

HIGH TEMPERATURE SURFACE MOUNT MLCCs 200°C



Johanson's high temperature MLCC series exhibit stable performance across an extended operating temperature range of -55°C to +200°C. Both Class I and Class II parts are available with DC voltage ratings of 50, 100 and 200V satisfying a wide range of demanding applications.

FEATURES

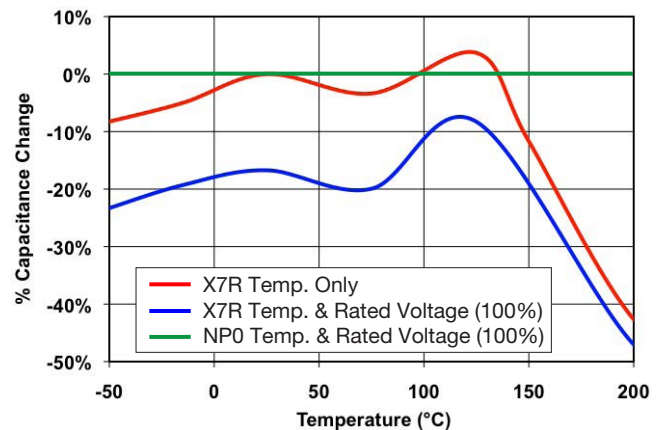
- Stable 200°C Operation
- Compact SMD Chip
- Polyterm® Termination Option
- Sn-Pb Termination Option

APPLICATIONS

- Deep Hole Drilling Electronics
- High Temperature Modules
- Industrial Equipment
- Automotive • Avionics

ELECTRICAL CHARACTERISTICS

	NP0	X7R
OPERATING RANGE:	-55 to +200°C	-55 to +200°C
TEMPERATURE COEFFICIENT:	0±30ppm/°C (-55to+125°C)	0±15% (-55to+125°C)
200°C CAP. DROP:	-0.5% max.	-45% max.
DISSIPATION FACTOR:	0.001 (0.1%) max.	0.020 (2.0%) max.
AGING RATE:	None	<1.0% per decade
INSULATION RESISTANCE:	25°C IR >100GΩ or 1000ΩF (whichever is less) 200°C IR >1ΩF or 100MΩ	
WITHSTANDING VOLTAGE:	2.5 X WVDC for ratings ≤ 200 VDC 1.5 X WVDC for ratings 201-500 VDC	
TEST CONDITIONS:	C > 100 pF; 1kHz ±50Hz; 1.0±0.2 VRMS C ≤ 100 pF; 1Mhz ±50kHz; 1.0±0.2 VRMS	



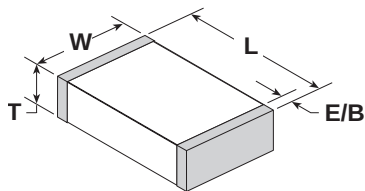
MECHANICAL CHARACTERISTICS

				RATED VOLTAGE	NP0 DIELECTRIC		X7R DIELECTRIC	
					MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
T07/0402	Inches		(mm)	25 VDC	10 pF	270 pF	100 pF	4700 pF
	L	.040 ±.004	(1.02 ±.10)	50 VDC	10 pF	120 pF	100 pF	1500 pF
	W	.020 ±.004	(0.51 ±.10)	100 VDC	10 pF	82 pF	10 pF	390 pF
	T	.025 Max.	(0.64)	200 VDC	10 pF	50 pF	10 pF	100 pF
	E/B	.008±.004	(.20±.10)					
T14/0603	Inches		(mm)	25 VDC	10 pF	820 pF	1000 pF	0.022 μF
	L	.063 ±.008	(1.60 ±.20)	50 VDC	10 pF	330 pF	1000 pF	0.010 μF
	W	.032 ±.008	(0.81 ±.20)	100 VDC	10 pF	220 pF	100 pF	2200 pF
	T	.035 Max.	(0.89)	200 VDC	10 pF	120 pF	100 pF	560 pF
	E/B	.010±.005	(.25±.13)					
T15/0805	Inches		(mm)	25 VDC	100 pF	2200 pF	1000 pF	0.100 μF
	L	.080 ±.010	(2.03 ±.25)	50 VDC	100 pF	1500 pF	1000 pF	0.033 μF
	W	.050 ±.010	(1.27 ±.25)	100 VDC	100 pF	1000 pF	1000 pF	0.010 μF
	T	.055 Max.	(1.40)	200 VDC	10 pF	680 pF	100 pF	2200 pF
	E/B	.020±.010	(0.51±.25)					

