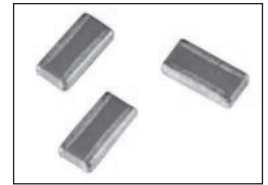


FEATURES

- LOW INDUCTANCE (ESL) MULTILAYER CAPACITORS
- Up to 60% lower ESL (0306 size compared to 0603 size)
- X5R AND X7R TEMPERATURE CHARACTERISTICS
- REVERSE GEOMETRY 0306, 0508 & 0612 CASE SIZES
- CAPACITANCE VALUES UP TO 1.0 μ F

RoHS Compliant

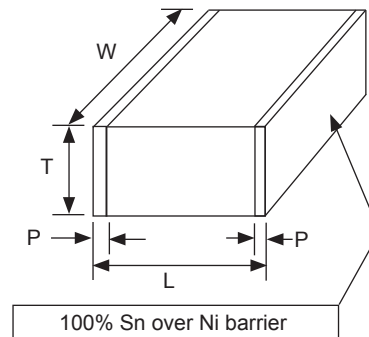
Includes all homogeneous materials
*See Part Number System for Details



SPECIFICATIONS	X7R		
Case Sizes	0306	0508	0612
Capacitance Range*	0.1 μ F ~ 0.22 μ F	0.01 μ F ~ 1.0 μ F	0.01 μ F ~ 1.0 μ F
Capacitance Tolerance	$\pm 10\%$ (K), $\pm 20\%$ (M)		
Temperature Characteristic	$\pm 15\%$		
Dissipation Factor	$\leq 5\%$		
Operating Temperature Range	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$		
Rated Voltage	10Vdc	10Vdc, 16Vdc, 25Vdc	6.3Vdc, 10Vdc, 16Vdc, 25Vdc, 50Vdc
Insulation Resistance	10,000 Megohms min. or 500Megohm μ F whichever is less @ $+25^{\circ}\text{C}$		
Dielectric Withstanding Voltage	250% of rated voltage for 1 ~ 5 seconds, 50mA max.		
Test Conditions	0.5Vrms, 1KHz @ $+20^{\circ}\text{C}$		

Note: Reflow soldering allowed for all case sizes. Contact NIC for wave soldering restrictions.

EIA Case Size	0306	0508	0612
Length (L)	0.80 ± 0.15	1.25 ± 0.20	1.60 ± 0.20
Width (W)	1.60 ± 0.20	2.00 ± 0.20	3.20 ± 0.20
Thickness (T)	0.60 max.	0.95 max.	1.25 max.
Termination Width (P)	0.10 min.	0.13 min.	0.13 min.



PART NUMBER SYSTEM

NMC-R 0306 X7R 104 K 10 TRP or TRPLP F

Series Size Code (see chart) Temperature Characteristic Capacitance Code, expressed in pF, first 2 digits are significant, 3rd digit is no. of zeros, "R" indicates decimal for under 10pF Voltage (Vdc) Tape & Reel (Punched carrier) Tape & Reel (Embossed carrier) RoHS Compliant

NMC-R Series

Surface Mount Multilayer Ceramic Capacitors



Case Size	X7R 0306 Reverse Termination			
Length (L)	0.80 ± 0.15			
Width (W)	1.60 ± 0.20			
Termination Width (P)	0.10 min.			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMC-R0306X7R104K10TRPF	0.10	10	±10%	0.60
NMC-R0306X7R224K10TRPF	0.22		±10%	0.60

Case Size	X7R 0508 Reverse Termination			
Length (L)	1.25 ± 0.20			
Width (W)	2.00 ± 0.20			
Termination Width (P)	0.13 min.			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMC-R0508X7R103K10TRPF	0.01	10	±10%	0.95
NMC-R0508X7R153K10TRPF	0.015		±10%	0.95
NMC-R0508X7R223K10TRPF	0.022		±10%	0.95
NMC-R0508X7R333K10TRPF	0.033		±10%	0.95
NMC-R0508X7R473K10TRPF	0.047		±10%	0.95
NMC-R0508X7R683K10TRPF	0.068		±10%	0.95
NMC-R0508X7R104K10TRPF	0.10		±10%	0.95
NMC-R0508X7R154K10TRPF	0.15		±10%	0.95
NMC-R0508X7R224K10TRPF	0.22		±10%	0.95
NMC-R0508X7R474K10TRPF	0.47		±10%	0.95
NMC-R0508X7R105K10TRPF	1.0		±10%	0.95
NMC-R0508X7R103K16TRPF	0.01	16	±10%	0.95
NMC-R0508X7R153K16TRPF	0.015		±10%	0.95
NMC-R0508X7R223K16TRPF	0.022		±10%	0.95
NMC-R0508X7R333K16TRPF	0.033		±10%	0.95
NMC-R0508X7R473K16TRPF	0.047		±10%	0.95
NMC-R0508X7R683K16TRPF	0.068		±10%	0.95
NMC-R0508X7R104K16TRPF	0.10		±10%	0.95
NMC-R0508X7R154K16TRPF	0.15		±10%	0.95
NMC-R0508X7R224K16TRPF	0.22		±10%	0.95
NMC-R0508X7R103K25TRPF	0.01	25	±10%	0.95
NMC-R0508X7R153K25TRPF	0.015		±10%	0.95
NMC-R0508X7R223K25TRPF	0.022		±10%	0.95
NMC-R0508X7R333K25TRPF	0.033		±10%	0.95
NMC-R0508X7R473K25TRPF	0.047		±10%	0.95
NMC-R0508X7R683K25TRPF	0.068		±10%	0.95
NMC-R0508X7R104K25TRPF	0.10		±10%	0.95

