

Multilayer Ceramic Chip Capacitors

NMC High CV Series

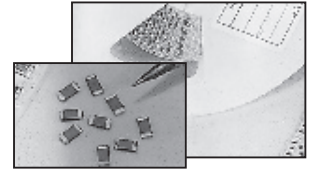
FEATURES

- X7R, X6S, X5R AND Y5V DIELECTRICS
- HIGH CAPACITANCE DENSITY
- ULTRA LOW ESR & ESL
- EXCELLENT MECHANICAL STRENGTH
- NICKEL BARRIER TERMINATIONS
- RoHS COMPLIANT
- SAC SOLDER COMPATIBLE*

RoHS Compliant

Includes all homogeneous materials

*See Part Number System for Details



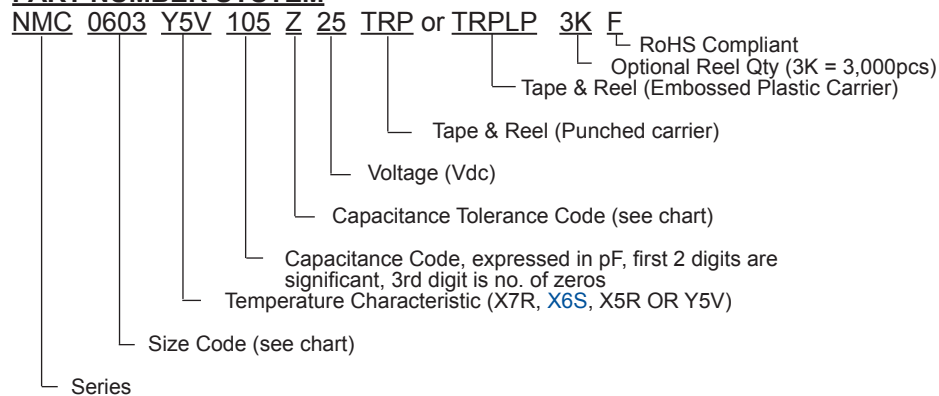
Temperature Coefficient	X7R	X6S	X5R	Y5V
Capacitance Range	1.0 μ F ~ 47 μ F	1.0 μ F ~ 100 μ F	1.0 μ F ~ 100 μ F	1.0 μ F ~ 100 μ F
Capacitance Tolerance	10% (K) & 20% (M)	10% (K) & 20% (M)	10% (K) & 20% (M)	+80%/-20% (Z)
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +105°C	-55°C ~ +85°C	-30°C ~ +85°C
Temperature Characteristics	$\pm 15\%$ Δ Cap.	$\pm 22\%$ Δ Cap.	$\pm 15\%$ Δ Cap.	+22%, -82% Δ Cap.
Rated Voltages	4Vdc, 6.3Vdc, 16Vdc, 25Vdc, 35Vdc, 50Vdc & 100Vdc			
Dissipation Factor	See Part Number and Specifications Tables			
Insulation Resistance				
Dielectric Withstanding Voltage	250% of Rated Voltage for 5 \pm 1 sec., 50mA max.		150% of Rated Voltage for 5 \pm 1 sec., 50mA max.	
Test Conditions (EIA-198-2E)	C \leq 10 μ F 1KHz, 1.0V \pm 0.2Vrms (ALC on) C > 10 μ F 120Hz, 0.5V \pm 0.2Vrms (ALC on)		1KHz, 1.0V \pm 0.1Vrms (ALC on)	

*Reflow soldering is recommended. Contact NIC regarding the use of other soldering methods.

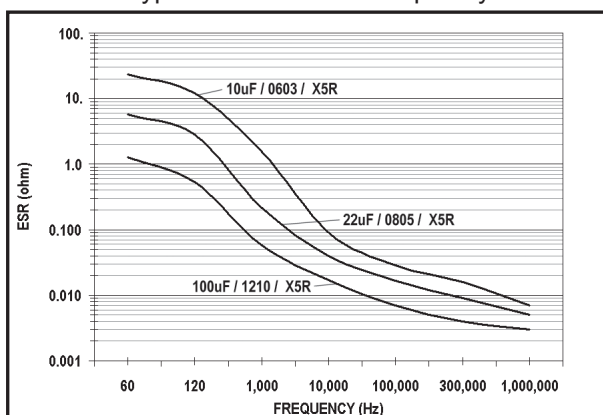
Capacitance value stability over applied VDC is not assured for class II MLCC (X7R, X5R & Y5V) and it is suggested to consider to use NPO MLCCs Ceramic Capacitors, Film Capacitors or Electrolytic Capacitors for applications where stability in capacitance value, over applied VDC, is performance requirement.

For additional information go to: <http://www.niccomp.com/help/VoltageCoefficientofCapacitors-032012-R1.pdf>.

