

# WRAP-AND-FILL METALIZED POLYESTER FILM CAPACITORS



## FEATURES

- Smallest polyester capacitor available
- Wide temperature range
- Rated for DC and AC operation
- Capacitance values to 10  $\mu\text{F}$

### MAJOR APPLICATIONS:

Blocking, filtering, bypass, timing, coupling decoupling, pulse operations, power supplies.

## PHYSICAL CHARACTERISTICS

### CONSTRUCTION:

Non-inductive wound metalized polyester.

**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)
$\geq$ 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:** 0.01  $\mu\text{F}$  to 10.0  $\mu\text{F}$

### VOLTAGE RATING:

- 63 VDC to 400 VDC
- 40 VAC to 200 VAC

**CAPACITANCE TOLERANCE:**  $\pm 10\%$ ,  $\pm 5\%$ ,  $\pm 2\%$

**OPERATING TEMPERATURE:**  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$

**VOLTAGE DERATING:** At  $+125^{\circ}\text{C}$ , 50% of the  $85^{\circ}\text{C}$  rating

**DISSIPATION FACTOR:** 0.9% maximum

**DC VOLTAGE TEST:** 200% of rated voltage for 2 minutes

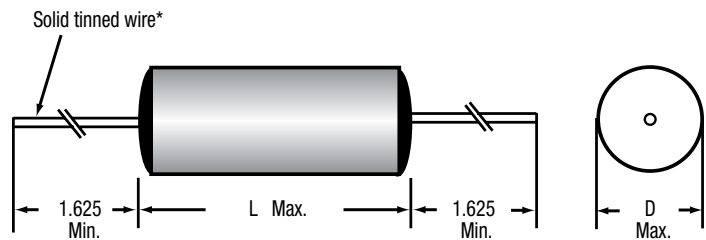
### INSULATION RESISTANCE:

- At  $+25^{\circ}\text{C}$ , 25,000 Megaohm-Microfarads, need not exceed 50,000 Megaohms
- At  $+85^{\circ}\text{C}$ , 1,000 Megaohm-Microfarads, need not exceed 2,500 Megaohms

## MAXIMUM PULSE RISE TIME

Capacitor Length (inch)	Rise Time $dv / dt$ (V / $\mu\text{s}$ )			
	63 VDC	100 VDC	250 VDC	400 VDC
0.450	20	40	80	-
0.580	15	20	40	80
0.700	10	15	-	50
0.830	8	10	20	40
1.00	6	8	15	30
1.20	-	6	10	20
1.50	-	-	-	15
1.70	-	-	8	-
1.95	-	-	8	10

## DIMENSIONS (in inches)



\*Leads to be within  $\pm 0.062"$  (1.57 mm) of the center line at egress, but not less than 0.031" for the edge.

# WRAP-AND-FILL METALIZED POLYESTER FILM CAPACITORS

TYPE 442P

## STANDARD RATINGS

Capacitance		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*	
µF	Code	D	L	D	L	D	L	D	L
0.010	103	-	-	-	-	0.200	0.450	0.200	0.580
0.015	153	-	-	-	-	0.200	0.450	0.200	0.580
0.022	223	-	-	-	-	0.200	0.450	0.230	0.580
0.033	333	-	-	-	-	0.200	0.450	0.270	0.580
0.047	473	-	-	-	-	0.230	0.450	0.300	0.580
0.068	683	-	-	0.200	0.450	0.230	0.580	0.290	0.700
0.10	104	-	-	0.200	0.450	0.270	0.580	0.330	0.700
0.15	154	-	-	0.210	0.450	0.310	0.580	0.340	0.830
0.22	224	0.200	0.450	0.240	0.450	0.340	0.580	0.400	0.830
0.33	334	0.230	0.450	0.230	0.580	0.340	0.830	0.430	1.00
0.47	474	0.260	0.450	0.260	0.580	0.390	0.830	0.440	1.20
0.68	684	0.240	0.580	0.290	0.580	0.370	1.00	0.510	1.20
1.00	105	0.280	0.580	0.350	0.580	0.430	1.00	0.600	1.20
1.50	155	0.320	0.580	0.360	0.700	0.510	1.00	0.640	1.50
2.20	225	0.380	0.580	0.380	0.830	0.530	1.20	0.650	1.95
3.30	335	0.380	0.700	0.460	0.830	0.630	1.20	0.780	1.95
5.00	505	0.460	0.700	0.510	1.00	0.740	1.20	0.910	1.95
6.00	605	0.500	0.830	0.440	1.20	0.640	1.70	-	-
8.00	805	0.510	1.00	0.500	1.20	0.690	1.95	-	-
10.00	106	0.560	1.00	0.620	1.20	0.860	1.95	-	-

