

Capacitors

High Voltage, SMT, 250 - 6,000



Features:

- Diverse Case Sizes, Voltages, & Capacitance Ranges
- DC Voltages from 500 through 6KV
- Case Sizes 0805 - 2225
- Capacitance Range: 10 pF - 0.47 µF
- Dielectrics Type: NP0, X7R
- Soft Polyterm® available to reduce stress. (Contact factory).

Common Applications:

- Analog & Digital Modems
- Voltage Multipliers
- DC-DC Converters
- Lighting Ballast Circuit
- Back-lighting Inverters
- LAN/WAN Interface

Note: Capacitors may require a surface coating to prevent external arcing. Solder mask should not be used beneath capacitors. For more information, visit "Surface Arc Season":

https://www.johansondielectrics.com/arc-season-and-board-design-observations

Electrical Specifications:

Dielectric Withstanding Voltage:

- DWV = 1.5 X rated WVDC for ratings 500-999 WVDC
- DWV = 1.2 X rated WVDC for ratings ≥ 1,000 WVDC

Case Size				Capacitance Selection				
EIA	Sizes	Inches	(mm)	Rated Voltage	NP0 Dielectric		X7R Dielectric	
					Minimum	Maximum	Minimum	Maximum
0805	L W T E/B	.080 ±.010 .050 ±.010 .055 Max. .020 ±.010	(2.03 ±.25) (1.27 ±.25) (1.40) (0.51±.25)	500 VDC 630 VDC 1000 VDC	10 pF 10 pF 10 pF	680 pF 560 pF 390 pF	1000 pF 1000 pF 100 pF	0.010 µF 6800 pF 2700 pF
1206	L W T E/B	.125 ±.010 .062 ±.010 .067 Max. .020 ±.010	(3.18 ±.25) (1.57 ±.25) (1.70) (0.51±.25)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC	10 pF 10 pF 10 pF 10 pF 10 pF	1500 pF 1200 pF 1000 pF 220 pF 82 pF	1000 pF 1000 pF 100 pF 100 pF 100 pF	0.033 µF 0.027 µF 0.010 µF 4700 pF 1000 pF
1210	L W T E/B	.125 ±.010 .095 ±.010 .080 Max. .020 ±.010	(3.18 ±.25) (2.41 ±.25) (2.03) (0.51±.25)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC	10 pF 10 pF 10 pF 10 pF 10 pF	3900 pF 2700 pF 1800 pF 560 pF 220 pF	1000 pF 1000 pF 100 pF 100 pF 100 pF	0.068 µF 0.047 µF 0.015 µF 4700 pF 1000 pF
1808	L W T E/B	.185 ±.020 .080 ±.010 .085 Max. .020 ±.010	(4.70 ±.51) (2.03 ±.25) (2.16) (0.51±.25)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC 4000 VDC 5000 VDC 6000 VDC	10 pF 10 pF 1.0 pF 1.0 pF 1.0 pF 1.0 pF 1.0 pF 1.0 pF	4700 pF 3300 pF 2200 pF 820 pF 470 pF 180 pF 75 pF 75 pF	1000 pF 1000 pF 100 pF 100 pF 100 pF 100 pF 47 pF 47 pF	0.100 µF 0.047 µF 0.022 µF 0.010 µF 3300 pF 1800 pF 390 pF 150 pF

Available capacitor values include these significant retma values and their multiples: 1.0 1.2 1.5 1.8 2.2 2.7 3.3 3.9 4.7 5.6 6.8 8.2 (1.0 = 1.0, 10, 100, 1000, etc.) Consult factory for non-retma values and sizes or voltages not shown.

