



Capacitors - Ceramic Chip Components

High Voltage Multi-Layer



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>

Features:

- Diverse Case Sizes, Voltages, & Capacitance Ranges
- DC Voltages from 500 through 6KV
- Case Sizes 0805 - 2225
- Capacitance Range: 10 pF - 0.47 μ F
- 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

Electrical Specifications:

Dielectric Withstanding Voltage:

- DWV = 1.5 X rated WVDC for ratings 500-999 WVDC
- DWV = 1.2 X rated WVDC for ratings $\geq$ 1,000 WVDC

CASE SIZE				CAPACITANCE SELECTION				
EIA	Sizes	Inches	(mm)	Rated Voltage	NP0 Dielectric		X7R Dielectric	
					Minimum	Maximum	Minimum	Maximum
 0805	L	.080 $\pm$.010	(2.03 $\pm$.25)	200 VDC	-	-	1000 pF	0.022 μ F
	W	.050 $\pm$.010	(1.27 $\pm$.25)	500 VDC	10 pF	680 pF	1000 pF	0.010 μ F
	T	.055 Max.	(1.40)	630 VDC	10 pF	560 pF	1000 pF	6800 pF
	E/B	.020 $\pm$.010	(0.51 $\pm$.25)	1000 VDC	10 pF	390 pF	100 pF	2700 pF
 1206	L	.125 $\pm$.010	(3.18 $\pm$.25)	250 VDC	-	-	1000 pF	0.068 μ F
	W	.062 $\pm$.010	(1.57 $\pm$.25)	500 VDC	10 pF	1500 pF	1000 pF	0.033 μ F
	T	.067 Max.	(1.70)	630 VDC	10 pF	1200 pF	1000 pF	0.027 μ F
	E/B	.020 $\pm$.010	(0.51 $\pm$.25)	1000 VDC	10 pF	1000 pF	100 pF	0.010 μ F
				2000 VDC	10 pF	220 pF	100 pF	4700 pF
 1210	L	.125 $\pm$.010	(3.18 $\pm$.25)	3000 VDC	10 pF	82 pF	100 pF	1000 pF
	L	.125 $\pm$.010	(3.18 $\pm$.25)	250 VDC	-	-	1000 pF	0.150 μ F
	W	.095 $\pm$.010	(2.41 $\pm$.25)	500 VDC	10 pF	3900 pF	1000 pF	0.068 μ F
	T	.080 Max.	(2.03)	630 VDC	10 pF	2700 pF	1000 pF	0.047 μ F
	E/B	.020 $\pm$.010	(0.51 $\pm$.25)	1000 VDC	10 pF	1800 pF	100 pF	0.015 μ F
 1808				2000 VDC	10 pF	560 pF	100 pF	4700 pF
				3000 VDC	10 pF	220 pF	100 pF	1000 pF
	L	.185 $\pm$.020	(4.70 $\pm$.51)	500 VDC	10 pF	4700 pF	1000 pF	0.100 μ F
	W	.080 $\pm$.010	(2.03 $\pm$.25)	630 VDC	10 pF	3300 pF	1000 pF	0.047 μ F
	T	.085 Max.	(2.16)	1000 VDC	1.0 pF	2200 pF	100 pF	0.022 μ F
	E/B	.020 $\pm$.010	(0.51 $\pm$.25)	2000 VDC	1.0 pF	820 pF	100 pF	0.010 μ F
				3000 VDC	1.0 pF	470 pF	100 pF	3300 pF
				4000 VDC	1.0 pF	180 pF	100 pF	1800 pF
				5000 VDC	1.0 pF	75 pF	47 pF	390 pF
				6000 VDC	1.0 pF	75 pF	47 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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Case Size				Capacitance Selection				
EIA	Sizes	Inches	(mm)	Rated Voltage	NP0 Dielectric		X7R Dielectric	
					Minimum	Maximum	Minimum	Maximum
 1812	L	.177 ±.012	(4.50 ±.30)	250 VDC	-	-	0.010 uF	0.470 uF
	W	.125 ±.010	(3.18 ±.25)	500 VDC	100 pF	8200 pF	1000 pF	0.330 uF
	T	.110 Max.	(2.80)	630 VDC	100 pF	6800 pF	1000 pF	0.120 uF
	E/B	.025 ±.015	(0.64±.38)	1000 VDC	10 pF	5600 pF	1000 pF	0.100 uF
				2000 VDC	10 pF	1800 pF	100 pF	0.010 uF
				3000 VDC	10 pF	1000 pF	100 pF	4700 pF
				4000 VDC	10 pF	390 pF	100 pF	1200 pF
				5000 VDC	10 pF	150 pF	100 pF	820 pF
				6000 VDC	10 pF	150 pF	10 pF	330 pF
 1825	L	.180 ±.010	(4.57 ±.25)	500 VDC	100 pF	0.018 uF	0.01 uF	0.390 uF
	W	.250 ±.010	(6.35 ±.25)	630 VDC	100 pF	0.015 uF	0.01 uF	0.270 uF
	T	.140 Max.	(3.56)	1000 VDC	10 pF	0.012 uF	1000 pF	0.180 uF
	E/B	.025 ±.015	(0.64±.38)	2000 VDC	10 pF	5600 pF	100 pF	0.039 uF
				3000 VDC	10 pF	2200 pF	100 pF	8200 pF
				4000 VDC	10 pF	1200 pF	100 pF	2200 pF
				5000 VDC	10 pF	390 pF	100 pF	1500 pF
				6000 VDC	10 pF	390 pF	100 pF	820 pF
 2220	L	.225 ±.015	(5.72 ±.38)	500 VDC	1000 pF	0.018 uF	0.01 uF	0.470 uF
	W	.200 ±.015	(5.08 ±.38)	630 VDC	1000 pF	0.018 uF	0.01 uF	0.270 uF
	T	.150 Max.	(3.81)	1000 VDC	100 pF	0.015 uF	1000 pF	0.120 uF
	E/B	.025 ±.015	(0.64±.38)	2000 VDC	100 pF	5600 pF	1000 pF	0.039 uF
				3000 VDC	10 pF	2700 pF	100 pF	0.010 uF
				4000 VDC	10 pF	1500 pF	100 pF	2700 pF
				5000 VDC	10 pF	470 pF	100 pF	1500 pF
				6000 VDC	10 pF	470 pF	100 pF	820 pF
 2225	L	.225 ±.010	(5.72 ±.25)	500 VDC	1000 pF	0.027 uF	0.01 uF	0.560 uF
	W	.255 ±.015	(6.48 ±.38)	630 VDC	1000 pF	0.022 uF	0.01 uF	0.390 uF
	T	.160 Max.	(4.06)	1000 VDC	100 pF	0.018 uF	1000 pF	0.180 uF
	E/B	.025 ±.015	(0.64±.38)	2000 VDC	100 pF	8200 pF	1000 pF	0.056 uF
				3000 VDC	10 pF	3300 pF	100 pF	0.012 uF
				4000 VDC	10 pF	1800 pF	100 pF	3300 pF
				5000 VDC	10 pF	470 pF	100 pF	2700 pF
				6000 VDC	10 pF	470 pF	100 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 PME SMD ≥ 500V VB = High Volt BME SMD ≥ 500V	CT = 0805 DD = 1206 DP = 1808 DF = 1210 DR = 1812 EF = 2220 EH = 2225 DV = 1825	501 = 00 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 uF	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 PME, 1206, X7R, 2000V, 1000pF±10%, Ni/Sn (RoHS), 7" Reel Embossed Tape