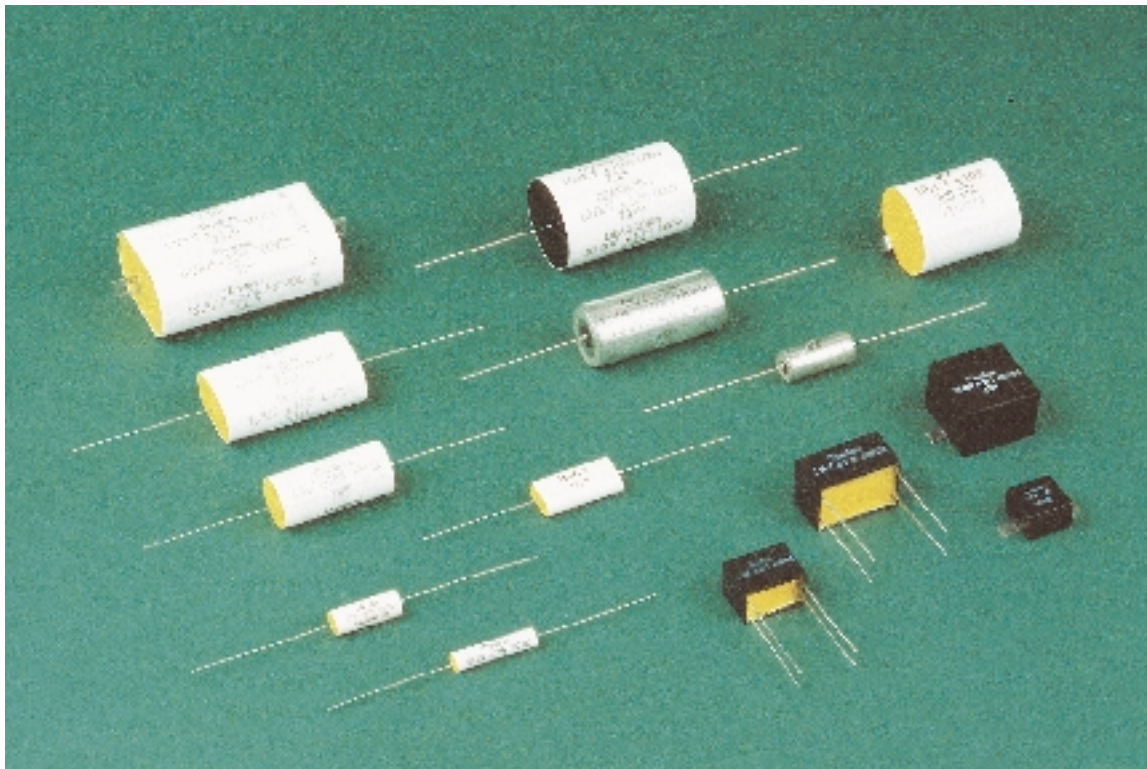


# POLYPROPYLENE FILM CAPACITORS



<b>Metalized Polypropylene Film Capacitors, (Typical Characteristics)</b> .....	<b>C3</b>
Type 709G .....	C4
Type 720P .....	C8
Type 730P .....	C12
Type 730G .....	C16
Type 731P .....	C19
Type 734G .....	C24
Type 735P .....	C26
Type 744G .....	C30
Type 752G .....	C31
<b>Polypropylene Film/Foil Capacitors, (Typical Characteristics)</b> .....	<b>C32</b>
Type 700P .....	C33
Type 710P .....	C35

## 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:

Test condition E for 720P, Test condition B All others. 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.  $\Delta C$  of  $\pm .25\%$
- Min. IR = 33% of initial limit
- Max. DF = .12%

### 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.  $\Delta C$  of  $\pm 2\%$ ;  $\pm 5\%$  for 731P, 744G and 752G
- Min. IR = 20% of initial limit
- Max. DF = .12%

### DC Life:

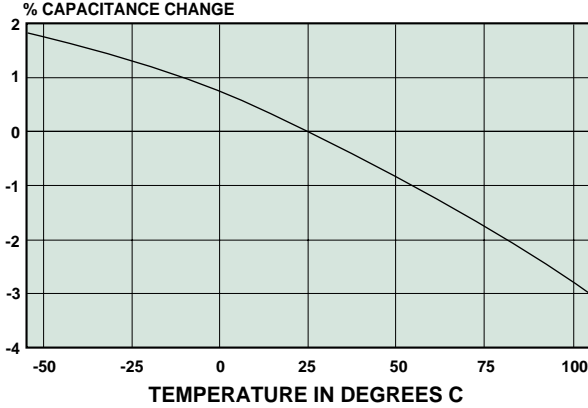
125% of rated voltage at 85°C for 250 hours (70°C for 730G)

As a result of the test there shall be:

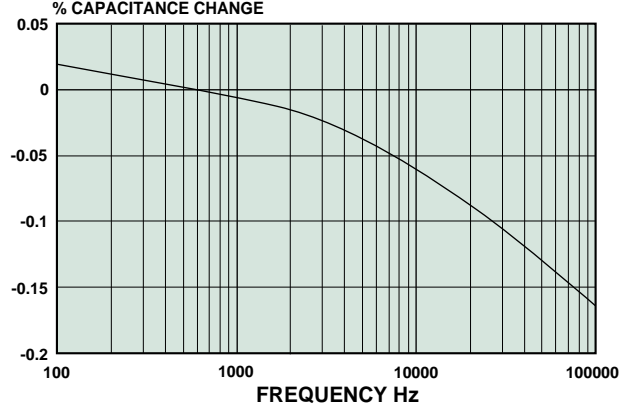
- No open or short circuit
- No visible damage
- Max.  $\Delta C$  of  $\pm 2\%$
- Min. IR = 33% of initial limit
- Max. DF = .12%

**TYPICAL CHARACTERISTICS — METALIZED POLYPROPYLENE TYPES**

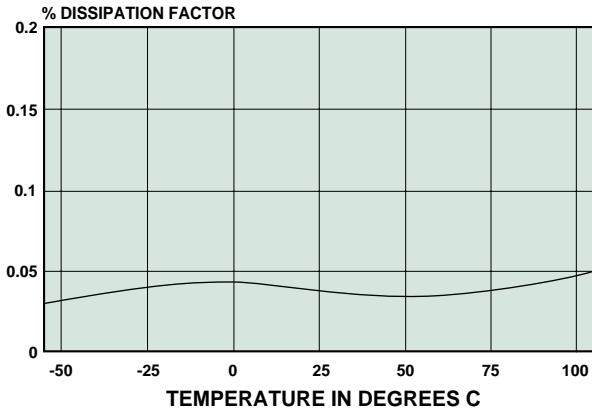
**CAPACITANCE CHANGE VS TEMPERATURE  
METALIZED POLYPROPYLENE**



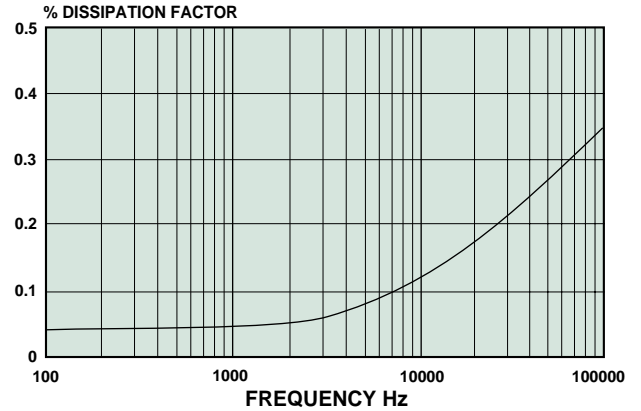
**CAPACITANCE CHANGE VS FREQUENCY  
METALIZED POLYPROPYLENE**



**DISSIPATION FACTOR VS TEMPERATURE  
METALIZED POLYPROPYLENE**

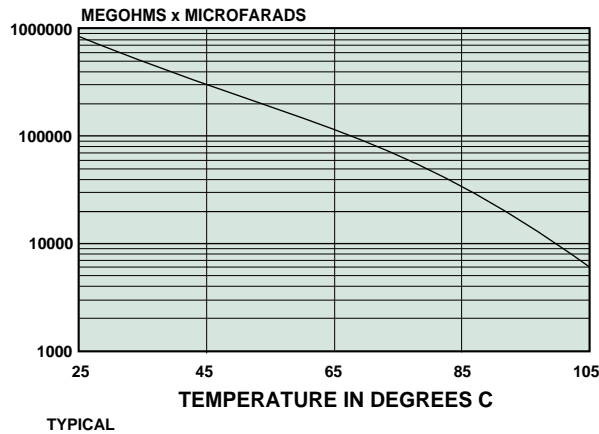


**DISSIPATION FACTOR VS FREQUENCY  
METALIZED POLYPROPYLENE**



MEASURED AT 1KHz

**INSULATION RESISTANCE VS TEMPERATURE  
METALIZED POLYPROPYLENE**



TYPICAL

**ELECTRICAL CHARACTERISTICS AS A FUNCTION OF TEMPERATURE AND FREQUENCY**

# Wrap-and-Fill High Current Metalized Polypropylene Film Capacitors

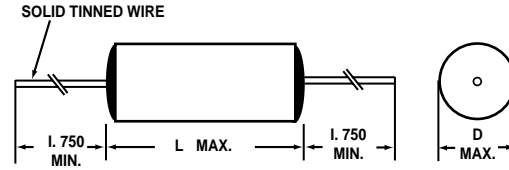
**Features —**

- AC Voltage Rating to 700V
- DC Voltage Rating to 2000V
- High Current
- High Pulse Operations

**Major Applications:**

Snubber and SCR commutating circuits, protection circuits, input and output filtering, blocking, timing and integrating circuits

**DIMENSIONS INCHES**



**Lead wire sizes:**

Case Size	Lead AWG
< .300"	No. 22
< .650"	No. 20
.650 and over	No. 18

## PHYSICAL CHARACTERISTICS —

**Construction:**

Extended double-sided metalized polyester film, internal series connection (630 to 2000 VDC), double-sided metalized polyester carrier film

**Dielectric:**

Polypropylene film

**Electrodes:**

Vacuum deposited aluminum

**Case:**

Flame retardant tape wrap and epoxy endfill

**Lead Material:**

Solder coated copper wire

**Lead Pull:**

5lbs. (2.3KG) 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:**

.001µf to 4.7µf

**Voltage Rating:**

160 VDC to 2000 VDC  
100 VRMS to 700 VRMS

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

-55°C to 105°C.

**Voltage Derating:**

At 105°C, 70% of the 85°C rating

**Dissipation Factor:**

0.03% maximum

**DC Voltage Test:**

160% of rated voltage for 10 sec.

**Insulation Resistance:**

Measure at 100 VDC after a 2 minute charge  
At + 25°C, 200,000 Megohm-Microfarads, need not exceed 400,000 Megohms

## MAXIMUM PULSE RISE TIME

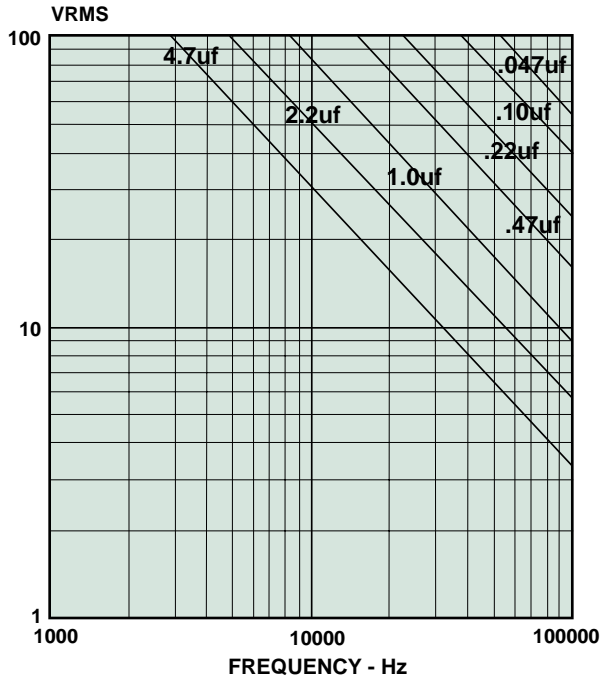
Capacitor Length Inches	Rise Time dv/dt (V/µs)						
	160 VDC	250 VDC	400 VDC	630 VDC	1000 VDC	1600 VDC	2000 VDC
.670	900	1140	1840	-	-	-	-
.870	450	560	910	3430	-	-	-
1.140	260	320	520	2120	2800	3800	6200
1.340	202	240	400	1524	2000	2680	4200
1.750	140	170	280	980	1280	1690	2600

**STANDARD RATINGS**

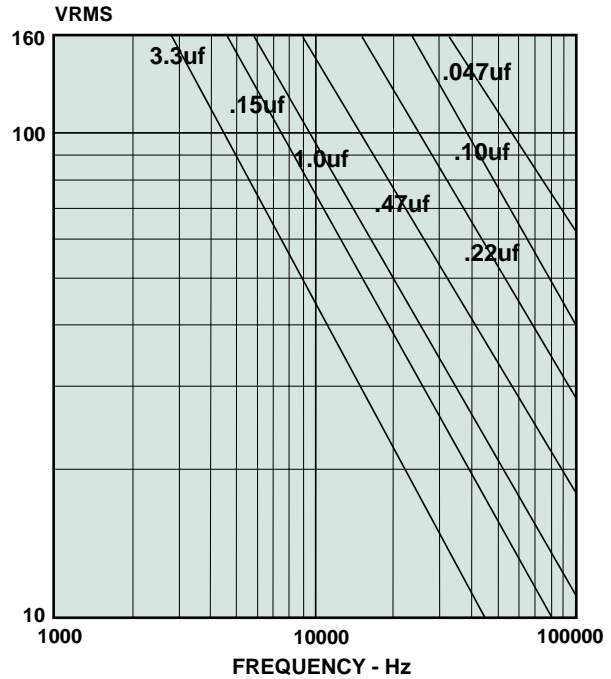
Capacitance µf	Capacitance Code	Voltage Code 160 160VDC/100VAC		Voltage Code 250 250VDC/160VAC		Voltage Code 400 400VDC/200VAC		Voltage Code 630 630VDC/400VAC	
		D	L	D	L	D	L	D	L
.01	103	-	-	-	-	.236	.670	.276	.866
.015	153	-	-	-	-	.256	.670	.315	.866
.022	223	-	-	.236	.670	.295	.670	.375	.866
.033	333	.236	.670	.276	.670	.276	.866	.354	1.140
.047	473	.256	.670	.315	.670	.315	.866	.413	1.140
.068	683	.295	.670	.276	.866	.354	.866	.492	1.140
.10	104	.276	.866	.315	.866	.433	.866	.492	1.340
.15	154	.315	.866	.375	.866	.394	1.140	.591	1.340
.22	224	.375	.866	.354	1.140	.472	1.140	.571	1.730
.33	334	.354	1.140	.413	1.140	.532	1.140	.689	1.730
.47	474	.394	1.140	.472	1.140	.591	1.340	.827	1.730
.68	684	.472	1.140	.512	1.340	.689	1.340	.984	1.730
1.00	105	.492	1.340	.610	1.340	.689	1.730	-	-
1.50	155	.610	1.340	.610	1.730	.846	1.730	-	-
2.20	225	.610	1.730	.728	1.730	1.024	1.730	-	-
3.30	335	.728	1.730	.886	1.730	-	-	-	-
4.70	475	.866	1.730	-	-	-	-	-	-

Capacitance µf	Capacitance Code	Voltage Code 1K0 1000VDC/600VAC		Voltage Code 1K6 1600VDC/650VAC		Voltage Code 2K0 2000VDC/700VAC	
		D	L	D	L	D	L
.001	102	-	-	-	-	.256	1.142
.0015	152	-	-	-	-	.256	1.142
.0022	222	-	-	-	-	.256	1.142
.0033	332	-	-	-	-	.276	1.142
.0047	472	-	-	-	-	.315	1.142
.0068	682	-	-	-	-	.374	1.142
.01	103	.256	1.142	.315	1.142	.433	1.142
.015	153	.315	1.142	.374	1.142	.452	1.339
.022	223	.354	1.142	.433	1.142	.512	1.339
.033	333	.433	1.142	.452	1.339	.630	1.339
.047	473	.433	1.339	.532	1.339	.591	1.732
.068	683	.512	1.339	.630	1.339	.709	1.732
.1	104	.610	1.339	.591	1.732	.827	1.732
.15	154	.591	1.732	.728	1.732	-	-
.22	224	.709	1.732	.866	1.732	-	-

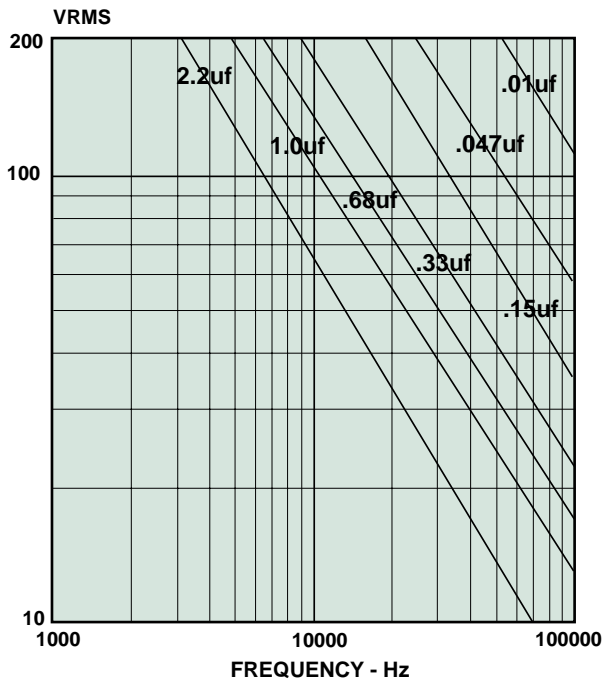
**VOLTAGE vs FREQUENCY TYPE 709G  
160VDC\100VAC**



