

Type 773P, Orange Drop[®], Polypropylene Film/Foil Capacitors

Type 773P Orange Drop[®] 700/750 Volts A-C Polypropylene Film/Foil Capacitors



Features

- Specifically designed for A-C voltage applications where corona free operation is required for high reliability.
- Extremely low dissipation factor and ESR.
- Superb for high frequency, high pulse current applications; dV/dt rating up to 74,600 volts/μsec.
- Excellent capacitance stability.
- Compact size with various lead spacings.

Specifications

Capacitance Range:

.001 to .01 μF

Capacitance Tolerance:

±3% to ±10%

Voltage Ratings:

700 Volts A-C/1600 Volts D-C

750 Volts A-C/1600 Volts D-C

Operating Temperature Range:

-55°C to +85°C

(+105°C with proper voltage derating)

Lead Wire:

Tinned copper-clad steel,

.032" (.8) diameter, #20 AWG

Insulation Resistance:

400,000 MΩ minimum at +25°C

20,000 MΩ minimum at +85°C

2,000 MΩ minimum at +105°C

Temperature Coefficient (typical, over temperature range of -55°C to +85°C):

-250 ppm/°C

Pulse Rise Time, dV/dt:

See standard ratings table.

Dissipation Factor & ESR:

See standard ratings table.

Corona Start Voltage (typical):

700 VAC units - 800 Volts RMS

750 VAC units - 850 Volts RMS

Encapsulation:

Conformal coating of flame retardant orange epoxy (meets UL94V-0 specifications)

Dielectric:

Polypropylene film; utilizing a floating common of double metallized film, which provides self-healing characteristics.

Construction:

Non-inductively wound with extended foil, internal series-section design.

Applications:

Electronic Lighting Ballasts, Switching Power Supplies, Resonant Converters.

[RoHS Compliant](#)

Dimensions in inches, metric (mm) in parenthesis.

General Specifications

The 773P series are manufactured with polypropylene film and extended foil. Polypropylene has a very low dissipation factor, low dielectric absorption and exhibits excellent capacitance stability. These characteristics combined with the direct connection of the lead wire to the extended foil electrode makes the 773P series ideal for high current, high pulse applications.

The 773P series has a round profile and is available in tolerances as close as $\pm 1\%$. The 773P series has a pressed profile and, in addition, is designed with copper leads, thus adding to its performance in high frequency, high pulse current applications.

Other specifications are listed below and on the following pages.

Operating Temperature Range:

The standard operating temperature range for polypropylene film is $-55\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$. The 773P may be operated up to $+105\text{ }^{\circ}\text{C}$ provided the DC working voltage is reduced by 50%.

For specific derating of the AC voltage when operating above $+85\text{ }^{\circ}\text{C}$ please contact our design engineering department.

The maximum operating temperature for 773P polypropylene film capacitors is $+105\text{ }^{\circ}\text{C}$.

Dielectric Withstanding Voltage:

Units rated below 800 VDC shall withstand a DC potential of 250% of rated voltage applied between terminals for not more than 5 seconds; units rated 800 VDC and above shall withstand 200% of rated voltage.

Construction:

Non-inductively wound with extended foils, internal series-section design, utilizing a floating common dual metallized film.

Temperature Coefficient:

The typical temperature coefficient is $-180\text{ ppm}/^{\circ}\text{C}$ over the temperature range of $-55\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$.

Humidity Testing:

Units subjected to 95% relative humidity for 72 hours with no voltage applied at $+75\text{ }^{\circ}\text{C}$. After 4 hours of drying minimum product of insulation resistance and capacitance shall be 50,000 megohm-microfarads.

DC Voltage Life Test:

Minimum of 500 hours at $+85\text{ }^{\circ}\text{C}$ at 150% of rated voltage. After test, capacitance shall not have changed by more than 3%, insulation resistance shall not have decreased by more than 25% and dissipation factor shall not have changed by more than 0.03%. Measurements made at 1 KHz.