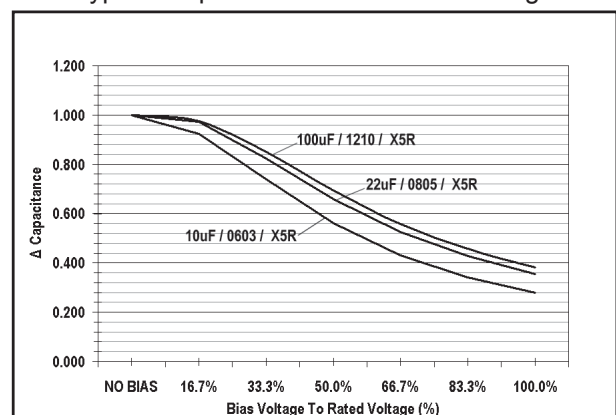
PART NUMBER SYSTEM



Typical ESR versus Frequency



Typical Capacitance versus Bias Voltage



Multilayer Ceramic Chip Capacitors

NMC High CV Series

X7R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC0402X7R105K6.3TRPF	0402	6.3	1.0μF	K	12.5	100.0	15.75	0.6	
NMC0603X7R225K6.3TRPF	0603	6.3	2.2μF	K	10	22.7	15.75	1.0	
NMC0603X7R105K10TRPF		10	1.0μF	K	10	50.0	25	1.0	
NMC0603X7R105K16TRPF		16	1.0μF	K	10	50.0	40	1.0	
NMC0603X7R105K25TRPF		25	1.0μF	K	10	50.0	62.5	1.0	
NMC0603X7R105K50TRPF		50	1.0μF	K	10	50.0	125	1.0	
NMC0805X7R225K6.3TRPLPF		0805	6.3	2.2μF	K	10	22.7	15.75	2.2
NMC0805X7R335K6.3TRPLPF	3.3μF			K	10	30.3	15.75	2.2	
NMC0805X7R475K6.3TRPLPF	4.7μF			K	10	10.6	15.75	2.2	
NMC0805X7R106K6.3TRPLPF	10μF			K	15	5.0	15.75	2.2	
NMC0805X7R105K10TRPLPF	10		1.0μF	K	5	50.0	25	1.35	
NMC0805X7R155K10TRPLPF			1.5μF	K	5	66.6	25	1.45	
NMC0805X7R225K10TRPLPF			2.2μF	K	10	22.7	25	2.2	
NMC0805X7R475K10TRPLPF			4.7μF	K	10	10.6	25	1.45	
NMC0805X7R106K10TRPLPF			10μF	K	15	5.0	25	1.45	
NMC0805X7R105K16TRPLPF			16	1.0μF	K	5	50.0	40	1.35
NMC0805X7R225K16TRPLPF	2.2μF			K	10	22.7	40	2.2	
NMC0805X7R335K16TRPLPF	3.3μF			K	10	30.3	40	2.2	
NMC0805X7R475K16TRPLPF	4.7μF			K	10	10.6	40	2.2	
NMC0805X7R106K16TRPLPF	10μF			K	10	5.0	40	1.45	
NMC0805X7R105K25TRPLPF	25			1.0μF	K	5	50.0	62.5	1.35
NMC0805X7R225K25TRPLPF			2.2μF	K	10	22.7	62.5	2.2	
NMC0805X7R335K25TRPLPF			3.3μF	K	10	30.3	62.5	2.2	
NMC0805X7R475K25TRPLPF			4.7μF	K	10	21.2	62.5	1.4	
NMC0805X7R105K50TRPLPF			50	1.0μF	K	10	50.0	125	1.45
NMC1206X7R106K6.3TRPLPF			1206	6.3	10μF	K	10	5.0	15.75
NMC1206X7R226K6.3TRPLPF	22μF				K	10	2.3	15.75	1.9
NMC1206X7R105K10TRPLPF	10			1.0μF	K	10	50.0	25	1.9
NMC1206X7R225K10TRPLPF				2.2μF	K	10	22.7	25	1.9
NMC1206X7R335K10TRPLPF				3.3μF	K	5	30.3	25	1.9
NMC1206X7R475K10TRPLPF				4.7μF	K	10	10.6	25	1.9
NMC1206X7R106K10TRPLPF				10μF	K	10	5.0	25	1.9
NMC1206X7R226K10TRPLPF				22μF	K	10	2.3	25	1.9
NMC1206X7R105K16TRPLPF	16			1.0μF	K	5	50.0	40	1.9
NMC1206X7R225K16TRPLPF				2.2μF	K	10	22.7	40	1.9
NMC1206X7R335K16TRPLPF				3.3μF	K	5	30.3	40	1.9
NMC1206X7R475K16TRPLPF		4.7μF		K	10	10.6	40	1.9	
NMC1206X7R685K16TRPLPF		6.8μF		K	5	14	40	1.9	
NMC1206X7R106K16TRPLPF		10μF		K	10	5.0	40	2.2	
NMC1206X7R105K25TRPLPF	25	1.0μF		K	3.5	50.0	62.5	1.9	
NMC1206X7R225K25TRPLPF		2.2μF		K	5	2.7	62.5	1.9	
NMC1206X7R335K25TRPLPF		3.3μF		K	3.5	30.3	62.5	1.9	
NMC1206X7R475K25TRPLPF		4.7μF		K	10	10.6	62.5	1.9	
NMC1206X7R106K25TRPLPF		10μF		K	10	5.0	62.5	1.9	
NMC1206X7R105K50TRPLPF		50		1.0μF	K	3.5	50.0	125	1.9
NMC1206X7R225K50TRPLPF	2.2μF			K	10	22.7	125	1.9	
NMC1206X7R475K50TRPLPF	4.7μF			K	10	10.6	125	1.9	
NMC1206X7R105K100TRPLPF	100			1.0μF	K	10	50.0	250	1.9