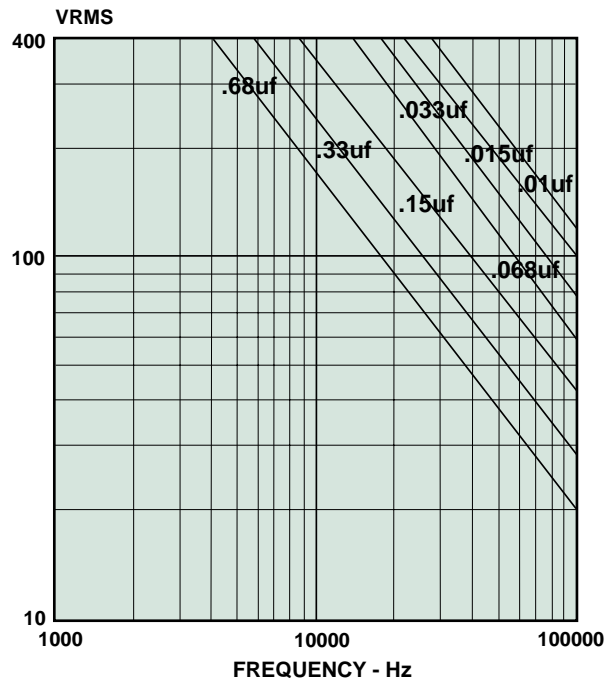
**VOLTAGE vs FREQUENCY TYPE 709G  
250VDC\160VAC**



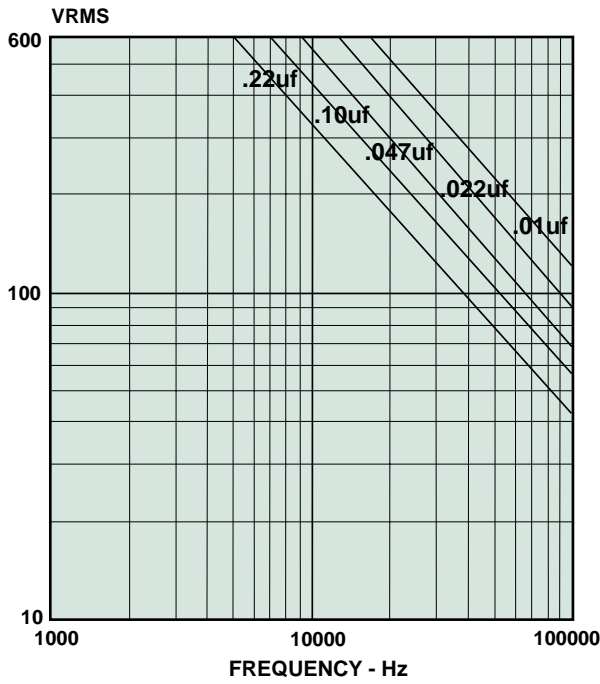
**VOLTAGE vs FREQUENCY TYPE 709G  
400VDC\200VAC**



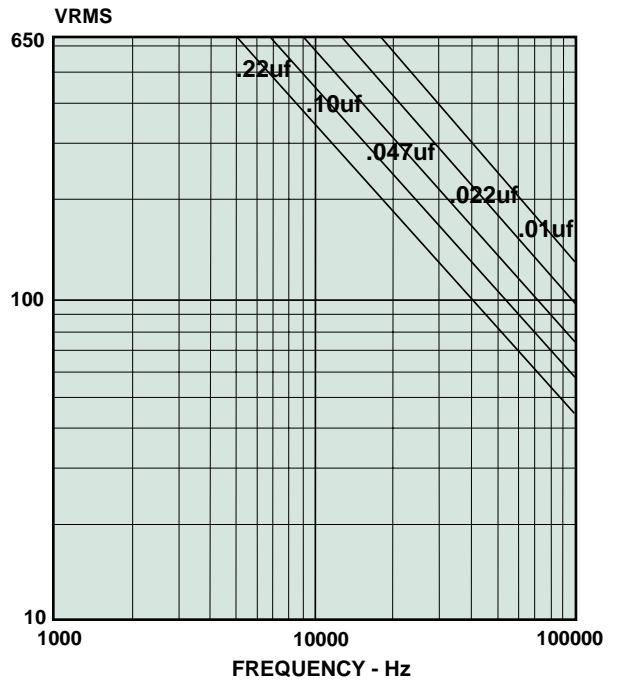
**VOLTAGE vs FREQUENCY TYPE 709G  
630VDC\400VAC**



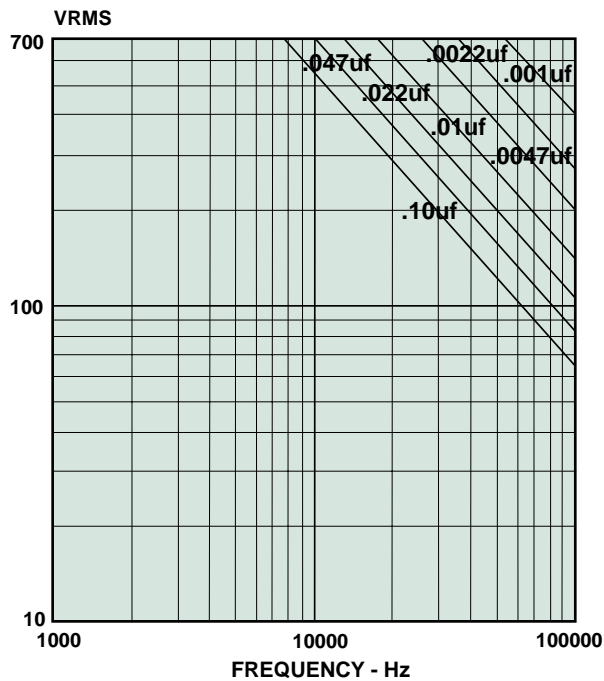
**VOLTAGE vs FREQUENCY TYPE 709G**  
**1000VDC\600VAC**



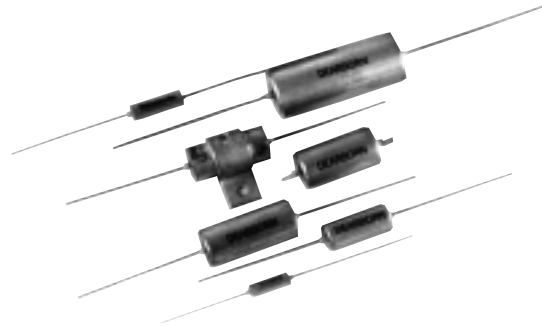
**VOLTAGE vs FREQUENCY TYPE 709G**  
**1600VDC\650VAC**



**VOLTAGE vs FREQUENCY TYPE 709G**  
**2000VDC\700VAC**



**Metal Case  
Hermetically Sealed  
Tubular Metalized Polypropylene  
Film Capacitors**



**Features —**

- High Stability
- High Insulation Resistance
- Low Series Resistance
- Low Losses
- Low Dielectric Absorption
- Excellent AC Performance
- Hermetically Sealed
- Approved to Mil-C-83421/02
- Close Tolerance

**Major Applications:**

Timing and integrating circuitry, high frequency coupling and other applications where severe environments require hermetically sealed cases

**PHYSICAL CHARACTERISTICS —**

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

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

**Lead Material:**

Solder coated copper wire. No. 18 AWG

**Lead Pull:**

5lbs. (2.3KG) 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:**

0.033  $\mu$ f to 20.0  $\mu$ f

**DC Voltage Range:**

100 VDC to 600 VDC

**AC Voltage Range:**

70 VRMS to 250 VRMS

**Capacitance Tolerance:**

$\pm$ .25%,  $\pm$ .5%,  $\pm$ 1.0%,  $\pm$ 2.0%,  $\pm$ 5.0%,  $\pm$ 10%

**Operating Temperature:**

-55°C to +105°C

**Voltage Derating:**

There is no derating for DC operation. For AC operation, derate in accordance with the standard ratings table

**Dissipation Factor:**

0.07% maximum

**Equivalent Series Resistance:**

(see Standard Ratings table)

**DC Voltage Test:**

200% of rated voltage for 2 minutes

**Insulation Resistance:**

Insulation Resistance at +85°C and +105°C shall be measured at 100 VDC. IR at +25°C shall be measured at rated VDC

**At +25°C**, 300,000 Megohm-Microfarads,

need not exceed 3,000,000 Megohms

**At +85°C**, 15,000 Megohm-Microfarads,

need not exceed 150,000 Megohms

**At +105°C**, 2,000 Megohm-Microfarads,

need not exceed 20,000 Megohms

**MAXIMUM PULSE RISE TIME**

Capacitor Length Inches	Rise Time dv/dt (V/ $\mu$ s)			
	100VDC	200VDC	400VDC	600VDC
.875	50	72	150	-
.906	46	66	150	-
1.094	30	46	78	-
1.125	-	-	-	150
1.406	19	30	50	75
1.437	-	25	-	-
1.656	-	-	40	50
1.687	17	22	-	-
1.938	-	-	30	40
2.188	-	-	-	30
2.437	9	-	-	-



## STANDARD RATINGS

Capacitance µf Code		Inches D L		Millimeters D L		Max. ESR OHM 20-100 Khz	Max. %DF 10KHZ	Maximum Ripple Current (amps rms) 20-10 KHz At Ambient Temperature (°C)**								
								+25	+35	+45	+55	+65	+75	+85	+95	+105
<b>100 VOLTS DC / 70 VRMS*</b>																
0.47	474	0.400	0.875	10.2	22.2	0.025	.15	5.3	4.9	4.6	4.2	3.7	3.2	2.6	1.9	0.8
0.56	564	0.500	0.875	12.7	22.2	0.024	.16	6.0	5.6	5.2	4.8	4.3	3.7	3.0	2.1	1.0
0.68	684	0.500	0.875	12.7	22.2	0.023	.17	6.2	5.8	5.4	4.9	4.4	3.8	3.1	2.2	1.0
0.82	824	0.500	0.875	12.7	22.2	0.022	.18	6.3	5.9	5.5	5.0	4.5	3.9	3.2	2.2	1.0
1.0	105	0.562	0.906	14.3	23.0	0.017	.19	7.7	7.2	6.7	6.1	5.4	4.7	3.9	2.7	1.2
2.0	205	0.670	1.094	17.0	27.8	0.014	.24	10.3	9.7	8.9	8.2	7.3	6.3	5.2	3.7	1.6
3.0	305	0.750	1.094	19.1	27.8	0.013	.27	11.4	10.7	9.9	9.0	8.1	7.0	5.7	4.0	1.8
5.0	505	0.750	1.406	19.1	35.7	0.012	.32	13.6	12.7	11.8	10.7	9.6	8.3	6.8	4.8	2.1
10.0	106	1.00	1.687	25.4	42.9	0.010	.40	15.0	15.0	15.0	14.3	12.8	11.1	9.1	6.4	2.9
20.0	206	1.00	2.437	25.4	61.9	0.009	.45	15.0	15.0	15.0	15.0	15.0	14.1	11.5	8.2	3.6
<b>200 VOLTS DC / 140 VRMS*</b>																
0.18	184	0.400	0.875	10.2	22.2	0.031	.12	4.8	4.5	4.1	3.8	3.4	2.9	2.4	1.7	0.8
0.22	224	0.500	0.875	12.7	22.2	0.030	.13	5.4	5.1	4.7	4.3	3.8	3.3	2.7	1.9	0.9
0.27	274	0.500	0.875	12.7	22.2	0.029	.14	5.5	5.2	4.8	4.4	3.9	3.4	2.8	2.0	0.9
0.33	334	0.500	0.875	12.7	22.2	0.028	.14	5.6	5.3	4.9	4.5	4.0	3.5	2.8	2.0	0.9
0.39	394	0.562	0.906	14.3	23.0	0.026	.15	6.2	5.8	5.4	4.9	4.4	3.8	3.1	2.2	1.0
0.47	474	0.562	1.094	14.3	27.8	0.025	.15	7.0	6.5	6.1	5.5	4.9	4.3	3.5	2.5	1.1
0.56	564	0.562	1.094	14.3	27.8	0.024	.16	7.2	6.7	6.2	5.7	5.1	4.4	3.6	2.5	1.1
0.68	684	0.670	1.094	17.0	27.8	0.023	.17	8.0	7.5	6.9	6.3	5.7	4.9	4.0	2.8	1.3
0.82	824	0.670	1.094	17.0	27.8	0.022	.18	8.2	7.7	7.1	6.5	5.8	5.0	4.1	2.9	1.3
1.0	105	0.670	1.094	17.0	27.8	0.021	.19	8.4	7.9	7.3	6.7	6.0	5.2	4.2	3.0	1.3
2.0	205	0.750	1.406	19.1	35.7	0.017	.24	11.1	10.4	9.6	8.8	7.8	6.8	5.5	3.9	1.8
3.0	305	1.000	1.437	25.4	36.5	0.015	.27	13.9	13.0	12.0	11.0	9.8	8.5	7.0	4.9	2.2
5.0	505	1.000	1.687	25.4	42.9	0.013	.32	15.0	15.0	14.2	12.9	11.6	10.0	8.2	5.8	2.6
<b>400 VOLTS DC / 220 VRMS*</b>																
0.056	563	0.400	0.875	10.2	22.2	0.058	.10	3.5	3.3	3.0	2.8	2.5	2.1	1.7	1.2	0.06
0.068	683	0.500	0.875	12.7	22.2	0.058	.10	4.4	4.1	3.8	3.5	3.1	2.7	2.2	1.5	0.7
0.082	823	0.500	0.875	12.7	22.2	0.039	.10	4.7	4.4	4.1	3.7	3.4	2.9	2.4	1.7	0.7
0.10	104	0.500	0.875	12.7	22.2	0.035	.10	5.0	4.7	4.4	4.0	3.6	3.1	2.5	1.8	0.8

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

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

\*\* Ambient case temperature prior to current application

\*\*\* The dimensions shown are for style 02. The dimensions for other styles are included in the general section in the front of the catalog

**400 and 600 VAC parts are available upon request**

**STANDARD RATINGS**

Capacitance µf	Code	Inches		Millimeters		Max. ESR OHM 20-100 Khz	Max. %DF 10KHZ	Maximum Ripple Current (amps rms) 20-10 KHz At Ambient Temperature (°C)**								
		D	L	D	L			+25	+35	+45	+55	+65	+75	+85	+95	+105
<b>400 VOLTS DC / 220 VRMS*(Cont.)</b>																
0.12	124	0.562	0.906	14.3	23.0	0.033	.10	5.5	4.2	4.8	4.4	3.9	3.4	2.8	2.0	0.9
0.15	154	0.670	0.906	17.0	23.0	0.032	.11	6.2	5.8	5.3	4.9	4.4	3.8	3.1	2.2	1.0
0.18	184	0.670	0.906	17.0	23.0	0.031	.12	6.3	5.9	5.4	5.0	4.4	3.8	3.1	2.2	1.0
0.22	224	0.670	1.094	17.0	27.8	0.030	.13	7.0	6.6	6.1	5.6	5.0	4.3	3.5	2.5	1.1
0.27	274	0.670	1.094	17.0	27.8	0.029	.14	7.2	6.7	6.2	5.7	5.1	4.4	3.6	2.5	1.1
0.33	334	0.670	1.094	17.0	27.8	0.028	.14	7.3	6.8	6.3	5.8	5.2	4.5	3.7	2.6	1.2
0.39	394	0.750	1.094	19.1	27.8	0.026	.15	7.9	7.4	6.8	6.2	5.6	4.8	3.9	2.8	1.2
0.47	474	0.750	1.094	19.1	27.8	0.025	.15	8.1	7.6	7.0	6.4	5.7	4.9	4.0	2.9	1.3
0.56	564	0.750	1.406	19.1	35.7	0.025	.16	9.2	8.6	7.9	7.2	6.5	5.6	4.6	3.2	1.4
0.68	684	0.750	1.406	19.1	35.7	0.024	.17	9.4	8.8	8.1	7.4	6.6	5.7	4.7	3.3	1.5
0.82	824	0.750	1.656	19.1	42.1	0.023	.18	10.4	9.7	9.0	8.2	7.4	6.4	5.2	3.7	1.6
1.0	105	0.750	1.656	19.1	42.1	0.022	.19	10.7	10.0	9.3	8.5	7.6	6.5	5.3	3.8	1.7
2.0	205	1.000	1.938	25.4	49.2	0.017	.24	15.0	14.1	13.0	11.9	10.6	9.2	7.5	5.3	2.4
<b>600 VOLTS DC / 250 VRMS *</b>																
.033	333	0.400	1.125	10.2	28.6	0.110	.10	2.7	2.6	2.4	2.2	1.9	1.7	1.4	.9	.5
.039	393	0.400	1.125	10.2	28.6	0.090	.10	3.0	2.8	2.6	2.4	2.1	1.9	1.5	1.1	.6
.047	473	0.500	1.125	12.7	28.6	0.073	.10	3.8	3.6	3.3	3.1	2.7	2.3	1.9	1.3	.7
.056	563	0.500	1.125	12.7	28.6	0.058	.10	4.3	4.0	3.9	3.4	3.0	2.6	2.1	1.5	.9
.068	683	0.500	1.406	12.7	35.7	0.046	.10	5.3	5.0	4.6	4.2	3.7	3.2	2.6	1.8	1.0
.082	823	0.500	1.406	12.7	35.7	0.039	.10	5.8	5.4	5.0	4.6	4.1	3.5	2.9	2.0	1.1
.10	104	0.500	1.406	12.7	35.7	0.035	.10	6.0	5.6	5.2	4.7	4.2	3.6	3.0	2.1	1.1
.12	124	0.562	1.406	14.3	35.7	0.033	.11	6.4	6.1	5.7	5.2	4.7	4.0	3.3	2.3	1.3
.15	154	0.562	1.656	14.3	42.1	0.032	.12	7.3	6.9	6.4	5.8	5.2	4.5	3.7	2.6	1.4
.18	184	0.670	1.406	17.0	35.7	0.031	.12	7.7	7.2	6.7	6.1	5.4	4.7	3.8	2.7	1.5
.22	224	0.670	1.656	17.0	42.1	0.030	.13	8.3	7.8	7.2	6.5	5.8	5.0	4.1	2.9	1.6
.27	274	0.670	1.656	17.0	42.1	0.029	.14	8.5	8.0	7.4	6.7	5.9	5.2	4.2	3.0	1.6
.33	334	0.750	1.656	19.1	42.1	0.028	.14	9.2	8.6	8.0	7.3	6.5	5.6	4.6	3.3	1.8
.39	394	0.750	1.938	19.1	49.2	0.026	.15	10.2	9.6	8.9	8.1	7.2	6.2	5.1	3.6	1.9
.47	474	0.750	2.188	19.1	55.6	0.025	.15	10.9	10.2	9.5	8.7	7.8	6.9	5.4	3.8	1.1
.56	564	1.000	1.656	25.4	42.1	0.024	.16	11.8	11.1	10.5	9.4	8.4	7.2	5.9	4.2	2.2
.68	684	1.000	1.656	25.4	49.2	0.024	.17	12.6	11.9	11.2	10.1	9.0	7.7	6.2	4.4	2.3
.82	824	1.000	1.938	25.4	49.2	0.023	.18	12.9	12.2	11.4	10.3	9.2	7.9	6.4	4.5	2.4
1.0	105	1.000	2.188	25.4	55.6	0.022	.19	13.8	13.0	12.0	11.1	9.8	8.5	6.9	4.9	2.5