AC Voltage Life Test:

Minimum of 500 hours at $+85\text{ }^{\circ}\text{C}$ at 60 Hz. AC test voltage applied at 110% of AC rating. After test, capacitance shall not have changed by more than 3%, insulation resistance shall not have decreased by more than 25%, and dissipation factor shall not have changed by more than 0.03%. Measurements made at 1 KHz.

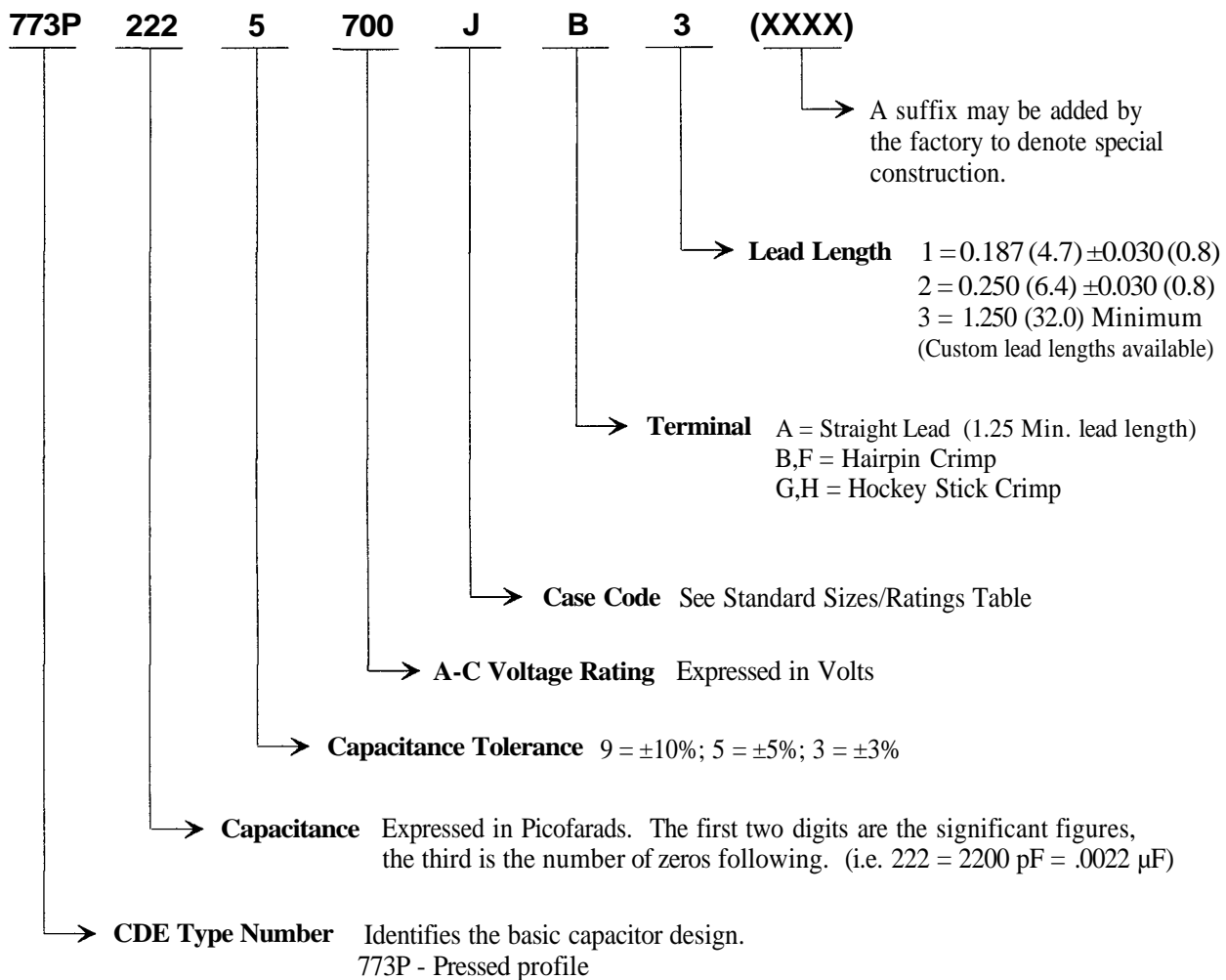
Additional notes on Life Testing:

CDE performs standard 500 hour accelerated life tests, both DC and line frequency AC, to monitor process control over our wide range of products.