Case Size	X7R 0612 Reverse Termination			
Length (L)	1.60 ± 0.20			
Width (W)	3.20 ± 0.20			
Termination Width (P)	0.13 min.			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMC-R0612X7R103K6.3TRPF	0.01	6.3	±10%	0.95
NMC-R0612X7R153K6.3TRPF	0.015		±10%	0.95
NMC-R0612X7R223K6.3TRPF	0.022		±10%	0.95
NMC-R0612X7R333K6.3TRPF	0.033		±10%	0.95
NMC-R0612X7R473K6.3TRPF	0.047		±10%	0.95
NMC-R0612X7R683K6.3TRPF	0.068		±10%	0.95
NMC-R0612X7R104K6.3TRPF	0.10		±10%	0.95
NMC-R0612X7R154K6.3TRPF	0.15		±10%	0.95
NMC-R0612X7R224K6.3TRPF	0.22		±10%	0.95
NMC-R0612X7R334K6.3TRPF	0.33		±10%	0.95
NMC-R0612X7R474K6.3TRPF	0.47		±10%	0.95
NMC-R0612X7R684K6.3TRPLPF	0.68		±10%	1.25
NMC-R0612X7R105K6.3TRPLPF	1.0		±10%	1.25

X7R 0612 values continue on next page

Performance Passives By Design

NIC Components Corp.
100 Baylis Road. Melville, NY 11747

NMC-R Series

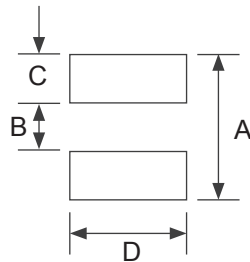
Surface Mount Multilayer Ceramic Capacitors



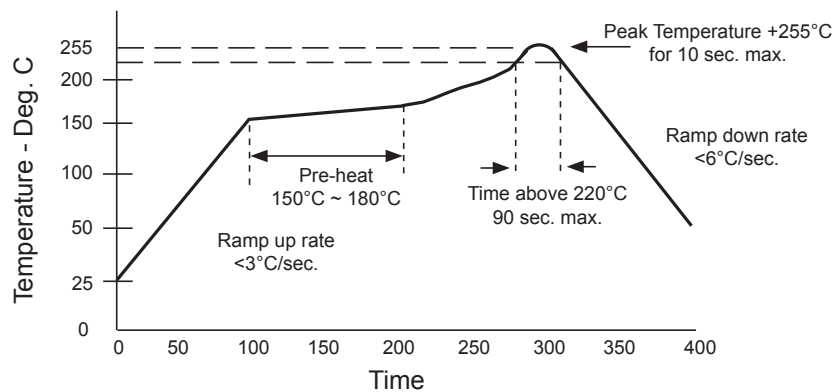
Case Size	X7R 0612 Reverse Termination			
Length (L)	1.60 ± 0.20			
Width (W)	3.20 ± 0.20			
Termination Width (P)	0.13 min.			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMC-R0612X7R103K10TRPF	0.01	10	±10%	0.95
NMC-R0612X7R153K10TRPF	0.015		±10%	0.95
NMC-R0612X7R223K10TRPF	0.022		±10%	0.95
NMC-R0612X7R333K10TRPF	0.033		±10%	0.95
NMC-R0612X7R473K10TRPF	0.047		±10%	0.95
NMC-R0612X7R683K10TRPF	0.068		±10%	0.95
NMC-R0612X7R104K10TRPF	0.1		±10%	0.95
NMC-R0612X7R154K10TRPF	0.15		±10%	0.95
NMC-R0612X7R224K10TRPF	0.22		±10%	0.95
NMC-R0612X7R334K10TRPF	0.33		±10%	0.95
NMC-R0612X7R474K10TRPF	0.47		±10%	0.95
NMC-R0612X7R684K10TRPLPF	0.68		±10%	1.25
NMC-R0612X7R105K10TRPLPF	1.0		±10%	1.25
NMC-R0612X7R103K16TRPF	0.01	16	±10%	0.95
NMC-R0612X7R153K16TRPF	0.015		±10%	0.95
NMC-R0612X7R223K16TRPF	0.022		±10%	0.95
NMC-R0612X7R333K16TRPF	0.033		±10%	0.95
NMC-R0612X7R473K16TRPF	0.047		±10%	0.95
NMC-R0612X7R683K16TRPF	0.068		±10%	0.95
NMC-R0612X7R104K16TRPF	0.1		±10%	0.95
NMC-R0612X7R154K16TRPF	0.15		±10%	0.95
NMC-R0612X7R224K16TRPF	0.22		±10%	0.95
NMC-R0612X7R334K16TRPF	0.33		±10%	0.95
NMC-R0612X7R474K16TRPF	0.47		±10%	0.95
NMC-R0612X7R684K16TRPLPF	0.68		±10%	1.25
NMC-R0612X7R105K16TRPLPF	1.0		±10%	1.25
NMC-R0612X7R103K25TRPF	0.01	25	±10%	0.95
NMC-R0612X7R153K25TRPF	0.015		±10%	0.95
NMC-R0612X7R223K25TRPF	0.022		±10%	0.95
NMC-R0612X7R333K25TRPF	0.033		±10%	0.95
NMC-R0612X7R473K25TRPF	0.047		±10%	0.95
NMC-R0612X7R683K25TRPF	0.068		±10%	0.95
NMC-R0612X7R104K25TRPF	0.1		±10%	0.95
NMC-R0612X7R154K25TRPLPF	0.15		±10%	1.25
NMC-R0612X7R224K25TRPLPF	0.22		±10%	1.25
NMC-R0612X7R334K25TRPLPF	0.33		±10%	1.25
NMC-R0612X7R474K25TRPLPF	0.47		±10%	1.25
NMC-R0612X7R684K25TRPLPF	0.68		±10%	1.25
NMC-R0612X7R105K25TRPLPF	1.0		±10%	1.25
NMC-R0612X7R103K50TRPF	0.01	50	±10%	0.95
NMC-R0612X7R153K50TRPF	0.015		±10%	0.95
NMC-R0612X7R223K50TRPF	0.022		±10%	0.95
NMC-R0612X7R333K50TRPF	0.033		±10%	0.95
NMC-R0612X7R473K50TRPF	0.047		±10%	0.95
NMC-R0612X7R683K50TRPF	0.068		±10%	0.95
NMC-R0612X7R104K50TRPF	0.1		±10%	0.95
NMC-R0612X7R154K50TRPLPF	0.15		±10%	1.25
NMC-R0612X7R224K50TRPLPF	0.22		±10%	1.25
NMC-R0612X7R334K50TRPLPF	0.33		±10%	1.25
NMC-R0612X7R474K50TRPLPF	0.47		±10%	1.25
NMC-R0612X7R474K50TRPLPF	0.47		±10%	1.25

