

Type 778P/779P, Orange Drop[®], Polypropylene Film/Foil Capacitors

400 VAC

Type 778P/779P Orange Drop[®] 400 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.
- Ideal for high frequency, high pulse current applications; dV/dt rating up to 77,400 volts/μsec.
- Excellent stability, virtually linear temperature coefficient.
- Compact size with various lead spacings.

Specifications

Capacitance Range:
470 pF to .033 μF

Capacitance Tolerance:
±1% to ±10%

Voltage Ratings:
400 Volts A-C/630 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):
-140 ppm/°C, Type 778P
-180 ppm/°C, Type 779P

Pulse Rise Time, dV/dt:
See standard ratings table.

Dissipation Factor & ESR:
See standard ratings table.

Corona Start Voltage (typical):
500 Volts RMS

Encapsulation:
Conformal coating of flame retardant orange epoxy (meets UL94V-0 specs.)

Dielectric:
Polypropylene film; utilizing a floating common of metallized polypropylene, 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.

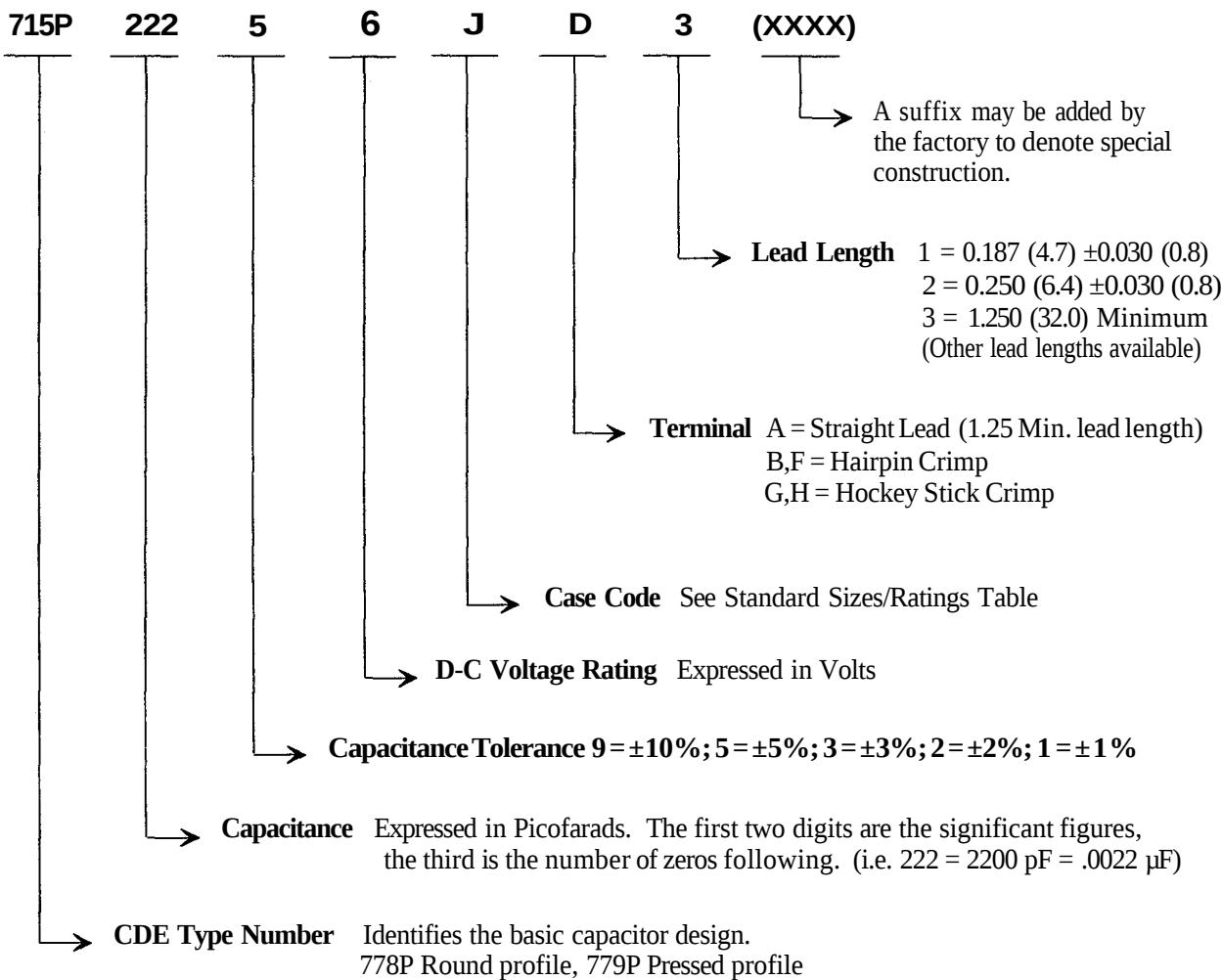
[RoHS Compliant](#)

