Multilayer Ceramic Chip Capacitors

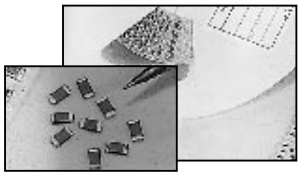
NMC Series X5R

FEATURES

- CLASS II DIELECTRIC, TEMPERATURE STABLE
- EXCELLENT FREQUENCY CHARACTERISTICS, NON-LINEAR CAPACITANCE CHANGE
- NICKEL BARRIER TERMINATIONS AND EXCELLENT MECHANICAL STRENGTH
- EIA MARKING AVAILABLE

RoHS Compliant
includes all homogeneous materials

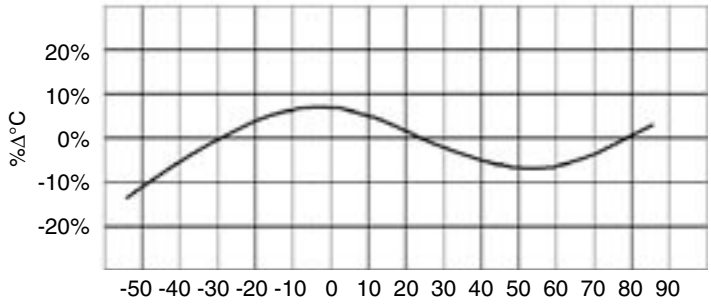
*See Part Number System for Details



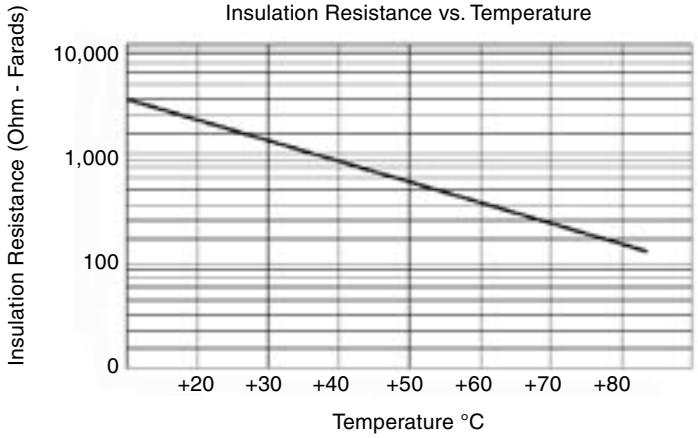
CHARACTERISTICS

Capacitance Range	0.0012µF ~ 0.82µF (see high CV datasheet for higher capacitance values)
Capacitance Tolerance	±10% (K), ±20% (M)
Operating Temperature Range	-55°C ~ +85°C
Temperature Characteristics	±15%Δ max. over temperature range (with 0 Vdc applied)
Rated Voltages	6.3Vdc, 16Vdc & 25Vdc (see NMC-H Series for higher voltages)
Dissipation Factor	3.5% max. (25Vdc) 5% max. (16Vdc), 7.5% (10Vdc), 10% (6.3Vdc) @ 1.0Vrms and 1KHz, +25°C
insulation Resistance	10Gigohms min. or 500Megohm/µF min. whichever is less @ +25°C
Dielectric Withstanding Voltage	250% of Rated Voltage for 5 ±1 seconds, 50mA maximum current
Test Conditions (EIA-198-2E)	1KHz, 1.0V ±0.2Vrms

Typical X5R Temperature Coefficient



Insulation Resistance vs. Temperature

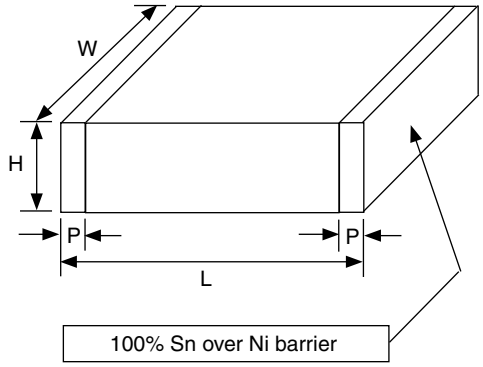


PART NUMBER SYSTEM

NMC 0805 X5R 102 K 50 TRP or TRPLP 3K F

- F — RoHS Compliant
- 3K — Optional Reel Qty (3K=3,000pcs)
- TRPLP — Tape & Reel (Embossed Plastic Carrier)
- TRP — Tape & Reel (Paper carrier)
- 50 — Voltage (Vdc)
- K — Capacitance Tolerance Code (see chart)
- 102 — Capacitance Code, expressed in pF, first 2 digits are significant, 3rd digit is no. of zeros, "R" indicates decimal for under 10pF
- X5R — Temperature Characteristic
- 0805 — Size Code (see chart)
- NMC — Series

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



X5R CAPACITOR SIZE CHART (mm)

EIA Case Size	0201		0402			0603			
Length (L)	0.6 ± 0.05		1.0±0.05			1.6±0.15			
Width (W)	0.3 ± 0.05		0.5±0.05			0.8±0.15			
Thickness max. (T)	0.33		0.6			1.0			
Termination Width (P)	0.10 ~ 0.20		0.2±0.1			0.12 ~ 0.51			
Capacitance	Working Voltage (Vdc)								
	6.3	10	6.3	10	16	6.3	10	16	25
0.0012µF									
0.0015µF									
0.0018µF									
0.0022µF									
0.0027µF									
0.0033µF									
0.0039µF									
0.0047µF									
0.0056µF									
0.0068µF									
0.0075µF									
0.0082µF									
0.01µF									
0.015µF									
0.018µF									
0.022µF									
0.027µF									
0.033µF									
0.036µF									
0.039µF									
0.047µF									
0.056µF									
0.068µF									
0.075µF									
0.082µF									
0.1µF									
0.15µF									
0.18µF									
0.22µF									
0.27µF									
0.33µF									
0.36µF									
0.39µF									
0.47µF									
0.56µF									
0.68µF									
0.82µF									