

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.

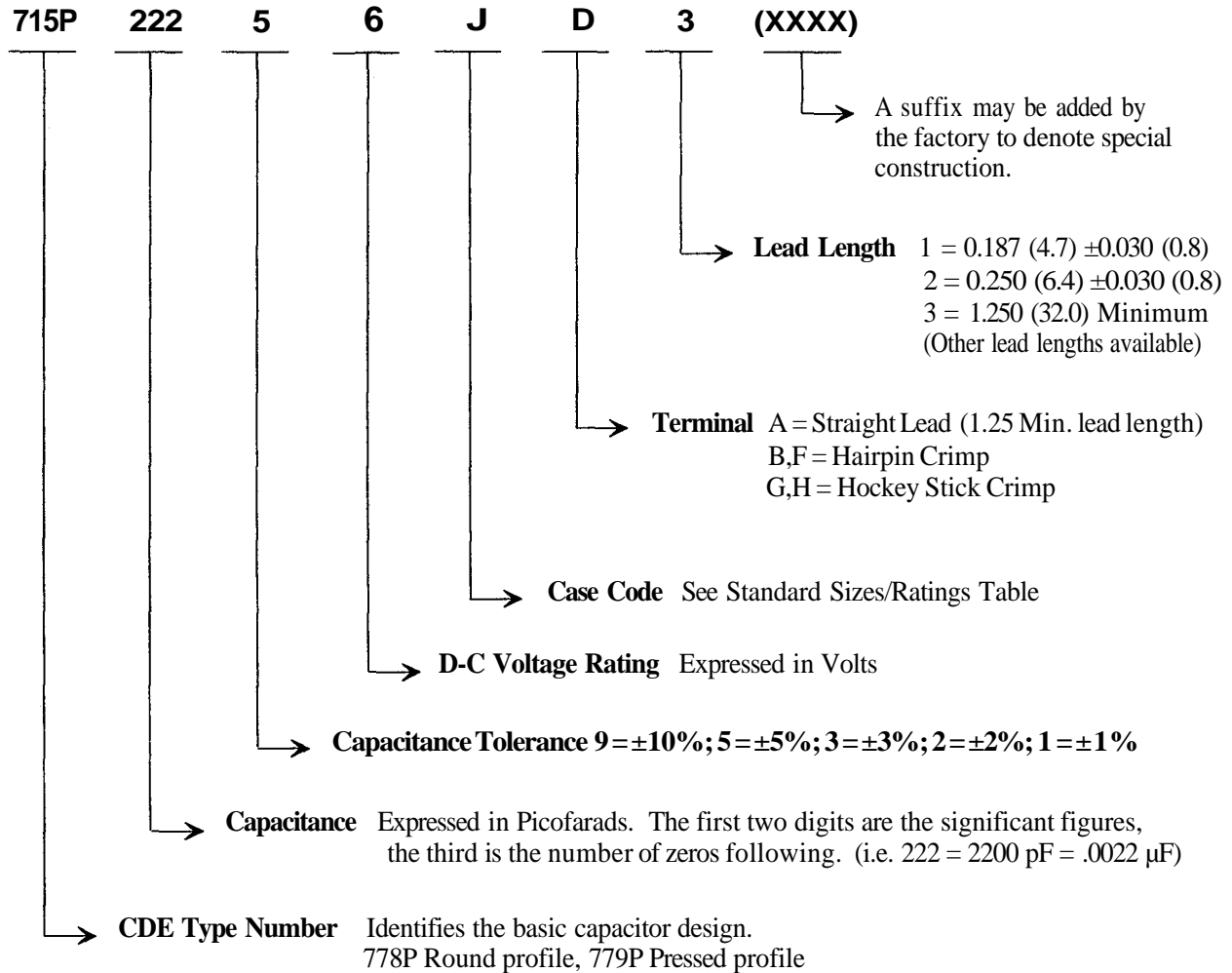
[RoHS Compliant](#)

Dimensions in inches, metric (mm) in parenthesis.

