METAL-CASE METALIZED PAPER / POLYESTER FILM CAPACITORS

FEATURES

- Moderate cost
- Small size
- Extensive standard ratings
- Wire leads or tab terminals
- Approved to MIL-PRF-39022 / 01 / 02 / 08

MAJOR APPLICATIONS:
Bypass, coupling, and filtering.

PHYSICAL CHARACTERISTICS

CONSTRUCTION:
Non-inductive wound metalized paper / polyester.

CASE:
Hermetically sealed metal enclosure. Styles and dimensions are in Guide to Ordering 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 and 0.312	No. 22
0.400 and over	No. 20

LEAD PULL:
5 lbs (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:
0.001 µF to 12 µF

DC VOLTAGE RATING:
200 VDC to 1,000 VDC

AC VOLTAGE RATING:
See graphs of AC voltage vs frequency and AC voltage vs. temperature

CAPACITANCE TOLERANCE:
±20%, ±10%, ±5%

OPERATING TEMPERATURE:
-55°C TO +125°C

VOLTAGE DERATING:
At +125°C, 50% of +85°C rating

DISSIPATION FACTOR:
1.0% maximum

DC VOLTAGE TEST:
200% of rated voltage for 1 minute

INSULATION RESISTANCE:
Measurements made after a 2 minute charge at rated voltage or 500 VDC, whichever is less.

- At +25°C, 2,000 Megaohm-Microfarads, need not exceed 12,000 Megaohms
- At +125°C, 40 Megaohm-Microfarads, need not exceed 600 Megaohms

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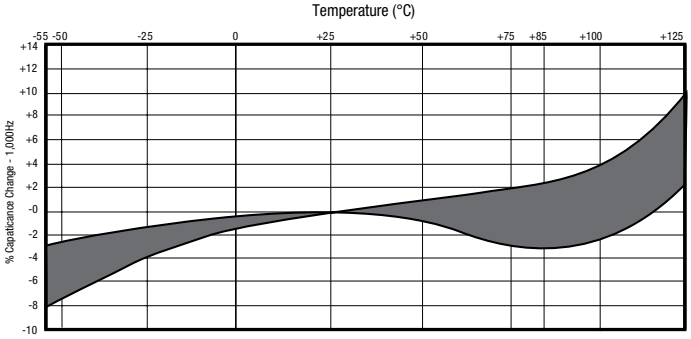
STANDARD RATINGS

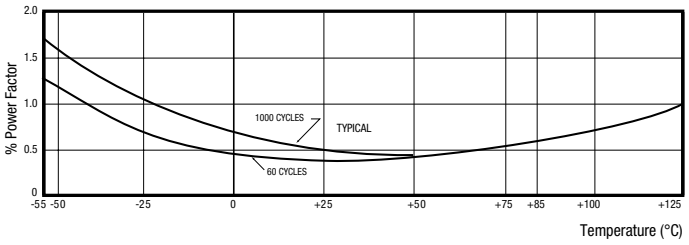
Capacitance		Voltage Code 200 200 VDC		Voltage Code 400 400 VDC		Voltage Code 600 600 VDC		Voltage Code 1K0 1,000 VDC	
µF	Code	D	L	D	L	D	L	D	L
0.0010	102	0.174	0.750	0.235	0.750	0.235	0.750	0.400	0.750
0.0015	153	0.174	0.750	0.235	0.750	0.235	0.750	0.400	0.750
0.0022	222	0.174	0.750	0.235	0.750	0.235	0.750	0.400	0.750
0.0033	332	0.174	0.750	0.235	0.750	0.235	0.750	0.400	0.750
0.0047	472	0.174	0.750	0.312	0.875	0.312	0.875	0.400	0.750
0.0068	682	0.174	0.750	0.312	0.875	0.312	0.875	0.400	0.750
0.010	103	0.174	0.750	0.312	0.875	0.312	0.875	0.400	0.875
0.015	153	0.193	0.750	0.312	0.875	0.312	0.875	0.400	0.875
0.022	223	0.235	0.750	0.312	0.875	0.312	1.125	0.400	1.125
0.033	333	0.235	0.750	0.312	1.125	0.312	1.125	0.400	1.125
0.047	473	0.312	0.875	0.400	1.125	0.400	1.125	0.500	1.125
0.068	683	0.312	0.875	0.400	1.125	0.400	1.125	0.500	1.125
0.10	104	0.312	0.875	0.500	1.125	0.500	1.125	0.562	1.125
0.15	154	0.312	1.125	0.500	1.125	0.562	1.125	0.562	1.125
0.22	224	0.400	0.875	0.562	1.375	0.562	1.375	0.670	1.625
0.33	334	0.400	1.125	0.562	1.625	0.562	1.625	0.670	1.875
0.47	474	0.500	1.125	0.670	1.625	0.670	1.625	0.750	1.875
0.68	684	0.500	1.125	0.670	1.875	0.670	1.875	1.000	1.875
1.00	105	0.562	1.125	0.750	1.875	1.000	1.875	1.000	2.125
1.50	155	0.562	1.625	1.000	1.875	1.000	1.875	1.000	2.625
2.00	205	0.670	1.625	1.000	1.875	1.000	2.125	-	-
3.00	305	0.670	1.875	1.000	2.625	-	-	-	-
4.00	405	0.750	1.875	-	-	-	-	-	-
5.00	505	1.000	1.875	-	-	-	-	-	-
6.00	605	1.000	1.875	-	-	-	-	-	-
8.00	805	1.000	1.875	-	-	-	-	-	-
10.00	106	1.000	2.375	-	-	-	-	-	-
12.00	126	1.000	2.625	-	-	-	-	-	-

Additional capacitance values, voltages and tolerances available upon request.

