

# HIGH VOLTAGE SURFACE MOUNT MLCCs 500 - 5,000 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

**NOW AVAILABLE** with Polyterm® soft termination option for demanding environments & processes. Visit our website for full details.

## Mechanical Characteristics

## Available Capacitance

			Rated Voltage	NPO Dielectric		X7R Dielectric	
				Minimum	Maximum	Minimum	Maximum
<b>R15/0805</b> ■		Inches (mm)	250 VDC	-	-	1000 pF	0.022 µF
	L	.080 ±.010 (2.03 ±.25)	500 VDC	10 pF	680 pF	1000 pF	0.012 µF
	W	.050 ±.010 (1.27 ±.25)	630 VDC	10 pF	560 pF	1000 pF	3900 pF
	T	.055 Max. (1.40)	1000 VDC	10 pF	390 pF	100 pF	2200 pF
	E/B	.020 ±.010 (0.51±.25)					
<b>R18/1206</b> ■		Inches (mm)	250 VDC	-	-	1000 pF	0.068 µF
	L	.125 ±.010 (3.17 ±.25)	500 VDC	10 pF	1800 pF	1000 pF	0.027 µF
	W	.062 ±.010 (1.57 ±.25)	630 VDC	10 pF	1200 pF	1000 pF	6800 pF
	T	.067 Max. (1.70)	1000 VDC	10 pF	1000 pF	100 pF	1500 pF
	E/B	.020 ±.010 (0.51±.25)	2000 VDC	10 pF	210 pF	100 pF	1000 pF
			3000 VDC	10 pF	82 pF	100 pF	120 pF
<b>S41/1210</b> ■		Inches (mm)	250 VDC	-	-	1000 pF	0.12 µF
	L	.125 ±.010 (3.18 ±.25)	500 VDC	10 pF	3900 pF	1000 pF	0.047 µF
	W	.095 ±.010 (2.41 ±.25)	630 VDC	10 pF	3300 pF	1000 pF	0.027 µF
	T	.080 Max. (2.03)	1000 VDC	10 pF	2200 pF	100 pF	0.015 µF
	E/B	.020 ±.010 (0.51±.25)	2000 VDC	10 pF	560 pF	100 pF	6800 pF
			3000 VDC	10 pF	180 pF	100 pF	220 pF
<b>R29/1808</b> ■		Inches (mm)	500 VDC	10 pF	3300 pF	1000 pF	0.068 µF
	L	.180 ±.010 (4.57 ±.25)	630 VDC	10 pF	2700 pF	1000 pF	0.027 µF
	W	.080 ±.010 (2.03 ±.25)	1000 VDC	1.0 pF	2200 pF	100 pF	0.018 µF
	T	.080 Max. (2.03)	2000 VDC	1.0 pF	820 pF	100 pF	6800 pF
	E/B	.020 ±.010 (0.51±.25)	3000 VDC	1.0 pF	470 pF	100 pF	3300 pF
			4000 VDC	1.0 pF	220 pF	100 pF	270 pF
			5000 VDC	1.0 pF	82 pF	100 pF	120 pF

Available capacitance values include the following 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.

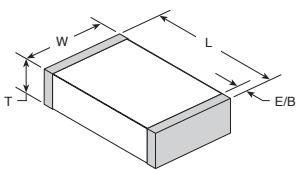
# HIGH VOLTAGE SURFACE MOUNT MLCCs 500 - 5,000 VDC