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

High Performance

Ordering/Part Number Information



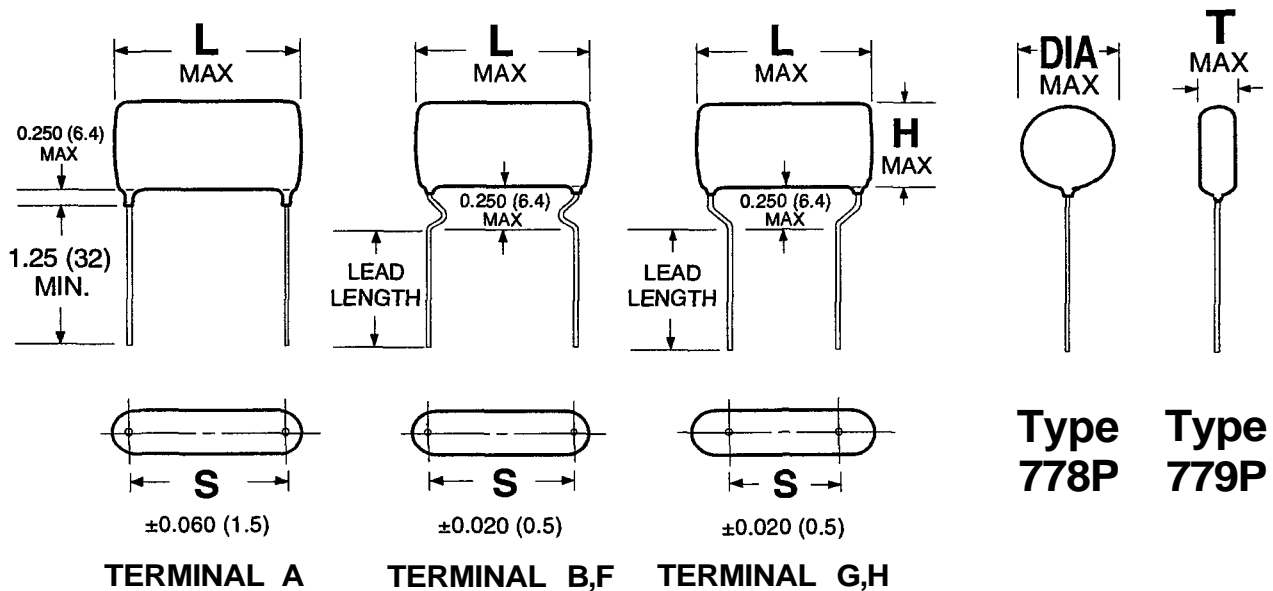
Standard Marking Format

Sample Marking on unit	Description	Tolerance codes per EIA standards
CDE	CDE Electronics identification	F ±1%
778P	Type number	G ±2%
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%

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

400 VAC

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.		Max ESR (mΩ)	
								20KHz	100KHz	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.		Max ESR (mΩ)	
								20KHz	100KHz	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.