Dimensions in inches, metric (mm) in parenthesis.

Type 778P/779P, Orange Drop®, Polypropylene Film/Foil Capacitors

High Performance

Ordering/Part Number Information

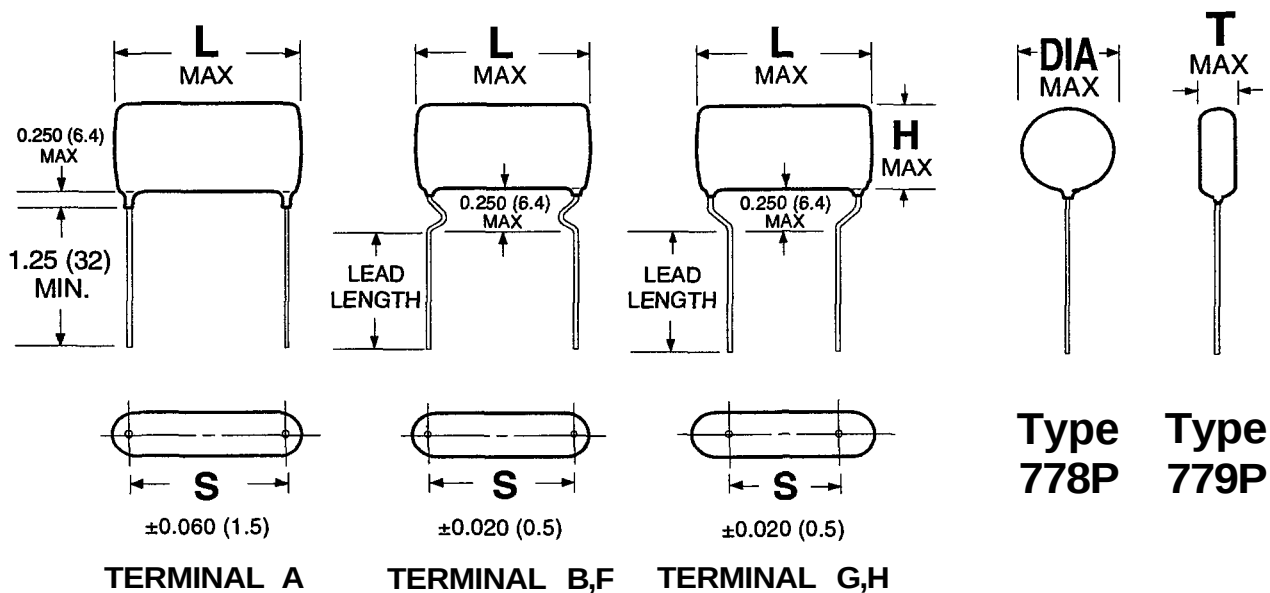


Standard Marking Format

Sample Marking on unit		Description	Tolerance codes per EIA standards	
	CDE	CDE Electronics identification	F	±1%
CDE778P800VAC	778P	Type number	G	±2%
222J 9810	400VAC	AC Voltage rating, Volts	H	±3%
	222J	Capacitance and tolerance code	J	±5%
	9810	Weekly date code (i.e. 10th wk of 1998)	K	±10%

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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: For additional capacitance values, further detailed technical data, application information, or any questions, please contact us!

