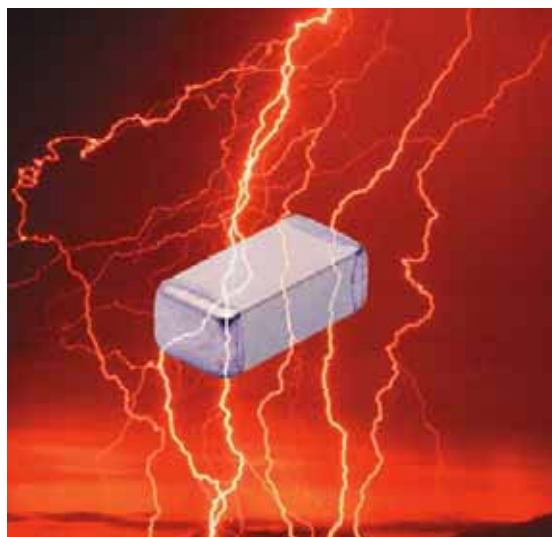




These high voltage capacitors feature a special internal electrode design which reduces voltage concentrations by distributing voltage gradients throughout the entire capacitor. This unique design also affords increased capacitance values in a given case size and voltage rating. The capacitors are designed 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

**NOW AVAILABLE** with Polyterm<sup>®</sup> 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  |
| R15/0805 |     | Inches     | (mm)        | 250 VDC       | -              | -       | 1000 pF        | 0.022 μF |
|          | L   | .080 ±.010 | (2.03 ±.25) | 500 VDC       | 10 pF          | 680 pF  | 1000 pF        | 0.010 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         | 3300 pF  |
|          | E/B | .020 ±.010 | (0.51±.25)  |               |                |         |                |          |
| R18/1206 |     | Inches     | (mm)        | 250 VDC       | -              | -       | 1000 pF        | 0.068 μF |
|          | L   | .125 ±.010 | (3.17 ±.25) | 500 VDC       | 10 pF          | 1500 pF | 1000 pF        | 0.047 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         | 0.018 μF |
|          | E/B | .020 ±.010 | (0.51±.25)  | 2000 VDC      | 10 pF          | 220 pF  | 100 pF         | 1000 pF  |
|          |     |            |             | 3000 VDC      | 10 pF          | 82 pF   | 100 pF         | 220 pF   |
| S41/1210 |     | Inches     | (mm)        | 250 VDC       | -              | -       | 1000 pF        | 0.120 μF |
|          | L   | .125 ±.010 | (3.18 ±.25) | 500 VDC       | 10 pF          | 3900 pF | 1000 pF        | 0.082 μF |
|          | W   | .095 ±.010 | (2.41 ±.25) | 630 VDC       | 10 pF          | 2700 pF | 1000 pF        | 0.056 μF |
|          | T   | .080 Max.  | (2.03)      | 1000 VDC      | 10 pF          | 1800 pF | 100 pF         | 0.027 μF |
|          | E/B | .020 ±.010 | (0.51±.25)  | 2000 VDC      | 10 pF          | 560 pF  | 100 pF         | 2200 pF  |
|          |     |            |             | 3000 VDC      | 10 pF          | 220 pF  | 100 pF         | 560 pF   |
| R29/1808 |     | Inches     | (mm)        | 500 VDC       | 10 pF          | 4700 pF | 1000 pF        | 0.056 μF |
|          | L   | .185 ±.015 | (4.80 ±.25) | 630 VDC       | 10 pF          | 3300 pF | 1000 pF        | 0.047 μF |
|          | W   | .080 ±.010 | (2.03 ±.25) | 1000 VDC      | 1.0 pF         | 2200 pF | 100 pF         | 0.033 μF |
|          | T   | .085 Max.  | (2.16)      | 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         | 180 pF  | 100 pF         | 270 pF   |
|          |     |            |             | 5000 VDC      | 1.0 pF         | 75 pF   | 47 pF          | 120 pF   |
|          |     |            |             | 6000 VDC      | 1.0 pF         | 75 pF   | 47 pF          | 100 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.

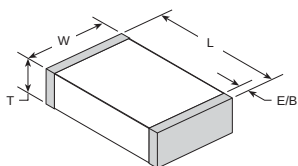
# High Voltage Surface Mount MLCCs 250 - 6,000 VDC