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

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

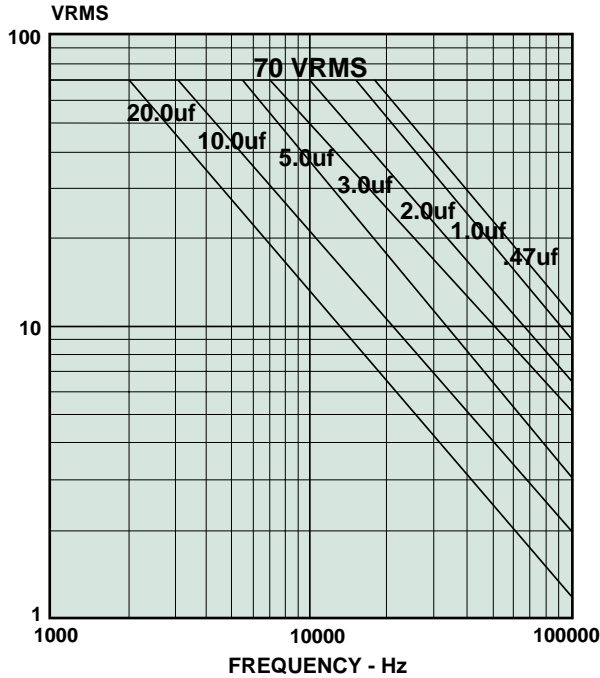
\*\* Ambient case temperature prior to current application

\*\*\* The dimensions shown are for style 02. The dimensions for other styles are included in the general section in the front of the catalog

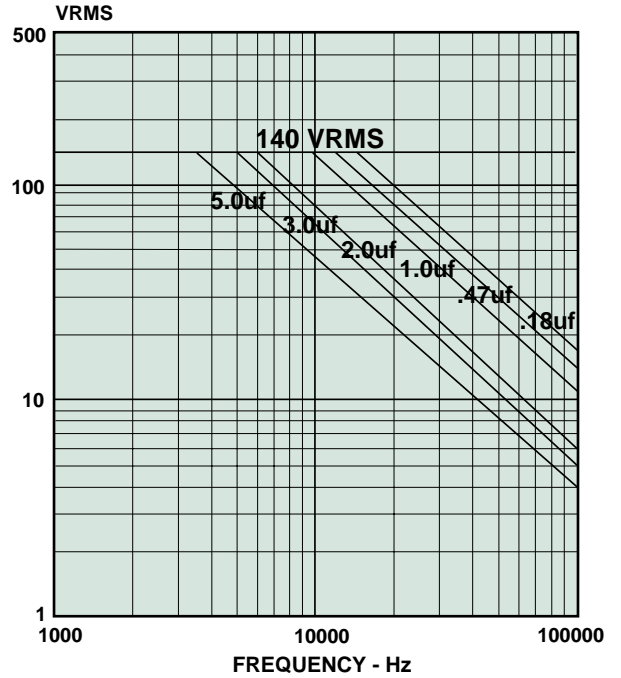
**400 and 600 VAC parts are available upon request**



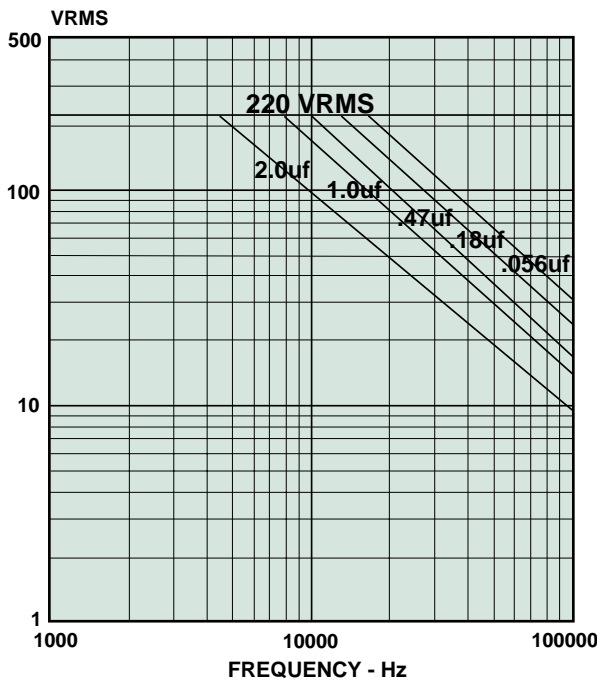
**VOLTAGE vs FREQUENCY TYPE 720P  
100VDC\70VAC**



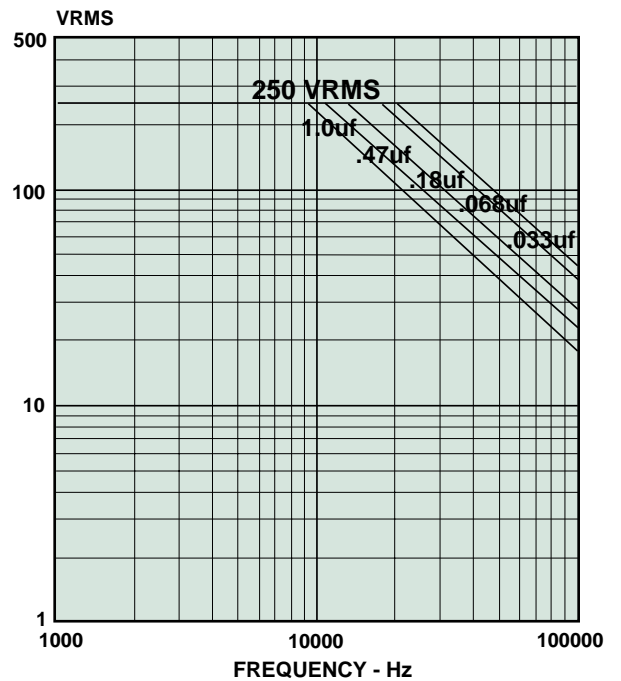
**VOLTAGE vs FREQUENCY TYPE 720P  
200VDC\140VAC**



**VOLTAGE vs FREQUENCY TYPE 720P  
400VDC\220VAC**



**VOLTAGE vs FREQUENCY TYPE 720P  
600VDC\250VAC**



## Wrap-and-Fill High-Frequency Metalized Polypropylene Film Capacitors

**Features —**

- Excellent AC Performance
- Low Power Dissipation
- Low Dielectric Absorption
- Close Tolerance
- High Stability

**Major Applications:**

Pulse operations, deflection-circuits, SMPS, high frequency coupling and decoupling, sample and hold circuits, timing, and other applications where low loss and high stability are important

### PHYSICAL CHARACTERISTICS —

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

Flame retardant tape wrap and epoxy endfill

**Lead Material:**

Solder coated copper wire

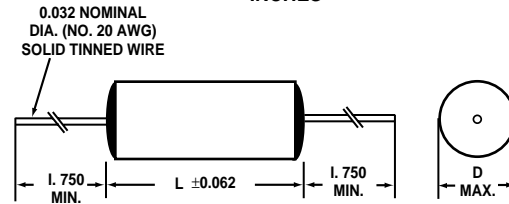
**Lead Strength:**

Capable of withstanding a five pound pull force on lead axis

**Marking:**

Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

**DIMENSIONS INCHES**



### ELECTRICAL SPECIFICATIONS —

**Capacitance Range:**

0.022  $\mu$ f to 10.0  $\mu$ f

**Voltage Rating:**

160 VDC to 630 VDC  
100 VRMS to 277 VRMS

**Capacitance Tolerance:**

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

**Operating Temperature:**

-55°C to 105°C.

**Voltage Derating:**

At 105°C, 70% of the 85°C rating

**Dissipation Factor:**

0.07% maximum

**Equivalent Series Resistance:**

20kHz-100kHz (see Standard Ratings tables)

**DC Voltage Test:**

200% of rated voltage for 2 minutes

**Insulation Resistance:**

Measure at rated VDC after a 2 minute charge

At + 25°C, 200,000 Megohm-Microfarads,

need not exceed 400,000 Megohms

At + 85°C, 10,000 Megohm-Microfarads,

need not exceed 20,000 Megohms

At + 105°C, 1000 Megohm-Microfarads,

need not exceed 2000 Megohms

### MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/ $\mu$ s)			
	160 VDC/100 VAC	250 VDC/175 VAC	400 VDC/220 VAC	630 VDC/277 VAC
.75	48	72	94	171
1.00	28	40	55	88
1.25	22	30	45	62
1.75	12	18	23	38
2.25	-	13	-	-

## STANDARD RATINGS

Capacitance µf      Code		Case Size Inches		ESR (Milliohms) 20 kHz to 100 kHz	Maximum Ripple Current (Amps) at 20-100kHz Case Temperature						
		D	L		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
<b>160 VOLTS DC/100 VRMS*(VOLTAGE CODE 160)</b>											
0.22	224	0.275	0.75	47	2.3	2.3	2.3	2.3	2.3	1.8	1.0
0.27	274	0.298	0.75	45	2.6	2.6	2.6	2.6	2.4	1.9	1.1
0.33	334	0.324	0.75	41	2.8	2.8	2.8	2.8	2.6	2.2	1.2
0.39	394	0.347	0.75	39	3.1	3.1	3.1	3.1	2.9	2.3	1.3
0.47	474	0.376	0.75	37	3.7	3.4	3.1	2.8	2.5	2.0	1.4
0.56	564	0.321	1.00	35	3.9	3.6	3.3	2.9	2.6	2.1	1.5
0.68	684	0.348	1.00	33	4.1	3.8	3.5	3.1	2.8	2.2	1.6
0.82	824	0.377	1.00	31	4.3	4.0	3.6	3.2	2.9	2.3	1.7
1.0	105	0.421	1.00	26	5.5	5.1	4.7	4.2	3.6	2.8	2.6
1.2	125	0.454	1.00	24	5.7	5.3	4.9	4.4	3.8	3.0	2.8
1.5	155	0.500	1.00	20	6.1	5.5	5.1	4.6	4.0	3.2	3.1
1.8	185	0.541	1.00	19	6.3	5.7	5.3	4.8	4.1	3.4	3.0
2.0	205	0.486	1.25	18	6.5	6.0	5.5	4.9	4.2	3.5	3.2
2.2	225	0.507	1.25	18	6.8	6.3	5.7	5.1	4.4	3.6	3.3
2.7	275	0.554	1.25	17	7.1	6.5	6.0	5.3	4.6	3.7	3.4
3.0	305	0.581	1.25	16	7.3	6.7	6.2	5.5	4.8	3.9	3.5
3.3	335	0.606	1.25	16	7.4	6.8	6.4	5.6	4.9	4.0	3.6
3.9	395	0.654	1.25	15	7.6	6.9	6.6	5.8	5.1	4.1	3.7
4.0	405	0.537	1.75	15	7.8	7.0	6.7	5.9	5.2	4.2	3.8
4.7	475	0.577	1.75	15	8.1	7.4	6.8	6.0	5.3	4.3	3.9
5.0	505	0.593	1.75	14	8.3	7.6	7.0	6.2	5.4	4.4	4.0
5.6	565	0.624	1.75	14	8.4	7.7	7.1	6.4	5.5	4.5	4.1
6.0	605	0.644	1.75	14	8.5	7.8	7.2	6.5	5.6	4.6	4.2
6.8	685	0.682	1.75	13	8.5	8.0	7.4	6.7	5.7	4.7	4.3
8.0	805	0.735	1.75	13	8.6	8.3	7.7	6.8	6.0	4.8	4.4
8.2	825	0.743	1.75	13	8.8	8.6	8.0	7.0	6.1	4.9	4.5
10.0	106	0.815	1.75	12	9.0	9.0	8.5	7.6	6.6	5.4	4.9
<b>250 VOLTS DC/175 VRMS*(VOLTAGE CODE 250)</b>											
0.10	104	0.279	0.75	60	1.5	1.5	1.5	1.5	1.5	1.5	.09
0.12	124	0.300	0.75	57	1.9	1.9	1.9	1.9	1.9	1.7	1.0
0.15	154	0.327	0.75	54	2.3	2.3	2.3	2.3	2.3	1.9	1.1
0.18	184	0.353	0.75	51	2.7	2.7	2.7	2.7	2.5	2.0	1.2
0.22	224	0.306	1.00	48	1.9	1.9	1.9	1.9	1.9	1.9	1.3
0.27	274	0.333	1.00	46	2.4	2.4	2.4	2.4	2.4	2.2	1.4
0.33	334	0.362	1.00	43	2.9	2.9	2.9	2.9	2.9	2.3	1.5
0.39	394	0.389	1.00	41	3.4	3.4	3.4	3.2	2.9	2.3	1.6
0.47	474	0.422	1.00	35	3.8	3.7	3.6	3.4	2.9	2.4	1.7
0.56	564	0.464	1.00	33	3.9	3.8	3.7	3.5	3.1	2.5	1.8
0.68	684	0.425	1.25	32	4.0	3.9	3.8	3.7	3.2	2.6	1.9
0.82	824	0.471	1.25	31	4.2	4.1	4.0	3.9	3.4	2.8	2.0
1.0	105	0.513	1.25	28	4.4	4.4	4.4	4.4	4.3	3.5	3.2
1.2	125	0.554	1.25	27	4.7	4.6	4.5	5.0	4.5	3.7	3.3
1.5	155	0.613	1.25	26	5.1	5.0	4.9	5.4	4.7	3.9	3.5
1.8	185	0.667	1.25	25	5.9	5.8	5.7	5.7	5.0	4.1	3.7
2.0	205	0.700	1.25	21	7.2	7.2	6.8	6.0	5.2	4.3	3.9
2.2	225	0.610	1.75	20	8.4	7.5	7.0	6.3	5.4	4.5	4.1
2.7	275	0.669	1.75	19	8.6	7.8	7.3	6.6	5.7	4.7	4.3
3.0	305	0.703	1.75	18	9.0	8.3	7.6	6.8	5.9	4.8	4.4
3.3	335	0.734	1.75	18	9.0	8.4	7.8	7.0	6.0	4.9	4.5
3.9	395	0.794	1.75	17	9.0	8.5	8.0	7.2	6.2	5.0	4.6
4.0	405	0.803	1.75	16	9.0	8.6	8.2	7.4	6.3	5.1	4.7
4.7	475	0.866	1.75	16	9.0	8.8	8.5	7.7	6.6	5.3	4.9

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

\*AC voltage rating is at 400Hz. 1.4 times the RMS voltage plus the DC voltage should not exceed the rated VDC

