

# 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
- LAN/WAN Interface
- Lighting Ballast Circuits
- Voltage Multipliers
- DC-DC Converters
- Back-lighting Inverters

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

## CASE SIZE

## CAPACITANCE SELECTION





JDI / EIA		INCHES	(MM)	RATED VOLTAGE	NP0 DIELECTRIC		X7R DIELECTRIC	
					MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
<b>R15/0805</b> 	L	.080 ±.010	(2.03 ±.25)	250 VDC	-	-	1000 pF	0.022 µF
	W	.050 ±.010	(1.27 ±.25)	500 VDC	10 pF	680 pF	1000 pF	0.010 µF
	T	.055 Max.	(1.40)	630 VDC	10 pF	560 pF	1000 pF	6800 pF
	E/B	.020 ±.010	(0.51±.25)	1000 VDC	10 pF	390 pF	100 pF	2700 pF
				250 VDC	-	-	1000 pF	0.068 µF
<b>R18/1206</b> 	L	.125 ±.010	(3.18 ±.25)	500 VDC	10 pF	1500 pF	1000 pF	0.033 µF
	W	.062 ±.010	(1.57 ±.25)	630 VDC	10 pF	1200 pF	1000 pF	0.027 µF
	T	.067 Max.	(1.70)	1000 VDC	10 pF	1000 pF	100 pF	0.010 µF
	E/B	.020 ±.010	(0.51±.25)	2000 VDC	10 pF	220 pF	100 pF	4700 pF
				3000 VDC	10 pF	82 pF	100 pF	1000 pF
<b>S41/1210</b> 	L	.125 ±.010	(3.18 ±.25)	250 VDC	-	-	1000 pF	0.150 µF
	W	.095 ±.010	(2.41 ±.25)	500 VDC	10 pF	3900 pF	1000 pF	0.068 µF
	T	.080 Max.	(2.03)	630 VDC	10 pF	2700 pF	1000 pF	0.047 µF
	E/B	.020 ±.010	(0.51±.25)	1000 VDC	10 pF	1800 pF	100 pF	0.015 µF
				2000 VDC	10 pF	560 pF	100 pF	4700 pF
<b>R29/1808</b> 				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
	L	.185 ±.020	(4.70 ±.51)	1000 VDC	1.0 pF	2200 pF	100 pF	0.022 µF
	W	.080 ±.010	(2.03 ±.25)	2000 VDC	1.0 pF	820 pF	100 pF	0.010 µF
	T	.085 Max.	(2.16)	3000 VDC	1.0 pF	470 pF	100 pF	3300 pF
	E/B	.020 ±.010	(0.51±.25)	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

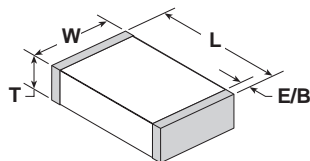
## CASE SIZE

## CAPACITANCE SELECTION

JDI / EIA	INCHES	(MM)	RATED VOLTAGE	NP0 DIELECTRIC		X7R DIELECTRIC	
				MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
<b>S43 / 1812</b> 	L W T E/B	.177 ±.012 .125 ±.010 .110 Max. .025 ±.015	(4.50 ±.30) (3.18 ±.25) (2.80) (0.64±.38)	250 VDC	-	0.010 µF	0.470 µF
				500 VDC	100 pF	8200 pF	1000 pF
				630 VDC	100 pF	6800 pF	1000 pF
				1000 VDC	10 pF	5600 pF	1000 pF
				2000 VDC	10 pF	1800 pF	100 pF
				3000 VDC	10 pF	1000 pF	100 pF
				4000 VDC	10 pF	390 pF	100 pF
				5000 VDC	10 pF	150 pF	100 pF
<b>S49 / 1825</b> 	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	100 pF	0.018 µF	0.01 µF
				630 VDC	100 pF	0.015 µF	0.01 µF
				1000 VDC	10 pF	0.012 µF	1000 pF
				2000 VDC	10 pF	5600 pF	100 pF
				3000 VDC	10 pF	2200 pF	100 pF
				4000 VDC	10 pF	1200 pF	100 pF
				5000 VDC	10 pF	390 pF	100 pF
				6000 VDC	10 pF	390 pF	100 pF
<b>S47 / 2220</b> 	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	1000 pF	0.018 µF	0.01 µF
				630 VDC	1000 pF	0.018 µF	0.01 µF
				1000 VDC	100 pF	0.015 µF	1000 pF
				2000 VDC	100 pF	5600 pF	1000 pF
				3000 VDC	10 pF	2700 pF	100 pF
				4000 VDC	10 pF	1500 pF	100 pF
				5000 VDC	10 pF	470 pF	100 pF
				6000 VDC	10 pF	470 pF	100 pF
<b>S48 / 2225</b> 	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	1000 pF	0.027 µF	0.01 µF
				630 VDC	1000 pF	0.022 µF	0.01 µF
				1000 VDC	100 pF	0.018 µF	1000 pF
				2000 VDC	100 pF	8200 pF	1000 pF
				3000 VDC	10 pF	3300 pF	100 pF
				4000 VDC	10 pF	1800 pF	100 pF
				5000 VDC	10 pF	470 pF	100 pF
				6000 VDC	10 pF	470 pF	100 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 79

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



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