X7R Continue on next page



Multilayer Ceramic Chip Capacitors

NMC High CV Series

X7R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC1210X7R476K6.3TRPLPF	1210	6.3	47μF	K	10	1.1	15.75	2.7	
NMC1210X7R105K10TRPLPF		10	1.0μF	K	5	100.0	25	2.2	
NMC1210X7R475K10TRPLPF			4.7μF	K	10	21.2	25	2.2	
NMC1210X7R106K10TRPLPF			10μF	K	10	5.0	25	2.8	
NMC1210X7R105K16TRPLPF		16	1.0μF	K	3.5	100.0	40	2.2	
NMC1210X7R335K16TRPLPF			3.3μF	K	3.5	30.3	40	2.2	
NMC1210X7R475K16TRPLPF			4.7μF	K	3.5	21.2	40	2.2	
NMC1210X7R106K16TRPLPF			10μF	K	10	5.0	40	2.8	
NMC1210X7R105K25TRPLPF		25	1.0μF	K	3.5	100.0	62.5	2.2	
NMC1210X7R225K25TRPLPF			2.2μF	K	3.5	45.4	62.5	2.2	
NMC1210X7R335K25TRPLPF			3.3μF	K	3.5	30.3	62.5	2.2	
NMC1210X7R475K25TRPLPF			4.7μF	K	10	10.6	62.5	2.2	
NMC1210X7R106K25TRPLPF			10μF	K	10	5.0	62.5	2.8	
NMC1210X7R226K25TRPLPF			22μF	K	10	4.5	62.5	2.7	
NMC1210X7R106K35TRPLPF		35	10μF	K	10	10.0	87.5	2.8	
NMC1210X7R105K50TRPLPF		50	1.0μF	K	3.5	100.0	125	2.2	
NMC1210X7R225K50TRPLPF			2.2μF	K	5	45.5	125	2.8	
NMC1210X7R475K50TRPLPF			4.7μF	K	10	10.6	125	2.2	
NMC1210X7R106K50TRPLPF			10μF	K	10	5.0	125	2.8	
NMC1210X7R105K100TRPLPF		100	1.0μF	K	10	50.0	250	2.8	
NMC1210X7R225K100TRPLPF	2.2μF		K	10	22.7	250	2.2		
NMC1812X7R105K10TRPLPF	1812	10	1.0μF	K	5	100.0	25	1.8	
NMC1812X7R105K16TRPLPF		16	1.0μF	K	3.5	100.0	40	1.8	
NMC1812X7R105K25TRPLPF		25	1.0μF	K	3.5	100.0	62.5	1.8	
NMC1812X7R106K25TRPLPF			10μF	K	3.5	50.0	62.5	2.8	
NMC1812X7R105K50TRPLPF		50	1.0μF	K	2.5	100.0	125	2.8	
NMC1812X7R475K50TRPLPF			4.7μF	K	10	21.2	125	2.2	
NMC1812X7R106K50TRPLPF			10μF	K	10	10.0	125	2.2	
NMC1812X7R105K100TRPLPF		100	1.0μF	K	2.5	100.0	250	2.8	
NMC1812X7R225K100TRPLPF			2.2μF	K	5	45.5	250	2.8	
NMC2220X7R475K50TRPLPF		2220	50	4.7μF	K	10	21.2	125	2.2
NMC2220X7R106K50TRPLPF	10μF			K	10	10.0	125	3.0	
NMC2220X7R475K100TRPLPF	100		4.7μF	K	2.5	21.2	250	2.2	
NMC2220X7R106K100TRPLPF			10μF	K	2.5	10.0	250	3.0	
NMC2225X7R105K25TRPLPF	2225	25	1.0μF	K	2.5	100.0	62.5	2.2	
NMC2225X7R155K25TRPLPF			1.5μF	K	2.5	66.6	62.5	2.2	
NMC2225X7R225K25TRPLPF			2.2μF	K	2.5	45.4	62.5	2.2	
NMC2225X7R105K50TRPLPF		50	1.0μF	K	2.5	100.0	125	2.2	
NMC2225X7R105K100TRPLPF			100	1.0μF	K	2.5	100.0	250	2.2
NMC2225X7R105K100TRPLPF				1.0μF	K	2.5	100.0	250	2.2

