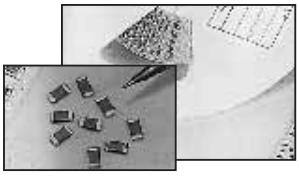
Multilayer Ceramic Chip Capacitors

NMC Series NPO

FEATURES

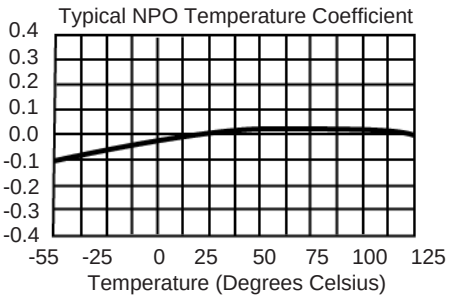
- CLASS I DIELECTRIC, TEMPERATURE COMPENSATING
- HIGH STABILITY OVER TIME, VOLTAGE AND TEMPERATURE CHANGES
- LOW DIELECTRIC LOSS
- NICKEL BARRIER TERMINATIONS AND EXCELLENT MECHANICAL STRENGTH

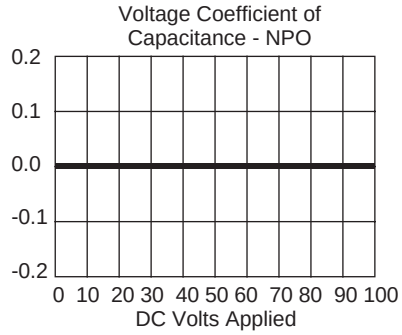
Expanded 01005 Case Size

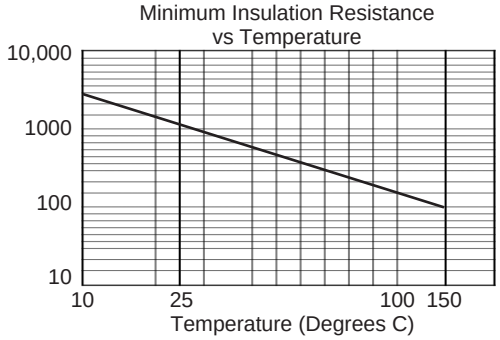


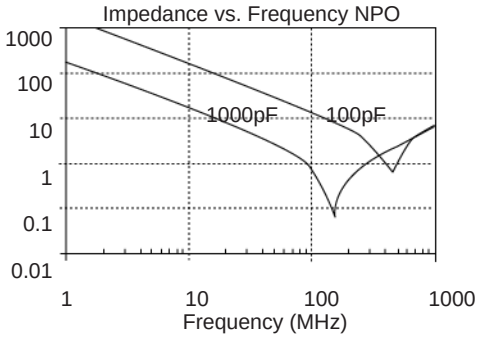
SPECIFICATIONS NPO

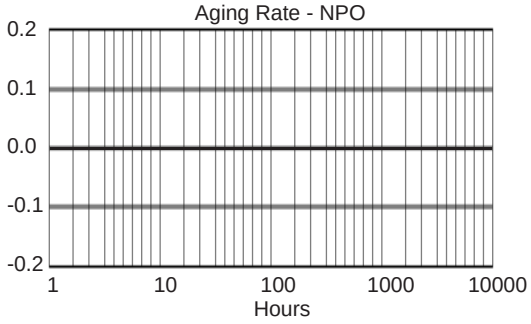
Capacitance Range	0.47pF to 0.068μF
Capacitance Tolerance	Below 10pF: ±0.1pF(B), ± 0.25pF(C), ±0.5pF(D) 10pF and above: ±1%(F), ±2%(G), ±5% (J)
Operating Temperature Range	-55°C ~ +125°C
Temperature Characteristics	0 ± 30ppm/°C
Rated Voltages	25Vdc, 35Vdc, 50Vdc (see NMC-H Series for higher voltages)
Dissipation Factor	For values >30pF 0.1% @ 25°C; For values ≤ 30pF Q=400+20 x C (C in pF)
insulation Resistance	10,000Megohms 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)	≤1000pF; 1MHz, 1.2Vrms max. or >1000pF; 1KHz, 1.2Vrms max.