Dimensions in inches, metric (mm) in parenthesis.

Type 778P/779P, Orange Drop[®], Polypropylene Film/Foil Capacitors

400 VAC

Type 778P, 400 VAC/630 VDC Standard Sizes/Ratings

Value (μF)	Part Number*	LMAX	DIA MAX	HMAX	Seated Height	Max dV/dt (Volts/μsec)	Peak I Amps	Max % D.F. 20KHz 100KHz	Max ESR (mΩ) 20KHz 100KHz
.00047	778P4715400J	.75 (19.1)	.28 (7.1)	.31 (7.9)	.56 (14.2)	77400	54.6	.029 .039	4910 1321
.00056	778P5615400J	.75 (19.1)	.29 (7.4)	.32 (8.1)	.57 (14.5)	70900	59.6	.029 .040	4121 1137
.00068	778P6815400J	.75 (19.1)	.30 (7.6)	.33 (8.4)	.58 (14.7)	64400	65.7	.029 .040	3394 936
.00075	778P7515400J	.75 (19.1)	.30 (7.6)	.34 (8.6)	.59 (15.0)	61300	69.0	.029 .040	3077 849
.00082	778P8215400J	.75 (19.1)	.27 (6.9)	.30 (7.6)	.55 (14.0)	58600	72.1	.030 .042	2911 815
.001	778P1025400J	.75 (19.1)	.28 (7.1)	.31 (7.9)	.56 (14.2)	53100	79.6	.030 .042	2387 668
.0012	778P1225400J	.75 (19.1)	.29 (7.4)	.32 (8.1)	.57 (14.5)	48500	87.2	.030 .042	1989 557
.0015	778P1525400J	.75 (19.1)	.25 (6.4)	.29 (7.4)	.54 (13.7)	43300	97.5	.031 .047	1645 499
.0018	778P1825400J	.75 (19.1)	.26 (6.6)	.30 (7.6)	.55 (14.0)	39600	106.8	.031 .047	1371 416
.0022	778P2225400J	.75 (19.1)	.27 (6.9)	.30 (7.6)	.55 (14.0)	35800	118.1	.031 .047	1121 340
.0025	778P2525400J	.75 (19.1)	.28 (7.1)	.31 (7.9)	.56 (14.2)	33600	125.9	.031 .047	987 299
.0027	778P2725400J	.75 (19.1)	.28 (7.1)	.32 (8.1)	.57 (14.5)	32300	130.8	.031 .048	914 283
.0033	778P3325400J	.75 (19.1)	.29 (7.4)	.33 (8.4)	.58 (14.7)	29200	144.6	.031 .048	748 231
.0039	778P3925400J	.75 (19.1)	.30 (7.6)	.34 (8.6)	.59 (15.0)	26900	157.3	.031 .048	633 196
.0047	778P4725400J	.75 (19.1)	.32 (8.1)	.35 (8.9)	.60 (15.2)	24500	172.6	.031 .048	525 163
.0051	778P5125400J	.75 (19.1)	.32 (8.1)	.36 (9.1)	.61 (15.5)	23500	179.8	.031 .048	484 150
.0056	778P5625400J	.75 (19.1)	.33 (8.4)	.37 (9.4)	.62 (15.7)	22400	188.4	.031 .048	441 136
.0062	778P6225400J	.75 (19.1)	.34 (8.6)	.38 (9.7)	.63 (16.0)	21300	198.3	.031 .048	398 123
.0068	778P6825400J	.75 (19.1)	.35 (8.9)	.39 (9.9)	.64 (16.3)	20400	207.6	.031 .049	363 115
.0075	778P7525400J	.75 (19.1)	.36 (9.1)	.40 (10.2)	.65 (16.5)	19400	218.1	.031 .049	329 104
.0082	778P8225400J	.75 (19.1)	.37 (9.4)	.41 (10.4)	.66 (16.8)	18500	228.0	.031 .049	301 95
.01	778P1035400J	.75 (19.1)	.39 (9.9)	.43 (10.9)	.68 (17.3)	16800	251.8	.031 .049	247 78
.012	778P1235400J	.75 (19.1)	.41 (10.4)	.45 (11.4)	.70 (17.8)	15300	275.8	.031 .050	206 66
.015	778P1535400J	.75 (19.1)	.45 (11.4)	.49 (12.4)	.74 (18.8)	13700	308.4	.031 .051	164 54
.018	778P1835400J	.75 (19.1)	.47 (11.9)	.52 (13.2)	.77 (19.6)	12500	337.8	.032 .051	141 45
.022	778P2235400J	.75 (19.1)	.51 (13.0)	.55 (14.0)	.80 (20.3)	11300	373.5	.032 .052	116 38