Denotes New Value



Multilayer Ceramic Chip Capacitors

NMC High CV Series

X6S PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC0201X6S105M4TRPF	0201	4	1.0μF	20%	15	50.00	10	0.35	
NMC0402X6S105K6.3TRPF	0402	6.3	1.0μF	10%	15	50.00	15.75	0.55	
NMC0402X6S225K6.3TRPF			2.2μF	10%	20	22.73	15.75	0.55	
NMC0402X6S105K10TRPF		10	1.0μF	10%	15	50.00	25	0.70	
NMC0402X6S225K10TRPF			2.2μF	10%	15	22.73	25	0.70	
NMC0402X6S105K16TRPF		16	1.0μF	10%	10	50.00	40	0.70	
NMC0402X6S225K16TRPF			2.2μF	10%	10	22.73	40	0.70	
NMC0402X6S105K25TRPF		25	1.0μF	10%	12.5	50.00	62.5	0.70	
NMC0603X6S226M4TRPF		0603	4	22μF	20%	15	2.27	10	1.00
NMC0603X6S475K6.3TRPF	6.3		4.7μF	10%	10	10.64	15.75	0.95	
NMC0603X6S106M6.3TRPF			10μF	20%	15	5.00	15.75	1.00	
NMC0603X6S226M6.3TRPF			22μF	20%	15	2.27	15.75	1.00	
NMC0603X6S106M10TRPF	10		10μF	20%	10	5.00	25	1.00	
NMC0603X6S475K16TRPF	16		4.7μF	10%	10	10.64	40	1.00	
NMC0603X6S106M16TRPF			10μF	20%	10	5.00	40	1.00	
NMC0603X6S225K25TRPF	25		2.2μF	10%	10	22.73	62.5	1.00	
NMC0603X6S475K25TRPF	4.7μF		10%	10	10.64	62.5	1.00		
NMC0805X6S106K4TRPLPF	0805		4	10μF	10%	15	5.00	10	1.45
NMC0805X6S476M4TRPLPF		47μF		20%	15	1.06	10	1.45	
NMC0805X6S106K6.3TRPLPF		6.3	10μF	10%	15	5.00	15.75	1.45	
NMC0805X6S226M6.3TRPLPF			22μF	20%	15	2.27	15.75	1.45	
NMC0805X6S106K10TRPLPF		10	10μF	10%	10	5.00	25	1.45	
NMC0805X6S226M10TRPLPF			22μF	20%	10	2.27	25	1.45	
NMC0805X6S225K16TRPLPF		16	2.2μF	10%	10	22.7	40	1.45	
NMC0805X6S106K16TRPLPF			10μF	10%	10	5.00	40	1.45	
NMC0805X6S226M16TRPLPF		22μF	20%	10	2.27	40	1.45		
NMC0805X6S475K25TRPLPF		25	4.7μF	10%	10	10.64	62.5	1.45	
NMC0805X6S106K25TRPLPF			10μF	10%	10	5.00	62.5	1.45	
NMC0805X6S475K50TRPLPF		50	4.7μF	10%	10	10.64	125	1.45	
NMC1206X6S476K6.3TRPLPF		1206	6.3	47μF	10%	15	1.06	15.75	1.90
NMC1206X6S226K10TRPLPF			10	22μF	10%	10	2.27	25	1.90
NMC1206X6S226M16TRPLPF	16		22μF	20%	10	2.27	40	1.90	
NMC1206X6S106K25TRPLPF	25		10μF	10%	10	5.00	40	1.80	
NMC1210X6S476K6.3TRPLPF	1210	6.3	47μF	10%	10	1.06	15.75	2.80	
NMC1210X6S107M6.3TRPLPF			100μF	20%	15	0.50	15.75	2.80	
NMC1210X6S476K10TRPLPF		10	47μF	10%	10	1.06	25	2.80	
NMC1210X6S476K16TRPLPF		16	47μF	10%	10	1.06	40	2.80	
NMC1210X6S226K25TRPLPF		25	22μF	10%	10	2.27	62.5	2.80	