\*Graphs of AC voltage vs frequency follow

STANDARD RATINGS

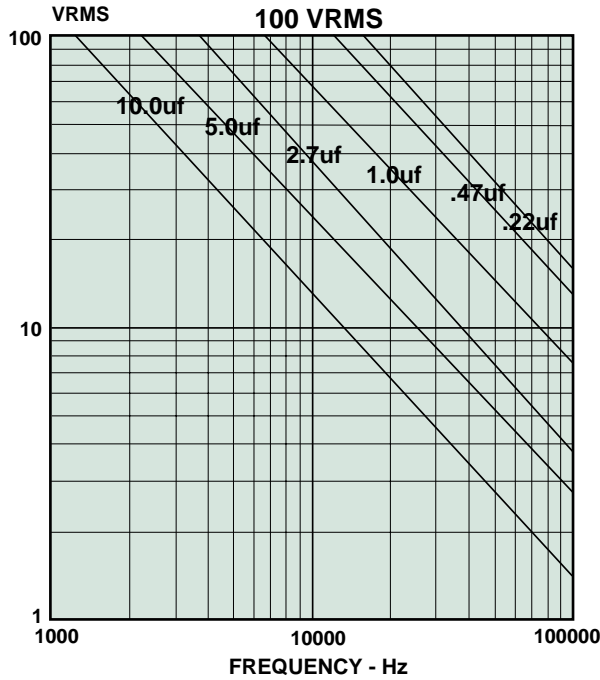
Capacitance µf Code		Case Size Inches		ESR (Milliohms) 20 kHz to 100 kHz	Maximum Ripple Current (Amps) at 20-100kHz Case Temperature						
		D	L		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
<b>250 VOLTS DC (Cont.) (VOLTAGE CODE 250)</b>											
5.0	505	0.892	1.75	15	9.0	9.0	8.8	7.9	6.8	5.6	5.1
5.6	565	0.941	1.75	15	9.0	9.0	8.9	8.0	7.0	5.8	5.3
6.0	605	0.972	1.75	15	9.0	9.0	9.0	8.2	7.2	5.9	5.5
6.8	685	0.882	2.25	15	9.0	9.0	9.0	8.4	7.4	6.0	5.6
8.0	805	0.953	2.25	14	9.0	9.0	9.0	8.7	7.8	6.3	5.8
8.2	825	0.964	2.25	14	9.0	9.0	9.0	8.8	7.9	6.4	5.9
10.0	106	1.060	2.25	13	9.0	9.0	9.0	9.0	8.3	6.8	6.2
<b>400 VOLTS DC/220 VRMS*(VOLTAGE CODE 400)</b>											
0.047	473	0.258	0.75	93	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.056	563	0.275	0.75	85	1.1	1.1	1.1	1.1	1.1	1.1	0.9
0.068	683	0.297	0.75	80	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.082	823	0.320	0.75	75	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.10	104	0.348	0.75	60	2.0	2.0	2.0	2.0	2.0	1.9	1.3
0.12	124	0.299	1.00	57	1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.15	154	0.328	1.00	54	1.7	1.7	1.7	1.7	1.7	1.7	1.6
0.18	184	0.353	1.00	51	2.1	2.1	2.1	2.1	2.1	2.1	1.7
0.22	224	0.385	1.00	47	2.6	2.6	2.6	2.6	2.6	2.5	1.8
0.27	274	0.421	1.00	45	3.1	3.1	3.1	3.1	3.1	2.7	1.9
0.33	334	0.469	1.00	41	3.8	3.8	3.8	3.8	3.5	2.9	2.0
0.39	394	0.503	1.00	39	4.1	4.1	4.1	4.1	3.7	3.1	2.1
0.47	474	0.545	1.00	32	5.7	5.5	5.0	4.4	3.8	3.2	2.2
0.56	564	0.506	1.25	31	5.7	5.7	5.3	4.4	4.1	3.3	2.3
0.68	684	0.551	1.25	30	5.7	5.7	5.5	4.8	4.3	3.5	2.4
0.82	824	0.599	1.25	28	5.7	5.7	5.6	5.3	4.5	3.7	2.6
1.0	105	0.655	1.25	27	5.7	5.7	5.7	5.7	5.7	4.7	4.3
1.2	125	0.712	1.25	26	6.3	6.2	6.0	5.9	5.8	4.9	4.5
1.5	155	0.658	1.75	25	7.0	6.9	6.7	6.6	6.5	5.2	4.7
1.8	185	0.716	1.75	23	8.0	7.9	7.8	7.7	6.8	5.5	5.0
2.0	205	0.752	1.75	21	9.0	9.0	9.0	8.0	7.0	5.7	5.2
2.2	225	0.786	1.75	20	9.0	9.0	9.0	8.3	7.4	5.9	5.4
2.7	275	0.865	1.75	19	9.0	9.0	9.0	8.6	7.6	6.0	5.6
3.0	305	0.909	1.75	17	9.0	9.0	9.0	9.0	7.9	6.4	5.9
3.3	335	0.951	1.75	16	9.0	9.0	9.0	9.0	8.1	6.6	6.3
3.9	395	1.031	1.75	15	9.0	9.0	9.0	9.0	8.3	6.8	6.5
<b>630 VOLTS DC/277 VRMS*(VOLTAGE CODE 630)</b>											
0.022	223	0.283	0.75	130	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.027	273	0.307	0.75	120	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.033	333	0.334	0.75	110	1.2	1.2	1.2	1.2	1.2	1.2	1.0
0.039	393	0.358	0.75	100	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.047	473	0.388	0.75	43	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.056	563	0.418	0.75	85	2.1	2.1	2.1	2.1	2.1	1.7	1.2
0.068	683	0.346	1.00	80	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.082	823	0.374	1.00	75	1.6	1.6	1.6	1.6	1.6	1.6	1.4
0.10	104	0.408	1.00	66	1.9	1.9	1.9	1.9	1.9	1.9	1.6
0.12	124	0.443	1.00	57	2.3	2.3	2.3	2.3	2.3	2.3	1.8
0.15	154	0.496	1.00	53	2.9	2.9	2.9	2.9	2.9	2.6	1.9
0.18	184	0.538	1.00	50	3.5	3.5	3.5	3.5	3.5	2.7	1.9
0.22	224	0.496	1.25	45	2.8	2.8	2.8	2.8	2.8	2.8	2.3
0.27	274	0.542	1.25	43	3.5	3.5	3.5	3.5	3.5	3.3	2.3
0.33	334	0.593	1.25	40	4.3	4.3	4.3	4.3	4.3	3.5	2.4
0.39	394	0.639	1.25	35	5.0	5.0	5.0	5.0	4.6	3.7	2.5
0.47	474	0.696	1.25	28	6.8	6.3	5.8	5.2	4.5	3.6	2.6
0.56	564	0.608	1.75	26	7.4	6.9	6.3	5.6	4.8	4.0	2.8
0.68	684	0.664	1.75	25	7.8	7.2	6.6	5.9	5.1	4.2	2.9
0.82	824	0.724	1.75	22	8.1	7.5	6.9	6.2	5.3	4.3	3.1
1.0	105	0.794	1.75	18	8.6	7.9	7.3	6.5	5.6	4.6	3.6

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

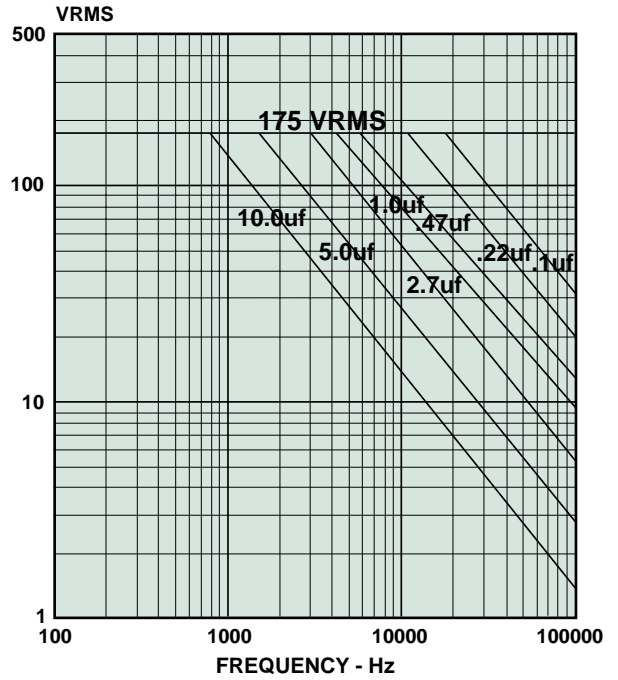
\*AC voltage rating is at 400Hz. 1.4 times the RMS voltage plus the DC voltage should not exceed the rated VDC

\*Graphs of AC voltage vs frequency follow

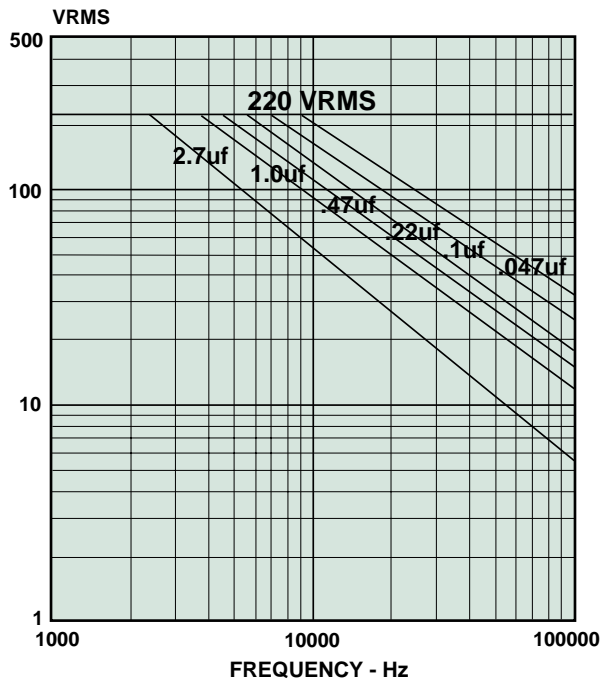
**VOLTAGE vs FREQUENCY TYPE 730P**  
160VDC\100VAC



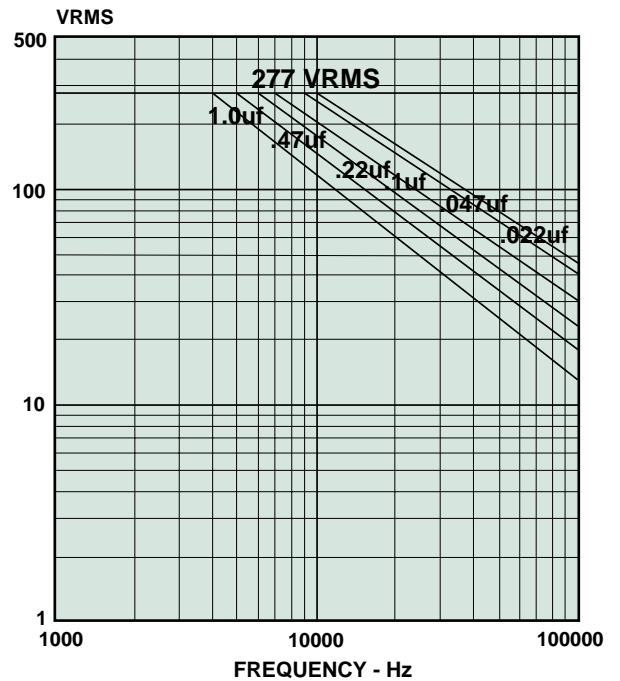
**VOLTAGE vs FREQUENCY TYPE 730P**  
250VDC\175VAC



**VOLTAGE vs FREQUENCY TYPE 730P**  
400VDC\220VAC



**VOLTAGE vs FREQUENCY TYPE 730P**  
630VDC\277VAC



## Wrap-and-Fill High Voltage Metalized Polypropylene Film Capacitors

**Features —**

- AC Voltage Rating to 750V
- Low Power Dissipation
- Close Tolerance
- High Stability
- High DC Current

**Major Applications:**

Snubber, industrial controls, AC drives and inverters, UPS, charging systems, and other high voltage electronic applications

### PHYSICAL CHARACTERISTICS —

**Construction:**

Non-inductive wound metalized polypropylene internal series connection

**Case:**

Flame retardant tape wrap and epoxy endfill

**Lead Material:**

Solder coated copper wire

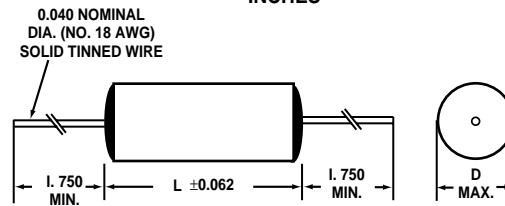
**Lead Strength:**

Capable of withstanding a five pound pull force on lead axis

**Marking:**

Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

**DIMENSIONS INCHES**



### ELECTRICAL SPECIFICATIONS —

**Capacitance Range:**

0.01µf to 2.5µf

**Voltage Rating:**

850 VDC to 3,000 VDC  
450 VRMS to 750 VRMS

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

-55°C to 70°C.

**Dissipation Factor:**

0.05% maximum

**Equivalent Series Resistance:**

20kHz-100kHz (see Standard Ratings tables)

**DC Voltage Test:**

130% of rated voltage for 1 minute

**Insulation Resistance:**

Measure at 500 VDC after a 2 minute charge  
At + 25°C, 200,000 Megohm-Microfarads,  
need not exceed 400,000 Megohms

### MAXIMUM PULSE RISE TIME

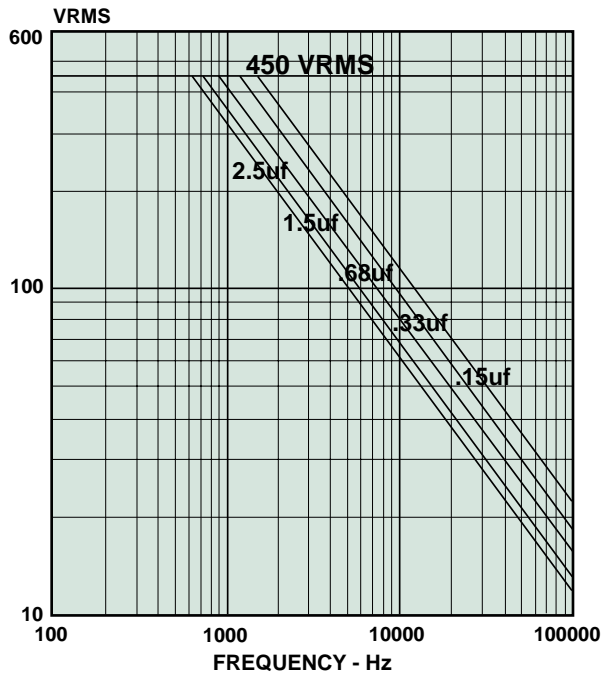
Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	850 VDC/450 VAC	1200 VDC/500 VAC	2000 VDC/630 VAC	3000 VDC/750 VAC
1.250	305	1400	1750	3000
1.650	200	650	1000	1700
2.170	-	400	650	-



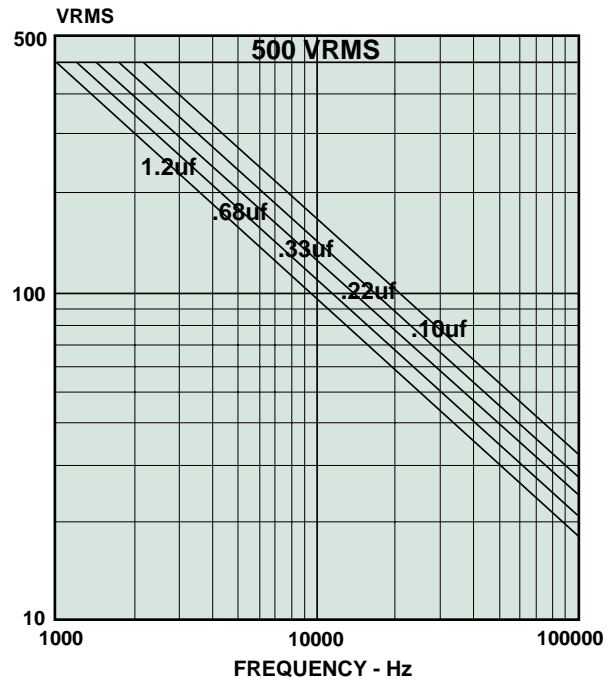
**STANDARD RATINGS**

Capacitance µf      Code		Case Size Inches D      L		ESR Typical @ 100 KHz m Ω	I RMS @ 100 KHz-@ 70C
<b>850 VDC/450 VAC (VOLTAGE CODE 850)</b>					
.15	154	.400	1.250	9.5	5
.22	224	.475	1.250	6.6	7
.33	334	.570	1.250	4.6	9
.47	474	.669	1.250	3.5	9
.68	684	.800	1.250	2.7	9
1.00	105	.800	1.650	3.1	9
1.50	155	.965	1.650	2.3	11
2.00	205	1.125	1.650	2.0	11
2.50	255	1.240	1.650	1.9	11
<b>1200 VDC/500 VAC (VOLTAGE CODE 1K2)</b>					
.10	104	.552	1.250	8.7	7
.15	154	.669	1.250	6.1	9
.22	224	.807	1.250	4.5	9
.33	334	.768	1.650	4.7	9
.47	474	.906	1.650	3.6	9
.68	684	1.08	1.650	2.7	11
1.00	105	1.32	1.650	2.3	11
1.20	125	1.142	2.170	2.8	11
<b>2000 VDC/630 VAC (VOLTAGE CODE 2K0)</b>					
.022	223	.413	1.250	31.9	3
.033	333	.492	1.250	21.4	4
.047	473	.571	1.250	15.2	5
.068	683	.669	1.250	10.8	7
.10	104	.807	1.250	7.6	9
.15	154	.768	1.650	7.4	9
.22	224	.925	1.650	5.4	9
.33	334	1.122	1.650	3.9	11
.47	474	1.320	1.650	3.1	11
.56	564	1.142	2.170	3.9	11
<b>3000 VDC/750 VAC (VOLTAGE CODE 3K0)</b>					
.01	103	.472	1.250	61.6	2
.015	153	.551	1.250	41.3	3
.022	223	.650	1.250	28.4	4
.033	333	.787	1.250	19.2	5
.047	473	.728	1.650	17.9	6
.068	683	.866	1.650	12.6	8
.10	104	1.043	1.650	8.8	11
.15	154	1.260	1.650	6.2	11

