THE DATASHEET OF

501R15W103KV4E

High Voltage Surface Mount MLCC s 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

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

Mechanical Characteristics

		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 ±.015	(4.80 ±.25)
	W	.080 ±.010	(2.03 ±.25)
	T	.085 Max.	(2.16)
	E/B	.020 ±.010	(0.51±.25)

Available Capacitance

Rated Voltage	NPO 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	3900 pF
1000 VDC	10 pF	390 pF	100 pF	3300 pF
250 VDC	-	-	1000 pF	0.068 µF
500 VDC	10 pF	1500 pF	1000 pF	0.047 µF
630 VDC	10 pF	1200 pF	1000 pF	0.027 µF
1000 VDC	10 pF	1000 pF	100 pF	0.018 µF
2000 VDC	10 pF	220 pF	100 pF	1000 pF
3000 VDC	10 pF	82 pF	100 pF	220 pF
250 VDC	-	-	1000 pF	0.120 µF
500 VDC	10 pF	3900 pF	1000 pF	0.082 µF
630 VDC	10 pF	2700 pF	1000 pF	0.056 µF
1000 VDC	10 pF	1800 pF	100 pF	0.027 µF
2000 VDC	10 pF	560 pF	100 pF	2200 pF
3000 VDC	10 pF	220 pF	100 pF	560 pF
500 VDC	10 pF	4700 pF	1000 pF	0.056 µF
630 VDC	10 pF	3300 pF	1000 pF	0.047 µF
1000 VDC	1.0 pF	2200 pF	100 pF	0.033 µF
2000 VDC	1.0 pF	820 pF	100 pF	6800 pF
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

S43 / 1812

	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)

S49 / 1825

	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)

S47 / 2220

	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)

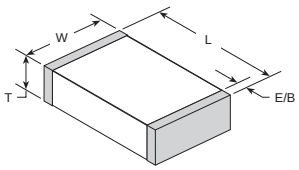
S48 / 2225

	Inches	(mm)
L	.225 ±.010	(5.72 ±.25)
W	.255 ±.015	(6.48 ±.38)
T	.160 Max.	(4.06)
E/B	.025 ±.015	(0.64±.38)

Available Capacitance

Rated Voltage	NPO Dielectric		X7R Dielectric	
	Minimum	Maximum	Minimum	Maximum
250 VDC	-	-	0.010 µF	0.270 uF
500 VDC	100 pF	8200 pF	1000 pF	0.150 uF
630 VDC	100 pF	6800 pF	1000 pF	0.100 µF
1000 VDC	10 pF	5600 pF	1000 pF	0.056 µF
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
500 VDC	100 pF	0.018 µF	0.01 µF	0.330 µF
630 VDC	100 pF	0.015 µF	0.01 µF	0.220 µF
1000 VDC	10 pF	0.012 µF	1000 pF	0.039 µF
2000 VDC	10 pF	5600 pF	100 pF	0.018 µF
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
500 VDC	1000 pF	0.018 µF	0.01 µF	0.330 µF
630 VDC	1000 pF	0.018 µF	0.01 µF	0.270 µF
1000 VDC	100 pF	0.015 µF	1000 pF	0.056 µF
2000 VDC	100 pF	5600 pF	1000 pF	0.027 µF
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
500 VDC	1000 pF	0.027 µF	0.01 µF	0.470 µF
630 VDC	1000 pF	0.022 µF	0.01 µF	0.330 µF
1000 VDC	100 pF	0.018 µF	1000 pF	0.120 µF
2000 VDC	100 pF	8200 pF	1000 pF	0.039 µF
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

202	R29	N	101	K	V	4	E
VOLTAGE	CASE SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	TERMINATION	MARKING	TAPE MODIFIER

VOLTAGE
501 = 500 V
631 = 630 V
102 = 1000 V
202 = 2000 V
302 = 3000 V
402 = 4000 V
502 = 5000 V
602 = 6000 V

CASE SIZE
See Chart

DIELECTRIC
N = NPO/COG
W = X7R

CAPACITANCE
1st two digits are significant; third digit denotes number of zeros, R = decimal.
1R0 = 1.0 pF
101 = 100 pF

TOLERANCE
NPO: J = ± 5%
K = ± 10%
X7R: K = ± 10%
M = ± 20%

TERMINATION
V = Ni barrier w/ 100% Sn Plating
F = Polyterm flexible termination

MARKING
4 = Unmarked
6 = EIA Code*

TAPE MODIFIER

Code	Tape	Reel
E	Embossed	7”
U	Embossed	13”
T	Paper	7”
R	Paper	13”

Tape specs. per EIA RS481

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View 501R15W103KV4E on WIN SOURCE
- Johanson Dielectrics Inc. Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management