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

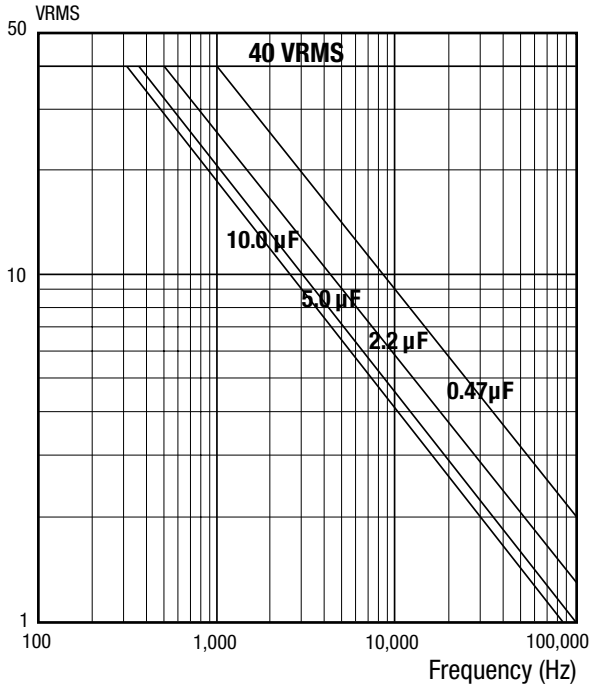
\* AC voltage rating is at 60Hz 1.4 x VRMS + VDC should not exceed the rated VDC.

\* Graphs of AC voltage vs. frequency follow.