## Mechanical Characteristics

## Available Capacitance

|                                                                                                          |                |             | Rated Voltage | NPO Dielectric |          | X7R Dielectric |          |
|----------------------------------------------------------------------------------------------------------|----------------|-------------|---------------|----------------|----------|----------------|----------|
|                                                                                                          |                |             |               | Minimum        | Maximum  | Minimum        | Maximum  |
| <b>S43 / 1812</b><br>   | Inches         | (mm)        | 250 VDC       | -              | -        | 0.010 µF       | 0.270 µF |
|                                                                                                          | L .180 ±.010   | (4.57 ±.25) | 500 VDC       | 100 pF         | 8200 pF  | 1000 pF        | 0.150 µF |
|                                                                                                          | W .125 ±.010   | (3.17 ±.25) | 630 VDC       | 100 pF         | 6800 pF  | 1000 pF        | 0.100 µF |
|                                                                                                          | T .110 Max.    | (2.80)      | 1000 VDC      | 10 pF          | 5600 pF  | 1000 pF        | 0.056 µF |
|                                                                                                          | E/B .025 ±.015 | (0.64±.38)  | 2000 VDC      | 10 pF          | 1800 pF  | 100 pF         | 6800 pF  |
|                                                                                                          |                |             | 3000 VDC      | 10 pF          | 1000 pF  | 100 pF         | 4700 pF  |
|                                                                                                          |                |             | 4000 VDC      | 10 pF          | 390 pF   | 100 pF         | 1500 pF  |
|                                                                                                          |                |             | 5000 VDC      | 10 pF          | 150 pF   | 100 pF         | 680 pF   |
|                                                                                                          |                |             | 6000 VDC      | 10 pF          | 150 pF   | 10 pF          | 680 pF   |
|                                                                                                          |                |             |               |                |          |                |          |
| <b>S49 / 1825</b><br>   | Inches         | (mm)        | 500 VDC       | 100 pF         | 0.018 µF | 0.01 µF        | 0.330 µF |
|                                                                                                          | L .180 ±.010   | (4.57 ±.25) | 630 VDC       | 100 pF         | 0.015 µF | 0.01 µF        | 0.220 µF |
|                                                                                                          | W .250 ±.010   | (6.35 ±.25) | 1000 VDC      | 10 pF          | 0.012 µF | 1000 pF        | 0.039 µF |
|                                                                                                          | T .140 Max.    | (3.56)      | 2000 VDC      | 10 pF          | 5600 pF  | 100 pF         | 0.018 µF |
|                                                                                                          | E/B .025 ±.015 | (0.64±.38)  | 3000 VDC      | 10 pF          | 2200 pF  | 100 pF         | 8200 pF  |
|                                                                                                          |                |             | 4000 VDC      | 10 pF          | 1200 pF  | 100 pF         | 2000 pF  |
|                                                                                                          |                |             | 5000 VDC      | 10 pF          | 390 pF   | 100 pF         | 820 pF   |
|                                                                                                          |                |             | 6000 VDC      | 10 pF          | 390 pF   | 100 pF         | 820 pF   |
|                                                                                                          |                |             |               |                |          |                |          |
|                                                                                                          |                |             |               |                |          |                |          |
| <b>S47 / 2220</b><br>   | Inches         | (mm)        | 500 VDC       | 1000 pF        | 0.018 µF | 0.01 µF        | 0.330 µF |
|                                                                                                          | L .225 ±.015   | (5.72 ±.38) | 630 VDC       | 1000 pF        | 0.018 µF | 0.01 µF        | 0.270 µF |
|                                                                                                          | W .200 ±.015   | (5.08 ±.38) | 1000 VDC      | 100 pF         | 0.015 µF | 1000 pF        | 0.056 µF |
|                                                                                                          | T .150 Max.    | (3.81)      | 2000 VDC      | 100 pF         | 5600 pF  | 1000 pF        | 0.027 µF |
|                                                                                                          | E/B .025 ±.015 | (0.64±.38)  | 3000 VDC      | 10 pF          | 2700 pF  | 100 pF         | 0.010 µF |
|                                                                                                          |                |             | 4000 VDC      | 10 pF          | 1500 pF  | 100 pF         | 2200 pF  |
|                                                                                                          |                |             | 5000 VDC      | 10 pF          | 470 pF   | 100 pF         | 1500 pF  |
|                                                                                                          |                |             | 6000 VDC      | 10 pF          | 470 pF   | 100 pF         | 1500 pF  |
|                                                                                                          |                |             |               |                |          |                |          |
|                                                                                                          |                |             |               |                |          |                |          |
| <b>S48 / 2225</b><br> | Inches         | (mm)        | 500 VDC       | 1000 pF        | 0.027 µF | 0.01 µF        | 0.470 µF |
|                                                                                                          | L .225 ±.010   | (5.72 ±.25) | 630 VDC       | 1000 pF        | 0.022 µF | 0.01 µF        | 0.330 µF |
|                                                                                                          | W .255 ±.015   | (6.48 ±.38) | 1000 VDC      | 100 pF         | 0.018 µF | 1000 pF        | 0.120 µF |
|                                                                                                          | T .160 Max.    | (4.06)      | 2000 VDC      | 100 pF         | 8200 pF  | 1000 pF        | 0.039 µF |
|                                                                                                          | E/B .025 ±.015 | (0.64±.38)  | 3000 VDC      | 10 pF          | 3300 pF  | 100 pF         | 0.015 µF |
|                                                                                                          |                |             | 4000 VDC      | 10 pF          | 1800 pF  | 100 pF         | 5600 pF  |
|                                                                                                          |                |             | 5000 VDC      | 10 pF          | 470 pF   | 100 pF         | 1500 pF  |
|                                                                                                          |                |             | 6000 VDC      | 10 pF          | 470 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 = 1.5 X rated WVDC for ratings ≤ 500 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

Part number written: 202R29N101KV4E

|                                                                                                                                              |                                                                                  |          |                                                                                                                                             |                                                                                   |                                                                                                  |                                                 |                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <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><br>501 = 500 V<br>631 = 630 V<br>102 = 1000 V<br>202 = 2000 V<br>302 = 3000 V<br>402 = 4000 V<br>502 = 5000 V<br>602 = 6000 V | <b>CASE SIZE</b><br>See Chart<br><br><b>DIELECTRIC</b><br>N = NPO/COG<br>W = X7R |          | <b>CAPACITANCE</b><br>1st two digits are significant; third digit denotes number of zeros, R = decimal.<br><br>1R0 = 1.0 pF<br>101 = 100 pF | <b>TOLERANCE</b><br>NPO: J = ± 5%<br>K = ± 10%<br><br>X7R: K = ± 10%<br>M = ± 20% | <b>TERMINATION</b><br>V = Ni barrier w/ 100% Sn Plating<br><br>F = Polyterm flexible termination | <b>MARKING</b><br>4 = Unmarked<br>6 = EIA Code* | <b>TAPE MODIFIER</b><br>Code Tape Reel<br>E Embossed 7"<br>U Embossed 13"<br>T Paper 7"<br>R Paper 13"<br>Tape specs. per EIA RS481 |



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