LAND PATTERN DIMENSIONS (mm)

Case Size	0306	0508	0612
A	0.70 ~ 1.00	1.20 ~ 1.50	1.80 ~ 2.30
B	0.20 ~ 0.30	0.40 ~ 0.50	0.60 ~ 0.80
C	0.30 ~ 0.40	0.40 ~ 0.50	0.60 ~ 0.70
D	1.40 ~ 1.60	1.40 ~ 1.80	2.60 ~ 2.80



RECOMMENDED REFLOW PROFILE



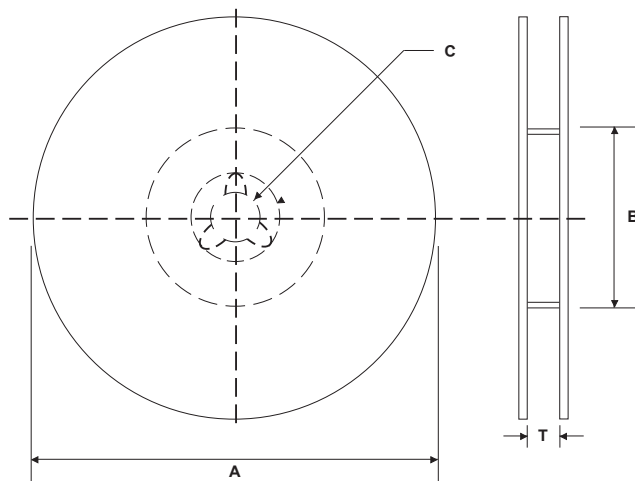
Note: Reflow soldering allowed for all case sizes. Contact NIC for wave soldering restrictions.

REEL DIMENSIONS (mm)

Reel Diameter (A)	Tape Width	B	C	T max.
7" (178 ± 1.0)	8.0	60 ± 1.0	13.0	9.0 ± 0.2
13" (330 ± 1.0)		100 ± 1.0	+0.5/-0.2	9.0 ± 0.2

REEL QUANTITIES

Size	0306	0508	0612
7" (178mm)	4,000	4,000	4,000 (0.95mm max. thk) 3,000 (1.25mm max. thk)
13" (178mm)	15,000	15,000	15,000 (0.95mm Thk) 10,000 (1.25mm Thk)





PUNCHED CARRIER TAPE DIMENSIONS (mm)

Type	A _o	B _o	W	F	E	P1	P0	D0	t
0306	0.95 ± 0.15	1.78 ± 0.15	8.0 ± 0.20	3.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.05	4.0 ± 0.05	1.5 +0.1/-0.0	0.95 ± 0.15
0508	1.50 ± 0.15	2.26 ± 0.20							0.95 ± 0.10
0612	1.90 ± 0.15	3.50 ± 0.20							0.95 ± 0.10

