

Multilayer Ceramic Chip Capacitors

NMC-H Series

FEATURES

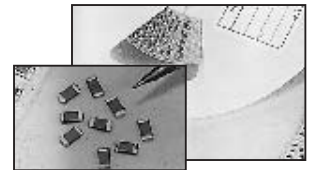
- HIGH VOLTAGE 200Vdc ~ 3KVdc
- NPO AND X7R DIELECTRICS
- 0603, 0805, 1206, 1210, 1808 AND 1812 SIZES
- NICKEL BARRIER TERMINATION AND EXCELLENT MECHANICAL STRENGTH

RoHS

Compliant

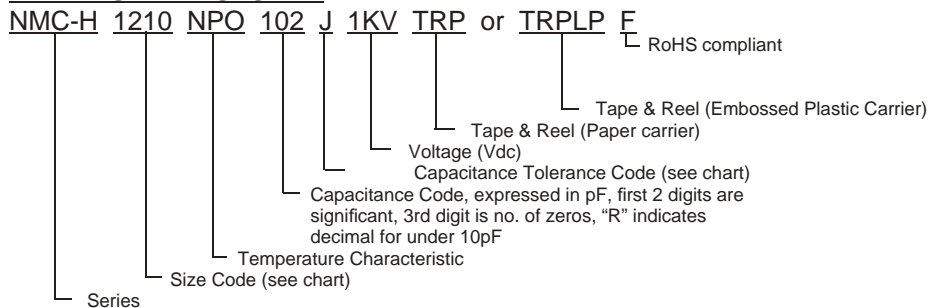
includes all homogeneous materials

*See Part Number System for Details

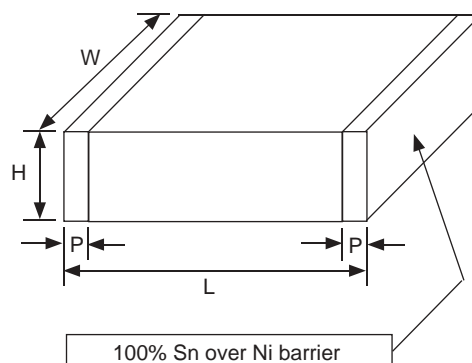


SPECIFICATIONS	NPO	X7R
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C
Temperature Characteristic	±30ppm	±15%
Dissipation Factor	≤ 0.1%	≤ 2.5%
Insulation Resistance	≥ 500MegΩ or 500MegΩ-μF whichever is less Test Method: Voltage rating ≤ 500V measured after 1 minute at rated voltage, Voltage rating > 500V measured after 1 minute at 500V	
Capacitance Range	0.22pF ~ 0.0056μF	150pF ~ 0.47μF
Capacitance Tolerance	±0.1pF(B), ±0.25pF(C), ±0.5pF(D) ±1%(F), ±2%(G), ±5%(J), ±10%(K), ±20(M)	±5%(J), ±10%(K), ±20(M)
Rated Voltage	250Vdc ~ 3KVdc	
Dielectric Withstanding Voltage	Working Voltage 200 & 250Vdc x 1.5 + 100Vdc for 5 seconds Working Voltage 500Vdc x 1.5 for 5 seconds Working Voltage greater than 500Vdc x 1.2 for 5 seconds	
Test Conditions (C & DF)	C ≤ 1000pF = 1MHz, 1Vrms @ 25°C C ≤ 1000pF = 1KHz, 1Vrms @ 25°C	1KHz, 1Vrms @ 25°C

PART NUMBER SYSTEM



CONSTRUCTION



NPO-HIGH VOLTAGE SIZE CHART (mm)