# WRAP-AND-FILL METALIZED POLYESTER FILM CAPACITORS

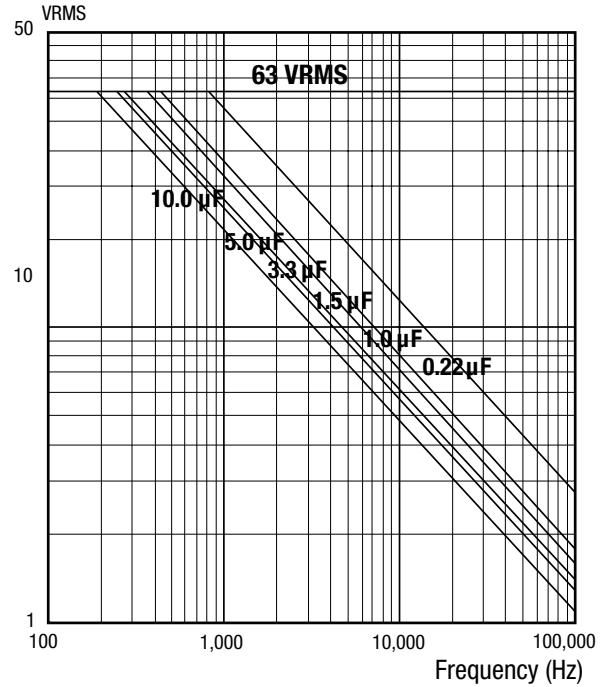
VOLTAGE VS. FREQUENCY TYPE 442P

63 VDC / 40 VAC



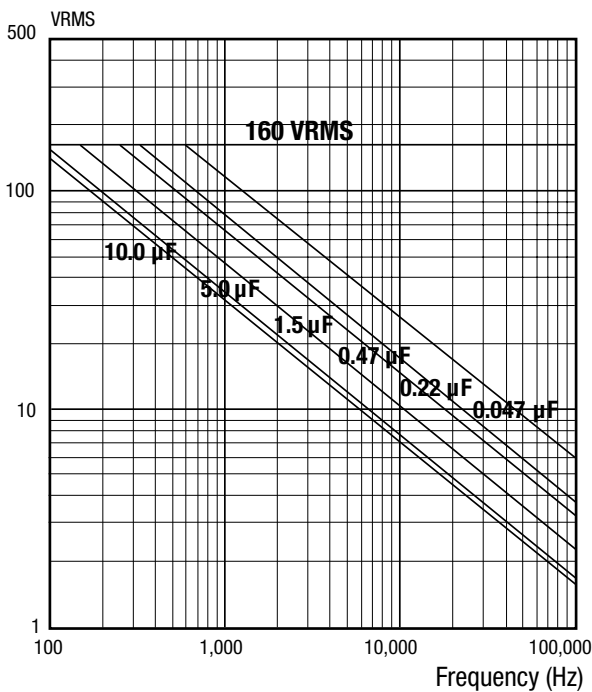
VOLTAGE VS. FREQUENCY TYPE 442P

100 VDC / 63 VAC



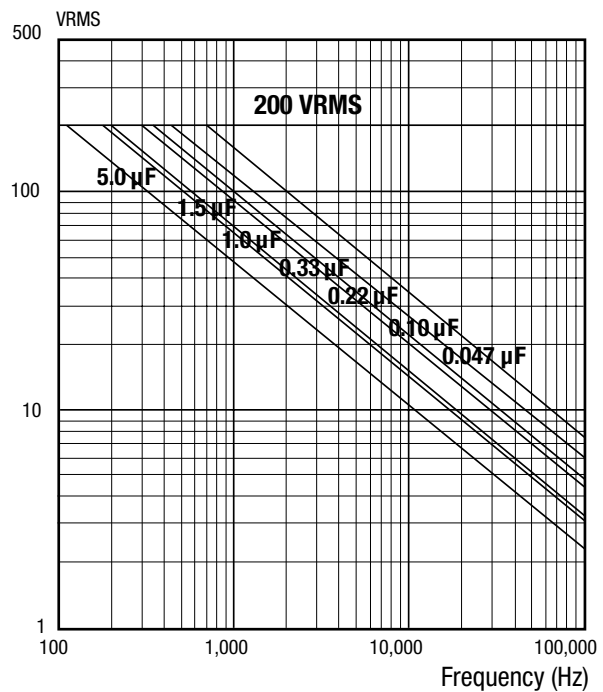
VOLTAGE VS. FREQUENCY TYPE 442P

250 VDC / 160 VAC



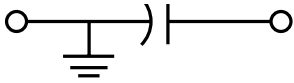
VOLTAGE VS. FREQUENCY TYPE 442P

400 VDC / 200 VAC



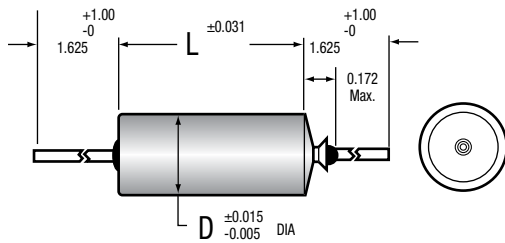
# GUIDE TO ORDERING

## SECTION GROUNDED TO CASE

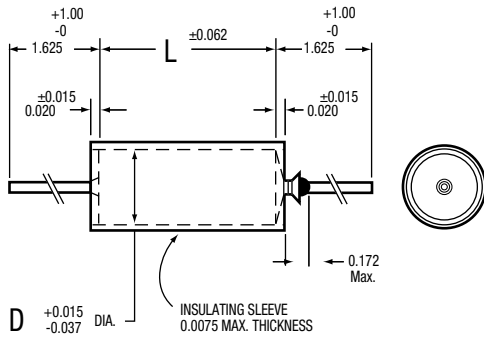


DIMENSIONS (in inches)