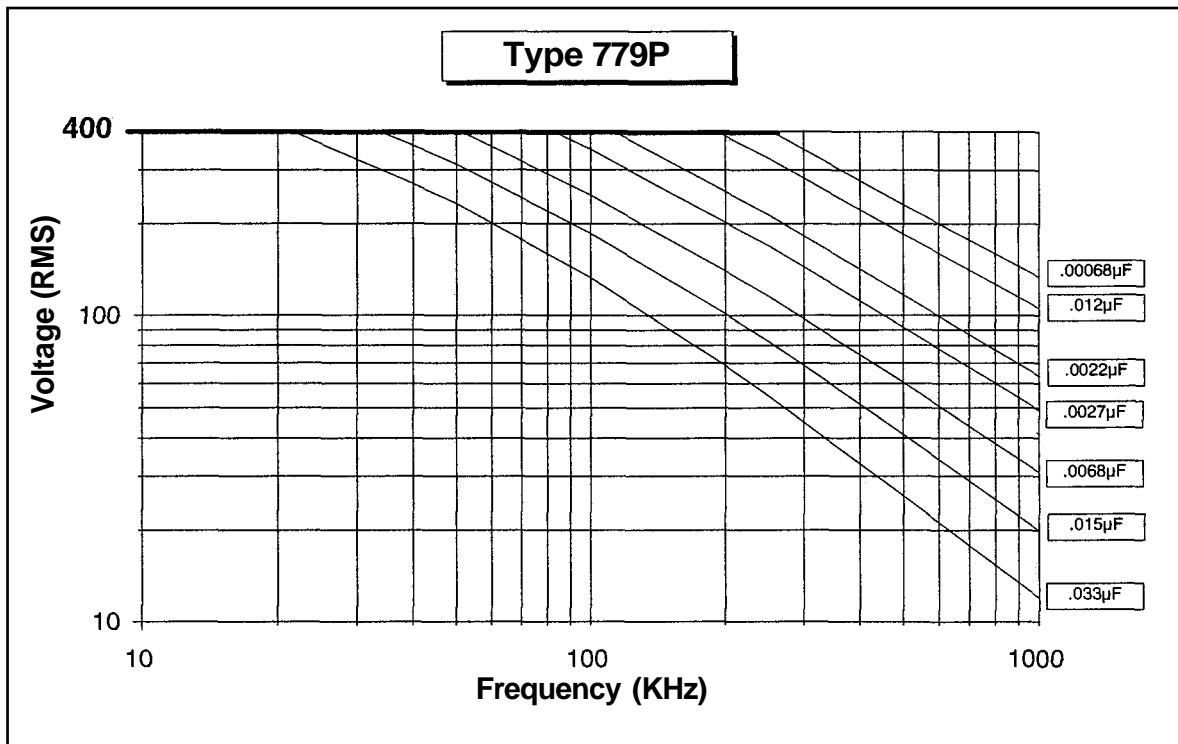
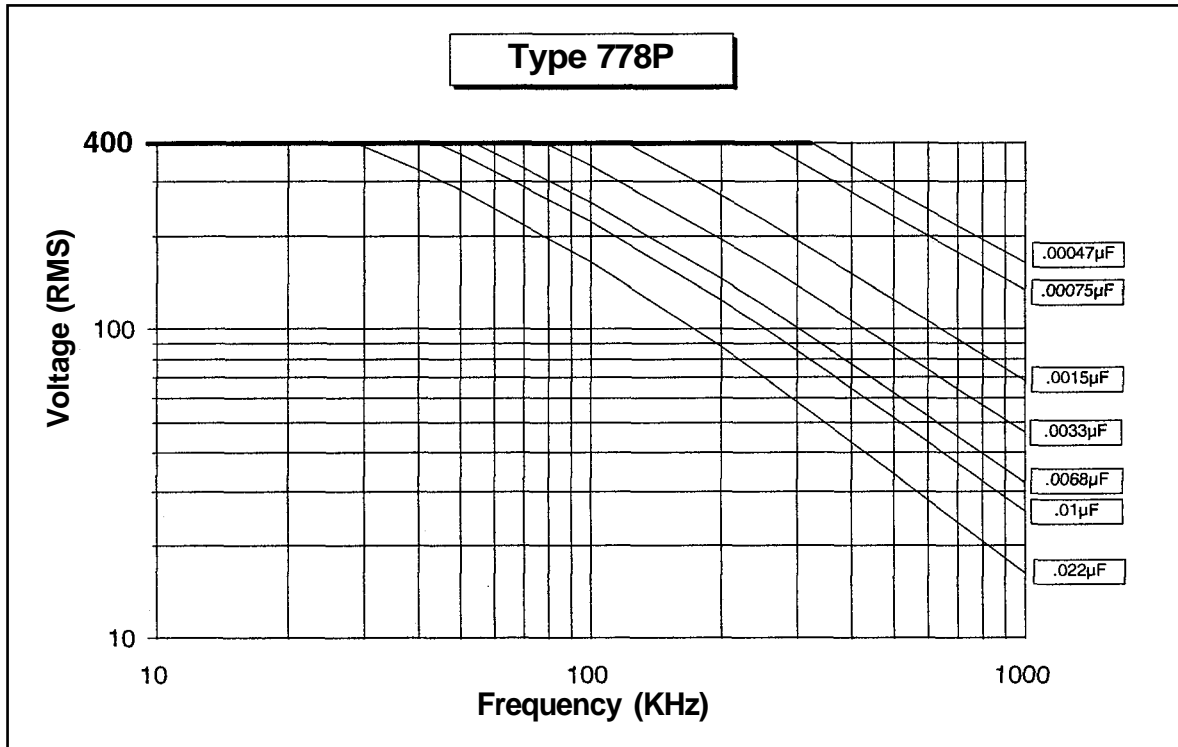
¹ Shaded part numbers, when ordered as ±5% tolerance with the B3 terminal style and lead length, are Standard Stock items available through the Sprague/Vishay Distribution Network. For complete part number please add the B3 suffix to the above part numbers in accordance with the Ordering Information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

Dimensions in inches, metric (mm) in parenthesis.