Denotes New Value



Multilayer Ceramic Chip Capacitors

NMC High CV Series

X5R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC0201X5R105M4TRPF	0201	4	1.0μF	M	12.5	50.0	10	0.35	
NMC0201X5R105K6.3TRPF		6.3	1.0μF	K	10	50.0	15.75	0.33	
NMC0201X5R225M6.3TRPF			2.2μF	M	12.5	4.54	15.75	0.39	
NMC0201X5R105M10TRPF		10	1.0μF	M	12.5	10.0	25	0.35	
NMC0402X5R225K4TRPF	0402	4	2.2μF	K	10	22.7	10	0.6	
NMC0402X5R475K4TRPF			4.7μF	K	15	10.6	10	0.6	
NMC0402X5R105K6.3TRPF		6.3	1.0μF	K	12.5	50.0	15.75	0.6	
NMC0402X5R225K6.3TRPF			2.2μF	K	10	22.7	15.75	0.6	
NMC0402X5R475K6.3TRPF**			4.7μF	K	12.5	10.6	15.75	0.65	
NMC0402X5R106K6.3TRPF			10μF	K	15	5.0	15.75	0.6	
NMC0402X5R106M6.3TRPF		10μF	M	15	5.0	15.75	0.6		
NMC0402X5R105K10TRPF		10	1.0μF	K	15	50.0	25	0.6	
NMC0402X5R225K10TRPF			2.2μF	K	15	22.7	25	0.6	
NMC0402X5R475K10TRPF			4.7μF	K	15	21.0	25	0.7	
NMC0402X5R105K16TRPF			16	1.0μF	K	12.5	50.0	40	0.6
NMC0402X5R105K25TRPF		25	1.0μF	K	10	100.0	62.5	0.6	
NMC0603X5R106K4TRPF		0603	4	10μF	K	10	5.0	10	1.0
NMC0603X5R226K4TRPF*				22μF	K	12.5	2.3	10	1.0
NMC0603X5R476M4TRPF	47μF			M	12.5	10.4	10	1.1	
NMC0603X5R105K6.3TRPF	6.3		1.0μF	K	10	50.0	15.75	1.0	
NMC0603X5R225K6.3TRPF			2.2μF	K	10	22.7	15.75	1.0	
NMC0603X5R226M6.3TRPF			22μF	M	12.5	2.3	15.75	1.0	
NMC0603X5R335K6.3TRPF			3.3μF	K	10	30.3	15.75	1.0	
NMC0603X5R475K6.3TRPF			4.7μF	K	10	10.6	15.75	1.0	
NMC0603X5R106K6.3TRPF			10μF	K	10	5.0	15.75	1.0	
NMC0603X5R105K10TRPF	10		1.0μF	K	10	50.0	25	1.0	
NMC0603X5R225K10TRPF			2.2μF	K	10	22.7	25	1.0	
NMC0603X5R475K10TRPF			4.7μF	K	10	10.6	25	1.0	
NMC0603X5R106K10TRPF			10μF	K	10	5.0	25	1.0	
NMC0603X5R226M10TRPF			22μF	M	20	4.5	25	1.0	
NMC0603X5R105K16TRPF	16		1.0μF	K	10	50.0	40	1.0	
NMC0603X5R225K16TRPF			2.2μF	K	10	22.7	40	1.0	
NMC0603X5R475K16TRPF			4.7μF	K	10	10.6	40	1.0	
NMC0603X5R105K25TRPF			25	1.0μF	K	10	50.0	62.5	1.0
NMC0603X5R105K35TRPF	35		1.0μF	K	10	50.0	87.5	1.0	
NMC0603X5R225K35TRPF			2.2μF	K	10	10.0	87.5	1.0	
NMC0603X5R105K50TRPF	50		1.0μF	K	10	50.0	125	1.0	
NMC0805X5R476K4TRPLPF	0805		4	47μF	K	10	1.1	10	1.45
NMC0805X5R105K6.3TRPLPF			6.3	1.0μF	K	10	100.0	15.75	1.45
NMC0805X5R225K6.3TRPLPF				2.2μF	K	10	45.4	15.75	1.45
NMC0805X5R335K6.3TRPLPF				3.3μF	K	10	30.3	15.75	1.45
NMC0805X5R475K6.3TRPLPF				4.7μF	K	10	10.6	15.75	1.45
NMC0805X5R106K6.3TRPLPF				10μF	K	10	5.0	15.75	1.45
NMC0805X5R226K6.3TRPLPF				22μF	K	15	2.3	15.75	1.45
NMC0805X5R476K6.3TRPLPF		47μF		K	10	1.1	15.75	1.45	
NMC0805X5R105K10TRPLPF		10	1.0μF	K	7.5	100.0	25	1.45	
NMC0805X5R155K10TRPLPF			1.5μF	K	5	66.7	25	1.45	

*Length (L) dimension tolerance for these values is ±0.40mm (see dimensions table on page 10)

