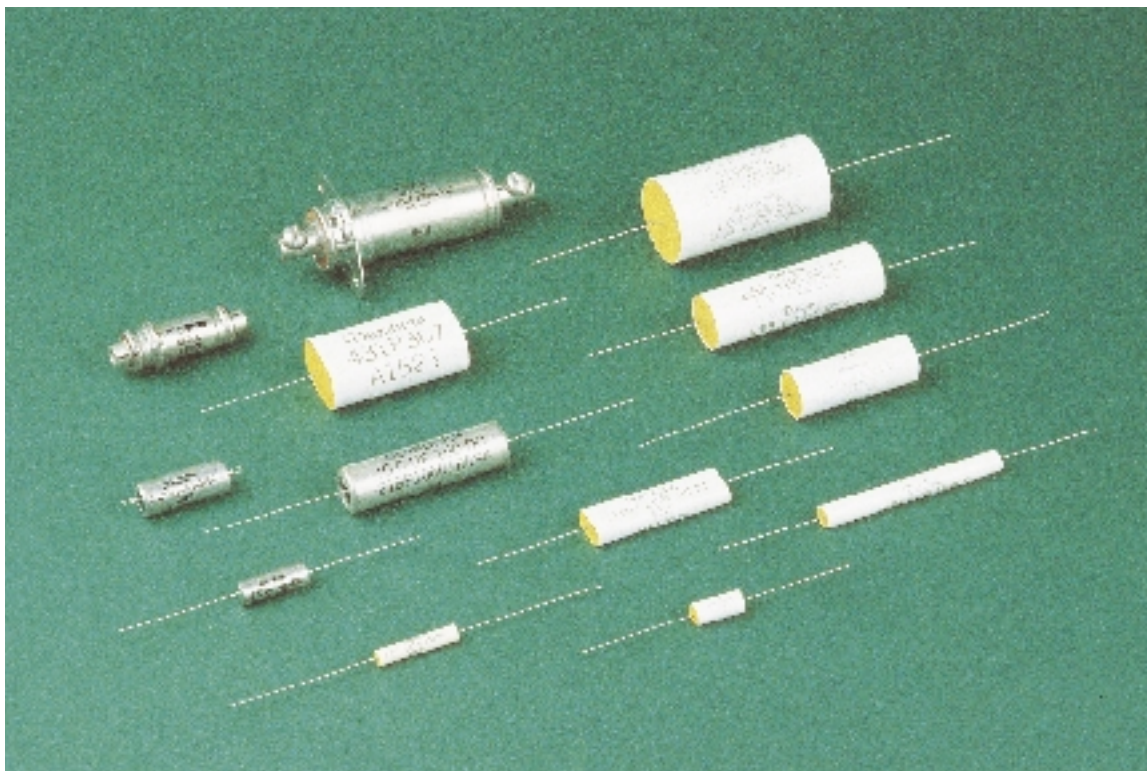


POLYESTER FILM CAPACITORS



Metalized Polyester Film Capacitors Typical Characteristics	B-3
Type 218P	B-4
Type 430P	B-7
Type 431P	B-11
Type 442P	B-14
Polyester Film/Foil Capacitors Typical Characteristics	B-17
Type 409P	B-18
Type 410P	B-20

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. ΔC of $\pm 10\%$
- Min. IR = 50% of initial limit
- Max. DF = 2.0%

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. ΔC of $\pm 10\%$
- Min. IR = 20% of initial limit
- Max. DF = 2.0%

DC Life:

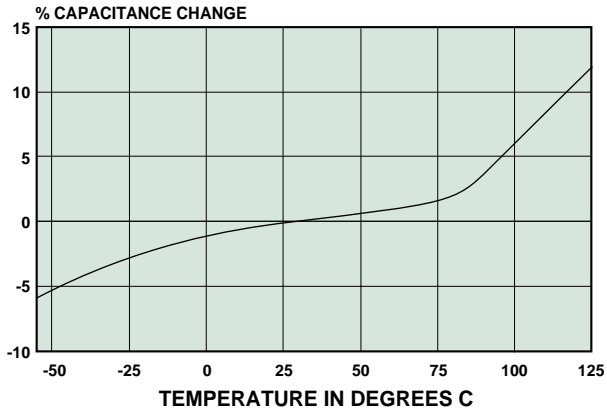
125% of rated voltage at 85°C (125°C for 218P) for 250 hours except for 430P units rated at 1000 VDC or greater which shall be tested at 100% of rated voltage at 40°C for 1000 hours.

As a result of the test there shall be:

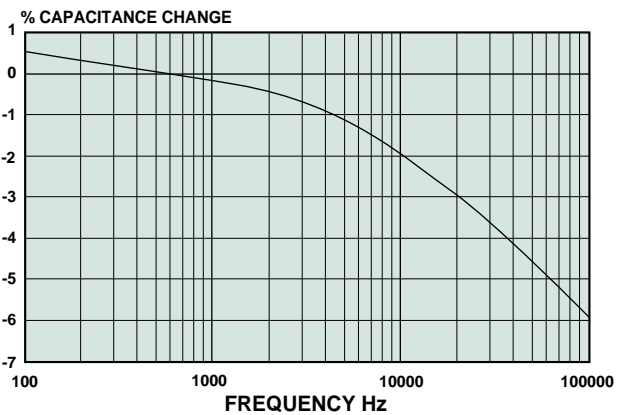
- No permanent open or short circuit
- No visible damage
- Max. ΔC of $\pm 10\%$
- Min. IR = 50% of initial limit
- Max. DF = 2.0%

TYPICAL CHARACTERISTICS — METALIZED POLYESTER TYPES

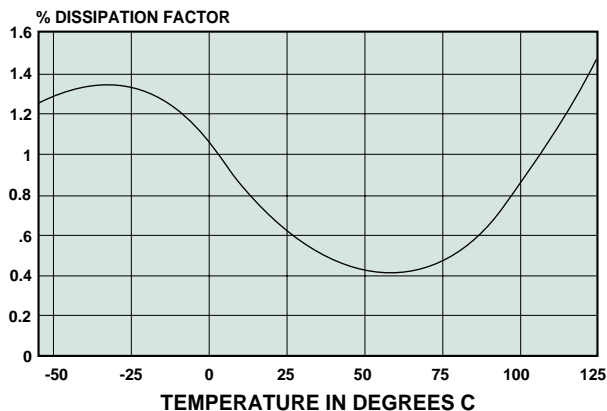
**CAPACITANCE CHANGE VS TEMPERATURE
METALIZED POLYESTER**



**CAPACITANCE CHANGE VS FREQUENCY
METALIZED POLYESTER**

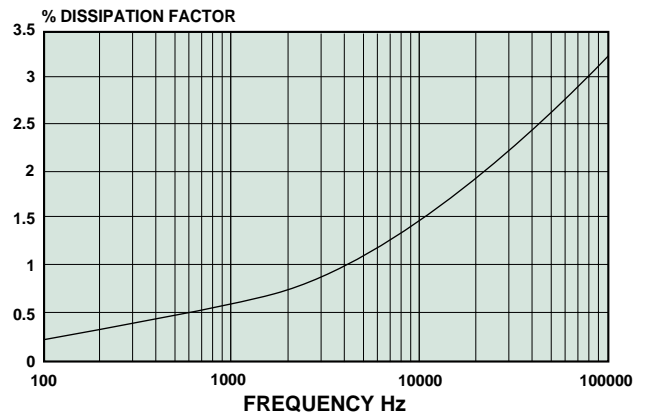


**DISSIPATION FACTOR VS TEMPERATURE
METALIZED POLYESTER**

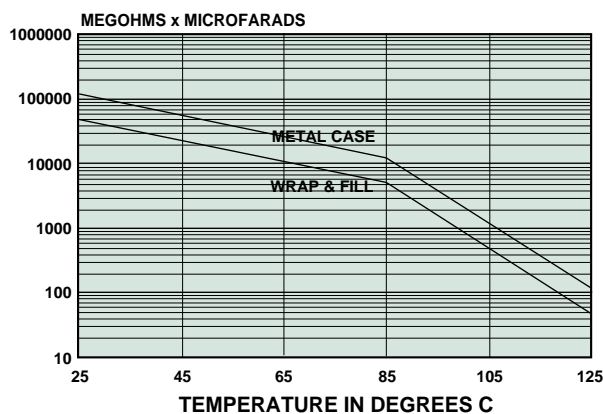


MEASURED AT 1KHz

**DISSIPATION FACTOR VS FREQUENCY
METALIZED POLYESTER**



**INSULATION RESISTANCE VS TEMPERATURE
METALIZED POLYESTER**

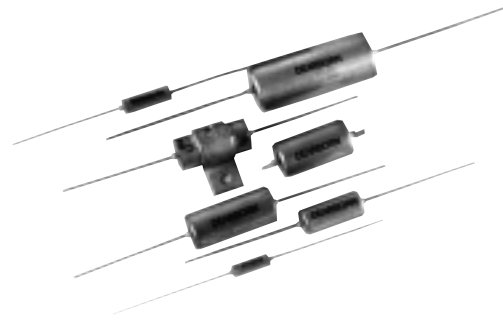


TYPICAL

ELECTRICAL CHARACTERISTICS AS A FUNCTION OF TEMPERATURE AND FREQUENCY

**Metal Case
Hermetically-Sealed
Metalized
Polyester-Film Capacitors**

TYPE 218P



Features —

- Small Size
- Extensive Standard Ratings
- Wire Leads or Tab Terminals
- Approved to Mil-C-39022