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

400 VAC

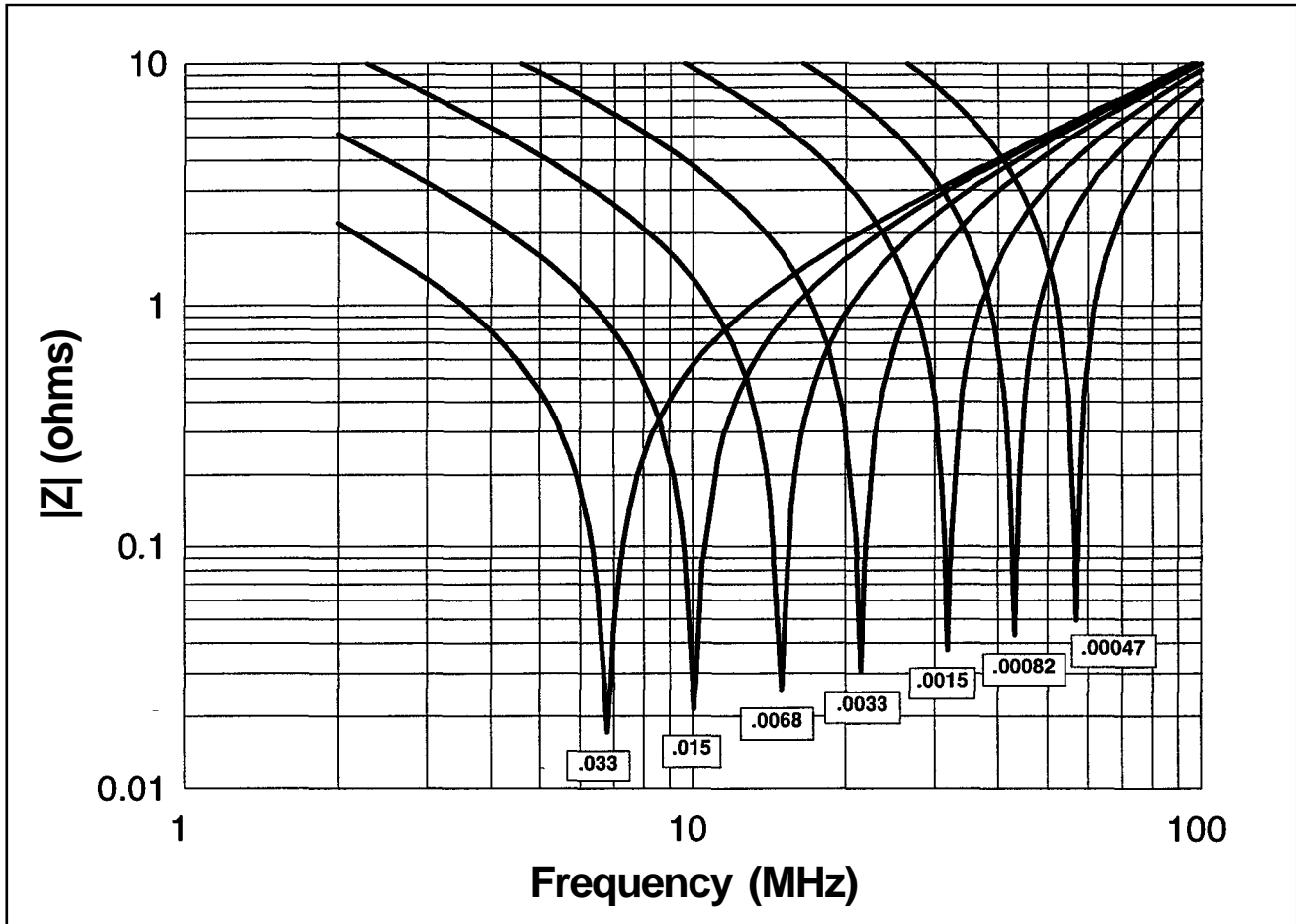
RMS Voltage vs. Frequency @ +85°C



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.

Notice and Disclaimer: All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.