We also perform longer term life testing, typically 2000 hours, during development of most products. In addition we do accelerated life testing at 10-250 KHz for our High Performance AC products. For additional life test information please contact us.

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Ordering/Part Number Information

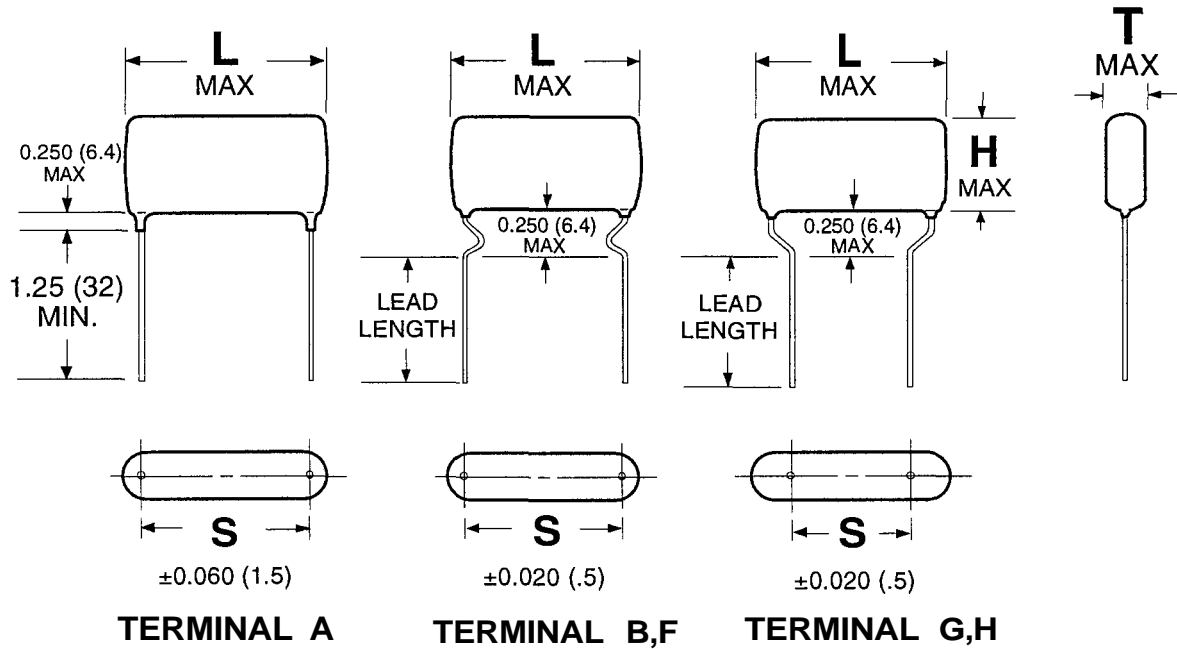


Please note:

While it is not possible to list every capacitance value, tolerance, or design/size variation available, our flexibility in design and manufacturing gives us the ability to quickly, and cost effectively, provide you with the capacitor you require. Please contact us today with your specific needs!

Type 773P, Orange Drop[®], Polypropylene Film/Foil Capacitors

Standard Lead Styles



Standard Lead Spacings

S				
Term. A	Term. B	Term. F	Term. G	Term. H
0.590 (15.0)	0.590 (15.0)	0.394 (10.0)	0.295 (7.5)	0.197 (5.0)

Note: Custom lead styles and spacings available by special request.

