Multilayer Ceramic Chip Capacitors

FEATURES

- LOWER ESR FOR HIGH FREQUENCY (RF-WIRELESS) APPLICATIONS
- NPO DIELECTRIC FOR STABLE CHARACTERISTICS OVER TIME, TEMPERATURE AND VOLTAGE
- EIA STANDARD CASE SIZES (0402, 0603 & 0805)
- NICKEL BARRIER TERMINATION AND EXCELLENT MECHANICAL STRENGTH

CHARACTERISTICS

SPECIFICATIONS	NPO
Operating Temperature Range	-55°C to +125°C
Temperature Characteristic	0 ± 30PPM/°C
Dissipation Factor	0.01 max. (1MHz, +25°C)
Insulation Resistance	100,000 Megohms min. @ +25°C
Capacitance Range	0.5pF ~ 150pF
Capacitance Tolerances	Below 10pF: ±0.1pF(B), ±0.25pF(C), ±0.5pF(D) 10pF and above: ±1%(F), ±2%(G), ±5%(J)
Rated Voltage	50, 100VDC
Dielectric Withstanding Voltage	250% of rated voltage for 5 ± 1 seconds

RoHS Compliant

includes all homogeneous materials

*See Part Number System for Details

STANDARD VALUES AND CASE SIZES (mm)

EIA Case Size	0402	0603	0805
Length (L)	1.0 ± 0.05	1.6 ± 0.1	2.0 ± 0.1
Width (W)	0.5 ± 0.05	0.80 ± 0.1	1.25 ± 0.1
Thickness (T)	0.60 max.	1.00 max.	1.30 max.
Termination Width (P)	0.2 ± 0.1	0.12~ 0.51	0.25 ~ 0.71
Capacitance	50 & 100VDC		
	Maximum ESR @ 500MHz		
0.5pF	0.700Ω max.		
0.68pF			
0.75pF			
0.82pF			
0.91pF			
1.0pF			
1.1pF			
1.2pF			
1.3pF			
1.5pF			
1.6pF			
1.8pF			
2.0pF			
2.2pF			
2.4pF			
2.7pF			
3.0pF			
3.3pF			
3.6pF			
3.9pF			
4.3pF			
4.7pF	0.385Ω max.		
5.1pF			
5.6pF			
6.2pF			
6.8pF			
7.5pF			
8.2pF			
9.1pF			
10pF			
11pF			

PART NUMBERING SYSTEM

NMC-L 0603 NPO 100 J 50 TRP F

- F — RoHS Compliant
- TRP — Tape & Reel (Paper carrier)
- 50 — Voltage (Vdc)
- J — Capacitance Tolerance Code (see chart)
- 100 — Capacitance Code, expressed in pF, first 2 digits are significant, 3rd digit is no. of zeros, "R" indicates decimal for under 10pF
- NPO — Temperature Characteristic
- 0603 — Size Code (see chart)
- NMC-L — Series

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STANDARD VALUES AND CASE SIZES (mm)

EIA Case Size	0402	0603	0805
Length (L)	1.0 ± 0.05	1.6 ± 0.1	2.0 ± 0.1
Width (W)	0.5 ± 0.05	0.80 ± 0.1	1.25 ± 0.1
Thickness (T)	0.60 max.	1.00 max.	1.30 max.
Termination Width (P)	0.2 ± 0.1	0.12~ 0.51	0.25 ~ 0.71
Capacitance	50 & 100VDC		
	Maximum ESR @ 500MHz		
12pF	0.385Ω max.		
13pF			
15pF			
18pF			
20pF			
22pF	0.300Ω max.		
27pF			
33pF			
36pF			
39pF			
47pF			
51pF			
56pF			
68pF	0.260Ω max.		
75pF			
82pF			
91pF			
100pF			
110pF	0.500Ω max.	0.400Ω max.	0.260Ω max.
120pF			
130pF			
150pF			

CONSTRUCTION