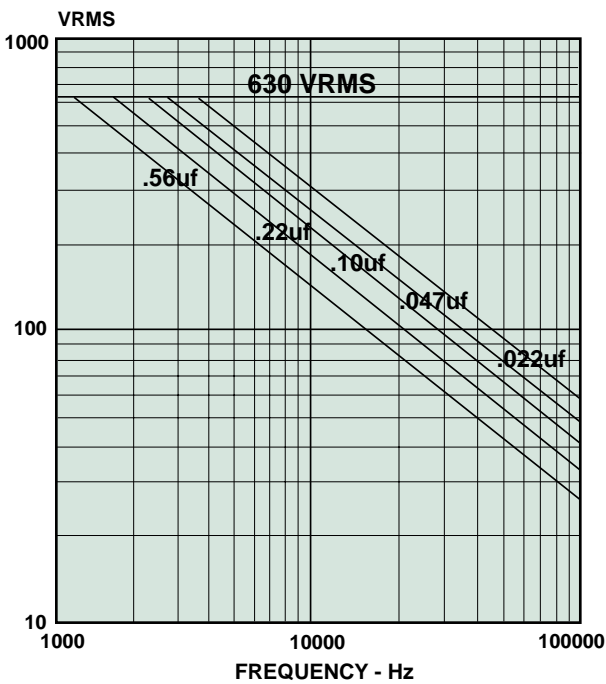
**VOLTAGE vs FREQUENCY TYPE 730G**  
**850VDC\450VAC**



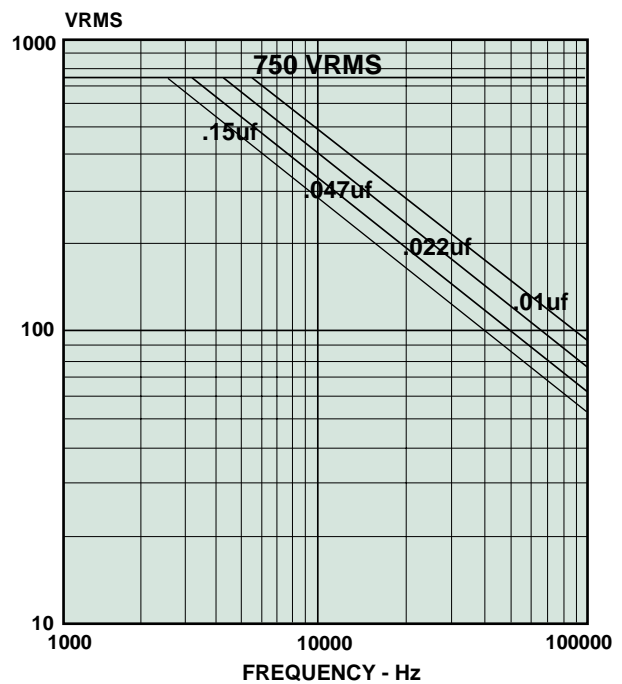
**VOLTAGE vs FREQUENCY TYPE 730G**  
**1200VDC\500VAC**



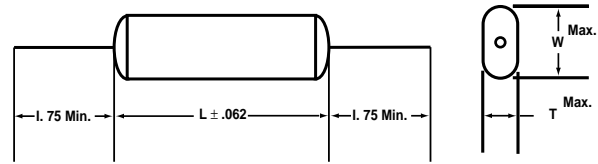
**VOLTAGE vs FREQUENCY TYPE 730G**  
**2000VDC\630VAC**



**VOLTAGE vs FREQUENCY TYPE 730G**  
**3000VDC\750VAC**



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



Leads are bare, solid tinned copper wire. Lead wire sizes are:

Case Size	Lead AWG
T Max < 0.350"	No. 20
T Max ≥ 0.350"	No. 18

**Features —**

- High Stability
- High Ripple Current
- Low Inductance
- Low ESR
- Excellent AC Performance
- Oval Configuration Affords Economy of Space

**Major Applications:**

Pulse operations, deflection-circuits, SMPS, high frequency coupling and decoupling, sample and hold circuits, and other applications where low loss and high stability are important

**PHYSICAL CHARACTERISTICS —**

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

Flame retardant tape wrap and epoxy endfill

**Lead Material:**

Solder coated copper 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:**

0.022 µf to 10.0 µf

**Voltage Rating:**

160 VDC to 630 VDC  
100 VRMS to 277 VRMS

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

- 55°C to +105°C

**Voltage Derating:**

At 105°C, 70% of the 85°C rating

**Dissipation Factor:**

0.07% maximum

**Equivalent Series Resistance:**

20kHz-100kHz (see Standard Rating table)

**DC Voltage Test:**

200% of rated voltage for 2 minutes

**Insulation Resistance:**

Measure at rated VDC after a 2 minute charge

**At +25°C**, 200,000 Megohm-Microfarads, need not exceed 400,000 Megohms

**At +85°C**, 10,000 Megohm-Microfarads, need not exceed 20,000 Megohms

**At + 105°C**, 1000 Megohm-Microfarads, need not exceed 2000 Megohms

**MAXIMUM PULSE RISE TIME**

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	160VDC/100VAC	250VDC/175VAC	400VDC/220VAC	630VDC/277VAC
.75	48	72	94	171
1.00	28	40	55	88
1.25	22	30	45	62
1.75	12	18	23	38
2.25	-	13	-	-

STANDARD RATINGS

Capacitance Code µf		Case Size Inches			ESR Limit (Milliohms) 20 kHz to 100 kHz	Maximum Ripple Current (Amps) at 20 kHz Case Temperature						
		T Max	W Max	L±.062		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
<b>160 VOLTS DC; 100 VAC rms*(VOLTAGE CODE 160)</b>												
0.22	224	0.23	0.34	0.75	47	2.3	2.3	2.3	2.3	2.3	1.8	1.3
0.27	274	0.26	0.35	0.75	45	2.6	2.6	2.6	2.6	2.4	1.9	1.4
0.33	334	0.28	0.39	0.75	41	2.8	2.8	2.8	2.8	2.6	2.2	1.5
0.39	394	0.29	0.44	0.75	39	3.1	3.1	3.1	3.1	2.9	2.3	1.6
0.47	474	0.33	0.47	0.75	37	3.2	3.2	3.2	3.2	3.0	2.5	1.7
0.56	564	0.27	0.45	1.00	35	3.3	3.3	3.3	3.3	3.3	2.7	1.9
0.68	684	0.29	0.49	1.00	33	3.9	3.9	3.9	3.9	3.7	3.0	2.1
1.00	105	0.32	0.54	1.00	26	4.6	4.6	4.6	4.6	4.3	3.5	2.5
1.20	125	0.36	0.58	1.00	24	5.0	5.0	5.0	5.0	4.6	3.8	2.7
1.50	155	0.40	0.63	1.00	20	5.6	5.6	5.6	5.6	5.2	4.2	3.0
1.80	185	0.45	0.67	1.00	19	6.0	6.0	6.0	6.0	5.6	4.6	3.2
2.00	205	0.39	0.61	1.25	18	6.7	6.7	6.7	6.7	6.2	5.1	3.6
2.70	275	0.46	.068	1.25	17	7.0	7.0	7.0	7.0	6.5	5.3	3.7
3.00	305	0.47	0.76	1.25	16	7.5	7.5	7.5	7.5	6.9	5.7	4.0
3.30	335	0.51	0.77	1.25	16	7.5	7.5	7.5	7.5	6.9	5.7	4.0
3.90	395	0.56	0.79	1.25	15	7.6	7.6	7.6	7.6	7.0	5.8	4.1
4.00	405	0.44	0.66	1.75	15	8.7	8.7	8.7	8.7	8.1	6.6	4.7
4.70	475	0.48	0.71	1.75	15	9.1	9.1	9.1	9.1	8.4	6.9	4.9
5.00	505	0.50	0.72	1.75	14	9.2	9.2	9.2	9.2	8.5	6.9	4.9
5.60	565	0.50	0.86	1.75	14	9.6	9.6	9.6	9.6	8.9	7.2	5.1
6.00	605	0.50	0.88	1.75	14	9.3	9.3	9.3	9.3	8.6	7.0	5.0
6.80	685	0.50	0.92	1.75	13	9.3	9.3	9.3	9.3	8.6	7.0	5.0
8.00	805	0.55	0.97	1.75	13	9.3	9.3	9.3	9.3	8.6	7.0	5.0
8.20	825	0.55	0.98	1.75	13	9.4	9.4	9.4	9.4	8.7	7.1	5.0
10.00	106	0.62	1.06	1.75	12	9.6	9.6	9.6	9.6	8.9	7.3	5.1
<b>250 VOLTS DC; 175 VAC rms*(VOLTAGE CODE 250)</b>												
0.10	104	0.24	0.34	0.75	60	1.5	1.5	1.5	1.5	1.5	1.5	1.1
0.12	124	0.26	0.37	0.75	57	1.9	1.9	1.9	1.9	1.9	1.7	1.2
0.15	154	0.27	0.42	0.75	54	2.3	2.3	2.3	2.3	2.3	1.9	1.3
0.18	184	0.28	0.48	0.75	51	2.7	2.7	2.7	2.7	2.5	2.0	1.4
0.22	224	0.25	0.39	1.00	48	1.9	1.9	1.9	1.9	1.9	1.9	1.6
0.27	274	0.28	0.42	1.00	46	2.4	2.4	2.4	2.4	2.4	2.4	1.7
0.33	334	0.31	0.45	1.00	43	2.9	2.9	2.9	2.9	2.9	2.6	1.8
0.39	394	0.33	0.48	1.00	41	3.4	3.4	3.4	3.4	3.4	2.8	2.0
0.47	474	0.27	0.48	1.30	35	4.0	4.1	4.1	4.1	3.8	3.1	2.2
0.56	564	0.37	0.58	1.00	33	4.3	4.3	4.3	4.3	4.0	3.2	2.3
0.68	684	0.34	0.55	1.25	32	4.2	4.2	4.2	4.2	4.2	3.7	2.6
0.82	824	0.37	0.59	1.25	31	5.0	5.0	5.0	5.0	4.6	3.8	2.7
1.00	105	0.36	0.60	1.32	28	5.4	5.4	5.4	5.4	5.0	4.1	2.9
1.20	125	0.41	0.73	1.25	27	5.6	5.6	5.6	5.6	5.2	4.2	3.0
1.50	155	0.43	0.85	1.25	26	5.9	5.9	5.9	5.9	5.4	4.4	3.1
1.80	185	0.48	0.90	1.25	25	6.0	6.0	6.0	6.0	5.5	4.5	3.2

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

\*AC voltage rating is at 400Hz. 1.4 times the RMS voltage plus the DC voltage should not exceed the rated VDC

\*Graphs of AC voltage vs frequency follow



STANDARD RATINGS

Capacitance µf Code		Case Size Inches			ESR Limit (Milliohms) 20 kHz to 100 kHz	Maximum Ripple Current (Amps ) at 20 kHz Case Temperature						
		T Max	W Max	L±.062		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
<b>250 VOLTS DC; 175 VAC rms * (Cont.) (VOLTAGE CODE 250)</b>												
2.00	205	0.49	0.99	1.25	21	6.5	6.5	6.5	6.5	6.0	4.9	3.5
2.20	225	0.41	0.82	1.75	20	7.8	7.8	7.8	7.8	7.2	5.9	4.2
2.70	275	0.46	0.88	1.75	19	8.0	8.0	8.0	8.0	7.4	6.0	4.3
3.00	305	0.49	0.91	1.75	18	8.4	8.4	8.4	8.4	7.8	6.4	4.5
3.30	335	0.50	1.00	1.75	18	7.8	7.8	7.8	7.8	7.3	5.9	4.2
3.90	395	0.53	1.06	1.75	17	7.9	7.9	7.9	7.9	7.3	5.9	4.2
4.00	405	0.54	1.07	1.75	16	8.2	8.2	8.2	8.2	7.6	6.2	4.4
4.70	475	0.60	1.13	1.75	16	7.9	7.9	7.9	7.9	7.3	6.0	4.2
5.00	505	0.62	1.15	1.75	15	8.3	8.3	8.3	8.3	7.7	6.3	4.4
5.60	565	0.67	1.20	1.75	15	8.5	8.5	8.5	8.5	7.9	6.4	4.6
6.00	605	0.70	1.23	1.75	15	8.7	8.7	8.7	8.7	8.1	6.6	4.6
6.80	685	0.66	1.09	2.25	15	10.0	10.0	10.0	10.0	9.2	7.5	5.3
8.00	805	0.73	1.17	2.25	14	10.0	10.0	10.0	10.0	9.2	7.5	5.3
8.20	825	0.74	1.23	2.25	14	10.1	10.1	10.1	10.1	9.4	7.6	5.4
10.00	106	0.78	1.32	2.25	13	11.1	11.1	11.1	11.1	10.3	8.4	5.9
<b>400 VOLTS DC; 220 VAC rms*(VOLTAGE CODE 400)</b>												
0.047	473	0.22	0.32	0.75	93	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.056	563	0.24	0.34	0.75	85	1.1	1.1	1.1	1.1	1.1	1.1	0.9
0.068	683	0.25	0.39	0.75	80	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.082	823	0.27	0.4	0.75	75	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.100	104	0.27	0.48	0.75	60	2.0	2.0	2.0	2.0	2.0	1.9	1.3
0.120	124	0.25	0.39	1.00	57	1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.150	154	0.28	0.42	1.00	54	1.7	1.7	1.7	1.7	1.7	1.7	1.6
0.180	184	0.29	0.48	1.00	51	2.1	2.1	2.1	2.1	2.1	2.1	1.7
0.220	224	0.30	0.52	1.00	47	2.6	2.6	2.6	2.6	2.6	2.5	1.8
0.270	274	0.30	0.61	1.00	45	3.1	3.1	3.1	3.1	3.1	2.7	1.9
0.330	334	0.33	0.65	1.00	41	3.8	3.8	3.8	3.8	3.5	2.9	2.0
0.390	394	0.37	0.69	1.00	39	4.1	4.1	4.1	4.1	3.8	3.1	2.2
0.470	474	0.41	0.73	1.00	32	4.6	4.6	4.6	4.6	4.2	3.4	2.4
0.560	564	0.37	0.69	1.25	31	4.6	4.6	4.6	4.6	4.6	3.9	2.8
0.680	684	0.38	0.79	1.25	30	5.4	5.4	5.4	5.4	5.0	4.1	2.9
0.820	824	0.42	0.84	1.25	28	5.6	5.6	5.6	5.6	5.2	4.2	3.0
1.000	105	0.47	0.90	1.25	27	5.7	5.7	5.7	5.7	5.3	4.3	3.1
1.200	125	0.53	0.95	1.25	26	5.8	5.8	5.8	5.8	5.4	4.4	3.1
1.500	155	0.45	0.88	1.75	25	6.9	6.9	6.9	6.9	6.1	5.2	3.7
1.800	185	0.51	0.93	1.75	23	7.2	7.2	7.2	7.2	6.6	5.4	3.8
2.000	205	0.54	0.97	1.75	21	7.7	7.7	7.7	7.7	7.1	5.8	4.1
2.200	225	0.55	1.06	1.75	20	7.2	7.2	7.2	7.2	6.7	5.5	3.9
2.700	275	0.60	1.13	1.75	19	7.3	7.3	7.3	7.3	6.7	5.5	3.9
3.000	305	0.64	1.17	1.75	17	7.9	7.9	7.9	7.9	7.3	6.0	4.2
3.300	335	0.68	1.22	1.75	16	8.3	8.3	8.3	8.3	7.7	6.3	4.5
3.900	395	0.75	1.29	1.75	15	9.0	9.0	9.0	9.0	8.4	6.8	4.8

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

\*AC voltage rating is at 400Hz. 1.4 times the RMS voltage plus the DC voltage should not exceed the rated VDC