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Capacitors

High Voltage Multi-Layer

Case Size				Capacitance Selection				
EIA	Sizes	Inches	(mm)	Rated Voltage	NP0 Dielectric		X7R Dielectric	
					Minimum	Maximum	Minimum	Maximum
 **1812**	L W T E/B	.177 ±.012 .125 ±.010 .110 Max. .025 ±.015	(4.50 ±.30) (3.18 ±.25) (2.80) (0.64±.38)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC 4000 VDC 5000 VDC 6000 VDC	100 pF 100 pF 10 pF 10 pF 10 pF 10 pF 10 pF 10 pF	8200 pF 6800 pF 5600 pF 1800 pF 1000 pF 390 pF 150 pF 150 pF	1000 pF 1000 pF 1000 pF 100 pF 100 pF 100 pF 100 pF 10 pF	0.330 uF 0.120 µF 0.100 µF 0.010 µF 4700 pF 1200 pF 820 pF 330 pF
 **1825**	L W T E/B	.180 ±.010 .250 ±.010 .140 Max. .025 ±.015	(4.57 ±.25) (6.35 ±.25) (3.56) (0.64±.38)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC 4000 VDC 5000 VDC 6000 VDC	100 pF 100 pF 10 pF 10 pF 10 pF 10 pF 10 pF 10 pF	0.018 µF 0.015 µF 0.012 µF 5600 pF 2200 pF 1200 pF 390 pF 390 pF	0.01 µF 0.01 µF 1000 pF 100 pF 100 pF 100 pF 100 pF 100 pF	0.390 µF 0.270 µF 0.180 µF 0.039 µF 8200 pF 2200 pF 1500 pF 820 pF
 **2220**	L W T E/B	.225 ±.015 .200 ±.015 .150 Max. .025 ±.015	(5.72 ±.38) (5.08 ±.38) (3.81) (0.64±.38)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC 4000 VDC 5000 VDC 6000 VDC	1000 pF 1000 pF 100 pF 100 pF 10 pF 10 pF 10 pF 10 pF	0.018 µF 0.018 µF 0.015 µF 5600 pF 2700 pF 1500 pF 470 pF 470 pF	0.01 µF 0.01 µF 1000 pF 1000 pF 100 pF 100 pF 100 pF 100 pF	0.470 µF 0.270 µF 0.120 µF 0.039 µF 0.010 µF 2700 pF 1500 pF 820 pF
 **2225**	L W T E/B	.225 ±.010 .255 ±.015 .160 Max. .025 ±.015	(5.72 ±.25) (6.48 ±.38) (4.06) (0.64±.38)	500 VDC 630 VDC 1000 VDC 2000 VDC 3000 VDC 4000 VDC 5000 VDC 6000 VDC	1000 pF 1000 pF 100 pF 100 pF 10 pF 10 pF 10 pF 10 pF	0.027 µF 0.022 µF 0.018 µF 8200 pF 3300 pF 1800 pF 470 pF 470 pF	0.01 µF 0.01 µF 1000 pF 1000 pF 100 pF 100 pF 100 pF 100 pF	0.560 µF 0.390 µF 0.180 µF 0.056 µF 0.012 µF 3300 pF 2700 pF 1200 pF

Available cap. values include these significant retma values and their multiples: 1.0 1.2 1.5 1.8 2.2 2.7 3.3 3.9 4.7 5.6 6.8 8.2 (1.0 = 1.0, 10, 100, 1000, etc.) Consult factory for non-retma values and sizes or voltages not shown.

HOW TO ORDER

VP	DD	202	W	102	K	1	GV	001	E
Subfamily	**Size**	**Voltage**	**DTC**	**Capacitance**	**Tol**	**Mark**	**Termination**	**Special Code**	**Pack**
VP = High Volt SMD ≥ 500V **VB** = High Volt SMD ≥ 500V	**CT** = 0805 **DD** = 1206 **DP** = 1808 **DF** = 1210 **DR** = 1812 **EF** = 2220 **EH** = 2225 **DV** = 1825	**501** = 500 V **631** = 630 V **102** = 1000 V **202** = 2000 V **302** = 3000 V **402** = 4000 V **502** = 5000 V **602** = 6000 V	**G** = NP0/C0G **W** = X7R	1st two digits are significant; 3rd digit denotes number of zeros. **102** = 1000 pF **104** = 0.10 µF	**J** = ± 5% **K** = ±10% **M** = ±20%	**1** = No mark **2** = EIA mark	**GV** = Ni/Sn (RoHS) **NT** = Ni/SnPb **GF** = Polyterm Sn (RoHS) **ZZ** = Special Code	**001** = Default catalog item	**B** = Bulk **E** = Embossed 7" **T** = Punched 7"

Example: **VPDD202W102K1GV001E** Capacitors HVS, 1206, X7R, 2000V, 1000pF±10%, Ni/Sn (RoHS), 7" Reel Embossed Tape

RESOURCE ▶ https://www.johansondielectrics.com/high-voltage-mlc-capacitors

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