Major Applications:

Military and Industrial Applications where light weight and small size are combined with maximum protection against severe environments

PHYSICAL CHARACTERISTICS —

Construction:

Non-inductive wound metalized polyester

Case:

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

Lead Wire Sizes:

Leads are solder coated solid wire

Can Dia.	Lead AWG
.175 and .195	No. 24
.235 and .312	No. 22
.400 and over	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 —

Operating Temperature:

-55°C to +125°C

Capacitance Range:

0.001µf to 12.0µf

Voltage Range:

100 VDC to 400 VDC
63 VRMS to 200 VRMS

Capacitance Tolerance:

±20%, ±10%, ±5%

Voltage Derating:

No derating for DC operation
For AC operation derate to 70% of the 85°C rating for operation up to 105°C

Dissipation Factor:

.8% maximum ≤ 1.0µf
1.0% maximum > 1.0µf

Voltage Test:

200% of rated voltage for 2 minutes

Insulation Resistance:

At +25°C, 50,000 Megohm-Microfarads, need not exceed 100,000 Megohms
At +85°C, 3,000 Megohm-Microfarads, need not exceed 6,000 Megohms
At +105°C, 250 Megohm-Microfarads, need not exceed 500 Megohms
At +125°C, 10 Megohm-Microfarads, need not exceed 100 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	100VDC/63VAC	150VDC/95VAC	200VDC/125VAC	400VDC/200VAC
.750	57	78	135	225
.875	36	48	51	185
1.125	18	27	31	75
1.375	13	20	24	-
1.625	10	15	19	48
1.875	9	14	15	30
2.125	-	10	-	25
2.375	6	9	12	-
2.625	-	7	10	21

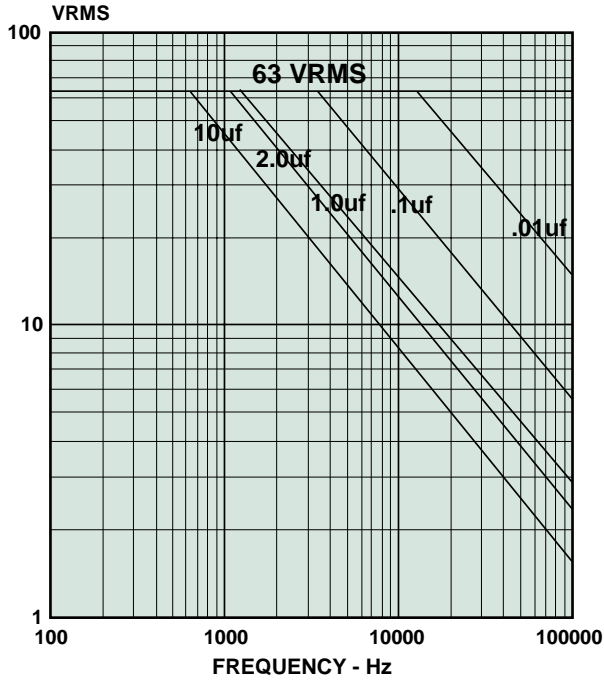
STANDARD RATINGS

Capacitance MFD	Capacitance code	Voltage code 100 100VDC/63VAC*		Voltage code 150 150VDC/95VAC*		Voltage code 200 200VDC/125VAC*		Voltage code 400 400VDC/200VAC*	
		D	L	D	L	D	L	D	L
.001	102					.175	.750		
.0015	152					.175	.750		
.0022	222					.175	.750		
.0033	332					.175	.750		
.0047	472					.175	.750	.235	.750
.0068	682					.175	.750	.235	.750
.01	103	.175	.750	.175	.750	.175	.750	.235	.750
.015	153	.175	.750	.175	.750	.175	.750	.312	.875
.022	223	.175	.750	.195	.750	.195	.750	.312	.875
.033	333	.175	.750	.195	.750	.235	.750	.312	.875
.047	473	.195	.750	.235	.750	.235	.750	.400	.875
.068	683	.235	.750	.235	.750	.312	.875	.400	1.125
.1	104	.235	.750	.312	.875	.312	.875	.400	1.125
.15	154	.312	.875	.312	.875	.312	.875	.500	1.125
.22	224	.312	.875	.312	.875	.400	.875	.562	1.125
.33	334	.312	.875	.312	1.125	.400	1.125	.562	1.625
.47	474	.312	1.125	.400	1.125	.400	1.375	.562	1.875
.68	684	.400	1.125	.400	1.125	.500	1.125	.670	1.875
1.00	105	.400	1.125	.500	1.125	.562	1.375	.750	2.125
1.50	155	.500	1.125	.562	1.125	.562	1.625	.750	2.625
2.00	205	.562	1.125	.562	1.375	.562	1.875	1.000	2.125
2.50	255	.562	1.375	.562	1.625	.670	1.625	1.000	2.625
3.00	305	.562	1.375	.670	1.375	.670	1.875		
4.00	405	.562	1.625	.670	1.625	.750	1.875		
5.00	505	.562	1.875	.670	1.875	.750	2.375		
6.00	605	.670	1.625	.750	1.875	.750	2.625		
7.00	705	.670	1.875	.750	2.125	1.000	1.875		
10.00	106	.750	1.875	.750	2.625	1.000	2.375		
12.00	126	.750	2.375	1.000	1.875	1.000	2.625		

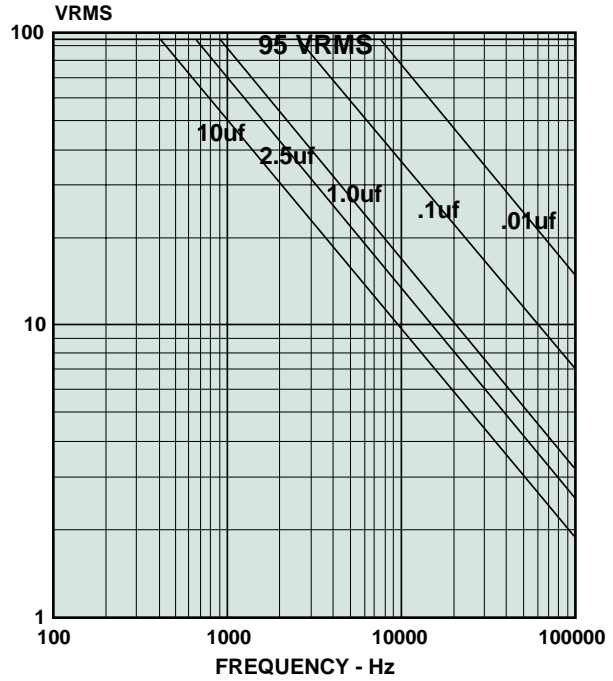
Additional capacitance values, voltages, and tolerances are available upon request
 The dimensions shown are for style 02. The dimensions for other styles are included in the general section

* AC voltage rating is at 60Hz. 1.4 x VRMS + VDC should not exceed the rated VDC
 * Graphs of AC voltage vs frequency follow