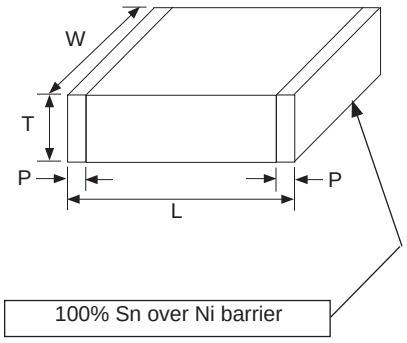


PART NUMBER SYSTEM

NMC 0805 NPO 101 J 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 (Punched carrier)
- 50 — Voltage (Vdc)
- J — Capacitance Tolerance Code (see chart)
- 101 — 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
- 0805 — Size Code (see chart)
- NMC — Series

EIA Case Size	01005
Length (L)	0.4±0.02
Width (W)	0.2±0.02
Thickness max. (T)	0.22
Termination Width (P)	0.1±0.03
Capacitance	Working Voltage (Vdc)
	16
0.5pF	
1.0pF	
1.5pF	
2.0pF	
3.0pF	
4.0pF	
5.0pF	
6.0pF	
7.0pF	
8.0pF	
9.0pF	
10pF	
12pF	
15pF	
18pF	
22pF	
27pF	
33pF	
39pF	
47pF	
56pF	
68pF	
82pF	
100pF	



(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)

EIA Case Size	0201				0402				0603				0805			
Length (L)	0.6±0.03				1.0±0.05				1.6±0.15				2.0±0.2			
Width (W)	0.3±0.03				0.5±0.05				0.8±0.15				1.25±0.2			
Thickness max. (T)	0.33				0.6				1.0				1.35			
Termination Width (P)	0.15±0.05				0.2±0.1				0.12 ~ 0.51				0.25 ~ 0.71			
Capacitance	Working Voltage (Vdc)															
	10	16	25	50	16	25	50	100	16	25	50	100	16	25	50	100
0.47pF ~ 22pF																
24pF																
27pF																
30pF																
33pF																
36pF																
39pF																
43pF																
47pF																
51pF																
56pF																
62pF																
68pF																
75pF																
82pF																
91pF																
100pF																
110pF																
120pF																
130pF																
150pF																
160pF																
180pF																
200pF																
220pF																
240pF																
270pF																
300pF																
330pF																
360pF																
390pF																
430pF																
470pF																
510pF																
560pF																
620pF																
680pF																
750pF																
820pF																
910pF																
0.001µF																
0.0012µF																
0.0015µF																
0.0018µF																
0.0022µF																
0.0027µF																*
0.0033µF																*
0.0039µF															*	*
0.0047µF															*	
0.0056µF														*	*	
0.0068µF														*	*	
0.0082µF														*	*	

*1.45mm maximum thickness

EIA Case Size	0805				1206					1210					1812			2225	
Length (L)	2.0±0.2				3,2±0.2					3.2±0.2					4.5±0.3			5.70±0.4	
Width (W)	1.25±0.2				1.6±0.2					2.5±0.2					3.2±0.25			6.35±0.25	
Thickness max. (T)	1.45				1.80					1.80					1.80			1.80	
Termination Width (P)	0.25 ~ 0.71				0.25 ~ 0.71					0.25 ~ 0.71					0.25 ~ 0.76			0.25 ~ 1.02	
Capacitance	Working Voltage (Vdc)																		
	16	25	50	100	10	16	25	50	100	10	16	25	50	100	25	50	100	50	100
0.47pF ~ 9.1pF	See the previous page																		
10pF ~ 22pF																			
24pF ~ 0.001µF																			
0.0012µF																			
0.0015µF																			
0.0018µF																			
0.0022µF																			
0.0027µF																			
0.0033µF																			
0.0039µF																			
0.0047µF																			
0.0056µF																			
0.0068µF																			
0.0075µF																			
0.0082µF																			
0.0091µF																			
0.01µF																			
0.012µF																			
0.015µF							*												
0.018µF																			
0.022µF																			**
0.027µF																			**
0.033µF																			**
0.039µF																			**
0.047µF																			
0.056µF																			

*1.90mm maximum thickness, **2.60mm maximum thickness

See NMC High Capactiance datasheet for higher capacitance values or NMC-H High Voltage datasheet for higher voltage ratings