Type 773P, Orange Drop[®], Polypropylene Film/Foil Capacitors

Type 773P, 700VAC/1600VDC Standard Sizes/Ratings

Value (μF)	Part Number*	L MAX	T MAX	H MAX	Seated Height	Max dV/dt (Volts/μsec)	Peak I Amps	Max % D.F.		Max ESR (mΩ)	
								20KHz	100KHz	20KHz	100KHz
.002	773P2025700J	.75 (19.1)	.27 (6.9)	.44 (11.2)	.69 (17.5)	49300	150	.029	.037	1042	264
.0022	773P2225700J	.75 (19.1)	.28 (7.1)	.45 (11.4)	.70 (17.8)	47000	150	.029	.037	948	242
.0025	773P2525700J	.75 (19.1)	.29 (7.4)	.47 (11.9)	.72 (18.3)	44100	170	.029	.037	835	241
.0027	773P2725700J	.75 (19.1)	.30 (7.6)	.48 (12.2)	.73 (18.5)	42400	170	.029	.037	774	199
.003	773P3025700J	.75 (19.1)	.32 (8.1)	.49 (12.4)	.74 (18.8)	40200	180	.029	.037	698	180
.0033	773P3325700J	.75 (19.1)	.33 (8.4)	.51 (13.0)	.76 (19.3)	38300	190	.029	.038	635	165
.0039	773P3925700J	.75 (19.1)	.33 (8.4)	.56 (14.2)	.81 (20.6)	35300	210	.029	.038	539	142
.0043	773P4325700J	.75 (19.1)	.34 (8.6)	.57 (14.5)	.82 (20.8)	33600	220	.029	.038	490	130
.0047	773P4725700J	.75 (19.1)	.36 (9.1)	.59 (15.0)	.84 (21.3)	32100	230	.029	.039	449	120
.0051	773P5125700J	.75 (19.1)	.37 (9.4)	.60 (15.2)	.85 (21.6)	30800	240	.029	.039	415	111
.0056	773P5625700J	.75 (19.1)	.39 (9.9)	.62 (15.7)	.87 (22.1)	29400	250	.029	.040	379	102
.006	773P6025700J	.75 (19.1)	.40 (10.2)	.63 (16.0)	.88 (22.4)	28400	260	.029	.040	354	96
.0062	773P6225700J	.75 (19.1)	.40 (10.2)	.64 (16.3)	.89 (22.6)	28000	260	.029	.040	343	94
.0068	773P6825700J	.75 (19.1)	.42 (10.7)	.65 (16.5)	.90 (22.9)	26700	270	.029	.041	314	86
.007	773P7025700J	.75 (19.1)	.43 (10.9)	.66 (16.8)	.91 (23.1)	26300	280	.029	.041	305	84
.0075	773P7525700J	.75 (19.1)	.44 (11.2)	.68 (17.3)	.93 (23.6)	25400	290	.030	.041	285	79
.0082	773P8225700J	.75 (19.1)	.46 (11.7)	.70 (17.8)	.95 (24.1)	24300	300	.030	.042	262	74
.0091	773P9125700J	.75 (19.1)	.49 (12.4)	.72 (18.3)	.97 (24.6)	23200	310	.030	.043	237	68
.01	773P1035700J	.75 (19.1)	.51 (13.0)	.74 (18.8)	.99 (25.1)	22000	330	.030	.043	216	63