**Length (L) and width (W) tolerance for this value is ±0.15 (see dimensions label on page 10)



X5R Continue on next page

Multilayer Ceramic Chip Capacitors

NMC High CV Series

X5R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)			
NMC0805X5R225K10TRPLPF	0805	10	2.2μF	K	10	45.4	25	1.45			
NMC0805X5R335K10TRPLPF			3.3μF	K	10	30.3	25	1.45			
NMC0805X5R475K10TRPLPF			4.7μF	K	10	21.2	25	1.45			
NMC0805X5R106K10TRPF			10μF	K	10	10.0	25	1.0			
NMC0805X5R106K10TRPLPF			10μF	K	10	5.0	25	1.45			
NMC0805X5R226K10TRPLPF			22μF	K	15	2.3	25	1.45			
NMC0805X5R476M10TRPLPF			47μF	M	10	2.12	25	1.45			
NMC0805X5R105K16TRPLPF			16	16	1.0μF	K	10	50.0	40	1.45	
NMC0805X5R225K16TRPLPF		2.2μF			K	5	22.7	40	1.45		
NMC0805X5R475K16TRPLPF		4.7μF			K	10	10.6	40	1.45		
NMC0805X5R106K16TRPLPF		10μF			K	10	5.0	40	1.45		
NMC0805X5R226K16TRPLPF		22μF			K	10	4.5	40	1.45		
NMC0805X5R105K25TRPLPF		25	25	1.0μF	K	10	50.0	62.5	1.45		
NMC0805X5R225K25TRPLPF				2.2μF	K	10	22.7	62.5	1.45		
NMC0805X5R475K25TRPLPF				4.7μF	K	10	10.6	62.5	1.45		
NMC0805X5R106K25TRPLPF				10μF	K	15	5.0	62.5	1.45		
NMC0805X5R226M35TRPLPF		35	35	22μF	M	10	22.7	87.5	1.45		
NMC1206X5R476K4TRPLPF		1206	4	47μF	K	15	1.1	10	1.9		
NMC1206X5R107K4TRPLPF				100μF	K	15	0.5	10	1.9		
NMC1206X5R475K6.3TRPLPF			6.3	6.3	4.7μF	K	10	10.6	15.75	1.9	
NMC1206X5R685K6.3TRPLPF	6.8μF				K	10	14.7	15.75	1.9		
NMC1206X5R106K6.3TRPLPF	10μF				K	10	5.0	15.75	1.9		
NMC1206X5R226K6.3TRPLPF	22μF				K	10	2.3	15.75	1.9		
NMC1206X5R476K6.3TRPLPF	47μF				K	10	1.1	15.75	1.9		
NMC1206X5R107M6.3TRPLPF	100μF				M	10	0.5	15.75	1.8		
NMC1206X5R225K10TRPLPF	10		10	2.2μF	K	7.5	22.7	25	1.9		
NMC1206X5R335K10TRPLPF				3.3μF	K	7.5	30.3	25	1.9		
NMC1206X5R475K10TRPLPF				4.7μF	K	7.5	10.6	25	1.9		
NMC1206X5R106K10TRPLPF				10μF	K	10	5.0	25	1.9		
NMC1206X5R226K10TRPLPF				22μF	K	10	2.3	25	1.9		
NMC1206X5R476K10TRPLPF				47μF	K	10	1.1	25	1.9		
NMC1206X5R225K16TRPLPF				16	16	2.2μF	K	5	22.7	40	1.9
NMC1206X5R335K16TRPLPF						3.3μF	K	5	30.3	40	1.9
NMC1206X5R475K16TRPLPF						4.7μF	K	5	10.6	40	1.9
NMC1206X5R106K16TRPLPF						10μF	K	10	5.0	40	1.9
NMC1206X5R226K16TRPLPF	22μF		K			10	2.3	40	1.9		
NMC1206X5R476M16TRPLPF	47μF		M			10	2.0	40	1.8		
NMC1206X5R105K25TRPLPF	25		25			1.0μF	K	3.5	100.0	62.5	1.9
NMC1206X5R225K25TRPLPF						2.2μF	K	5	22.7	62.5	1.9
NMC1206X5R335K25TRPLPF				3.3μF	K	3.5	30.3	62.5	1.9		
NMC1206X5R475K25TRPLPF				4.7μF	K	5	10.6	62.5	1.9		
NMC1206X5R106K25TRPLPF				10μF	K	10	5.0	62.5	1.9		
NMC1206X5R226K25TRPLPF				22μF	K	10	2.3	62.5	1.9		
NMC1206X5R105M35TRPLPF	35		35	1.0μF	M	3.5	100.0	87.5	1.9		
NMC1206X5R156M35TRPLPF				15μF	M	10	33	87.5	1.8		
NMC1206X5R226M35TRPLPF				22μF	M	10	22.7	87.5	1.8		
NMC1206X5R106K50TRPLPF	50		50	10μF	K	12.5	10	125	1.8		