## Mechanical Characteristics

## Available Capacitance

	Rated Voltage	NPO Dielectric		X7R Dielectric	
		Minimum	Maximum	Minimum	Maximum
<b>S43 / 1812</b>  Inches (mm) L .180 ±.010 (4.57 ±.25) W .125 ±.010 (3.17 ±.25) T .110 Max. (2.80) E/B .025 ±.015 (0.64±.38)	250 VDC	-	-	0.010 µF	0.22 µF
	500 VDC	100 pF	0.01 µF	1000 pF	0.1 µF
	630 VDC	100 pF	8200 pF	1000 pF	0.082 µF
	1000 VDC	10 pF	6800 pF	1000 pF	0.033 µF
	2000 VDC	10 pF	2200 pF	100 pF	0.01 µF
	3000 VDC	10 pF	1200 pF	100 pF	4700 pF
	4000 VDC	10 pF	560 pF	10 pF	1500 pF
	5000 VDC	10 pF	150 pF	10 pF	680 pF
<b>S49 / 1825</b>  Inches (mm) L .180 ±.010 (4.57 ±.25) W .250 ±.010 (6.35 ±.25) T .140 Max. (3.56) E/B .025 ±.015 (0.64±.38)	500 VDC	100 pF	0.027 µF	0.01 µF	0.33 µF
	630 VDC	100 pF	0.022 µF	0.01 µF	0.22 µF
	1000 VDC	10 pF	0.015 µF	1000 pF	0.1 µF
	2000 VDC	10 pF	5600 pF	100 pF	0.022 µF
	3000 VDC	10 pF	2200 pF	100 pF	8200 pF
	4000 VDC	10 pF	1000 pF	100 pF	2000 pF
	5000 VDC	10 pF	270 pF	100 pF	820 pF
	<b>S47 / 2220</b>  Inches (mm) L .225 ±.015 (5.72 ±.38) W .200 ±.015 (5.08 ±.38) T .150 Max. (3.81) E/B .025 ±.015 (0.64±.38)	500 VDC	1000 pF	0.027 µF	0.01 µF
630 VDC		1000 pF	0.027 µF	0.01 µF	0.27 µF
1000 VDC		100 pF	0.018 µF	1000 pF	0.12 µF
2000 VDC		100 pF	6800 pF	1000 pF	0.022 µF
3000 VDC		10 pF	2700 pF	100 pF	0.01 µF
4000 VDC		10 pF	1200 pF	100 pF	2200 pF
5000 VDC		10 pF	390 pF	100 pF	1000 pF
<b>S48 / 2225</b>  Inches (mm) L .225 ±.010 (5.72 ±.25) W .255 ±.015 (6.48 ±.38) T .150 Max. (3.81) E/B .025 ±.015 (0.64±.38)		500 VDC	1000 pF	0.033 µF	0.01 µF
	630 VDC	1000 pF	0.027 µF	0.01 µF	0.33 µF
	1000 VDC	100 pF	0.022 µF	1000 pF	0.15 µF
	2000 VDC	100 pF	8200 pF	1000 pF	0.039 µF
	3000 VDC	10 pF	4700 pF	100 pF	0.01 µF
	4000 VDC	10 pF	2200 pF	100 pF	3900 pF
	5000 VDC	10 pF	680 pF	100 pF	1500 pF

Available capacitance values include the following 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 NPO & X7R dielectric specifications listed on page 20

Dielectric Withstanding Voltage DWV = 750 VDC for 500 WVDC rated units,  
 DWV = 945 VDC for 630 WVDC rated units,  
 DWV = 1.2 X rated WVDC for ratings ≥ 1,000 WVDC

NOTE: Capacitors may require a surface coating to prevent external arcing.

## HOW TO ORDER

<b>202</b>	<b>R29</b>	<b>N</b>	<b>101</b>	<b>K</b>	<b>V</b>	<b>4</b>	<b>E</b>
<b>VOLTAGE</b> 501 = 500 V 631 = 630 V 102 = 1000 V 202 = 2000 V 302 = 3000 V 402 = 4000 V 502 = 5000 V	<b>CASE SIZE</b> See Chart	<b>DIELECTRIC</b> N = NPO/COG W = X7R	<b>CAPACITANCE</b> 1st two digits are significant; third digit denotes number of zeros, R = decimal. 1R0 = 1.0 pF 101 = 100 pF	<b>TOLERANCE</b> NPO: J = ± 5% K = ± 10% X7R: K = ± 10% M = ± 20%	<b>TERMINATION</b> V = Ni barrier w/ 100% Sn Plating  <b>MARKING</b> 4 = Unmarked 6 = EIA "J" Code*	<b>TAPE MODIFIER</b> Code Tape Reel E Embossed 7" U Embossed 13" T Paper 7" R Paper 13" Tape specs. per EIA RS481	

Part number written: 202R29N101KV4E

