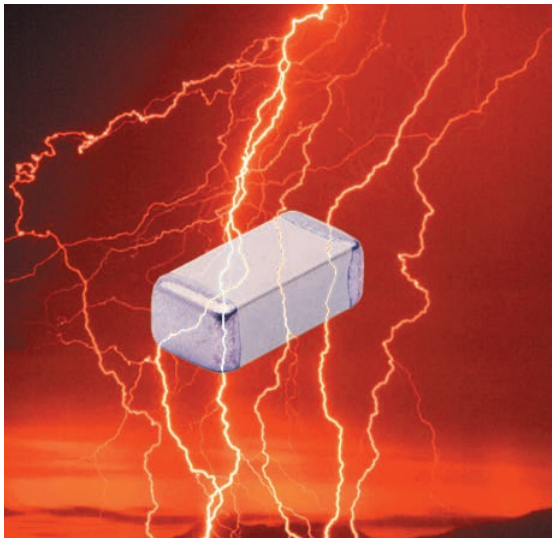
High Voltage Surface Mount MLCCs 250 - 6,000 VDC



These high voltage capacitors feature a special internal electrode design which reduces voltage concentrations by distributing voltage gradients throughout the entire capacitor.
This unique design also affords increased capacitance values in a given case size and voltage rating. The capacitors are designed and manufactured to the general requirement of EIA198 and are subjected to a 100% electrical testing making them well suited for a wide variety of telecommunication, commercial, and industrial applications.

Applications

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

Polyterm® soft termination option for demanding environments & processes available on select parts, please contact the factory.

Case Size

JDI /EIA		INCHES	(MM)
R15/0805	L	.080 ±.010	(2.03 ±.25)
	W	.050 ±.010	(1.27 ±.25)
	T	.055 Max.	(1.40)
	E/B	.020 ±.010	(0.51±.25)
R18/1206	L	.125 ±.010	(3.17 ±.25)
	W	.062 ±.010	(1.57 ±.25)
	T	.067 Max.	(1.70)
	E/B	.020 ±.010	(0.51±.25)
S41/1210	L	.125 ±.010	(3.18 ±.25)
	W	.095 ±.010	(2.41 ±.25)
	T	.080 Max.	(2.03)
	E/B	.020 ±.010	(0.51±.25)
R29/1808	L	.185 ±.020	(4.70 ±.51)
	W	.080 ±.010	(2.03 ±.25)
	T	.085 Max.	(2.16)
	E/B	.020 ±.010	(0.51±.25)

Capacitance Selection

RATED VOLTAGE	NP0 DIELECTRIC		X7R DIELECTRIC	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
250 VDC	-	-	1000 pF	0.022 µF
500 VDC	10 pF	680 pF	1000 pF	0.010 µF
630 VDC	10 pF	560 pF	1000 pF	6800 pF
1000 VDC	10 pF	390 pF	100 pF	2700 pF
250 VDC	-	-	1000 pF	0.068 µF
500 VDC	10 pF	1500 pF	1000 pF	0.033 µF
630 VDC	10 pF	1200 pF	1000 pF	0.027 µF
1000 VDC	10 pF	1000 pF	100 pF	0.010 µF
2000 VDC	10 pF	220 pF	100 pF	4700 pF
3000 VDC	10 pF	82 pF	100 pF	1000 pF
250 VDC	-	-	1000 pF	0.150 µF
500 VDC	10 pF	3900 pF	1000 pF	0.068 µF
630 VDC	10 pF	2700 pF	1000 pF	0.047 µF
1000 VDC	10 pF	1800 pF	100 pF	0.015 µF
2000 VDC	10 pF	560 pF	100 pF	4700 pF
3000 VDC	10 pF	220 pF	100 pF	1000 pF
500 VDC	10 pF	4700 pF	1000 pF	0.100 µF
630 VDC	10 pF	3300 pF	1000 pF	0.047 µF
1000 VDC	1.0 pF	2200 pF	100 pF	0.022 µF
2000 VDC	1.0 pF	820 pF	100 pF	0.010 µF
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 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.

High Voltage Surface Mount MLCCs 250 - 6,000 VDC

RoHS

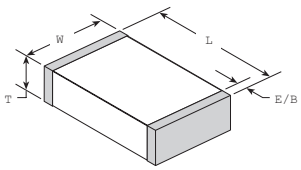
Case Size

JDI /EIA		INCHES	(MM)
S43 / 1812	L	.177 ±.012	(4.50 ±.30)
	W	.125 ±.010	(3.17 ±.25)
	T	.110 Max.	(2.80)
	E/B	.025 ±.015	(0.64±.38)
S49 / 1825	L	.180 ±.010	(4.57 ±.25)
	W	.250 ±.010	(6.35 ±.25)
	T	.140 Max.	(3.56)
	E/B	.025 ±.015	(0.64±.38)
S47 / 2220	L	.225 ±.015	(5.72 ±.38)
	W	.200 ±.015	(5.08 ±.38)
	T	.150 Max.	(3.81)
	E/B	.025 ±.015	(0.64±.38)
S48 / 2225	L	.225 ±.010	(5.72 ±.25)
	W	.255 ±.015	(6.48 ±.38)
	T	.160 Max.	(4.06)
	E/B	.025 ±.015	(0.64±.38)