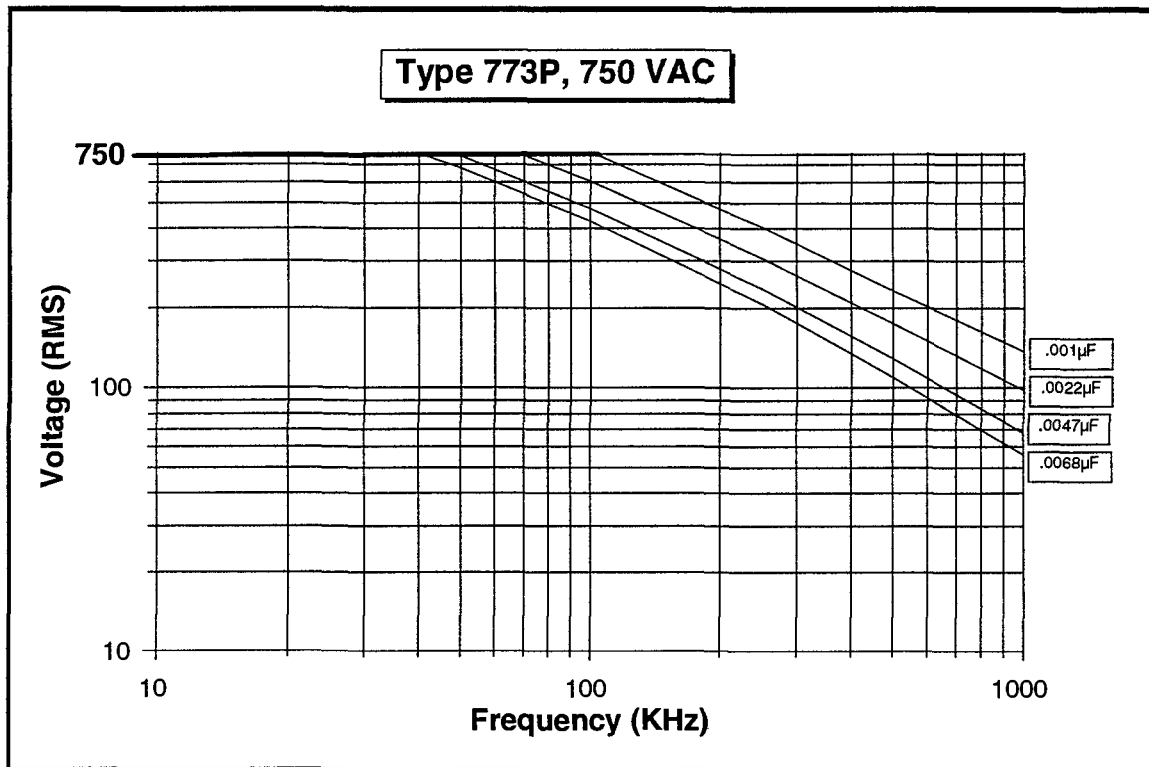
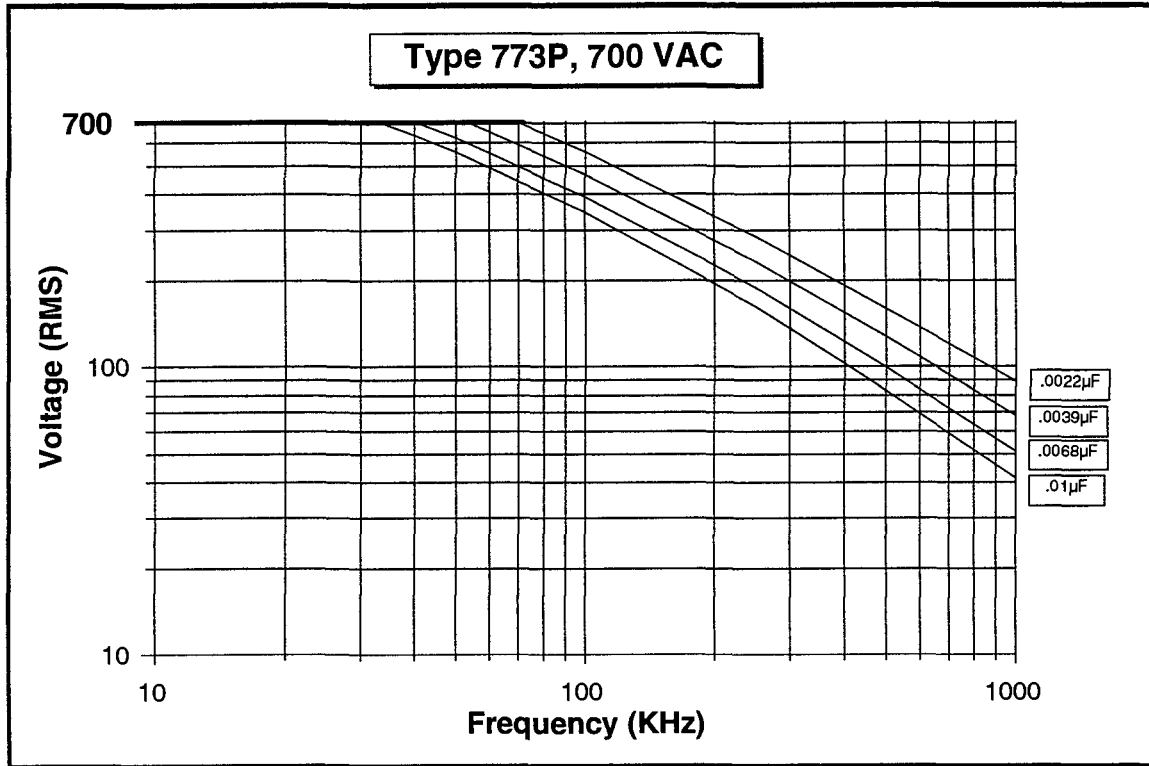
Type 773P, 750VAC/1600VDC Standard Sizes/Ratings

