ " from length.

These units are designed to meet or exceed the specifications of MIL-C-18312 when hermetically sealed.

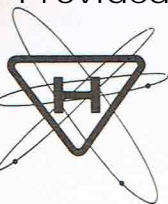
CAPACITORS

PART NUMBERS AND SIZES ARE FOR STANDARD UNITS WITH A CAPACITY TOLERANCE OF $\pm 20\%$

RATINGS		PHENOLIC COATED				HERMETICALLY SEALED CASE FLOATING		
CAP.	VOLTS	PART NO.	T \pm .050"	W \pm .050"	L \pm .050"	PART NO.	DIA.	LGTH.
.022	200	P0222D	.125	.190	.500	1G2223	.175	.625
	400	P0224D	.200	.270	.500	1G4223	.235	.625
	600	P0226D	.210	.290	.625	1G6223	.312	.875
.03	200	P032D	.135	.210	.500	1G2303	.195	.625
	400	P034D	.240	.315	.500	1G4303	.312	.625
	600	P036D	.245	.320	.625	1G6303	.312	.875
.033	200	P0332D	.140	.215	.500	1G2333	.195	.625
	400	P0334D	.245	.320	.500	1G4333	.312	.625
	600	P0336D	.250	.325	.625	1G6333	.312	.875
.04	200	P042D	.145	.220	.500	1G2403	.195	.625
	400	P044D	.265	.340	.500	1G4403	.312	.875
	600	P046D	.270	.345	.625	1G6403	.400	.875
.047	200	P0472D	.155	.230	.500	1G2473	.235	.625
	400	P0474D	.290	.365	.500	1G4473	.312	.875
	600	P0476D	.295	.370	.625	1G6473	.400	.875
.05	200	P052D	.120	.200	.625	1G2503	.195	.750
	200	P052DS	.160	.235	.500	1G52503	.235	.625
	400	P064D	.210	.290	.625	1G4503	.312	.875
	600	P056D	.275	.400	.625	1G6503	.400	.875
.06	200	P062D	.130	.210	.625	1G2603	.235	.750
	400	P064D	.225	.325	.625	1G4603	.312	.875
	600	P066D	.300	.415	.625	1G6603	.400	.875
.07	200	P072D	.150	.220	.625	1G2703	.235	.750
	400	P074D	.235	.350	.625	1G4703	.312	.875
	600	P076D	.320	.430	.625	1G6703	.400	1.125

For hermetically sealed case grounded units subtract $\frac{1}{16}$ " from length.

These units are designed to meet or exceed the specifications of MIL-C-18312 when hermetically sealed.



METALLIZED PAPER

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PART NUMBERS AND SIZES ARE FOR STANDARD UNITS WITH A CAPACITY TOLERANCE OF $\pm 20\%$

RATINGS		PHENOLIC COATED				HERMETICALLY SEALED CASE FLOATING		
CAP.	VOLTS	PART NO.	T $\pm.050''$	W $\pm.050''$	L $\pm 1/16$	PART NO.	DIA.	LGTH.
.08	200	P082D	.175	.225	$\frac{5}{8}$	1G2803	.235	.750
	400	P084D	.250	.375	$\frac{5}{8}$	1G4803	.400	.875
	600	P086D	.340	.450	$\frac{5}{8}$	1G6803	.400	1.125
.09	200	P092D	.175	.250	$\frac{5}{8}$	1G2903	.312	.875
	400	P094D	.290	.375	$\frac{5}{8}$	1G4903	.400	.875
	600	P069D	.350	.465	$\frac{5}{8}$	1G6903	.400	1.125
.10	200	P12D	.170	.260	$\frac{5}{8}$	1G2104	.312	.875
	400	P14D	.300	.350	$\frac{5}{8}$	1G4104	.400	.875
	600	P16D	.350	.475	$\frac{5}{8}$	1G6104	.400	1.125
.20	200	P22D	.215	.240	$\frac{5}{8}$	1G2204	.312	.875
	400	P24D	.325	.500	$\frac{5}{8}$	1G4204	.400	1.125
	600	P26D	.350	.450	$1\frac{1}{8}$	1G6204	.500	1.312
.22	200	P222D	.220	.290	$\frac{5}{8}$	1G2224	.400	.875
	400	P224D	.400	.500	$\frac{5}{8}$	1G4224	.500	1.125
	600	P226D	.375	.450	$1\frac{1}{8}$	1G6224	.562	1.375
.25	200	P252D	.240	.330	$\frac{5}{8}$	1G2254	.400	.875
	400	P254D	.275	.375	$1\frac{1}{8}$	1G4254	.500	1.312
	600	P256D	.375	.500	$1\frac{1}{8}$	1G6254	.562	1.375
.30	200	P32D	.260	.335	$\frac{5}{8}$	1G2304	.400	.875
	400	P34D	.350	.450	$1\frac{1}{8}$	1G4304	.500	1.312
	600	P36D	.350	.450	$1\frac{5}{8}$	1G6304	.562	1.812
.40	200	P42D	.275	.375	$\frac{5}{8}$	1G2404	.400	1.125
	400	P44D	.350	.500	$1\frac{1}{8}$	1G4404	.562	1.125
	600	P46D	.375	.475	$1\frac{5}{8}$	1G6404	.562	1.812