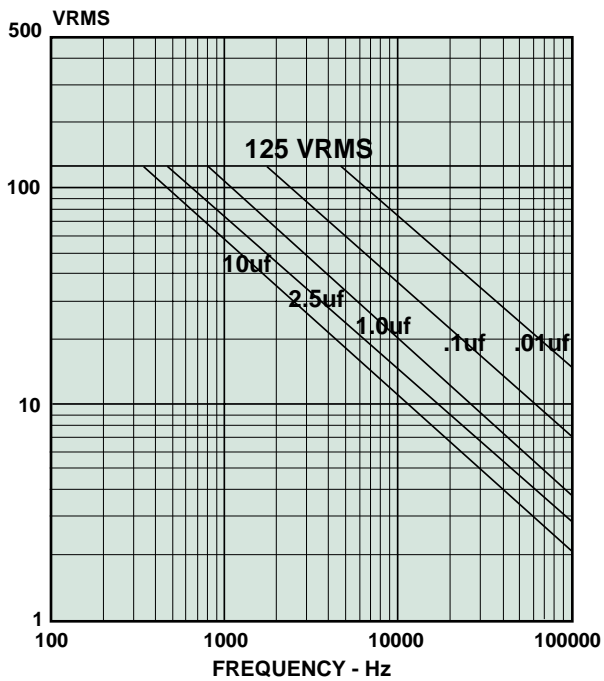
**VOLTAGE vs FREQUENCY TYPE 218P
100VDC\63VAC**



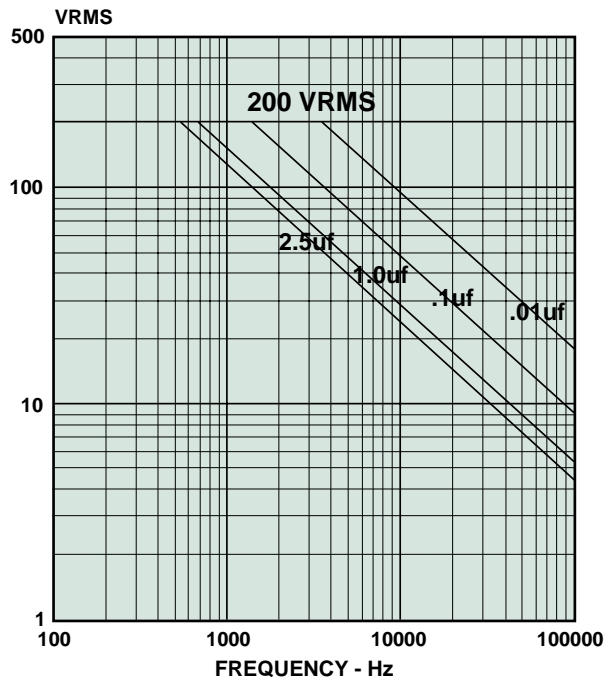
**VOLTAGE vs FREQUENCY TYPE 218P
150VDC\95VAC**



**VOLTAGE vs FREQUENCY TYPE 218P
200VDC\125VAC**



**VOLTAGE vs FREQUENCY TYPE 218P
400VDC\200VAC**



**Wrap-and-Fill
Metalized
Polyester Film Capacitors**

Features —

- 63 VDC-16,000 VDC
- Extensive Standard Ratings
- Rugged Construction
- Small Size

Major Applications:

Blocking, filtering, bypass, timing, coupling
decoupling, pulse operations, power supply, low to
high voltage, copiers, etc.

PHYSICAL CHARACTERISTICS —

Construction:

Non-inductive wound metalized polyester

Case:

Flame retardant tape wrap and epoxy end fill

Lead Material:

Solder coated solid wire

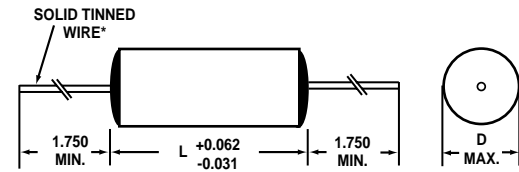
Lead Strength:

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)

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

ELECTRICAL SPECIFICATIONS —

Capacitance Range:

.001µf to 10.0µf

Voltage Range:

63 VDC to 16000 VDC
40 VAC to 220 VAC

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:

.8% maximum ≤ 1.0µf
1.0% maximum > 1.0µf

Voltage Test:

200% of rated voltage for 2 minutes. 1kv and greater voltage
limited to 120% of rated voltage for 5 min. thru 50,000 ohms
minimum

Insulation Resistance:

At + 25°C, 25,000 Megohm-Microfarads,
need not exceed 50,000 Megohms
At +85°C, 1,000 Megohm-Microfarads need not exceed 2,500
Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)											
	63VDC	100 VDC	250VDC	400VDC	600VDC	1000VDC	2000VDC	4000VDC	6000VDC	8000VDC	10000VDC	16000VDC
.625	46	51	75	100	250	-	-	-	-	-	-	-
.750	28	34	48	75	130	-	-	-	-	-	-	-
1.000	16	19	27	45	75	89	170	-	-	-	-	-
1.125	-	-	-	-	-	-	-	1200	-	-	-	-
1.250	12	13	19	30	45	-	-	-	-	-	-	-
1.500	9	10	15	21	35	-	-	-	2750	-	-	-
1.750	-	9	12	19	25	30	50	450	-	-	-	-
1.875	-	-	-	-	-	-	-	-	-	5000	-	-
2.250	-	-	-	-	-	-	-	-	-	-	7500	-
2.500	-	-	-	-	-	-	-	-	1000	-	-	-
3.062	-	-	-	-	-	-	-	-	-	-	-	12000
3.187	-	-	-	-	-	-	-	-	-	1900	-	-

STANDARD RATINGS

Capacitance MFD	Capacitance code	Voltage code 063 63VDC/ 40VAC*		Voltage code 100 100VDC/ 63VAC*		Voltage code 250 250 VDC/ 160 VAC*		Voltage code 400 400 VDC/ 200 VAC*		Voltage code 630 630 VDC/ 220 VAC*	
		D	L	D	L	D	L	D	L	D	L
0.0047	472	-	-	-	-	-	-	-	-	.187	.625
0.0068	682	-	-	-	-	-	-	-	-	.209	.625
0.01	103	-	-	-	-	-	-	-	-	.239	.625
0.015	153	-	-	-	-	-	-	.186	.625	.224	.750
0.022	223	-	-	-	-	-	-	.210	.625	.257	.750
0.033	333	-	-	-	-	-	-	.241	.625	.300	.750
0.047	473	-	-	-	-	.200	.625	.275	.625	.269	1.000
0.068	683	-	-	-	-	.225	.625	.266	.750	.311	1.000
0.1	104	-	-	.204	.625	.221	.750	.310	.750	.365	1.000
0.15	154	.210	.625	.233	.625	.254	.750	.293	1.000	.368	1.250
0.22	224	.240	.625	.228	.750	.295	.750	.342	1.000	.385	1.500
0.33	334	.279	.625	.264	.750	.279	1.000	.350	1.250	.428	1.750
0.47	474	.269	.750	.246	1.000	.321	1.000	.364	1.500	.497	1.750
0.68	684	.311	.750	.283	1.000	.375	1.000	.402	1.750	.585	1.750
1.0	105	.291	1.000	.286	1.250	.380	1.250	.472	1.750		
1.5	155	.344	1.000	.351	1.250	.454	1.250	.563	1.750		
2.0	205	.400	1.000	.393	1.250	.469	1.500	.640	1.750		
2.5	255	.438	1.000	.430	1.250	.516	1.500	-	-		
3.0	305	.398	1.250	.464	1.250	.559	1.500	-	-		
4.0	405	.434	1.500	.494	1.500	.580	1.750	-	-		
5.0	505	.476	1.500	.544	1.500	.641	1.750	-	-		
6.0	605	.515	1.500	.591	1.500	-	-	-	-		
7.0	705	.551	1.500	.633	1.500	-	-	-	-		
10.0	106	.647	1.500	.678	1.750	-	-	-	-		

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

STANDARD RATINGS (Con't.)

Capacitance MFD	Capacitance code	Voltage code 1K0 1000 VDC		Voltage code 2K0 2000 VDC		Voltage code 4K0 4000 VDC		Voltage code 6K0 6000 VDC	
		D	L	D	L	D	L	D	L
.001	102					.301	1.12	.304	1.500
.0015	152					.301	1.125	.304	1.500
.0022	222					.301	1.125	.333	1.500
.0033	332					.326	1.125	.381	1.500
.0047	472					.326	1.125	.381	1.500
.0068	682					.376	1.125	.445	1.500
.01	103					.440	1.125	.531	1.500
.015	153			.309	1.000	.531	1.125	.632	1.500
.022	223			.358	1.000	.407	1.750	.749	1.500
.033	333			.421	1.000	.490	1.750	.581	2.500
.047	473	.302	1.000	.497	1.000	.568	1.750	.678	2.500
.068	683	.347	1.000	.581	1.000	.667	1.750	.800	2.500
.1	104	.405	1.000	.413	1.750	.793	1.750	1.009	2.500
.15	154	.489	1.000	.498	1.750	.956	1.750		
.22	224	.574	1.000	.585	1.750	1.143	1.750		
.33	334	.457	1.750	.699	1.750				
.47	474	.528	1.750						
.68	684	.618	1.750						
1.0	105	.733	1.750						

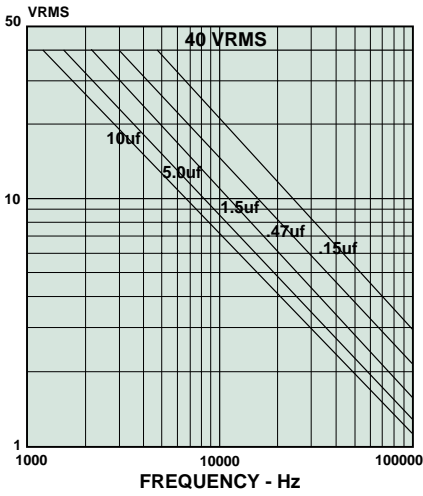
Additional Capacitance values, voltages, and tolerances are available upon request

STANDARD RATINGS (Con't.)