Type 779P, 400 VAC/630 VDC Standard Sizes/Ratings¹

Value (μF)	Part Number*	LMAX	TMAX	HMAX	Seated Height	Max dV/dt (Volts/μsec)	Peak I Amps	Max % D.F. 20KHz 100KHz	Max ESR (mΩ) 20KHz 100KHz
.00068	779P6815400J	.75 (19.1)	.23 (5.9)	.37 (9.4)	.62 (15.7)	64400	65.7	.030 .040	3511 936
.00075	779P7515400J	.75 (19.1)	.24 (6.1)	.37 (9.4)	.62 (15.7)	61300	69.0	.030 .040	3183 849
.00082	779P8215400J	.75 (19.1)	.24 (6.1)	.38 (9.7)	.63 (16.0)	58600	72.1	.030 .040	2911 776
.001	779P1025400J	.75 (19.1)	.24 (6.1)	.40 (10.2)	.65 (16.5)	53100	79.6	.030 .040	2387 637
.0012	779P1225400J	.75 (19.1)	.26 (6.6)	.42 (13.2)	.67 (17.0)	48500	87.2	.030 .040	1989 531
.0015	779P1525400J	.75 (19.1)	.23 (5.9)	.37 (9.4)	.62 (15.7)	43300	97.5	.030 .043	1592 456
.0018	779P1825400J	.75 (19.1)	.25 (6.4)	.38 (9.7)	.63 (16.0)	39600	106.8	.030 .044	1326 389
.0022	779P2225400J	.75 (19.1)	.26 (6.6)	.40 (10.2)	.65 (16.5)	35800	118.1	.030 .044	1085 318
.0025	779P2525400J	.75 (19.1)	.25 (6.4)	.41 (10.1)	.66 (16.8)	33600	125.9	.030 .044	955 280
.0027	779P2725400J	.75 (19.1)	.21 (5.4)	.35 (8.9)	.60 (15.2)	32300	130.8	.031 .046	914 271
.0033	779P3325400J	.75 (19.1)	.22 (5.6)	.36 (9.1)	.61 (15.5)	29200	144.6	.031 .047	748 227
.0039	779P3925400J	.75 (19.1)	.23 (5.9)	.37 (9.4)	.62 (15.7)	26900	157.3	.031 .047	633 192
.0047	779P4725400J	.75 (19.1)	.24 (6.1)	.40 (10.2)	.65 (16.5)	24500	172.6	.031 .048	525 163
.0051	779P5125400J	.75 (19.1)	.24 (6.1)	.41 (10.4)	.66 (16.8)	23500	179.8	.031 .048	484 150
.0056	779P5625400J	.75 (19.1)	.25 (6.4)	.41 (10.4)	.66 (16.8)	22400	188.4	.031 .049	441 139
.0062	779P6225400J	.75 (19.1)	.26 (6.6)	.42 (10.7)	.67 (17.0)	21300	198.3	.031 .049	398 126
.0068	779P6825400J	.75 (19.1)	.27 (6.9)	.43 (10.9)	.68 (17.3)	20400	207.6	.031 .050	363 117
.0075	779P7525400J	.75 (19.1)	.28 (7.1)	.44 (11.2)	.69 (17.5)	19400	218.1	.031 .050	329 106
.0082	779P8225400J	.75 (19.1)	.28 (7.1)	.47 (11.9)	.72 (18.3)	18500	228.0	.032 .051	311 99
.01	779P1035400J	.75 (19.1)	.30 (7.6)	.49 (12.4)	.74 (18.8)	16800	251.8	.032 .053	255 84
.012	779P1235400J	.75 (19.1)	.32 (8.1)	.51 (13.0)	.76 (19.3)	15300	275.8	.032 .054	212 72
.015	779P1535400J	.75 (19.1)	.33 (8.4)	.57 (14.5)	.82 (20.8)	13700	308.4	.032 .057	170 60
.018	779P1835400J	.75 (19.1)	.36 (9.1)	.60 (15.2)	.85 (21.6)	12500	337.8	.033 .059	146 52
.022	779P2235400J	.75 (19.1)	.39 (9.9)	.64 (16.3)	.89 (22.6)	11300	373.5	.033 .063	119 46
.027	779P2735400J	.75 (19.1)	.43 (10.9)	.68 (17.3)	.93 (23.6)	10200	413.8	.034 .067	100 39
.033	779P3335400J	.75 (19.1)	.47 (11.9)	.72 (18.3)	.97 (24.6)	9200	457.4	.035 .072	84 35