For hermetically sealed case grounded units subtract $1/16''$ from length.

These units are designed to meet or exceed the specifications of MIL-C-18312 when hermetically sealed.

CAPACITORS

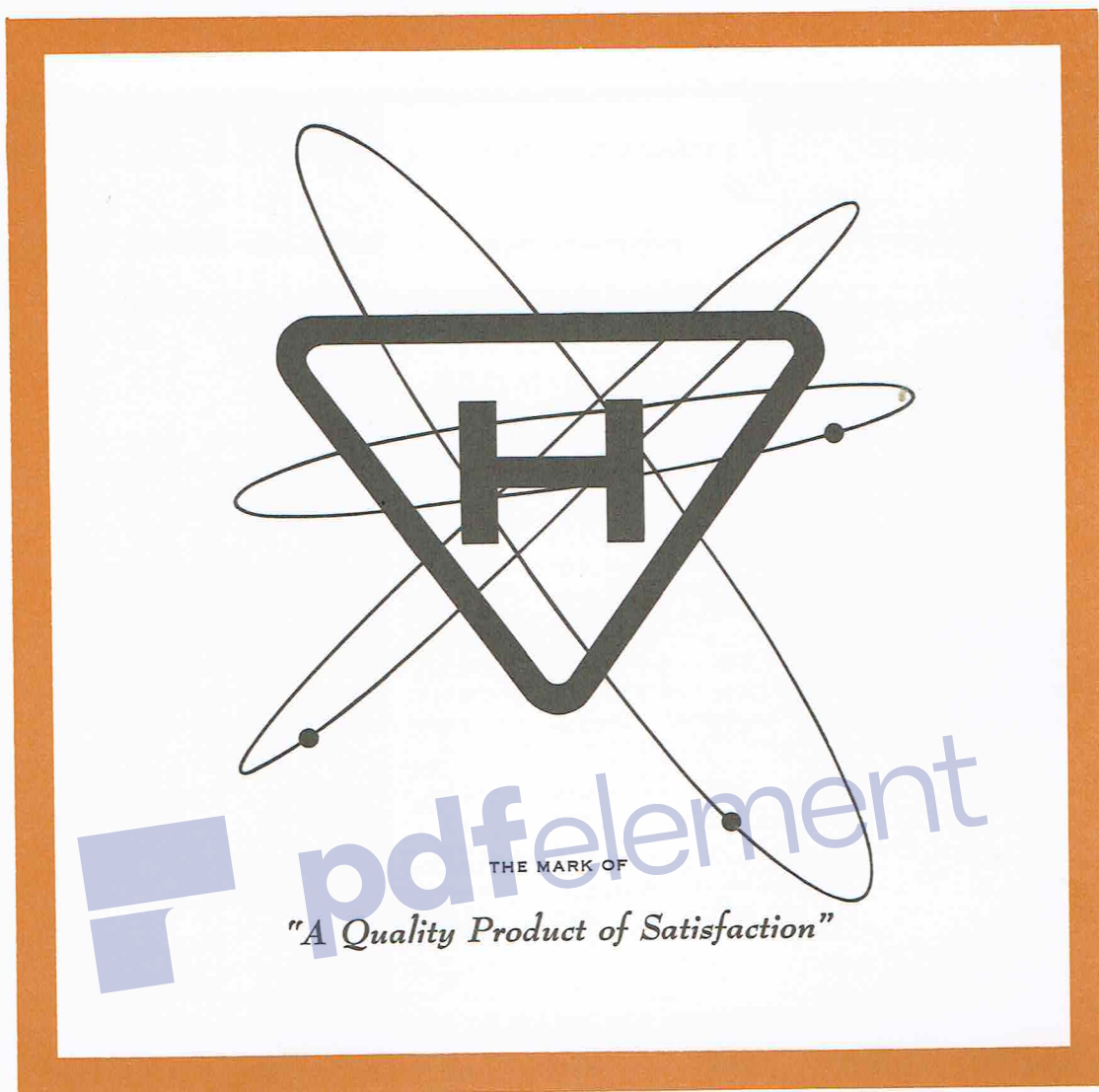
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PART NUMBERS AND SIZES ARE FOR STANDARD UNITS WITH A CAPACITY TOLERANCE OF $\pm 20\%$