Value (μF)	Part Number*	L MAX	T MAX	H MAX	Seated Height	Max dV/dt (Volts/μsec)	Peak I Amps	Max % D.F.		Max ESR (mΩ)	
								20KHz	100KHz	20KHz	100KHz
.001	773P1025750J	.75 (19.1)	.24 (6.1)	.40 (10.2)	.65 (16.5)	74600	110	.029	.035	2066	510
.0012	773P1225750J	.75 (19.1)	.26 (6.6)	.41 (10.4)	.66 (16.8)	68100	120	.029	.035	1724	427
.0015	773P1525750J	.75 (19.1)	.28 (7.1)	.44 (11.2)	.69 (17.5)	60900	140	.029	.036	1381	344
.0018	773P1825750J	.75 (19.1)	.27 (6.9)	.50 (12.7)	.75 (19.1)	55600	150	.029	.036	1152	289
.002	773P2025750J	.75 (19.1)	.28 (7.1)	.51 (13.0)	.76 (19.3)	52800	160	.029	.036	1038	261
.0022	773P2225750J	.75 (19.1)	.29 (7.4)	.52 (13.2)	.77 (19.6)	50300	170	.029	.036	945	238
.0025	773P2525750J	.75 (19.1)	.31 (7.9)	.54 (13.7)	.79 (20.1)	47200	180	.029	.036	833	211
.0027	773P2725750J	.75 (19.1)	.32 (8.1)	.55 (14.0)	.80 (20.3)	45400	180	.029	.037	722	196
.003	773P3025750J	.75 (19.1)	.33 (8.4)	.56 (14.2)	.81 (20.6)	43100	190	.029	.037	695	178
.0033	773P3325750J	.75 (19.1)	.35 (8.9)	.58 (14.7)	.83 (21.1)	41100	200	.029	.037	633	163
.0039	773P3925750J	.75 (19.1)	.38 (9.7)	.61 (15.5)	.86 (21.8)	37800	220	.029	.038	537	140
.0043	773P4325750J	.75 (19.1)	.39 (9.9)	.63 (16.0)	.88 (22.4)	36000	230	.029	.038	488	128
.0047	773P4725750J	.75 (19.1)	.41 (10.4)	.64 (16.3)	.89 (22.6)	34400	240	.029	.038	448	118
.0051	773P5125750J	.75 (19.1)	.43 (10.9)	.66 (16.8)	.91 (23.1)	33000	250	.029	.039	413	110
.0056	773P5625750J	.75 (19.1)	.45 (11.4)	.68 (17.3)	.93 (23.6)	31500	260	.029	.039	377	101
.006	773P6025750J	.75 (19.1)	.46 (11.7)	.69 (17.5)	.94 (23.9)	30500	270	.029	.039	353	95
.0062	773P6225750J	.75 (19.1)	.47 (11.9)	.70 (17.8)	.95 (24.1)	30000	280	.029	.040	342	92
.0068	773P6825750J	.75 (19.1)	.49 (12.4)	.72 (18.3)	.97 (24.6)	28600	290	.029	.040	312	85

