

Multilayer Ceramic Chip Capacitors

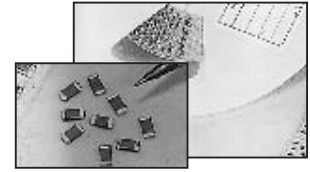
NMC-H Series

FEATURES

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

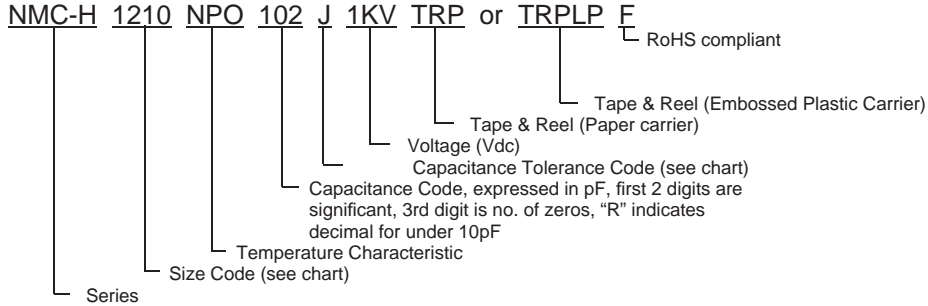
RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details

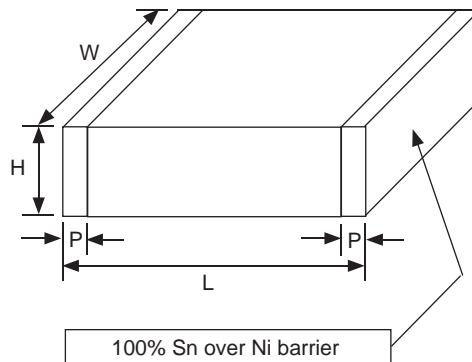


SPECIFICATIONS	NPO	X7R
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C
Temperature Characteristic	±30ppm	±15%
Dissipation Factor	≤ 0.1%	≤ 2.5%
Insulation Resistance	≥ 500MegΩ or 500MegΩ-μF whichever is less Test Method: Voltage rating ≤ 500V measured after 1 minute at rated voltage, Voltage 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		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																						
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																						
0.0056																						
0.0068																						
0.0082																						
0.01																						
0.012																						
0.015																						
0.018																						
0.022																						
0.027																						
0.033																						
0.039																						
0.047																						
0.056																						
0.068																						
0.082																						
0.1																						

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														
0.0056														
0.0068														
0.0082														
0.01														
0.012														
0.015														
0.018														
0.022														
0.027														
0.033														
0.039														
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														

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																					
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																					
0.0056																					
0.0068																					
0.0082																					
0.01																					
0.012																					
0.015																					
0.018																					
0.022																					
0.027																					
0.033																					
0.039																					
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																					
0.56																					
0.68																					
0.82																					
1.0																					
1.5																					
2.2																					