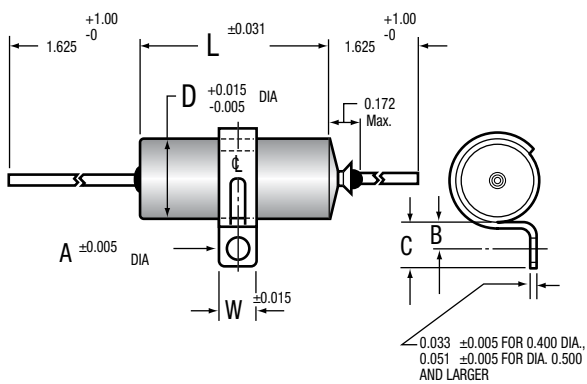
### CASE STYLE 01



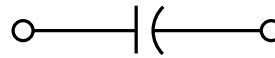
### CASE STYLE 03



### CASE STYLE 12

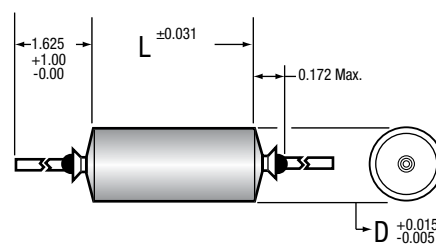


## SECTION INSULATED FROM CASE

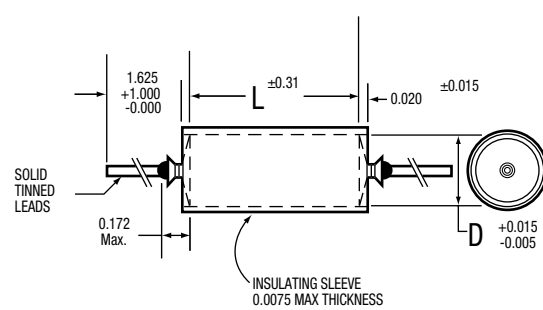


DIMENSIONS (in inches)

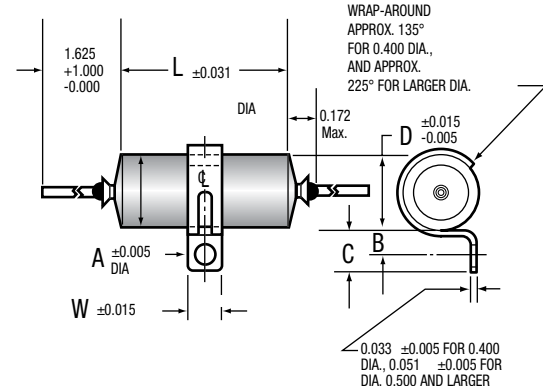
### CASE STYLE 02



### CASE STYLE 04



### CASE STYLE 13



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

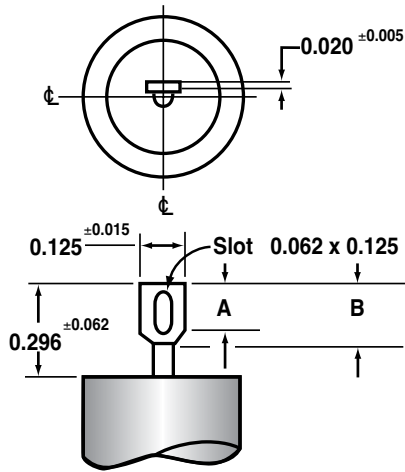
# GUIDE TO ORDERING

## 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.

## 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 =  $\pm 20\%$   
X9 =  $\pm 10\%$   
X5 =  $\pm 5\%$   
X2 =  $\pm 2\%$

**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 than 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 =  $\pm 20\%$   
X9 =  $\pm 10\%$   
X5 =  $\pm 5\%$   
X2 =  $\pm 2\%$

**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.