RATINGS		PHENOLIC COATED				HERMETICALLY SEALED CASE FLOATING		
CAP.	VOLTS	PART NO.	T $\pm.050''$	W $\pm.050''$	L $\pm\frac{1}{16}$	PART NO.	DIA.	LGTH.
.50	200	P52D	.225	.325	1 $\frac{1}{8}$	1G2504	.400	1.125
	200	P52DS	.310	.430	$\frac{5}{8}$			
	400	P54D	.375	.525	1 $\frac{1}{8}$	1G4504	.562	1.375
	600	P56D	.400	.500	1 $\frac{3}{4}$	1G6504	.670	1.812
.75	200	P752D	.275	.375	1 $\frac{1}{8}$	1G2754	.400	1.375
	400	P754D	.375	.500	1 $\frac{5}{8}$	1G4754	.562	1.812
	600	P756D	.500	.650	1 $\frac{3}{4}$	1G6754	.750	1.875
1.00	200	1P2D	.300	.425	1 $\frac{1}{8}$	1G2105	.500	1.312
	400	1P4D	.420	.550	1 $\frac{5}{8}$	1G4105	.670	1.875
	600	1P6D	.625	.800	1 $\frac{3}{4}$	1G6105	.750	2.312
1.50	200	1P52D	.320	.440	1 $\frac{5}{8}$	1G2155	.562	1.375
	400	1P54D	.620	.720	1 $\frac{5}{8}$	1G4155	.750	1.875
	600	1P56D	.750	.850	1 $\frac{3}{4}$	1G6155	1.000	2.375
2.00	200	2P2D	.360	.475	1 $\frac{5}{8}$	1G2205	.562	1.875
	400	2P4D	.650	.800	1 $\frac{5}{8}$	1G4205	1.000	1.875
	600	2P6D	.950	1.050	1 $\frac{3}{4}$	1G6205	1.000	2.375
3.00	200	3P2D	.425	.610	1 $\frac{5}{8}$	1G2305	.670	1.875
	200	3P2DS	.580	.730	1 $\frac{1}{8}$			
	400	3P4D	.875	1.050	1 $\frac{5}{8}$	1G4305	1.000	1.875
	600	3P6D	1.050	1.275	1 $\frac{3}{4}$			
4.00	200	4P2D	.490	.680	1 $\frac{5}{8}$	1G2405	.670	1.875
	400	4P4D	.900	1.050	1 $\frac{5}{8}$	1G4405	1.000	2.375
	600	4P6D	1.300	1.600	1 $\frac{3}{4}$			
5.00	200	5P2D	.550	.700	1 $\frac{5}{8}$	1G2505	.750	1.875
	400	5P4D	1.100	1.350	1 $\frac{5}{8}$			
	600	5P6D	1.500	1.700	1 $\frac{3}{4}$			
8.00	200	8P2D	.725	.950	1 $\frac{5}{8}$	1G2805	1.000	1.875
	400	8P4D	1.100	1.750	1 $\frac{3}{4}$			
10.00	200	10P2D	.725	1.050	1 $\frac{5}{8}$	1G2106	1.000	2.375
20.00	200	20P2D	1.050	1.400	1 $\frac{5}{8}$			

For hermetically sealed case grounded units subtract $\frac{1}{16}''$ from length.

These units are designed to meet or exceed the specifications of MIL-C-18312 when hermetically sealed.



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