ELECTRICAL CHARACTERISTICS VS. TEMPERATURE



Capacitance Change Envelope for 95% Confidence Level



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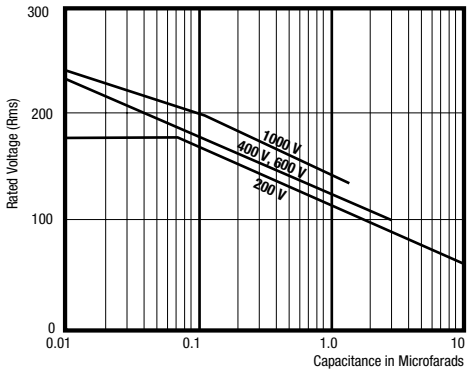
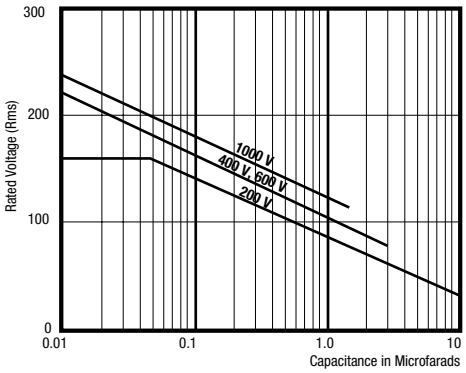
AC VOLTAGE RATINGS VS. TEMPERATURE

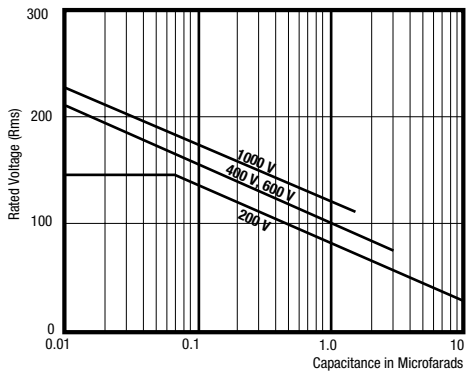
AC VOLTAGE RATINGS AT 400HZ AND 85°C AMBIENT