High Temperature Surface Mount MLCCs 200°C

MECHANICAL CHARACTERISTICS

				RATED VOLTAGE	NP0 DIELECTRIC		X7R DIELECTRIC	
					MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
T18/1206 		Inches	(mm)	25 VDC	100 pF	6800 pF	1000 pF	0.220 µF
	L	.125 ±.010	(3.17 ±.25)	50 VDC	100 pF	3300 pF	1000 pF	0.100 µF
	W	.062 ±.010	(1.57 ±.25)	100 VDC	100 pF	2200 pF	1000 pF	0.022 µF
	T	.067 Max.	(1.70)	200 VDC	100 pF	1500 pF	1000 pF	5600 pF
	E/B	.020±.010	(0.51±.25)					
T41/1210 		Inches	(mm)	25 VDC	1000 pF	0.015 µF	0.047 µF	0.470 µF
	L	.125 ±.010	(3.18 ±.25)	50 VDC	1000 pF	5600 pF	0.047 µF	0.220 µF
	W	.095 ±.010	(2.41 ±.25)	100 VDC	100 pF	4700 pF	0.047 µF	0.056 µF
	T	.090 Max.	(2.28)	200 VDC	100 pF	3300 pF	0.0047 µF	0.015 µF
	E/B	.020±.010	(0.51±.25)					
T43/1812 		Inches	(mm)	25 VDC	1000 pF	0.033 µF	0.047 µF	1.000 µF
	L	.175 ±.010	(4.45 ±.25)	50 VDC	1000 pF	0.012 µF	0.047 µF	0.470 µF
	W	.125 ±.010	(3.17 ±.25)	100 VDC	1000 pF	0.010 µF	0.047 µF	0.180 µF
	T	.110 Max.	(2.80)	200 VDC	1000 pF	8200 pF	0.047 µF	0.047 µF
	E/B	.025±.015	(0.64±.38)					
T49/1825 		Inches	(mm)	25 VDC	1000 pF	0.033 µF	0.10 µF	2.200 µF
	L	.180 ±.010	(4.57 ±.25)	50 VDC	1000 pF	0.027 µF	0.10 µF	1.000 µF
	W	.250 ±.010	(6.35 ±.25)	100 VDC	1000 pF	0.022 µF	0.10 µF	0.560 µF
	T	.140 Max.	(3.56)	200 VDC	1000 pF	0.018 µF	0.10 µF	0.150 µF
	E/B	.025±.015	(0.64±.38)					
T48/2225 		Inches	(mm)	25 VDC	1000 pF	0.100 µF	0.10 µF	3.300 µF
	L	.225 ±.010	(5.72 ±.25)	50 VDC	1000 pF	0.039 µF	0.10 µF	1.500 µF
	W	.255 ±.015	(6.48 ±.38)	100 VDC	1000 pF	0.033 µF	0.10 µF	0.820 µF
	T	.160 Max.	(4.06)	200 VDC	1000 pF	0.022 µF	0.10 µF	0.220 µF
	E/B	.025±.015	(0.64±.38)					



HOW TO ORDER 200°C MLCCs

P/N written: 500T14W103KV4E

500	T14	W	103	K	V	4	E
VOLTAGE	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	TERMINATION	MARKING	PACKING
250 = 25 V 500 = 50 V 101 = 100 V 201 = 200 V	T07 = 0402 T14 = 0603 T15 = 0805 T18 = 1206 T41 = 1210 T43 = 1812 T49 = 1825 T48 = 2225	N = NP0 W = X7R	1st two digits are significant; third digit denotes number of zeros. 102 = 1000 pF 103 = 0.01 µF 104 = 0.10 µF	NP0 J = ± 5% K = ± 10% X7R K = ± 10% M = ± 20%	V = Ni Barrier w/ 100% Sn Plating (150°C) T = Ni Barrier w/ 95%Sn/5%Pb Plating (150°C) E = Ni Barrier w/ 100% Sn Plating (180°C) P = Palladium Silver Pd-Ag (200°C)	4 = Unmarked (Not available)	E = Embossed 7" T = Punched 7" No code = bulk Tape specs. per EIA RS481



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