\*Graphs of AC voltage vs frequency follow

## STANDARD RATINGS

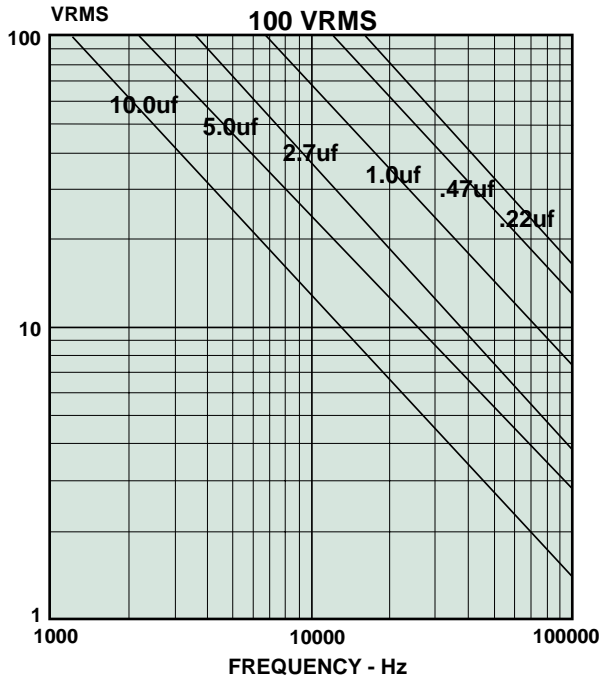
Capacitance µf Code		Case Size Inches			ESR Limit (Milliohms) 20 kHz to 100 kHz	Maximum Ripple Current (Amps ) at 20 kHz Case Temperature						
		T Max	W Max	L±.062		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
<b>630 VOLTS DC; 277 VAC rms*(VOLTAGE CODE 630)</b>												
0.022	223	0.25	0.35	0.75	130	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.027	273	0.26	0.40	0.75	120	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.033	333	0.27	0.43	0.75	110	1.2	1.2	1.2	1.2	1.2	1.2	1.0
0.039	393	0.28	0.49	0.75	100	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.047	473	0.29	0.58	0.75	93	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.056	563	0.30	0.61	0.75	85	2.1	2.1	2.1	2.1	2.1	1.7	1.2
0.068	683	0.27	0.48	1.00	80	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.082	823	0.29	0.51	1.00	75	1.6	1.6	1.6	1.6	1.6	1.6	1.4
0.120	124	0.32	0.63	1.00	57	2.3	2.3	2.3	2.3	2.3	2.3	1.8
0.150	154	0.36	0.68	1.00	53	2.9	2.9	2.9	2.9	2.9	2.6	1.9
0.180	184	0.40	0.72	1.00	50	3.5	3.5	3.5	3.5	3.5	2.7	1.9
0.220	224	0.36	0.68	1.25	45	2.8	2.8	2.8	2.8	2.8	2.8	2.3
0.270	274	0.40	0.72	1.25	43	3.5	3.5	3.5	3.5	3.5	3.3	2.3
0.330	334	0.41	0.83	1.25	40	4.3	4.3	4.3	4.3	4.3	3.5	2.5
0.390	394	0.46	0.88	1.25	35	5.0	5.0	5.0	5.0	4.6	3.7	2.6
0.470	474	0.51	0.93	1.25	28	5.5	5.5	5.5	5.5	5.1	4.2	3.0
0.560	564	0.42	0.84	1.75	26	4.4	4.4	4.4	4.4	4.4	4.4	3.7
0.680	684	0.47	0.89	1.75	25	5.3	5.3	5.36	5.3	5.3	5.3	3.8
0.820	824	0.53	0.95	1.75	22	6.4	6.4	6.4	6.4	6.4	5.6	4.0
1.000	105	0.57	1.02	1.75	18	7.7	7.7	7.7	7.7	7.1	5.8	4.1

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

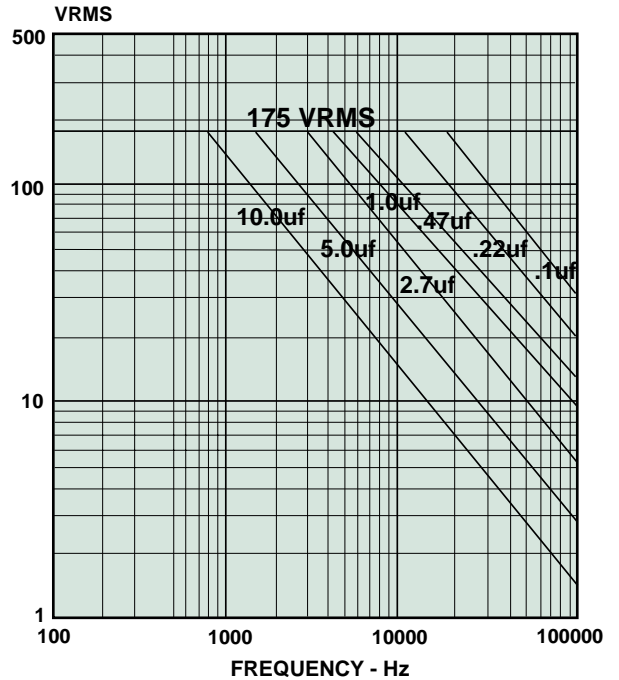
\*AC voltage rating is at 400Hz. 1.4 times the RMS voltage plus the DC voltage should not exceed the rated VDC

\*Graphs of AC voltage vs frequency follow

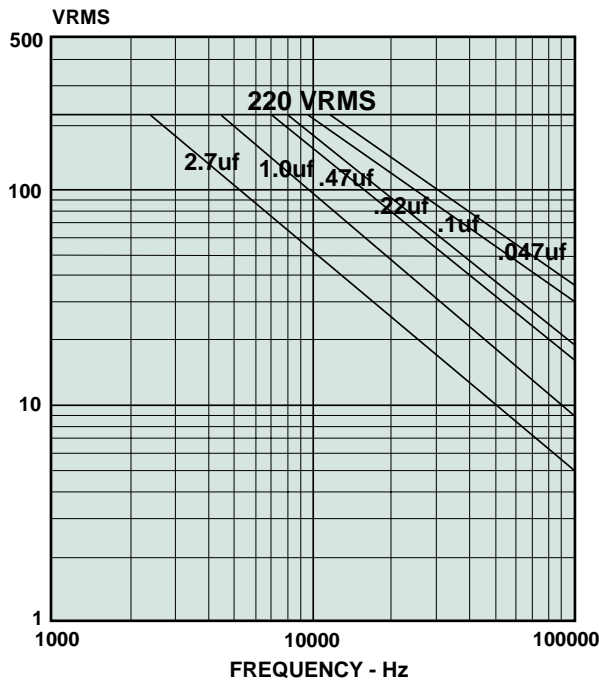
**VOLTAGE vs FREQUENCY TYPE 731P  
160VDC\100VAC**



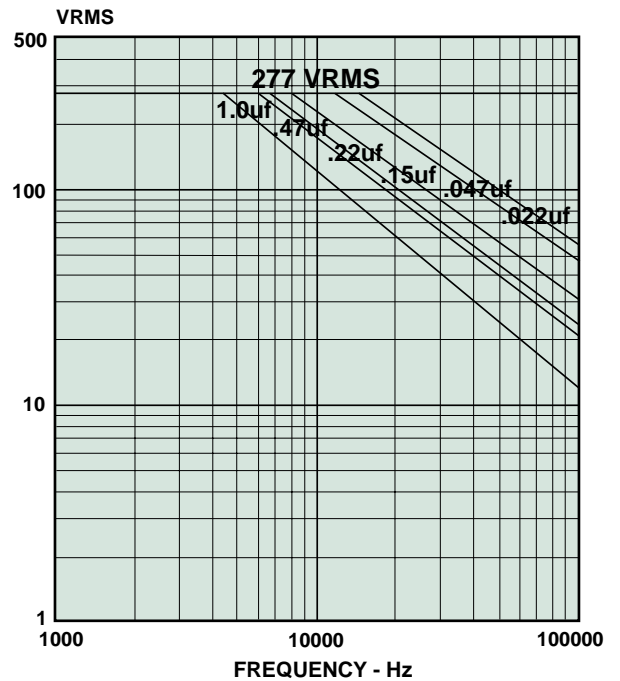
**VOLTAGE vs FREQUENCY TYPE 731P  
250VDC\175VAC**



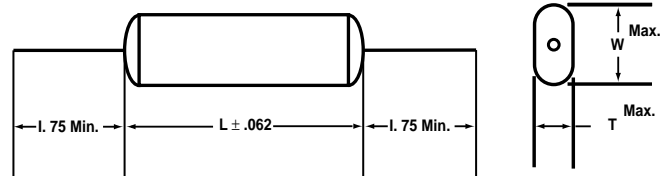
**VOLTAGE vs FREQUENCY TYPE 731P  
400VDC\220VAC**



**VOLTAGE vs FREQUENCY TYPE 731P  
630VDC\277VAC**



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



**Features —**

- New Smaller Size
- High Stability
- High Current
- Low Inductance
- Low ESR
- Excellent AC Performance
- Oval Configuration Affords Economy of Space

**Major Applications:**

High current and pulse operations, snubber circuits, oscillator circuits, SMPS applications, deflection circuits, and other applications where high capacitance, high current and small size are important

**PHYSICAL CHARACTERISTICS —**

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

Flame retardant tape wrap and epoxy endfill

**Lead Material:**

Solder coated copper wire

**Lead Strength:**

Capable of withstanding a five pound pull force on lead axis

**Markings:**

Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

**ELECTRICAL SPECIFICATIONS —**

**Capacitance Range:**

.47µf to 10.0µf

**Voltage Rating:**

400VDC to 600VDC  
220VRMS to 277VRMS

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

-55°C to +105°C

**Voltage Derating:**

At 105°C, 70% of the 85°C rating

**Dissipation Factor:**

0.07% maximum

**Equivalent Series Resistance:**

20kHz-100kHz (see Standard Rating table)

**DC Voltage Test:**

200% of rated voltage for 2 seconds

**Insulation Resistance:**

Measure at 100VDC after a 2 minute charge

At +25°C, 200,000 Megohm-Microfarads, need not exceed 400,000 Megohms

At +85°C, 10,000 Megohm-Microfarads, need not exceed 20,000 Megohms

At +105°C, 1,000 Megohm-Microfarads, need not exceed 2,000 Megohms

**MAXIMUM PULSE RISE TIME**

Capacitor Length Inches	Rise Time dv/dt (V/µs)	
	400VDC	600VDC
1.25	35	50
1.50	-	38
1.75	19	-
2.25	14	22



## STANDARD RATINGS

Capacitance µf	Catalog Number	Dimensions			Lead Size AWG	ESR (mΩ)	Current (A)
		T	W	L			
<b>400 VDC/220 VAC</b>							
0.47	734G474X0400	0.28	0.53	1.25	20	21	4
0.68	734G684X0400	0.30	0.59	1.25	20	13	6
1.00	734G105X0400	0.39	0.65	1.25	20	11	9
1.50	734G155X0400	0.48	0.75	1.25	20	9	10
2.20	734G225X0400	0.56	0.89	1.25	20	8	11
3.30	734G335X0400	0.69	0.99	1.25	20	7	15
4.70	734G475X0400	0.64	0.95	1.75	18	7	17
6.80	734G685X0400	0.67	0.96	2.25	18	7	17
10.00	734G106X0400	0.75	1.25	2.25	18	7	18
<b>600 VDC/277 VAC</b>							
0.47	734G474X0600	0.46	0.75	1.25	20	13	4
0.68	734G684X0600	0.55	0.85	1.25	20	10	6
1.00	734G105X0600	0.67	0.97	1.25	20	8	9
1.50	734G155X0600	0.73	1.03	1.50	20	7	11
2.20	734G225X0600	0.64	0.94	2.25	18	10	13
3.30	734G335X0600	0.70	1.05	2.25	18	9	16
4.70	734G475X0600	0.80	1.30	2.25	18	8	17
5.00	734G505X0600	0.95	1.25	2.25	18	7	18
6.80	734G685X0600	1.00	1.50	2.25	18	7	18
10.00	734G106X0600	1.20	1.80	2.25	18	7	18

The catalog numbers given are for a capacitance tolerance of ±20%. To specify a ±5% or a ±10% change the X0 to X5 or X9 respectively

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

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

**Wrap-and-Fill  
High-Current  
Metalized Polypropylene Film  
Capacitors**

**Features —**

- Wire or Lug Terminals
- High Stability
- High Ripple to 30A
- Low Inductance
- Low ESR
- Approved to Mil-C-55514/9

**Major Applications:**

Specifically designed for SMPS applications, pulse operations, deflection-circuits, high frequency coupling and decoupling, sampling and hold circuits, and other applications where high capacitance, high current, and low ESR are important

**PHYSICAL CHARACTERISTICS —**

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

Flame retardant tape wrap and epoxy endfill

**Lead Material:**

Solder coated copper wire

**Lug Material:**

Solder coated copper

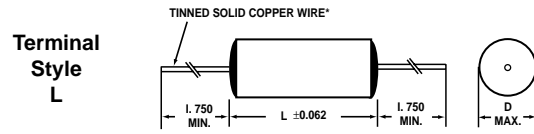
**Terminal Strength:**

Leads capable of withstanding a five pound pull force on lead axis. Lugs will withstand a ten pound pull force on lug axis

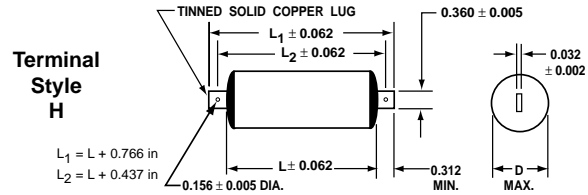
**Marking:**

Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

**DIMENSIONS IN INCHES**



\*D<sub>MAX</sub> < 0.700", No. 20 AWG wire 0.032" nominal diameter.  
D<sub>MAX</sub> ≥ 0.700", No. 18 AWG wire 0.040" nominal diameter.  
\*Leads to be within ±0.062" of center line at egress, but not less than 0.031" from edge.



**ELECTRICAL SPECIFICATIONS —**

**Capacitance Range:**

1.0 µf to 30.0 µf

**Voltage Rating:**

100 VDC to 400 VDC  
70 VRMS to 220 VRMS

**Capacitance Tolerance:**

±10%, ±5%

**Operating Temperature:**

-55°C to 105°C

**Voltage Derating:**

There is no derating for DC operation  
For AC operation derate 70% for applications above 85°C

**Dissipation Factor:**

0.07% maximum

**Equivalent Series Resistance:**

20kHz-100kHz (see Standard Ratings tables)

**DC Voltage Test:**

200% of rated voltage for 2 minutes

**Insulation Resistance:**

Measure at rated VDC after a 2 minute charge  
At + 25°C, 200,000 Megohm Microfarads,  
need not exceed 400,000 Megohms

**MAXIMUM PULSE RISE TIME**

Capacitor Length Inches	Rise Time dv/dt (V/µs)		
	100 VDC/70 VAC	200 VDC/140 VAC	400 VDC/220 VAC
.750/.875	55	-	-
.938/1.062	33	-	-
1.250/1.375	22	33	-
1.500/1.625	17	28	44
1.750/1.875	-	27	33
2.250/2.375	9	20	24

**STANDARD RATINGS**
**TYPE 735P**

<b>Terminal Style L — Units With Wire Leads</b>											
Capacitance µf      Code		Case Size Inches		ESR Limit mΩ 20-100 kHz	Maximum Ripple Current (Amps) at 20-100kHz Case Temperature						
		D	L		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
<b>100 VOLTS DC / 70 VAC*(VOLTAGE CODE 100)</b>											
1	105	0.531	0.750	15	9.2	8.5	7.8	7.0	6.0	4.9	4.5
2	205	0.596	0.938	12	10.8	10.0	9.1	8.2	7.0	5.8	5.3
3	305	0.717	0.938	11	12.1	11.2	10.3	9.2	8.0	6.5	5.9
5	505	0.733	1.250	10	13.8	12.7	11.6	10.4	9.0	7.4	6.7
10	106	0.898	1.500	10	15.0	15.0	14.2	12.7	11.0	9.0	8.2
20	206	1.000	2.250	10	15.0	15.0	15.0	15.0	13.6	11.1	10.0
30	306	1.200	2.250	9	15.0	15.0	15.0	15.0	15.0	12.4	11.4
<b>200 VOLTS DC / 140 VAC*(VOLTAGE CODE 200)</b>											
1	105	0.512	1.250	20	7.3	7.3	7.3	7.3	7.2	5.9	5.4
2	205	0.698	1.250	15	12.0	12.0	11.3	10.1	8.7	7.1	6.5
3	305	0.747	1.500	13	15.0	13.8	12.3	11.3	9.8	8.0	7.3
5	505	0.862	1.750	11	15.0	15.0	14.7	13.1	11.4	9.3	8.5
10	106	1.030	2.250	10	15.0	15.0	15.0	15.0	13.8	11.3	10.3
20	206	1.440	2.250	9	15.0	15.0	15.0	15.0	15.0	14.1	12.8
<b>400 VOLTS DC / 220 VAC*(VOLTAGE CODE 400)</b>											
1	105	0.713	1.500	19	9.5	9.5	9.5	9.5	9.5	7.8	7.1
2	205	0.895	1.750	15	15.0	15.0	15.0	13.4	11.6	9.5	8.7
3	305	1.086	1.750	14	15.0	15.0	15.0	15.0	13.1	10.7	9.8
5	505	1.192	2.250	12	15.0	15.0	15.0	15.0	15.0	12.5	11.4
10	106	1.668	2.250	9	15.0	15.0	15.0	15.0	15.0	15.0	14.1
<b>Terminal Style H - Units With Terminal Lugs</b>											
<b>100 VOLTS DC / 70 VAC*(VOLTAGE CODE 100)</b>											
1	105	0.531	0.875	15	10.3	9.5	8.7	7.8	6.7	5.5	5.0
2	205	0.596	1.062	12	12.0	11.0	10.0	8.9	7.8	6.3	5.8
3	305	0.717	1.062	11	13.3	12.3	11.2	10.0	8.7	7.1	6.5
5	505	0.733	1.375	10	14.8	13.7	12.5	11.2	9.7	7.9	7.2
10	106	0.898	1.625	10	17.8	16.5	15.0	13.5	11.7	9.5	8.7
20	206	1.000	2.375	10	21.6	20.0	18.3	16.4	14.2	11.6	10.6
30	306	1.200	2.375	9	24.3	22.5	20.5	18.4	15.9	13.0	11.9
<b>200 VOLTS DC / 140 VAC*(VOLTAGE CODE 200)</b>											
1	105	0.512	1.375	20	7.3	7.3	7.3	7.3	7.3	6.4	5.8
2	205	0.698	1.375	15	14.3	13.3	12.1	10.8	9.4	7.7	7.0
3	305	0.747	1.625	13	15.9	14.7	13.5	12.0	10.4	8.5	7.8
5	505	0.862	1.875	11	18.3	17.0	15.5	13.9	12.0	9.8	8.9
10	106	1.030	2.375	10	22.4	20.7	18.9	16.9	14.6	12.0	10.9
20	206	1.440	2.375	9	27.4	25.4	23.2	20.7	17.9	14.7	13.4
<b>400 VOLTS DC / 220 VAC*(VOLTAGE CODE 400)</b>											
1	105	0.713	1.625	19	9.5	9.5	9.5	9.5	9.5	8.3	7.5
2	205	0.895	1.875	15	15.0	15.0	15.0	14.2	12.3	10.0	9.1
3	305	1.086	1.875	14	21.1	19.5	17.8	15.9	13.8	11.3	10.3
5	505	1.192	2.375	12	24.4	22.6	20.6	18.5	16.0	13.1	11.9
10	106	1.668	2.375	9	30.0	27.8	25.4	22.7	19.7	16.1	14.7

