

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

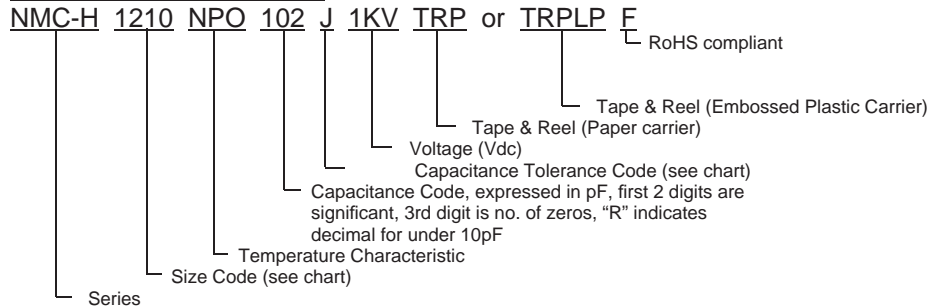
Includes all homogeneous materials

*See Part Number System for Details

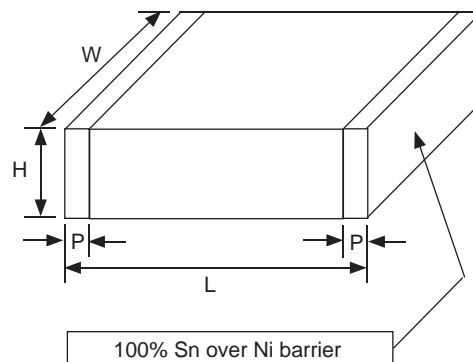


SPECIFICATIONS	NPO	X7R
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C
Temperature Characteristic	±30ppm	±15%
Dissipation Factor	≤ 0.1%	≤ 2.5%
Insulation Resistance	≥ 500MegΩ or 500MegΩ·μF whichever is less Test Method: Voltage rating ≤ 500V measured after 1 minute at rated voltage, Voltage 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	200Vdc ~ 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		1K		2K	
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																
0.01µF																

NPO-HIGH VOLTAGE SIZE CHART (mm)

EIA Case Size	1808						1812						1825				2220			2225		
	4.6 ± 0.40						4.6 ± 0.30						4.6 ± 0.30				5.7 ± 0.40			5.70 ± 0.40		
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	1K	2K	3K	200	250	500	1K	2K	3K	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																						
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0.0039																						
0.0047																						
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0.0068																						
0.0082																						
0.01µF																						
0.012																						
0.015																						
0.018																						
0.022																						
0.027																						
0.033																						
0.039																						
0.047																						
0.056																						
0.068																						
0.082																						
0.1µF																						

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	1K	2K	2.5K	200	250	500	1K	2K
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														
0.01µF														
0.012														
0.015														
0.018														
0.022														
0.027														
0.033														
0.039														
0.047														
0.056														
0.068														
0.082														
0.1µF														
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	1K	2K	3K	200	250	500	1K	2K	3K	250	500	1K	250	500	1K	250	500	1K		
150																							
180																							
220																							
270																							
330																							
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