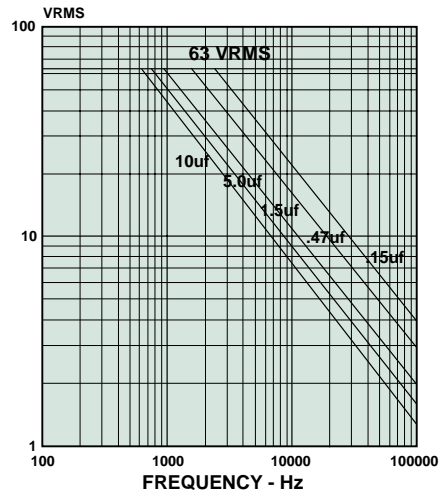
Capacitance	Capacitance code	Voltage code 8K0 8000 VDC		Voltage code 10K0 10000 VDC		Voltage code 16K0 16000 VDC	
		D	L	D	L	D	L
.001	102	.294	1.875	.337	2.250	.387	3.062
.0015	152	.342	1.875	.360	2.250	.451	3.062
.0022	222	.371	1.875	.360	2.250	.528	3.062
.0033	332	.371	1.875	.417	2.250	.628	3.062
.0047	472	.429	1.875	.480	2.250	.734	3.062
.0068	682	.510	1.875	.560	2.250	.868	3.062
.01	103	.600	1.875	.662	2.250	1.040	3.062
.015	153	.717	1.875	.793	2.250	1.353	3.062
.022	223	.853	1.875	.946	2.250		
.033	333	1.030	1.875				
.047	473	.771	3.187				
.068	683	.913	3.187				

Additional Capacitance values, voltages, and tolerances are available upon request

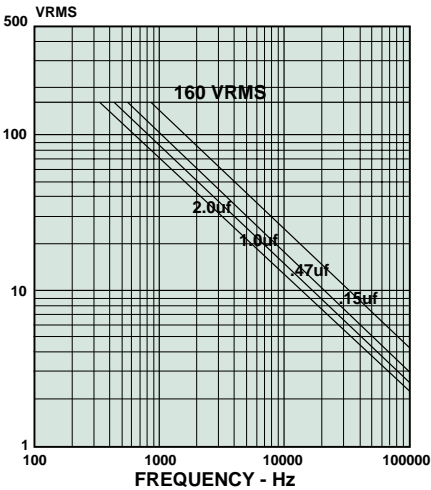
**VOLTAGE vs FREQUENCY TYPE 430P
63VDC\40VAC**



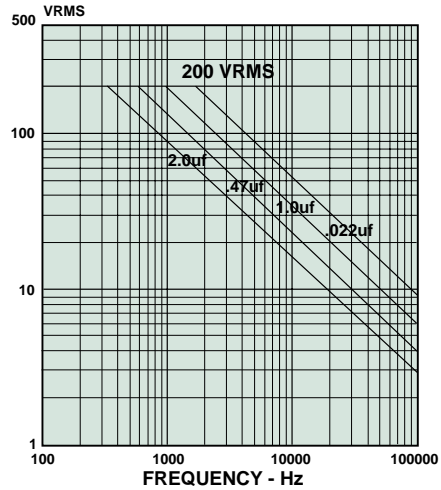
**VOLTAGE vs FREQUENCY TYPE 430P
100VDC\63VAC**



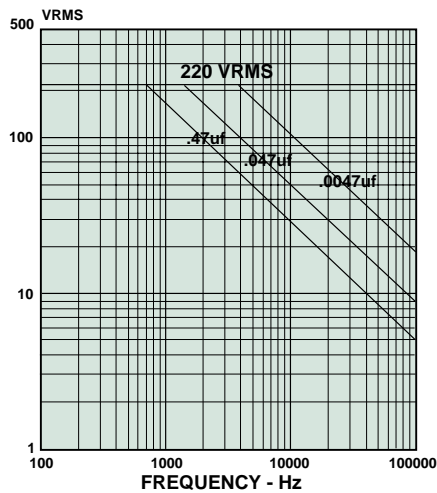
**VOLTAGE vs FREQUENCY TYPE 430P
250VDC\160VAC**



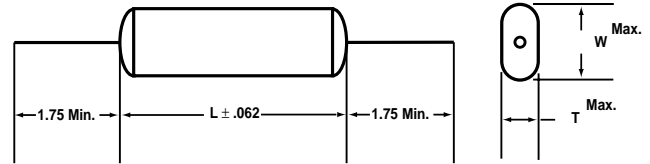
**VOLTAGE vs FREQUENCY TYPE 430P
400VDC\200VAC**



**VOLTAGE vs FREQUENCY TYPE 430P
630VDC\220VAC**



**Wrap-and-Fill
Oval Configuration
Metalized Polyester
Film Capacitors**



Leads are bare, solder coated solid wire. Lead wire sizes are:
Case size **Lead AWG**
 T Max < 0.240 No. 22
 T Max > 0.240 No. 20

Features —

- Economical
- Small Size
- Rugged Construction
- Space Saving Oval Configuration

Major Applications:

**Blocking, filtering, bypass, timing, coupling
decoupling, pulse operations, power supply, etc.**

PHYSICAL CHARACTERISTICS —

Construction:

Non-inductive wound metalized polyester

Case:

Flame retardant tape wrap and epoxy end fill

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:

0.01 µf to 15.0 µf

Voltage Rating:

63 VDC to 630 VDC
40 VRMS to 220 VRMS

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:

.8% maximum ≤ 1.0µf
1.0% maximum > 1.0µf

DC Voltage Test:

200% of rated voltage for 2 minutes

Insulation Resistance:

At +25°C, 25,000 Megohm-Microfarads,
need not exceed 50,000 Megohms

At + 85°C, 1,000 Megohm-Microfarads,
need not exceed 2,500 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)				
	63VDC/40VAC	100VDC/63VAC	250VDC/160VAC	400VDC/200VAC	630VDC/220VAC
.625	46	54	75	100	250
.750	28	34	48	75	130
1.000	16	19	27	45	75
1.250	12	13	19	30	45
1.500	9	10	15		37
1.750	9	9	12	19	30
2.000					25
2.250		7	9	13	

STANDARD RATINGS

Capacitance MFD	Capacitance code	Voltage code 063 63VDC/40VAC*			Voltage code 100 100VDC/63VAC*			Voltage code 250 250VDC/160VAC*		
		T	W	L	T	W	L	T	W	L
.01	103									
.015	153									
.022	223									
.033	333									
.047	473									
.068	683									
.10	104							.191	.298	.625
.15	154							.186	.293	.750
.22	224				.200	.307	.625	.215	.347	.750
.33	334	.210	.317	.625	.196	.303	.750	.200	.332	1.000
.47	474	.191	.323	.750	.178	.285	1.000	.231	.387	1.000
.68	684	.231	.363	.750	.204	.336	1.000	.282	.438	1.000
1.00	105	.212	.344	1.000	.208	.339	1.250	.287	.443	1.250
1.50	155	.252	.408	1.000	.246	.403	1.250	.336	.541	1.250
2.00	205	.274	.480	1.000	.288	.444	1.250	.341	.547	1.500
2.50	255	.311	.517	1.000	.304	.509	1.250	.366	.628	1.500
3.00	305	.283	.488	1.250	.337	.542	1.250	.407	.662	1.500
4.00	405	.307	.513	1.250	.345	.600	1.500	.427	.682	1.750
5.00	505	.349	.554	1.500	.393	.648	1.500	.486	.741	1.750
6.00	605	.365	.620	1.500	.437	.692	1.500	.496	.848	1.750
7.00	705	.400	.654	1.500	.479	.733	1.500	.544	.897	1.750
10.00	106	.492	.747	1.500	.478	.831	1.750	.558	.910	2.250
12.00	126	.496	.740	1.750	.483	.738	2.250	.622	.975	2.250
15.00	156	.507	.860	1.750	.505	.857	2.250			

STANDARD RATINGS (Con't.)