Capacitance Selection

RATED VOLTAGE	NP0 DIELECTRIC		X7R DIELECTRIC	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
250 VDC	-	-	0.010 µF	0.470 uF
500 VDC	100 pF	8200 pF	1000 pF	0.330 uF
630 VDC	100 pF	6800 pF	1000 pF	0.120 µF
1000 VDC	10 pF	5600 pF	1000 pF	0.100 µF
2000 VDC	10 pF	1800 pF	100 pF	0.010 µF
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
500 VDC	100 pF	0.018 µF	0.01 µF	0.390 µF
630 VDC	100 pF	0.015 µF	0.01 µF	0.270 µF
1000 VDC	10 pF	0.012 µF	1000 pF	0.180 µF
2000 VDC	10 pF	5600 pF	100 pF	0.039 µF
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
500 VDC	1000 pF	0.018 µF	0.01 µF	0.470 µF
630 VDC	1000 pF	0.018 µF	0.01 µF	0.270 µF
1000 VDC	100 pF	0.015 µF	1000 pF	0.120 µF
2000 VDC	100 pF	5600 pF	1000 pF	0.039 µF
3000 VDC	10 pF	2700 pF	100 pF	0.010 µF
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
500 VDC	1000 pF	0.027 µF	0.01 µF	0.560 µF
630 VDC	1000 pF	0.022 µF	0.01 µF	0.390 µF
1000 VDC	100 pF	0.018 µF	1000 pF	0.180 µF
2000 VDC	100 pF	8200 pF	1000 pF	0.056 µF
3000 VDC	10 pF	3300 pF	100 pF	0.012 µF
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.



Electrical Characteristics

Meets the standard NP0 & X7R dielectric specifications listed on page 39

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

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

How to Order High Voltage Surface Mount

P/N written: 202R18W102KV4E

202	R18	W	102	K	V	4	E
VOLTAGE	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	TERMINATION	MARKING	PACKING
501 = 500 V 631 = 630 V 102 = 1000 V 202 = 2000 V 302 = 3000 V 402 = 4000 V 502 = 5000 V 602 = 6000 V	R15 = 0805 R18 = 1206 R29 = 1808 S41 = 1210 S43 = 1812 S47 = 2220 S48 = 2225 S49 = 1825	N = NP0 W = X7R	1st two digits are significant; third digit denotes number of zeros. 102 = 1000 pF 104 = 0.10 µF	J = ± 5% K = ± 10% M = ± 20%	V = NI Barrier with 100% Sn Plating (Matte) F = Polyterm flexible termination T = SnPb	4 = Unmarked 6 = EIA Code	E = Embossed 7" T = Punched 7" No code = bulk Tape specs. per EIA RS481

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Johanson:

501S43W153KF4E 501R18W103KV4E 202S43W102KV4E 102S41W103KV4E 102S43W473KV4E
302R29W102KV4E 202S43W472KV4E 202R18W102MV4E 202R18N220KV4E 102R18W102KV4E
102R18N101JV4E 202S41W332KV4E 202R29W222KV4E 501R18N101KV4E 102R29W183KV4E
501R18W102MV4E 102R18W472KV4E 102R18W511KV4E 202R18W471KV4E 102R18W222KV4E
501R18N102JV4E 202S41N331JV4E 302S43N221KV4E 102R18N151JV4E 102R15N330KV4E 202S43W682KV4E
202R18N221JV4E 102S43W473MV4E 631R18W103KV4E 102S41W562KV4E 102R15W102KV4E
501S41W333KV4E 202S43W332KV4E 202R18N151JV4E 631R18W472KV4E 102S41W103MV4E
102R29W102KV4E 202S43W103KV4E 501S41N102JV4E 202S41W272KV4E 501R18W102KV4E
102R18W101KV4E 302R29N150JV4E 202R29W102KV4E 102R18W222MV4E 202R18N470JV4E
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501S41W472KV4E 202R18W102KV4E 202S49W103KV4E 501R15N470JV4T 202S43W472KF4E
102S49W154MF4E 501S43W223KF4E 102R29W103KV4E 202S48W223KF4E 202S48W393KF4E
202S41W102KF4E 501R15W103KV4E 202S43N221KF4E 202S49W682MV4E 302S43W222JF4E
202S49W223KV4E 202R18N101JV4E 501S43W104KV4E 102S43W473KF4E 501R15N101JV4T 302R29N220JF4E
501S41W333KF4E 202S43W103MV4E 102R15W102KF4E 202S43W472MF4E 202R18N680KF4E
202S41W222KV4E 101S41J335MF4E 102R18N220JV4E 202R18N680JF4E 102S47W223KF4E
102S47W184MF4E 500S41J106KF4E 501S41W223MF4E 631R18W103KF4E 202S41W102KV4E
501S49W104KF4E 631R18N221JF4E 302S43W332KV4E 501S47W474KF4E 202S49W103MV4E
101S41J475MF4E 501S43W473KF4E 302R29W331KF4E 102S47W184KF4E 102S49W154KF4E
501S41W473KF4E 501S41W223KF4E 202S48W223MF4E