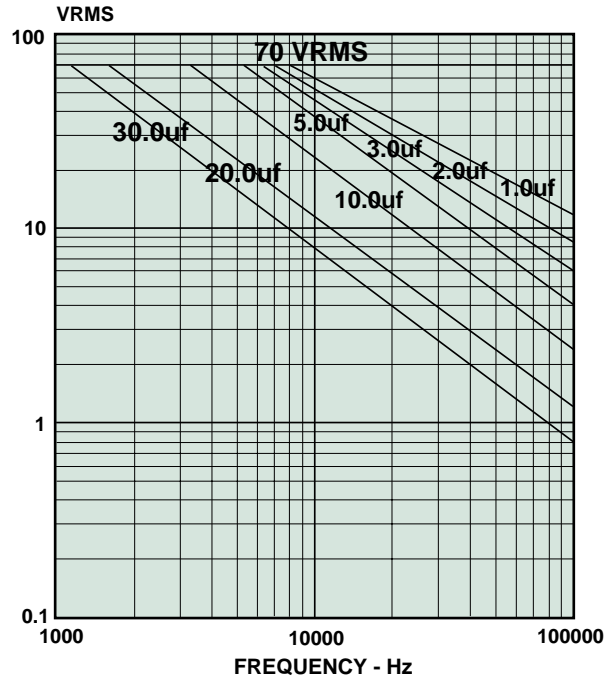
Additional capacitance values, voltages, and tolerances are available upon request

\*AC voltage rating is at 1000Hz. 1.4 x VRMS + VDC should not exceed the rated VDC

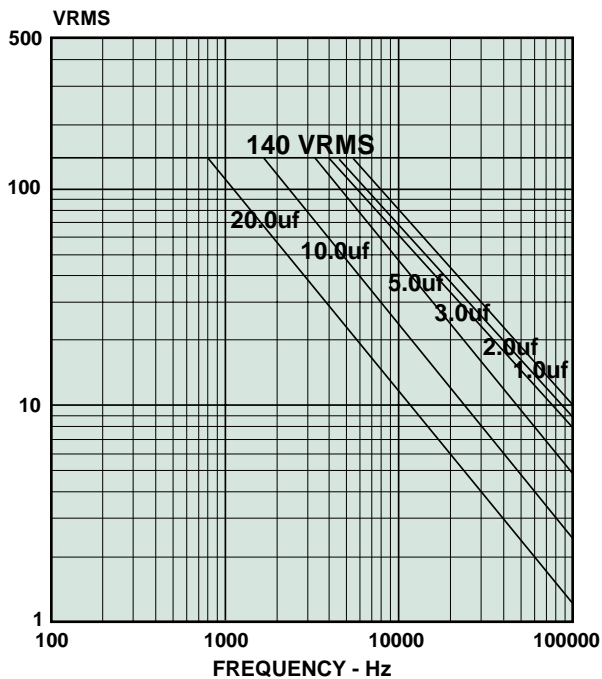
\*Graphs of AC voltage vs frequency follow

**UNITS WITH WIRE LEADS**

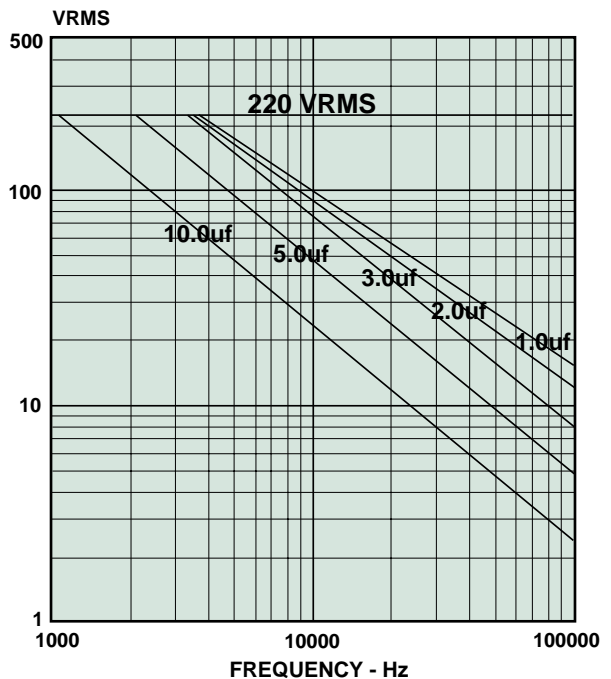
**VOLTAGE vs FREQUENCY TYPE 735P  
100VDC\70VAC**



**VOLTAGE vs FREQUENCY TYPE 735P  
200VDC\140VAC**

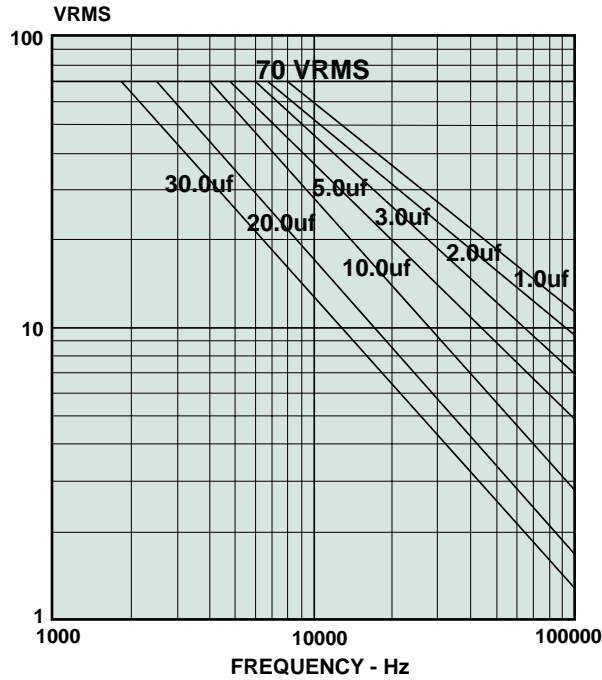


**VOLTAGE vs FREQUENCY TYPE 735P  
400VDC\220VAC**

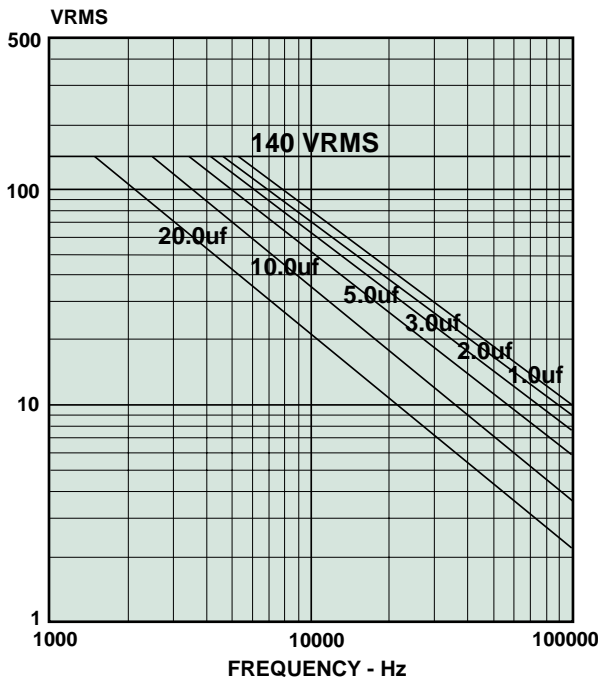


**UNITS WITH TERMINAL LUGS**

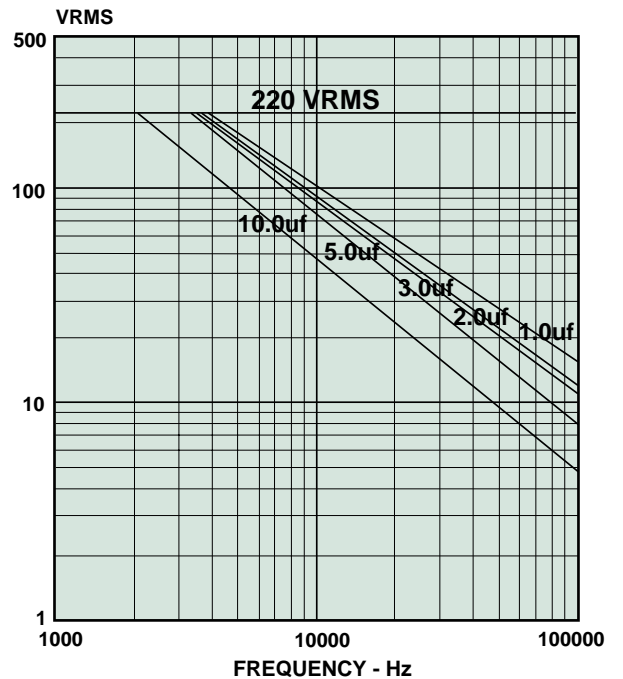
**VOLTAGE vs FREQUENCY TYPE 735P  
100VDC\70VAC**



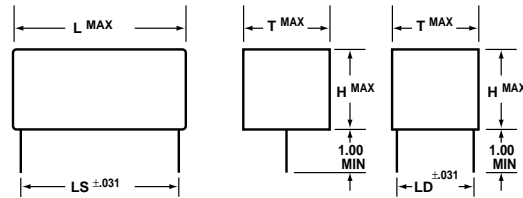
**VOLTAGE vs FREQUENCY TYPE 735P  
200VDC\140VAC**



**VOLTAGE vs FREQUENCY TYPE 735P  
400VDC\220VAC**



**Preformed Rectangular Box  
Metalized Polypropylene Film  
Capacitors**



**Features—**

- Flame Retardant Case
- Small Size Light Weight
- High Insulation Resistance
- Low ESR

**Major Applications:**

Timing, integrating, telecommunications, AC, audio, and digital circuitry

**PHYSICAL CHARACTERISTICS —**

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

Flame retardant preformed case and epoxy fill

**Lead Material:**

Solder coated solid wire #18AWG

**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:**

.47 µf to 3.5 µf

**Voltage Rating:**

600 VDC

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

-55°C to + 105°C

**Voltage Derating:**

At 105°C, 70% of the 85°C rating

**Dissipation Factor:**

0.07% maximum

**DC Voltage Test:**

150% of rated voltage for 2 minutes

**Insulation Resistance:**

Measure at rated VDC after a 2 minute charge

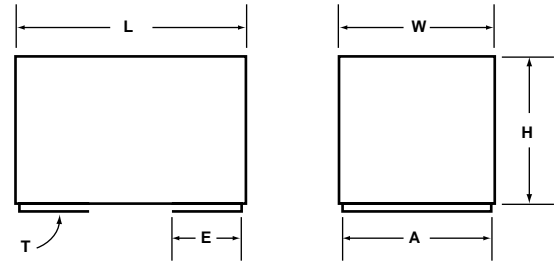
At +25°C, 100,000 Megohm-Microfarads, need not exceed 200,000 Megohms

**STANDARD RATINGS**

Capacitance µf	VDC	T	H	L	LS	LD
.47	600	.400	.790	1.015	.90	
.68	600	.400	.790	1.015	.90	
1.00	600	.520	.790	1.215	1.10	.30
2.50	600	.895	.790	1.390	1.20	.50
3.00	600	.920	.790	1.645	1.40	.50
3.50	600	.920	.790	1.645	1.40	.50

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

**Surface Mount  
Molded Plastic Case  
SMD  
Metalized Polypropylene Film  
Capacitors**



**ELECTRICAL SPECIFICATIONS —**

**Features —**

- High Stability
- Low Inductance
- Low ESR
- Suitable for Wave Soldering or Reflow Soldering

**Major Applications:**

Pulse deflection-circuits, SMPS, high frequency coupling and decoupling, sample and hold circuits and other applications where low loss and high stability are important

**Capacitance Range:**

Values up to 10.0 µf

**Voltage Rating:**

400 VDC  
150 VRMS

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

-55°C to + 85°C

**Dissipation Factor:**

≤1 µf = .05 % maximum

> 1 µf = .1 % maximum

**Inductance:**

≈.04µH

**DC Voltage Test:**

120% of rated voltage for 60 seconds

**Insulation Resistance:**

Measure at rated voltage after a 2 minute charge  
At +25°C, 100,000 Megohm-Microfarads, need not exceed 200,000 Megohms  
At +85°C, 5,000 Megohm-Microfarads, need not exceed 10,000 Megohms

**PHYSICAL CHARACTERISTICS —**

**Construction:**

Non-inductive wound metalized polypropylene

**Case:**

Flame retardant molded plastic case and epoxy fill

**Tab Material:**

Solderable tabs

**Marking:**

Dearborn trademark, type or catalog number, capacitance, tolerance and voltage

Capacitance µf	VDC	VAC*	ESR Max. Ohms 100kHz	W	H	L	A	E	T
				Max.	Max.	Max.	±.10	±.03	±.005
.47	400	150	5	.420	.460	.720	.400	.210	.030
.56	400	150	4	.475	.500	.720	.455	.240	.030
1.00	400	150	3	.520	.520	.920	.500	.272	.030
2.00	400	150	3	.620	.700	1.020	.600	.272	.030
5.00	400	150	2	.770	.870	1.020	.750	.335	.030
10.00	400	150	1	1.020	.970	1.520	1.000	.460	.030

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

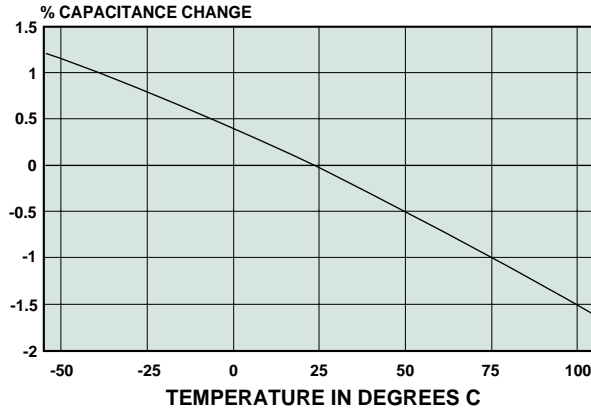
\*AC voltage rating is at 60Hz. 1.4 x VRMS + VDC should not exceed the rated VDC

**MAXIMUM PULSE RISE TIME**

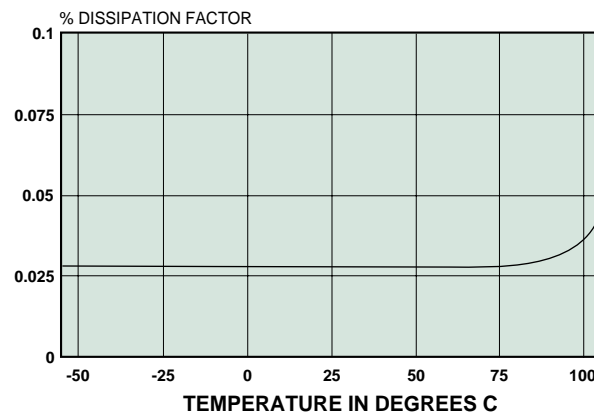
Capacitor Length In Inches	Maximum Rise Time dv/dt (V/µs)
.720	5
.920	3
1.020	2
1.520	1.5

**TYPICAL CHARACTERISTICS—POLYPROPYLENE FOIL TYPES**

**CAPACITANCE CHANGE VS TEMPERATURE  
POLYPROPYLENE FILM/FOIL CAPACITORS**

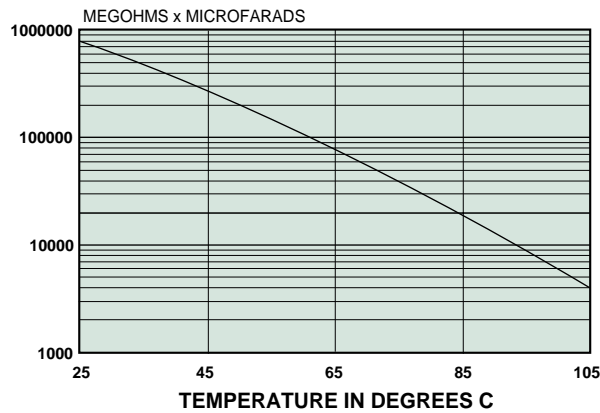


**DISSIPATION FACTOR VS TEMPERATURE  
POLYPROPYLENE FILM/FOIL CAPACITORS**



MEASURED AT 1KHz

**INSULATION RESISTANCE VS TEMPERATURE  
POLYPROPYLENE FILM/FOIL CAPACITORS**



TYPICAL

**ELECTRICAL CHARACTERISTICS AS A FUNCTION OF TEMPERATURE**



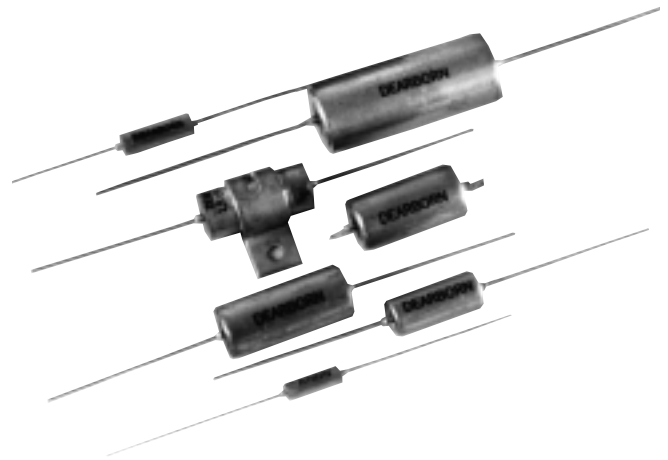
**Metal Case  
Hermetically Sealed  
Tubular Polypropylene  
Film/Foil Capacitors**