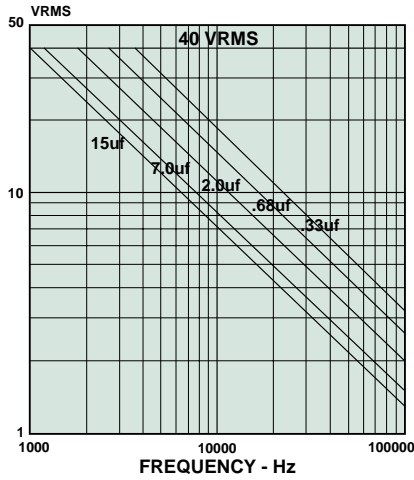
Capacitance MFD	Capacitance code	Voltage code 400 400VDC/200VAC*			Voltage code 630 630VDC/220VAC*		
		T	W	L	T	W	L
.01	103				.171	.278	.625
.015	153				.199	.331	.625
.022	223				.189	.296	.750
.033	333	.173	.280	.625	.221	.353	.750
.047	473	.206	.313	.625	.191	.323	1.000
.068	683	.198	.305	.750	.231	.363	1.000
.10	104	.230	.362	.750	.272	.429	1.000
.15	154	.214	.395	1.000	.275	.432	1.250
.22	224	.251	.407	1.000	.292	.448	1.500
.33	334	.258	.415	1.250	.302	.507	1.750
.47	474	.272	.428	1.500	.348	.603	1.750
.68	684	.297	.453	1.750	.432	.687	1.750
1.00	105	.344	.550	1.750	.488	.742	2.000
1.50	155	.411	.665	1.750			
2.00	205	.486	.740	1.750			
2.50	255	.507	.860	1.750			
3.00	305	.467	.820	2.250			
4.00	405	.557	.910	2.250			

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

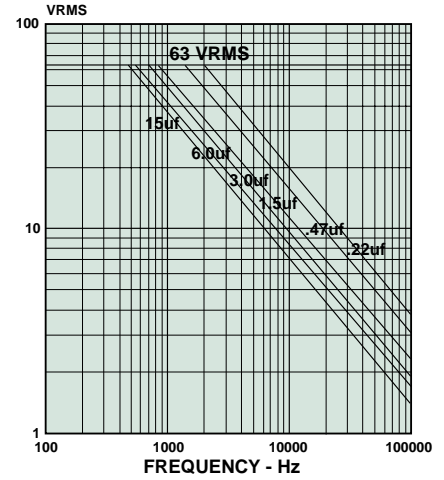
* AC voltage rating is at 60Hz. 1.4 times the RMS Voltage plus the DC voltage should not exceed the rated VDC

* Graphs of AC voltage vs frequency follow

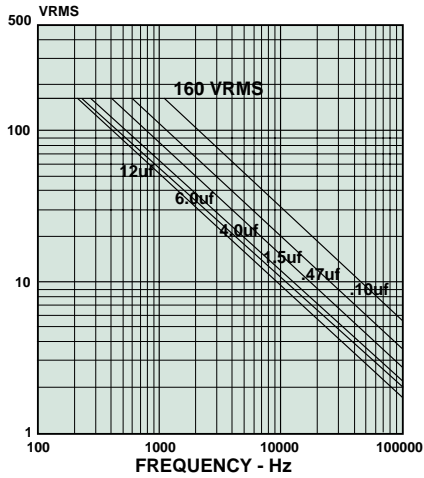
**VOLTAGE vs FREQUENCY TYPE 431P
63VDC\40VAC**



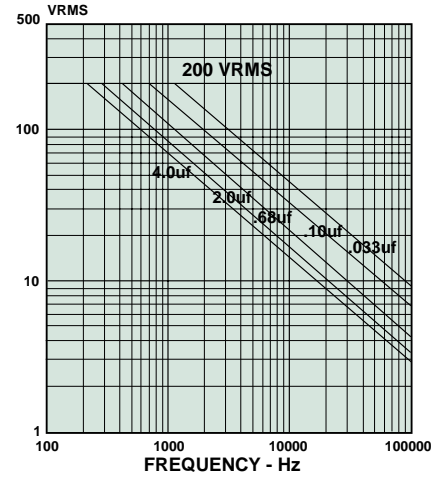
**VOLTAGE vs FREQUENCY TYPE 431P
100VDC\63VAC**



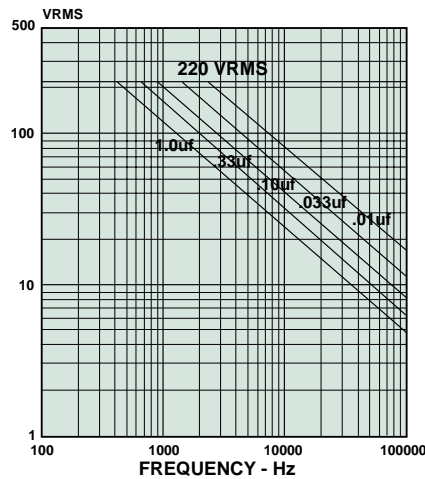
**VOLTAGE vs FREQUENCY TYPE 431P
250VDC\160VAC**



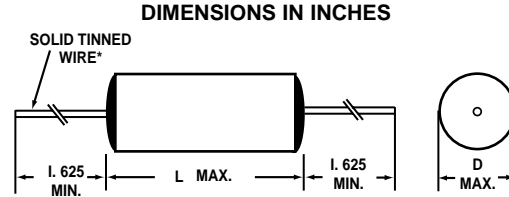
**VOLTAGE vs FREQUENCY TYPE 431P
400VDC\200VAC**



**VOLTAGE vs FREQUENCY TYPE 431P
630VDC\220VAC**



**Wrap-and-Fill
Metalized Polyester
Film Capacitors**



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

Features —

- Smallest Polyester Capacitor Available
- Wide Temperature Range
- Rated for DC and AC Operation
- Capacitance Values to 10 μf

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 end fill

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, and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:

.01 to 10.0 μf

Voltage Range:

63 VDC to 400 VDC
40 VAC to 200 VAC

Capacitance Tolerance:

$\pm 20\%$, $\pm 10\%$, $\pm 5\%$

Operating Temperature:

-55°C to $+125^{\circ}\text{C}$

Voltage Derating:

At 125°C , 50% of the 85°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 Megohm-Microfarads, need not exceed 50,000 Megohms

At $+85^{\circ}\text{C}$, 1,000 Megohm-Microfarads, need not exceed 2,500 Megohms

MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/ μs)			
	63VDC	100VDC	250VDC	400VDC
.450	20	40	80	-
.580	15	20	40	80
.700	10	15	-	50
.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

STANDARD RATINGS

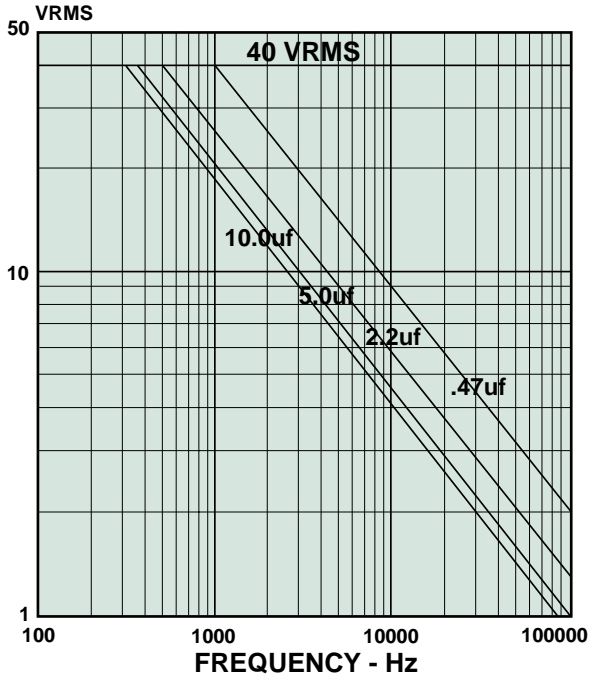
Capacitance MFD	Capacitance code	Voltage code 063 63VDC/40VAC*		Voltage code 100 100VDC/63VAC*		Voltage code 250 250VDC/160VAC*		Voltage code 400 400VDC/200VAC*	
		D	L	D	L	D	L	D	L
.01	103					.200	.450	.200	.580
.015	153					.200	.450	.200	.580
.022	223					.200	.450	.230	.580
.033	333					.200	.450	.270	.580
.047	473					.230	.450	.300	.580
.068	683			.200	.450	.230	.580	.290	.700
.10	104			.200	.450	.270	.580	.330	.700
.15	154			.210	.450	.310	.580	.340	.830
.22	224	.200	.450	.240	.450	.340	.580	.400	.830
.33	334	.230	.450	.230	.580	.340	.830	.430	1.00
.47	474	.260	.450	.260	.580	.390	.830	.440	1.20
.68	684	.240	.580	.290	.580	.370	1.00	.510	1.20
1.00	105	.280	.580	.350	.580	.430	1.00	.600	1.20
.150	155	.320	.580	.360	.700	.510	1.00	.640	1.50
2.20	225	.380	.580	.380	.830	.530	1.20	.650	1.95
3.30	335	.380	.700	.460	.830	.630	1.20	.780	1.95
5.00	505	.460	.700	.510	1.00	.740	1.20	.910	1.95
6.00	605	.500	.830	.440	1.20	.640	1.70		
8.00	805	.510	1.00	.500	1.20	.690	1.95		
10.00	106	.560	1.00	.620	1.20	.860	1.95		