AC VOLTAGE RATINGS AT 400HZ AND 105°C AMBIENT

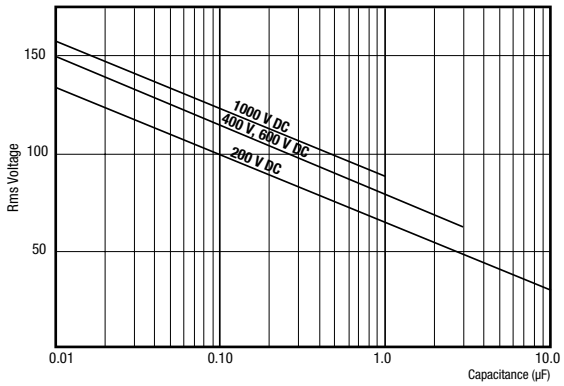


AC VOLTAGE RATINGS AT 400HZ AND 125°C AMBIENT

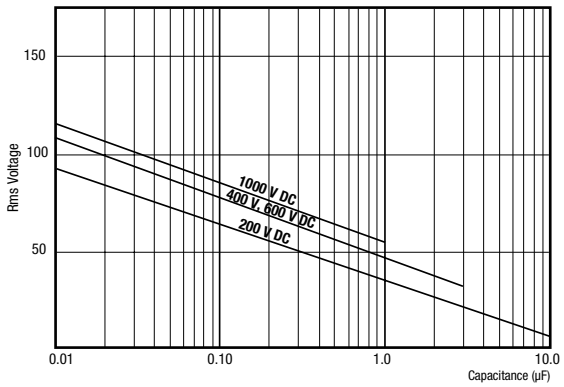


AC VOLTAGE RATINGS VS. FREQUENCY

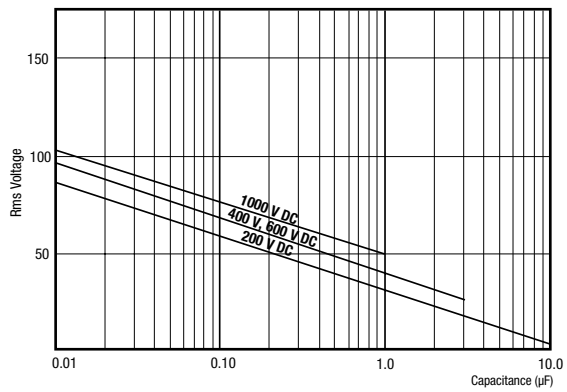
AC RATINGS AT 1,000HZ



AC RATINGS AT 2,000HZ

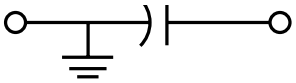


AC RATINGS AT 2,500HZ



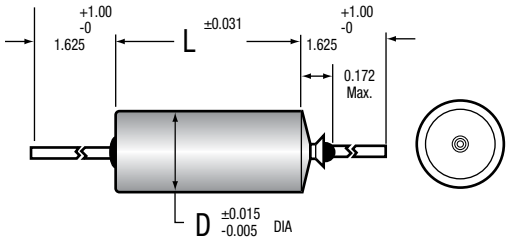
GUIDE TO ORDERING

SECTION GROUNDED TO CASE

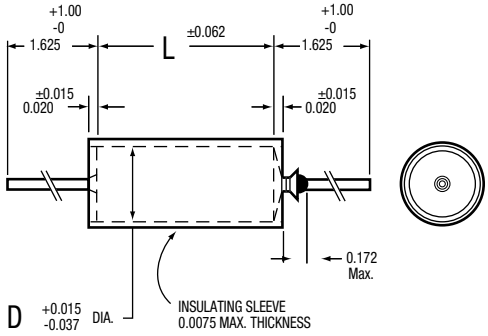


DIMENSIONS (in inches)

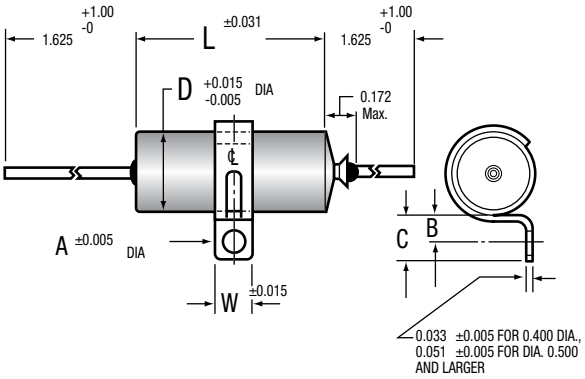
CASE STYLE 01



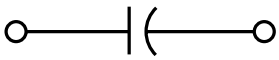
CASE STYLE 03



CASE STYLE 12

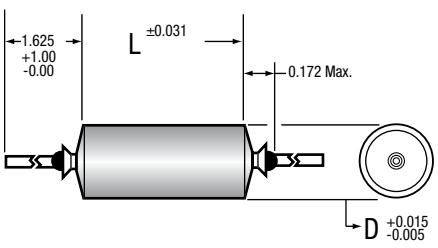


SECTION INSULATED FROM CASE

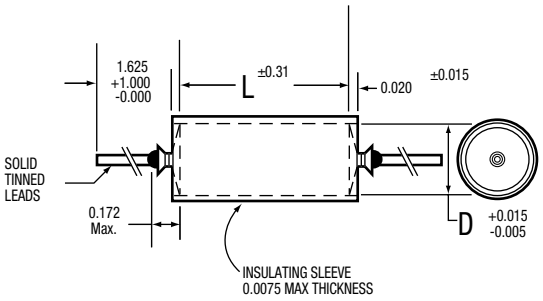


DIMENSIONS (in inches)

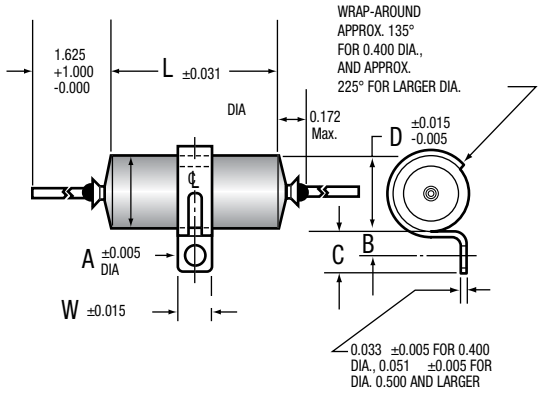
CASE STYLE 02



CASE STYLE 04



CASE STYLE 13



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

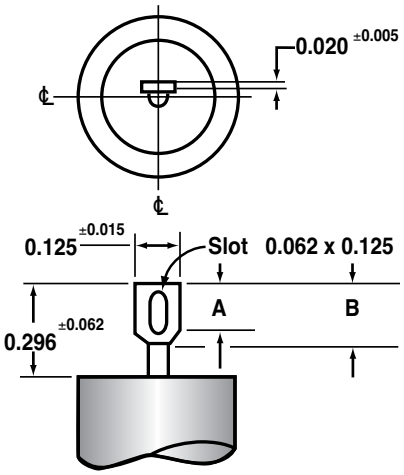
GUIDE TO ORDERING

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.