**Features —**

- High Stability
- High Insulation Resistance
- Low Series Resistance
- Low Losses
- Low Dielectric Absorption
- Excellent AC Performance
- Hermetically Sealed

**Major Applications:**

High current and high pulse operations, protection circuits in SMPS, snubber and SCR commutating circuits, oscillator, timing and filter circuits, high frequency coupling and other applications where severe environments require hermetically sealed cases



**PHYSICAL CHARACTERISTICS —**

**Construction:**

Polypropylene film extended aluminum foil

**Case:**

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

**Lead Material:**

Solder coated copper wire

**Lead Wire Size:**

Case Dia	Lead AWG
.400 - .500	No. 20
.562 - and over	No. 18

**Lead Pull:**

5 lbs. (2.3KG) 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:**

.01  $\mu$ f to 1.0  $\mu$ f

**Voltage Rating:**

200 VDC to 800 VDC  
155 VRMS to 500 VRMS

**Capacitance Tolerance:**

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

**Operating Temperature:**

-55°C to + 105°C

**Voltage Derating:**

At 105°C, 70% of the 85° rating for DC applications  
For AC applications above 85°C, (see Table 1)

**Dissipation Factor:**

0.1% maximum

**DC Voltage Test:**

250% of rated voltage for 5 seconds

**Insulation Resistance:**

Measured at rated VDC after a 2 minute test

At +25°C, 200,000 Megohm-Microfarads,  
need not exceed 400,000 Megohms

At +85°C, 10,000 Megohm-Microfarads,  
need not exceed 20,000 Megohms

At +105°C, 1,000 Megohm-Microfarads,  
need not exceed 2,000 Megohms

**MAXIMUM PULSE RISE TIME**

Capacitor Length In Inches	Maximum Rise Time dv/dt (V/μs) Voltage Rating			
	200 VDC	400 VDC	600 VDC	800 VDC
<b>CASE LENGTH</b>				
.875	1000	1800	3000	-
1.062	700	1000	2000	-
1.125	-	-	-	2500
1.375	450	650	1000	1500
1.750	400	500	700	1000
2.125	-	400	600	800

**TABLE 1: AC VOLTAGE RATINGS**

Volts DC	Capacitance range	EQUIVALENT VAC RATINGS AT										Maximum A-C Life Test Voltage (RMS)
		1,000 Hz		5,000 Hz		10,000 Hz		15,000 Hz		20,000 Hz		
		85°C	105°C	85°C	105°C	85°C	105°C	85°C	105°C	85°C	105°C	
200V	.047- .068	155	75	115	75	85	60	70	50	60	45	155
	.082- .47	155	75	75	60	55	40	45	35	40	30	155
	.68- 1.0	155	75	75	50	55	30	45	20	40	15	155
400V	.033	200	100	190	100	135	105	110	85	95	75	200
	.039- .47	200	100	100	80	75	55	60	45	50	40	200
	.68- 1.0	200	100	100	50	75	30	60	20	50	15	200
600V	.001- .033	240	165	240	200	190	140	155	120	130	100	240
	.039- .22	240	165	150	115	100	75	90	65	75	50	240
	.27- .47	240	120	150	65	100	35	90	25	70	15	240
800V	.0056- .033	500	250	500	190	500	150	450	120	405	100	500
	.039- .10	500	250	400	120	240	100	185	75	140	60	500
	.12- .33	500	195	280	75	160	45	115	30	85	20	500

**STANDARD RATINGS**

Capacitance μf	Capacitance Code	VOLTAGE CODE 200 200VDC/155VAC*		VOLTAGE CODE 400 400VDC/200VAC*		VOLTAGE CODE 600 600VDC/240VAC*		VOLTAGE CODE 800 800VDC/500VAC*	
		D	L	D	L	D	L	D	L
		.01	103					.400	.875
.015	153					.400	.875	.500	1.125
.022	223					.400	1.062	.500	1.125
.033	333			.400	.875	.500	1.062	.500	1.375
.047	473	.400	.875	.400	1.062	.500	1.375	.562	1.375
.068	683	.400	1.062	.500	1.062	.562	1.375	.670	1.375
.10	104	.400	1.062	.500	1.375	.670	1.375	.670	1.750
.15	154	.500	1.062	.562	1.375	.670	1.750	.750	1.750
.22	224	.500	1.375	.670	1.375	.750	1.750	1.000	1.750
.33	334	.670	1.375	.750	1.750	1.000	1.750	1.000	2.125
.47	474	.670	1.750	.750	1.750	1.000	2.125		
.68	684	.750	1.750	1.000	1.750				
1.0	105	1.000	1.750	1.000	2.125				

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

\* See Table 1 for AC voltage vs frequency and temperature

**400 and 600 VAC parts are available upon request**

## Wrap-and-Fill High Frequency Polypropylene Film/Foil Capacitors

**Features —**

- Extended Foil Construction
- Low-Loss
- High Average AC Current
- Moisture Resistant
- Approved to Mil-C-55514/10

**Major Applications:**

High current and high pulse operations, protection circuits in SMPS, snubber and SCR commutating circuits, oscillator, timing and filter circuits, high frequency coupling

### PHYSICAL CHARACTERISTICS —

**Construction:**

Polypropylene film extended aluminum foil

**Case:**

Flame retardant polyester tape wrap and epoxy endfill

**Lead Material:**

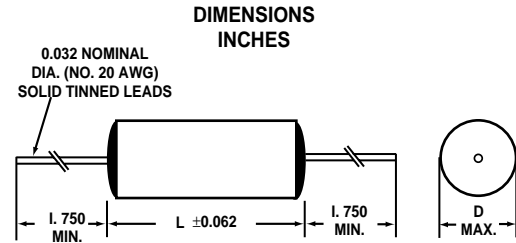
Solder coated solid wire

**Lead Strength:**

Capable of withstanding a five pound pull force on lead axis

**Marking:**

Dearborn trademark, type or catalog number, capacitance, and voltage



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

### ELECTRICAL SPECIFICATIONS —

**Capacitance Range:**

0.001 µf to 1.0 µf

**Voltage Rating:**

200 VDC to 800 VDC

155 VRMS to 500 VRMS

**Capacitance Tolerance:**

±20%, ±10%, ±5%

**Operating Temperature:**

- 55°C to + 105°C

**Voltage Derating:**

At 105°C, 70% of the 85° rating for DC applications

For AC applications above 85°C,

(see Table 1)

**Dissipation Factor:**

0.1% maximum

**DC Voltage Test:**

250% of rated voltage for 5 seconds

**Insulation Resistance:**

Measured at rated VDC after a 2 minute test

At +25°C, 200,000 Megohm-Microfarads, need not exceed 400,000 Megohms

At + 85°C, 10,000 Megohm-Microfarads, need not exceed 20,000 Megohms

At + 105°C, 1,000 Megohm-Microfarads, need not exceed 2,000 Megohms

### MAXIMUM PULSE RISE TIME

Capacitor Length Inches	Rise Time dv/dt (V/µs)			
	200 VDC	400 VDC	600 VDC	800 VDC
.750	1000	1800	3000	-
.938	700	1000	2000	-
1.250	450	650	1000	1500
1.688	400	500	700	1000
2.063	300	-	600	800
2.438	-	400	500	600

**TABLE 1: AC VOLTAGE RATINGS**

Volts DC	Capacitance Range	1,000Hz		5,000 Hz		10,000 Hz		15,000 Hz		20,000 Hz Voltage (RMS)		Maximum AC Life Test
		85°C	105°C	85°C	105°C	85°C	105°C	85°C	105°C	85°C	105°C	
200V	.012- .068	155	75	115	75	85	60	70	50	60	45	155
	.082- .47	155	75	75	60	55	40	45	35	40	30	155
	.68- 1.0	155	75	75	50	55	30	45	20	40	15	155
400V	.0039-.033	200	100	190	100	135	105	110	85	95	75	200
	.039- .47	200	100	100	80	75	55	60	45	50	40	200
	.68- 1.0	200	100	100	50	75	30	60	20	50	15	200
600V	.001- .033	200	140	200	165	160	120	130	100	110	85	200
	.039- .22	200	140	125	95	90	65	75	55	65	45	200
	.27- 1.0	200	100	125	55	90	30	75	20	60	15	200
800V	.0056- .033	500	250	500	190	500	150	450	120	405	100	500
	.039- .10	500	250	400	120	240	100	185	75	140	60	500
	.12- .56	500	195	280	75	160	45	115	30	85	20	500

**STANDARD RATINGS**

Capacitance µf	Code	200 VOLTS DC/155 VAC* (VOLTAGE CODE 200) Case Size Inches		400 VOLTS DC/200 VAC* (VOLTAGE CODE 400) Case Size Inches	
		D	L	D	L
0.0039	392	-	-	0.240	0.750
0.0047	472	-	-	0.240	0.750
0.0056	562	-	-	0.270	0.750
0.0068	682	-	-	0.270	0.750
0.0082	822	-	-	0.290	0.750
0.01	103	-	-	0.290	0.750
0.012	123	0.250	0.750	0.330	0.750
0.015	153	0.250	0.750	0.330	0.750
0.018	183	0.290	0.750	0.325	0.938
0.022	223	0.290	0.750	0.325	0.938
0.027	273	0.335	0.750	0.375	0.938
0.033	333	0.335	0.750	0.375	0.938
0.039	393	0.315	0.938	0.355	1.250
0.047	473	0.315	0.938	0.355	1.250
0.056	563	0.375	0.938	0.415	1.250
0.068	683	0.375	0.938	0.415	1.250
0.082	823	0.360	1.250	0.485	1.250
0.10	104	0.360	1.250	0.485	1.250
0.12	124	0.420	1.250	0.570	1.250
0.15	154	0.420	1.250	0.570	1.250
0.18	184	0.495	1.250	0.595	1.688
0.22	224	0.495	1.250	0.595	1.688
0.27	274	0.510	1.688	0.690	1.688
0.33	334	0.510	1.688	0.690	1.688
0.39	394	0.590	1.688	0.830	1.688
0.47	474	0.590	1.688	0.830	1.688
0.68	684	0.799	1.688	0.911	2.438
0.82	824	0.821	2.063	1.091	2.438
1.00	105	0.821	2.063	1.091	2.438

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. Also see Table 1

## STANDARD RATINGS

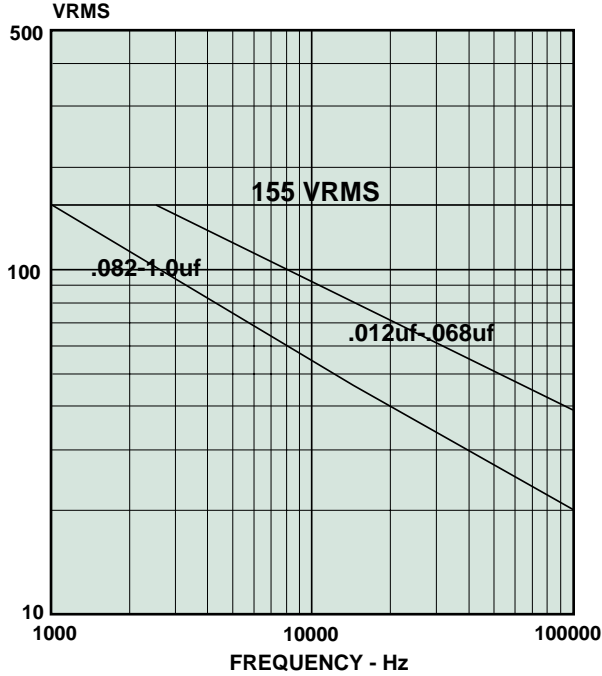
Capacitance µf	Code	600 VOLTS DC/200 VAC* (VOLTAGE CODE 600) Case Size Inches		800 VOLTS DC/500 VAC* (VOLTAGE CODE 800) Case Size Inches	
		D	L	D	L
0.001	102	0.290	0.750	-	-
0.0012	122	0.305	0.750	-	-
0.0015	152	0.305	0.750	-	-
0.0018	182	0.315	0.750	-	-
0.0022	222	0.315	0.750	-	-
0.0027	272	0.320	0.750	-	-
0.0033	332	0.320	0.750	-	-
0.0039	392	0.330	0.750	-	-
0.0047	472	0.330	0.750	-	-
0.0056	562	0.360	0.750	0.275	1.250
0.0068	682	0.360	0.750	0.275	1.250
0.0082	822	0.340	0.938	0.315	1.250
0.01	103	0.340	0.938	0.315	1.250
0.012	123	0.390	0.938	0.365	1.250
0.015	153	0.390	0.938	0.365	1.250
0.018	183	0.450	0.938	0.430	1.250
0.022	223	0.450	0.938	0.430	1.250
0.027	273	0.435	1.250	0.515	1.250
0.033	333	0.435	1.250	0.515	1.250
0.039	393	0.490	1.250	0.495	1.688
0.047	473	0.490	1.250	0.495	1.688
0.056	563	0.590	1.250	0.595	1.688
0.068	683	0.590	1.250	0.595	1.688
0.082	823	0.690	1.250	0.700	1.688
0.10	104	0.690	1.250	0.700	1.688
0.12	124	0.670	1.688	0.755	2.063
0.15	154	0.670	1.688	0.755	2.063
0.18	184	0.800	1.688	0.910	2.063
0.22	224	0.800	1.688	0.910	2.063
0.33	334	0.876	2.063	0.985	2.438
0.39	394	1.032	2.063	0.985	2.438
0.47	474	1.032	2.063	1.220	2.438
0.56	564	1.096	2.438	1.220	2.438
0.68	684	1.096	2.438	1.220	2.438
0.82	824	1.316	2.438	-	-
1.00	105	1.316	2.438	-	-

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

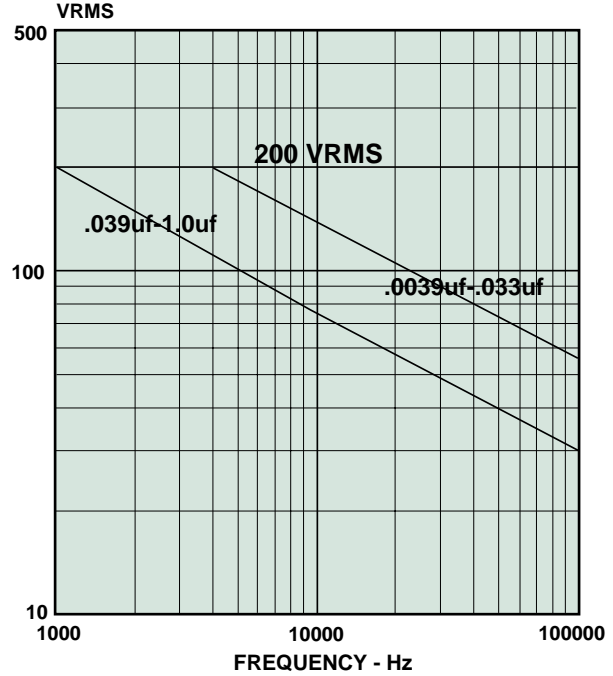
\*AC voltage rating is at 60Hz. 1.4 x VRMS + VDC should not exceed the rated VDC

\*Graphs of AC voltage vs frequency follow. Also see Table 1

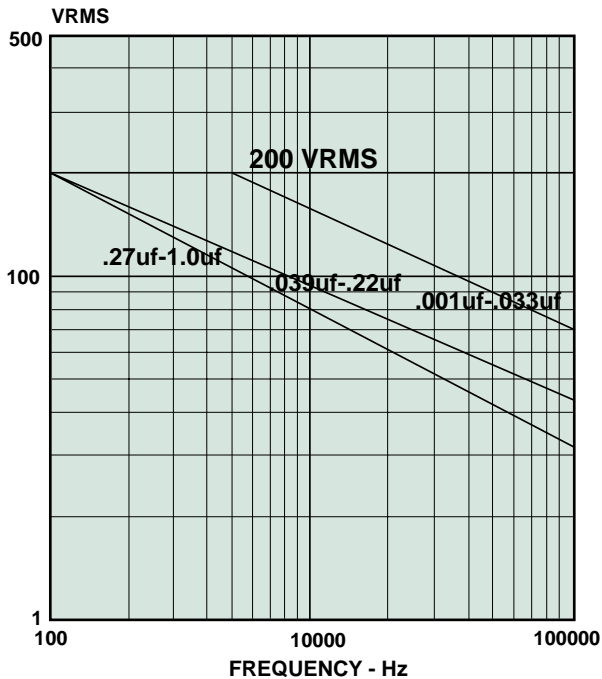
**VOLTAGE vs FREQUENCY TYPE 710P  
200VDC\155VAC**



**VOLTAGE vs FREQUENCY TYPE 710P  
400VDC\200VAC**



**VOLTAGE vs FREQUENCY TYPE 710P  
600VDC\200VAC**



**VOLTAGE vs FREQUENCY TYPE 710P  
800VDC\500VAC**