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

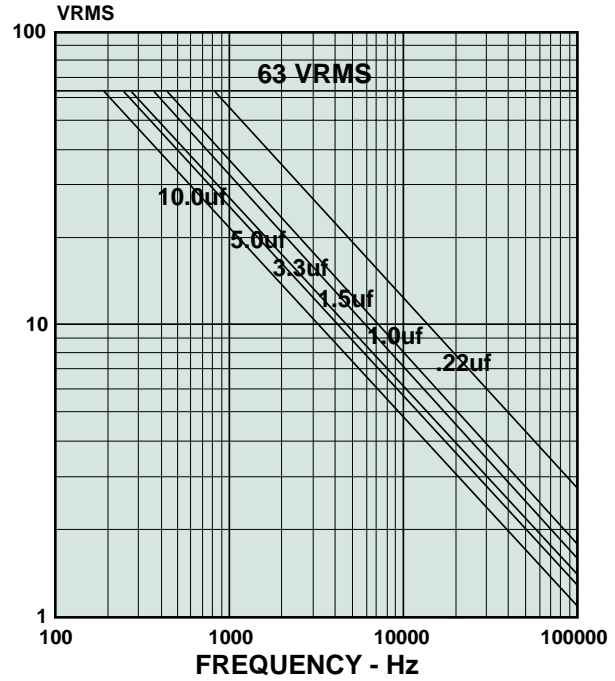
* AC voltage rating is at 60Hz. 1.4 x VRMS + VDC should not exceed the rated VDC

* Graphs of AC voltage vs frequency follow

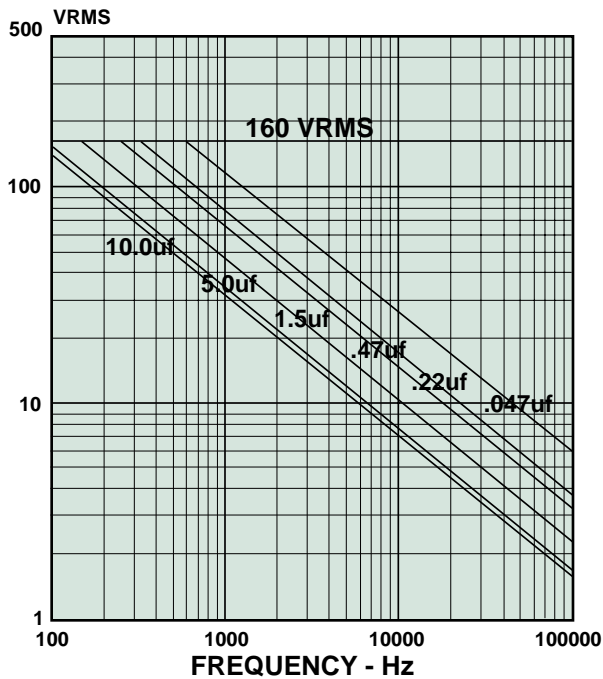
**VOLTAGE vs FREQUENCY TYPE 442P
63VDC\40VAC**



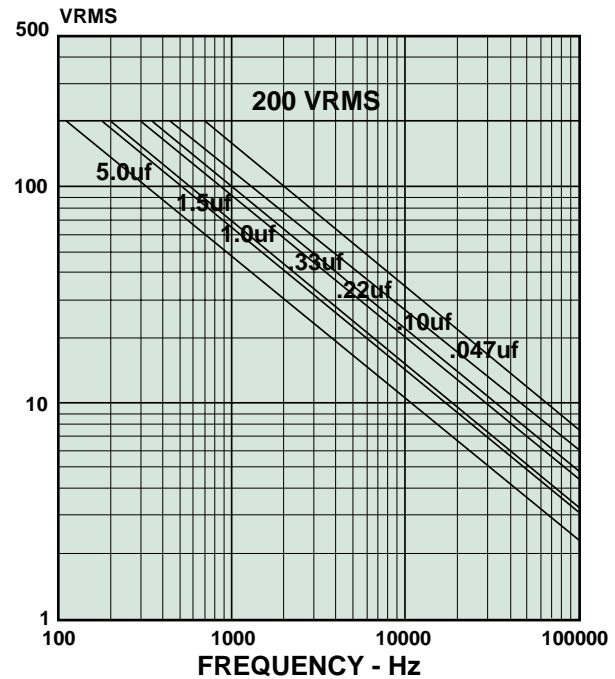
**VOLTAGE vs FREQUENCY TYPE 442P
100VDC\63VAC**



**VOLTAGE vs FREQUENCY TYPE 442P
250VDC\160VAC**

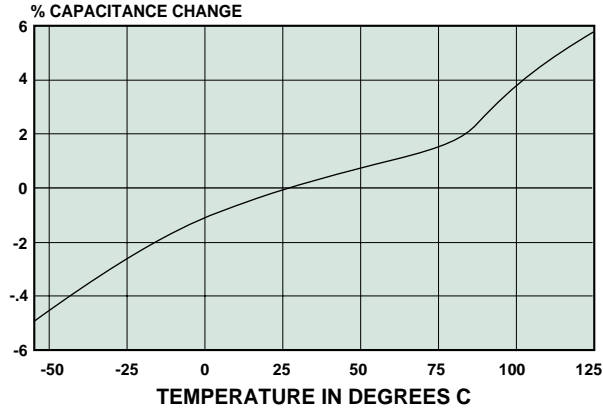


**VOLTAGE vs FREQUENCY TYPE 442P
400VDC\200VAC**

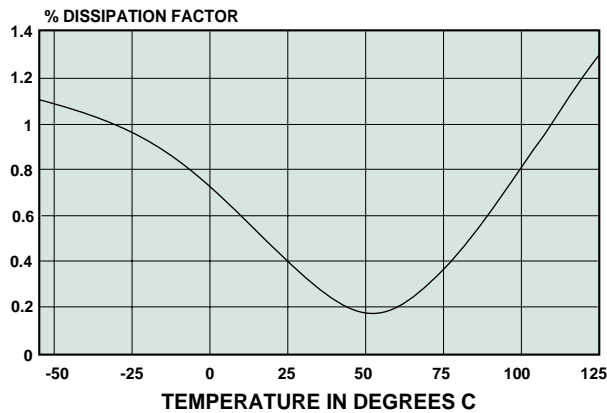


TYPICAL CHARACTERISTICS — POLYESTER FILM FOIL TYPES

**CAPACITANCE CHANGE VS TEMPERATURE
POLYESTER FILM FOIL**

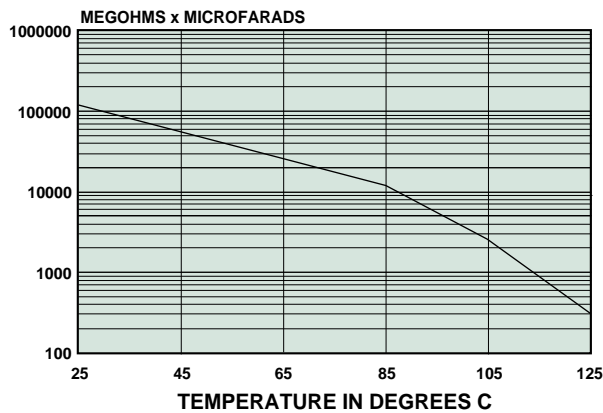


**DISSIPATION FACTOR VS TEMPERATURE
POLYESTER FILM FOIL**



MEASURED AT 1KHz

**INSULATION RESISTANCE VS TEMPERATURE
POLYESTER FILM FOIL**



TYPICAL

ELECTRICAL CHARACTERISTICS AS A FUNCTION OF TEMPERATURE

**Metal Case
Hypass™ Interference
Suppression Polyester
Film Capacitors**

Features —

- High Frequency Filtering
- No Series Resonance
- Low Inductance to Ground

Major Application: EMI Suppression

PHYSICAL CHARACTERISTICS —

Markings:

Dearborn trademark, type or catalog number, capacitance and voltage

Torque:

Terminals shall withstand 10 inch pounds with no damage

Dimensions:

(see chart below)

Contact factory for additional sizes

ENVIRONMENTAL CHARACTERISTICS —

DC Life Test:

150% of rated DC voltage for 250 hours at +85°C

No open or short circuits

No visible damage

Max. Cap chg: ±5%

Min. I.R. = 50% of initial limit

Max. D.F. = 2.0%

Thermal Shock and Immersion Cycling:

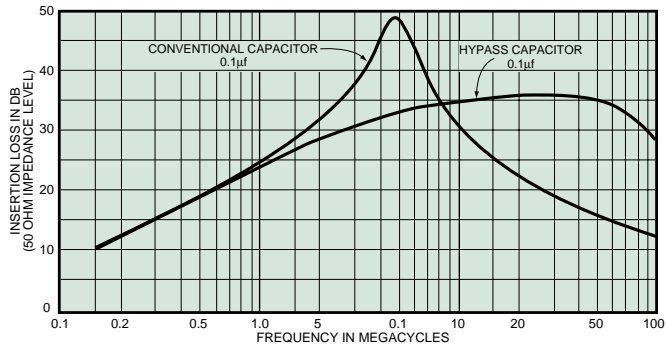
No visible damage

Max. Cap chg: ±5%

Min. I.R. = 50% of initial limit

Max. D.F. = 2.0%

**INSERTION LOSS OF A HYPASS™ CAPACITOR
VERSUS A CONVENTIONAL CAPACITOR**



ELECTRICAL SPECIFICATIONS —

Capacitance Range:

0.10µf to 0.5µf

DC Voltage Rating:

50VDC to 1,000 VDC

Capacitance Tolerance:

+20% - 10%, ±10%

Operating Temperature:

-40°C to +85°C

Dissipation Factor:

1.0% maximum

Voltage Test:

200% of rated voltage for 1 minute

Insulation Resistance:

At +25°C, 20,000 Megohm - Microfarads, need not exceed 20,000 Megohms

At +85°C, 200 Megohm - Microfarads, need not exceed 1,000 Megohms

TYPICAL SIZES

BRACKET MOUNTING								BULKHEAD MOUNTING							
Current µf in Amps	Dimensions							Current µf in Amps	Dimensions						
	D	L	W	M	R	Y	Fig.		D	L	W	M	R	Y	Fig.
50 WVDC								200 WVDC							
0.5 40	1.000	1.813	1.000	0.875	1.188	0.250	1	0.25 20	0.750	1.813	0.875	1.125	1.438	0.156	2
0.5 60	1.000	1.813	1.000	0.875	1.188	0.250	1								
200 WVDC								400 WVDC							
0.25 20	0.750	1.813	0.750	0.656	0.875	0.201	1	0.1 20	0.688	1.813	0.875	1.062	1.375	0.156	2
0.5 20	1.000	1.813	1.000	0.875	1.188	0.250	1								
400 WVDC								600 WVDC							
0.1 20	0.688	1.813	0.750	0.641	0.781	0.201	1	0.1 20	0.688	1.813	0.875	1.062	1.375	0.156	2
600 WVDC								1000 WVDC							
0.1 20	0.688	1.813	0.750	0.641	0.781	0.201	1	0.5 100	1.125	3.125	1.500	1.750	2.312	0.201	3
0.25 20	1.000	1.813	1.000	0.875	1.188	0.250	1	0.2 100	1.125	3.125	1.500	1.750	2.312	0.201	3
0.5 20	1.000	2.250	1.000	0.875	1.188	0.250	1								

Note: Hypass capacitors rated at 200 WVDC or 400 WVDC may be used on 130 volt, 60 Hz circuits. Capacitors rated at 600 and 1000 WVDC may be used on 250 volt, 60 Hz circuits

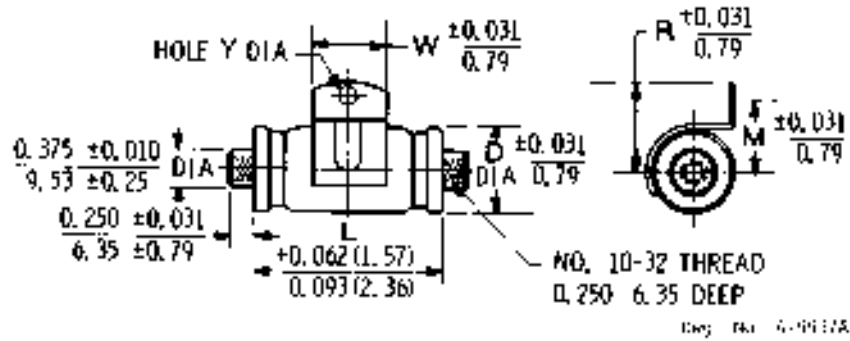


FIGURE 1

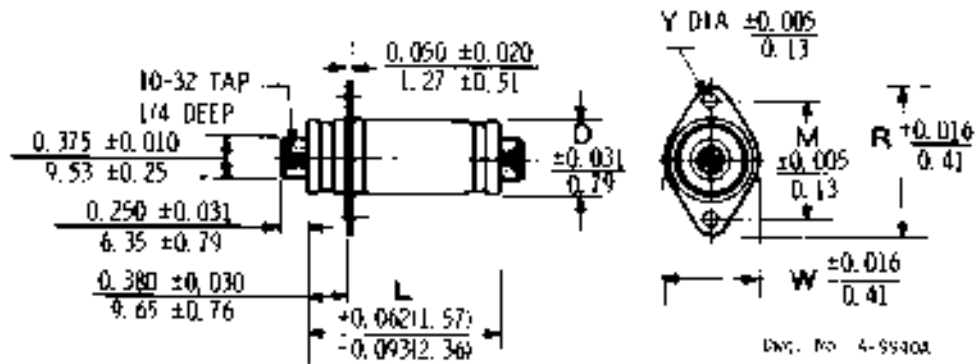


FIGURE 2

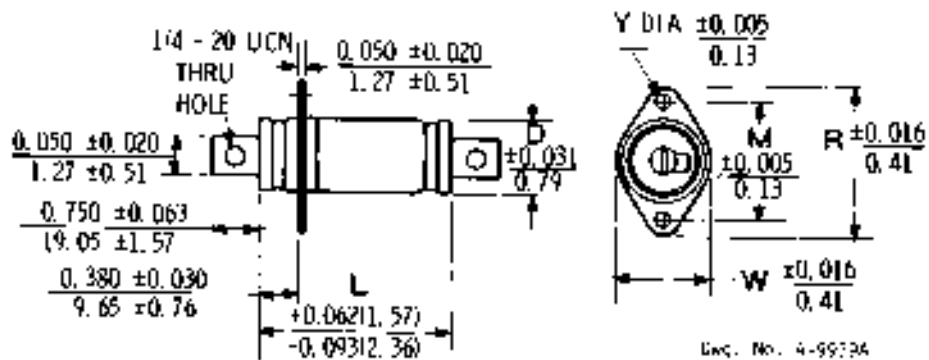


FIGURE 3

Dimensions $\frac{\text{Inches}}{\text{Millimeters}}$

Terminal Hardware Available on Special Order.