X5R Continue on next page



X5R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (M Ω)	DWV (Vdc)	Max. T (mm)	
NMC1210X5R106K6.3TRPLPF	1210	6.3	10 μ F	K	10	10.0	15.75	2.2	
NMC1210X5R226K6.3TRPLPF			22 μ F	K	10	2.3	15.75	2.2	
NMC1210X5R476K6.3TRPLPF			47 μ F	K	10	1.1	15.75	2.8	
NMC1210X5R107K6.3TRPLPF			100 μ F	K	15	0.5	15.75	2.8	
NMC1210X5R475K10TRPLPF		10	10	4.7 μ F	K	5	21.2	25	2.2
NMC1210X5R106K10TRPLPF				10 μ F	K	5	10.0	25	2.8
NMC1210X5R226K10TRPLPF				22 μ F	K	10	2.3	25	2.8
NMC1210X5R476K10TRPLPF				47 μ F	K	10	1.1	25	2.8
NMC1210X5R107M10TRPLPF				100 μ F	M	10	1.0	25	2.8
NMC1210X5R475K16TRPLPF		16	16	4.7 μ F	K	5	10.6	40	2.2
NMC1210X5R106K16TRPLPF				10 μ F	K	5	5.0	40	2.2
NMC1210X5R226K16TRPLPF				22 μ F	K	10	2.3	40	2.8
NMC1210X5R476K16TRPLPF				47 μ F	K	10	1.1	40	2.8
NMC1210X5R475K25TRPLPF		25	25	4.7 μ F	K	10	10.6	62.5	2.2
NMC1210X5R106K25TRPLPF				10 μ F	K	10	5.0	62.5	2.2
NMC1210X5R226K25TRPLPF				22 μ F	K	10	4.5	62.5	2.7
NMC1210X5R106K35TRPLPF		35	35	10 μ F	K	10	10.0	87.5	2.2
NMC1210X5R225K35TRPLPF				2.2 μ F	K	3.5	45.4	87.5	2.2
NMC1210X5R105K50TRPLPF		50	50	1.0 μ F	K	10	100.0	125	1.45
NMC1210X5R106K50TRPLPF				10 μ F	K	10	10.0	125	2.2
NMC1210X5R106M50TRPLPF	10 μ F			M	10	5.0	125	2.7	
NMC1812X5R107M6.3TRPLPF	1812	6.3	100 μ F	M	10	1.0	15.75	3.1	
NMC2220X5R106K50TRPLPF	2220	50	10 μ F	K	2.5	10.0	125	3.0	
NMC2220X5R106M50TRPLPF		50	10 μ F	M	2.5	10.0	125	3.0	