EIA Case Size	0603		0805			1206				1210					
Length (L)	1.6 ± 0.10		2.0 ± 0.15			3.2 ± 0.15				3.2 ± 0.30					
Width (W)	0.80 ± 0.10		1.25 ± 0.10			1.6 ± 0.20				2.5 ± 0.20					
Thickness (T)	0.90 max.		1.45 max.			1.80 max.				2.60 max.					
Termination Width (P)	0.25 ~ 0.65		0.25 ~ 0.75			0.25 ~ 0.80				0.25 ~ 1.00					
Capacitance	Working Voltage (Vdc)														
	200	250	200	250	500	200	250	500	1KV	2KV	200	250	500	1KV	2KV
0.22pF ~ 8.2pF															
10															
12															
15															
18															
22															
27															
33															
39															
47															
56															
68															
82															
100															
120															
150															
180															
220															
270															
330															
390															
470															
560															
680															
820															
0.001µF															
0.0012															
0.0015															
0.0018															
0.0022															
0.0027															
0.0033															
0.0039															
0.0047															
0.0068															
0.0082															
0.01															

NPO-HIGH VOLTAGE SIZE CHART (mm)

EIA Case Size	1808						1812						1825				2220			2225		
Length (L)	4.6 ± 0.40						4.6 ± 0.30						4.6 ± 0.30				5.7 ± 0.40			5.70 ± 0.40		
Width (W)	2.0 ± 0.30						3.2 ± 0.30						6.35 ± 0.40				5.00 ± 0.40			6.35 ± 0.40		
Thickness (T)	2.20 max.						3.00 max.						3.00 max.				3.00 max.			3.00 max.		
Termination Width (P)	0.25 ~ 0.75						0.25 ~ 0.75						0.3 ~ 1.05				0.30 ~ 1.10			0.30 ~ 1.10		
Capacitance	Working Voltage (Vdc)																					
	200	250	500	1KV	2KV	3KV	200	250	500	1KV	2KV	3KV	250	500	1K	2K	1K	250	500	1K		
0.22pF ~ 8.2pF																						
10																						
12																						
15																						
18																						
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0.0068																						
0.0082																						
0.01																						
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0.018																						
0.022																						
0.027																						
0.033																						
0.039																						
0.047																						
0.056																						
0.068																						
0.082																						
0.1																						

Multilayer Ceramic Chip Capacitors

NMC-H X7R Series

X7R-HIGH VOLTAGE SIZE CHART (mm)

EIA Case Size	0805			1206					1210					
Length (L)	2.0 ± 0.1			3.2 ± 0.15					3.2 ± 0.2					
Width (W)	1.25 ± 0.1			1.6 ± 0.15					2.5 ± 0.2					
Thickness (T)	1.45 max.			1.80 max.					2.20 max.					
Termination Width (P)	0.25 ~ 0.75			0.25 ~ 0.75					0.25 ~ 0.75					
Capacitance	Working Voltage (Vdc)													
	200	250	500	200	250	500	1KV	2KV	2.5KV	200	250	500	1KV	2KV
150														
180														
220														
270														
330														
390														
470														
560														
680														
820														
0.001µF														
0.0012														
0.0015														
0.0018														
0.0022														
0.0027														
0.0033														
0.0039														
0.0047														
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0.047														
0.056														
0.068														
0.082														
0.1														
0.12														
0.15														
0.18														
0.22														
0.27														
0.33														
0.39														
0.47														

Multilayer Ceramic Chip Capacitors

NMC-H X7R Series

X7R-HIGH VOLTAGE SIZE CHART (mm)

EIA Case Size	1808						1812						1825			2220			2225		
Length (L)	4.6 ± 0.4						4.6 ± 0.4						4.6 ± 0.30			5.7 ± 0.40			5.70 ± 0.40		
Width (W)	2.0 ± 0.3						3.2 ± 0.3						6.35 ± 0.40			5.00 ± 0.40			6.35 ± 0.40		
Thickness (T)	2.20 max.						2.20 max.						3.00 max.			3.00 max.			3.00 max.		
Termination Width (P)	0.30 min.						0.30 min.						0.3 ~ 1.05			0.30 ~ 1.10			0.30 ~ 1.10		
Capacitance	Working Voltage (Vdc)																				
	200	250	500	1KV	2KV	3KV	200	250	500	1KV	2KV	3KV	250	500	1K	250	500	1K	250	500	1K
150																					
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2.2																					