**Wrap-and-Fill
Polyester Dielectric
Film/Foil Construction**

Features —

- Extended Foil Construction
- Moisture Resistant

PHYSICAL CHARACTERISTICS —

Construction:

Non-inductive wound polyester film and foil

Case:

Flame retardant tape wrap and epoxy end fill

Lead Material:

Solder coated solid wire

Lead Pull:

Capable of withstanding a five pound pull force on lead axis

Marking:

Dearborn trademark, type or catalog number, capacitance and voltage

ELECTRICAL SPECIFICATIONS —

Capacitance Range:

.001µf to 5.0µf

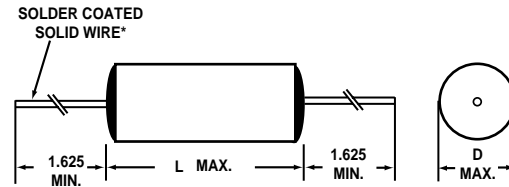
DC Voltage Rating:

50 VDC to 600 VDC

32 VAC to 220 VAC

Capacitance Tolerance:

±20%, ± 10%, ± 5%



*Lead Size
D MAX ≤ 0.437 0.025 (no. 22 AWG)
D MAX > 0.437 0.032 (No. 20 AWG)

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

Operating Temperature:

-55°C to + 125°C

Dissipation Factor:

1.0%, maximum

Voltage Derating:

At 105°C, 70% of the 85°C rating

At +125°C, 50% of the 85°C rating

Voltage Test:

200% of rated voltage for 1 minute

Insulation Resistance:

At 25°C, 50,000 Megohm-Microfarads,

need not exceed 100,000 Megohms

At 85°C, 2,500 Megohm-Microfarads,

need not exceed 5,000 Megohms

At 105°C, 1,000 Megohm-Microfarads,

need not exceed 2,000 Megohms

At 125°C, 10 Megohm-Microfarads,

need not exceed 150 Megohms

MAXIMUM PULSE RISE TIME:

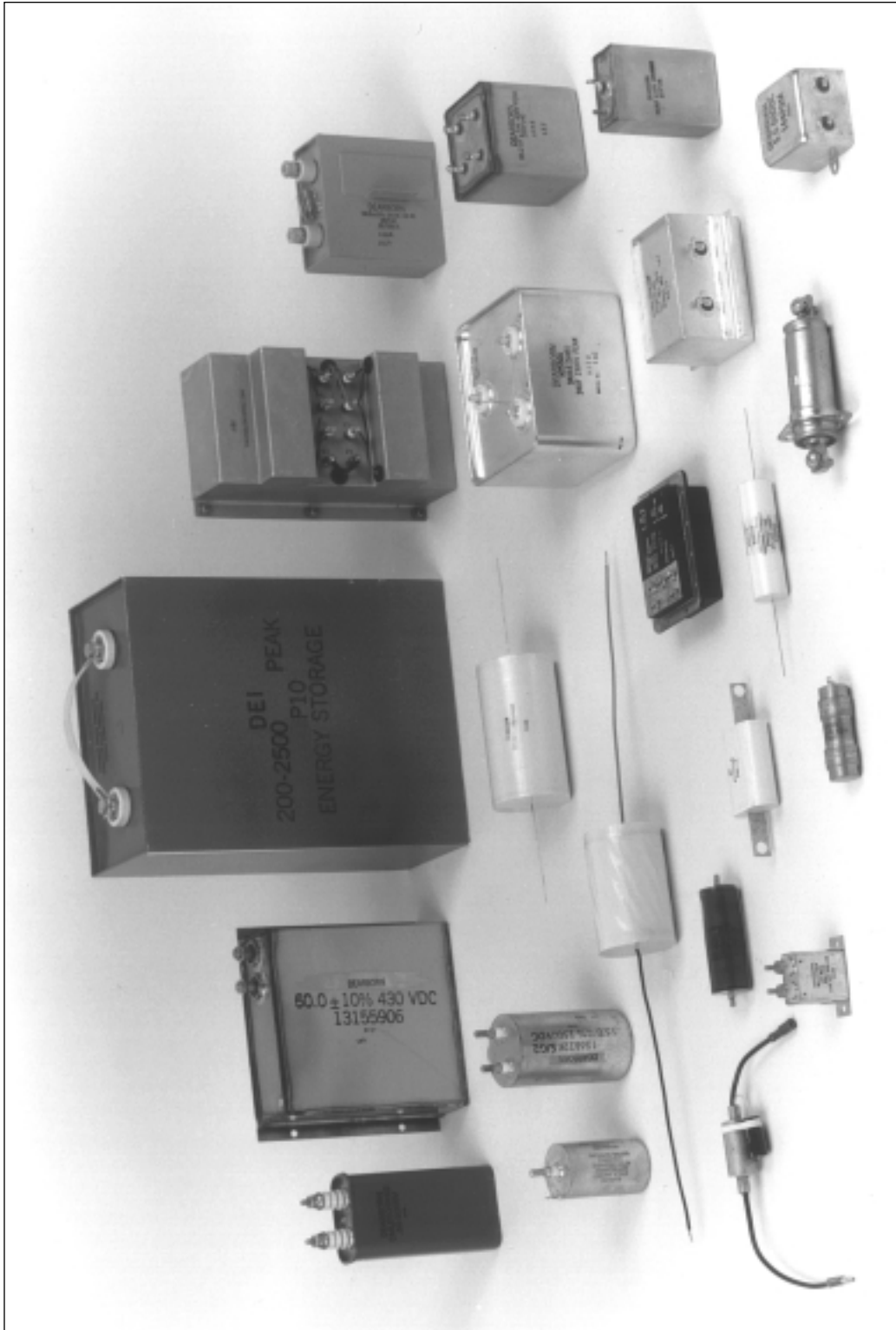
Capacitor Length Inches	Rise Time dv/dt (V/µs)				
	50 VDC	100 VDC	200 VDC	400 VDC	600 VDC
.450	-	1000	-	-	-
.531	735	-	-	-	-
.594	540	-	-	-	-
.656	360	-	-	-	-
.718	288	288	413	875	1563
.750	275	-	-	-	-
.812	252	-	-	-	-
.844	-	219	268	620	1050
.875	-	-	-	-	1018
.969	-	-	217	-	-
1.000	-	-	180	475	764
1.062	161	-	-	-	-
1.250	-	127	160	329	515
1.375	124	-	-	-	-
1.562	-	114	137	310	359
1.625	110	-	-	-	-
1.750	-	-	124	290	-
1.875	100	-	110	-	-
1.937	-	100	-	250	344
2.125	75	-	-	-	316
2.375	-	90	100	185	261
2.625	-	74	90	-	234
3.062	-	-	83	-	-

STANDARD RATINGS

Capacitance MFD	Capacitance Code	Voltage Code 050 50VDC/ 32VAC*		Voltage Code 100 100 VDC 63 VAC*		Voltage Code 200 200 VDC 126 VAC*		Voltage Code 400 400 VDC 200 VAC*		Voltage Code 600 600 VDC 220 VAC*	
		D	L	D	L	D	L	D	L	D	L
.001	102					.190	.450	.190	.718	.190	.718
.0015	152					.190	.450	.190	.718	.190	.718
.0022	222					.190	.450	.190	.718	.190	.718
.0033	332					.190	.450	.190	.718	.205	.718
.0047	472					.190	.450	.190	.718	.235	.718
.0068	682			.190	.450	.190	.718	.190	.718	.240	.844
.01	103			.190	.450	.190	.718	.200	.844	.270	.844
.015	153	.190	.531	.190	.718	.190	.718	.230	.844	.315	.875
.022	223	.200	.594	.190	.718	.190	.718	.265	.844	.375	.875
.033	333	.210	.656	.190	.718	.190	.844	.315	.875	.395	1.000
.047	413	.215	.718	.215	.718	.210	.844	.325	1.000	.400	1.250
.068	683	.250	.718	.215	.844	.240	.844	.340	1.250	.455	1.250
.1	104	.290	.750	.245	.844	.275	.969	.400	1.250	.470	1.562
.15	154	.312	.812	.285	.844	.345	1.000	.405	1.562	.545	1.562
.22	224	.315	1.062	.290	1.250	.355	1.250	.480	1.562	.590	1.937
.33	334	.375	1.062	.325	1.250	.425	1.250	.650	1.750	.800	1.937
.47	474	.430	1.062	.380	1.250	.440	1.562	.725	1.937	.890	2.125
.68	689	.450	1.375	.455	1.562	.610	1.750	.750	2.375	.980	2.375
1.00	105	.500	1.375	.535	1.562	.710	1.875	.900	2.375		
1.50	155	.640	1.625	.645	1.937	.730	2.375				
2.00	205	.730	1.625	.715	1.937	.800	2.375				
2.50	255	.750	1.875	.715	2.375	.834	2.625				
3.00	305	.830	1.875	.770	2.375	.905	2.625				
4.00	405	.850	2.125	.830	2.625	.945	3.062				
5.00	505	.940	2.125	.915	2.625						

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



Pulse Forming Networks, High Energy Capacitors and Various Configurations of Polyester Film Capacitors