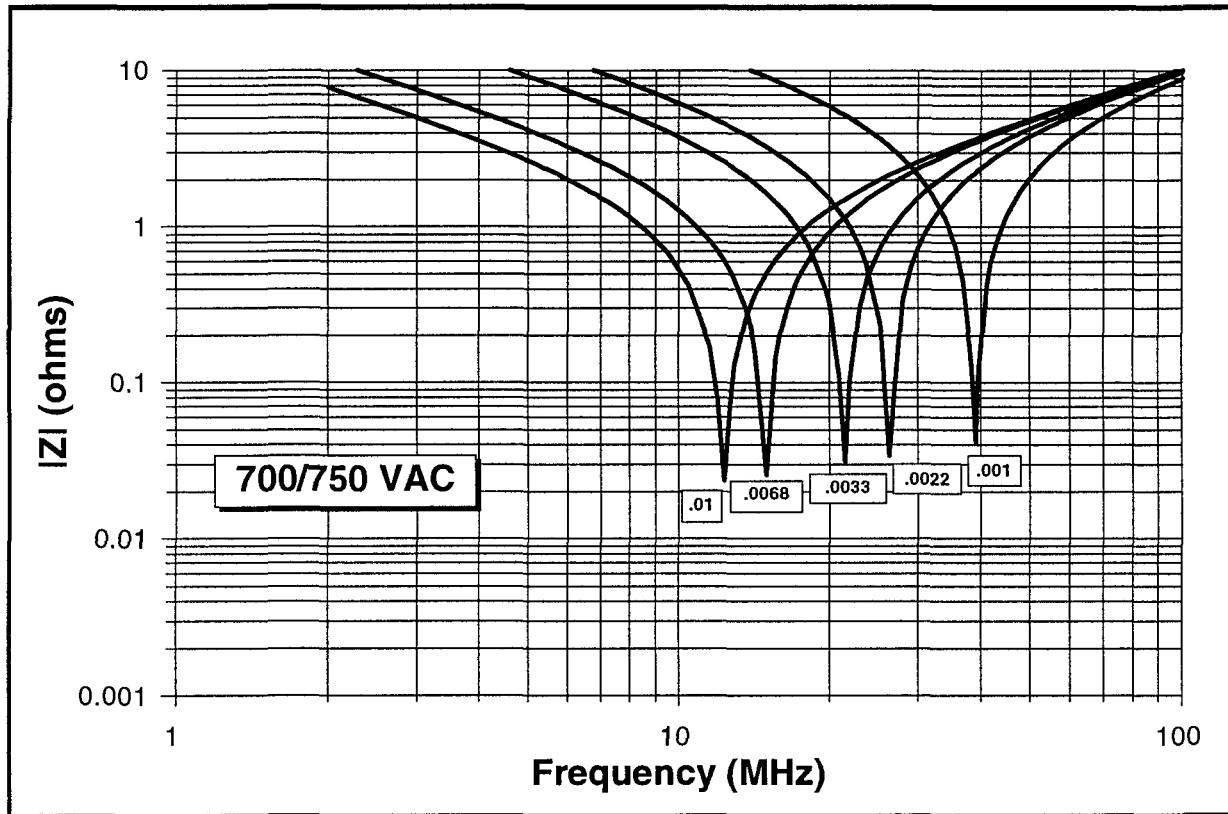
* For complete part number please refer to Ordering/Part Number Information page.

Type 773P, Orange Drop®, Polypropylene Film/Foil Capacitors

RMS Voltage vs. Frequency @ +85°C



Typical Impedance vs. Frequency



Please note: Capacitance values above are in μF . The resonant frequency and impedance shown above apply to units with a 0.250" lead length and are typical values only. Please contact us for additional data.

**For additional technical data, custom design information
or if you have a specific application question,
please don't hesitate to contact our design
engineering department. Thank you.**

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