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

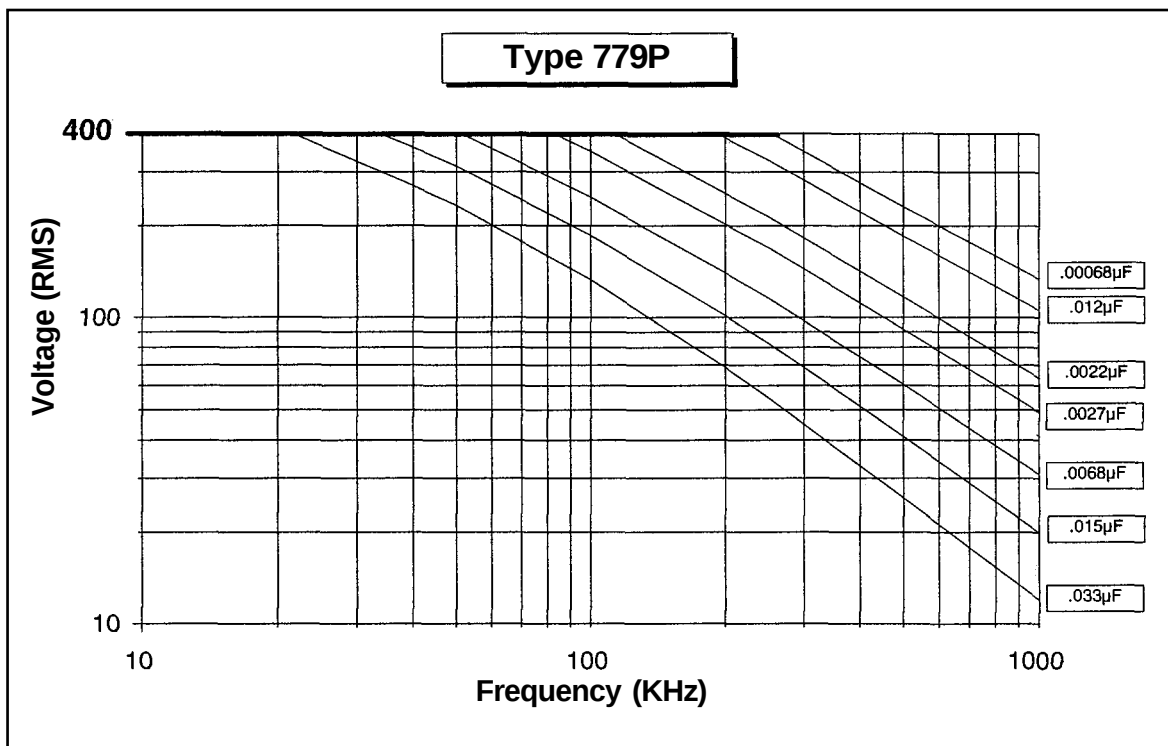
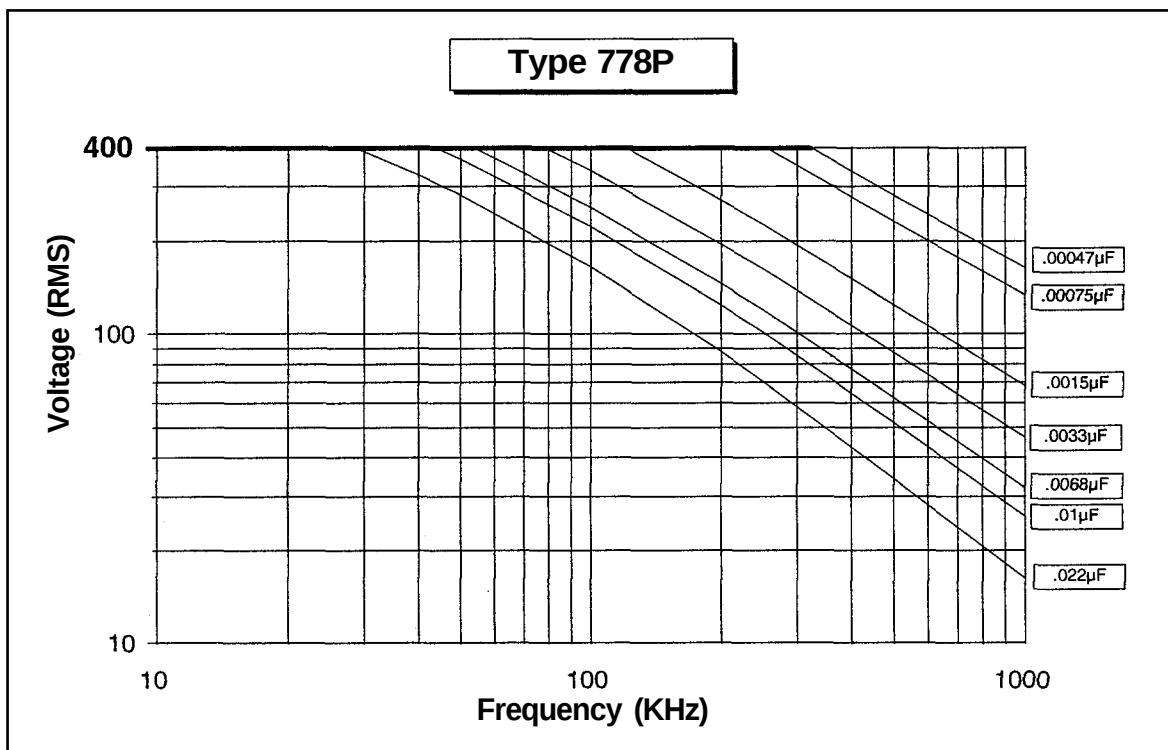
¹ Shaded part numbers, when ordered as ±5% tolerance with the B3 terminal style and lead length, are Standard Stock items available through the Sprague/Vishay Distribution Network. For complete part number please add the B3 suffix to the above part numbers in accordance with the Ordering Information (i.e. 779P4725400JB3). Other part numbers are available on special order.

Dimensions in inches, metric (mm) in parenthesis.

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400 VAC

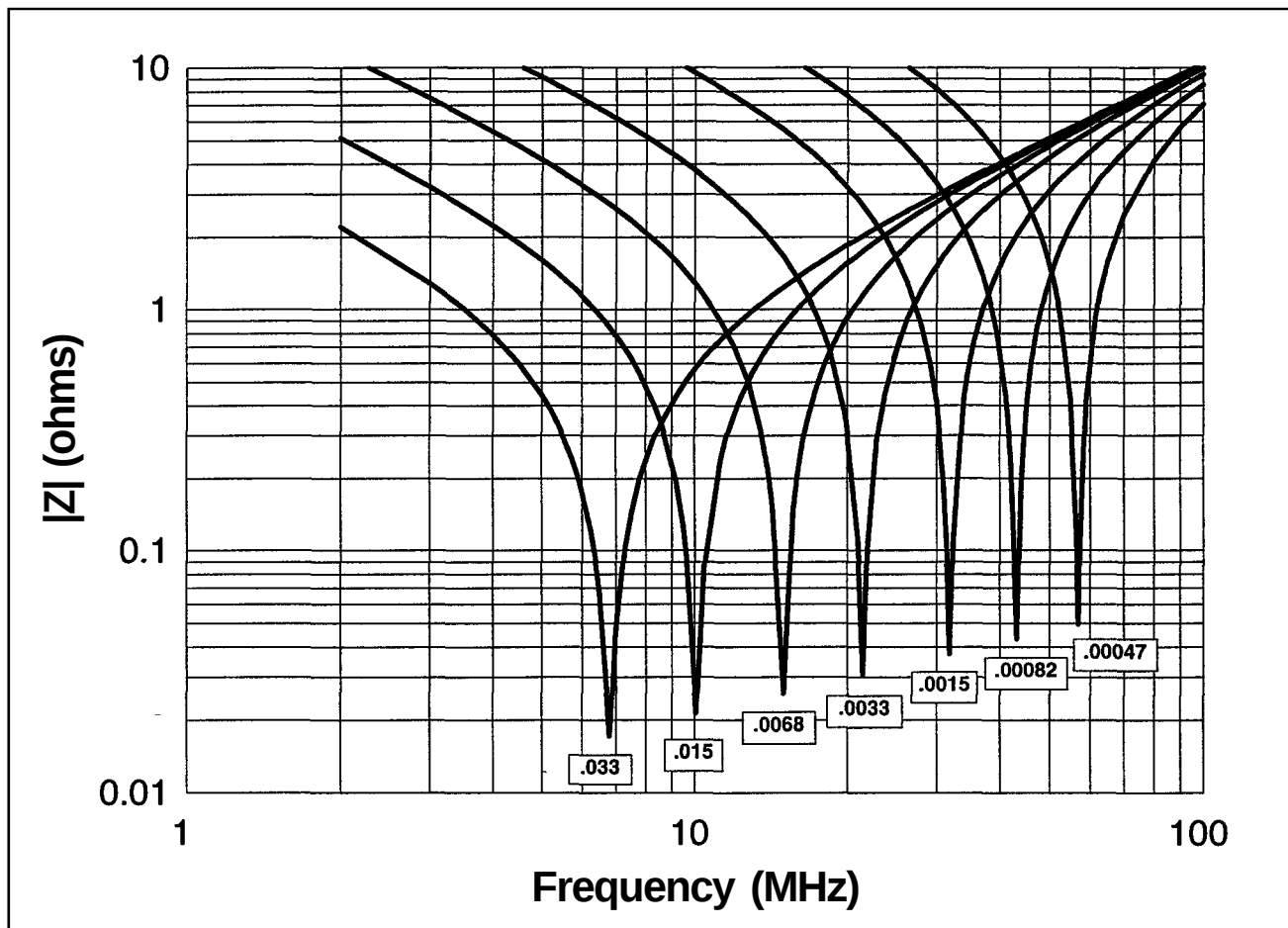
RMS Voltage vs. Frequency @ +85°C



Type 778P/779P, Orange Drop[®], Polypropylene Film/Foil Capacitors

400 VAC

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.

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