Multilayer Ceramic Chip Capacitors

NMC High CV Series

Y5V PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC0402Y5V105Z6.3TRPF	0402	6.3	1.0μF	Z	20	50.0	9.45	0.6	
NMC0402Y5V105Z10TRPF		10	1.0μF	Z	12.5	50.0	15	0.6	
NMC0603Y5V225Z6.3TRPF	0603	6.3	2.2μF	Z	20	22.7	9.45	1.0	
NMC0603Y5V105Z10TRPF		10	1.0μF	Z	16	50.0	15	1.0	
NMC0603Y5V225Z10TRPF			2.2μF	Z	16	22.7	15	1.0	
NMC0603Y5V105Z16TRPF		16	1.0μF	Z	16	50.0	24	1.0	
NMC0603Y5V225Z16TRPF			2.2μF	Z	16	22.7	24	1.0	
NMC0603Y5V105Z25TRPF		25	1.0μF	Z	16	50.0	37.5	1.0	
NMC0805Y5V475Z6.3TRPLPF		0805	6.3	4.7μF	Z	16	10.6	9.45	1.45
NMC0805Y5V106Z6.3TRPLPF	10μF			Z	20	5.0	9.45	1.45	
NMC0805Y5V226Z6.3TRPLPF	22μF			Z	20	2.3	9.45	1.45	
NMC0805Y5V105Z10TRPLPF	10		1.0μF	Z	12.5	100.0	15	1.45	
NMC0805Y5V155Z10TRPLPF			1.5μF	Z	12.5	66.6	15	1.45	
NMC0805Y5V225Z10TRPLPF			2.2μF	Z	12.5	45.4	15	1.45	
NMC0805Y5V335Z10TRPLPF			3.3μF	Z	12.5	30.3	15	1.45	
NMC0805Y5V475Z10TRPLPF			4.7μF	Z	12.5	10.6	15	1.45	
NMC0805Y5V685Z10TRPLPF			6.8μF	Z	16	14.7	15	1.45	
NMC0805Y5V106Z10TRPLPF	10μF		Z	30	5.0	15	1.45		
NMC0805Y5V155Z16TRPLPF	16		1.5μF	Z	9	66.6	24	1.45	
NMC0805Y5V225Z16TRPLPF			2.2μF	Z	12.5	22.7	24	1.45	
NMC0805Y5V335Z16TRPLPF			3.3μF	Z	12.5	15.2	24	1.45	
NMC0805Y5V475Z16TRPLPF			4.7μF	Z	9	10.6	24	1.45	
NMC0805Y5V105Z25TRPLPF	25		1.0μF	Z	9	50.0	37.5	1.45	
NMC0805Y5V225Z25TRPLPF			2.2μF	Z	9	22.7	37.5	1.45	
NMC0805Y5V105Z50TRPLPF	50		1.0μF	Z	9	50.0	75	1.45	
NMC1206Y5V226Z6.3TRPLPF	1206		6.3	22μF	Z	20	2.3	9.45	1.9
NMC1206Y5V105Z10TRPLPF			10	1.0μF	Z	12.5	100.0	15	1.9
NMC1206Y5V155Z10TRPLPF				1.5μF	Z	12.5	66.6	15	1.9
NMC1206Y5V225Z10TRPLPF				2.2μF	Z	12.5	45.4	15	1.9
NMC1206Y5V335Z10TRPLPF				3.3μF	Z	12.5	30.3	15	1.9
NMC1206Y5V475Z10TRPLPF				4.7μF	Z	12.5	21.2	15	1.9
NMC1206Y5V685Z10TRPLPF				6.8μF	Z	16	14.7	15	1.9
NMC1206Y5V106Z10TRPLPF				10μF	Z	16	5.0	15	1.9
NMC1206Y5V226Z10TRPLPF				22μF	Z	20	2.3	15	1.9
NMC1206Y5V105Z16TRPLPF			16	1.0μF	Z	12.5	50.0	24	1.9
NMC1206Y5V155Z16TRPLPF				1.5μF	Z	12.5	66.6	24	1.9
NMC1206Y5V225Z16TRPLPF		2.2μF		Z	12.5	22.7	24	1.9	
NMC1206Y5V335Z16TRPLPF		3.3μF		Z	12.5	30.3	24	1.9	
NMC1206Y5V475Z16TRPLPF		4.7μF		Z	12.5	10.6	24	1.9	
NMC1206Y5V685Z16TRPLPF		6.8μF		Z	12.5	14.7	24	1.9	
NMC1206Y5V106Z16TRPLPF		10μF		Z	12.5	10.0	24	1.9	
NMC1206Y5V105Z25TRPLPF		25	1.0μF	Z	7	100.0	37.5	1.9	
NMC1206Y5V155Z25TRPLPF			1.5μF	Z	9	66.6	37.5	1.9	
NMC1206Y5V225Z25TRPLPF			2.2μF	Z	9	22.7	37.5	1.9	
NMC1206Y5V335Z25TRPLPF			3.3μF	Z	9	30.3	37.5	1.9	
NMC1206Y5V475Z25TRPLPF			4.7μF	Z	9	10.6	37.5	1.9	
NMC1206Y5V106Z25TRPLPF			10μF	Z	9	10.0	37.5	1.9	

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Y5V PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (M Ω)	DWV (Vdc)	Max. T (mm)
NMC1206Y5V475Z35TRPLPF	1206	35	4.7 μ F	Z	7	21.2	52.5	1.9
NMC1206Y5V106Z35TRPLPF			10 μ F	Z	9	10.0	52.5	1.9
NMC1206Y5V105Z50TRPLPF		50	1.0 μ F	Z	7	100.0	75	1.9
NMC1206Y5V225Z50TRPLPF			2.2 μ F	Z	9	45.4	75	1.9
NMC1210Y5V226Z6.3TRPLPF	1210	6.3	22 μ F	Z	20	4.6	9.45	2.2
NMC1210Y5V476Z6.3TRPLPF			47 μ F	Z	20	2.1	9.45	2.2
NMC1210Y5V107Z6.3TRPLPF			100 μ F	Z	20	1.0	9.45	2.8
NMC1210Y5V105Z10TRPLPF		10	1.0 μ F	Z	12.5	100.0	15	2.2
NMC1210Y5V155Z10TRPLPF			1.5 μ F	Z	12.5	66.6	15	2.2
NMC1210Y5V225Z10TRPLPF			2.2 μ F	Z	12.5	45.4	15	2.2
NMC1210Y5V335Z10TRPLPF			3.3 μ F	Z	12.5	30.3	15	2.2
NMC1210Y5V475Z10TRPLPF			4.7 μ F	Z	12.5	21.2	15	2.2
NMC1210Y5V685Z10TRPLPF			6.8 μ F	Z	12.5	14.7	15	2.2
NMC1210Y5V106Z10TRPLPF			10 μ F	Z	12.5	10.0	15	2.2
NMC1210Y5V226Z10TRPLPF			22 μ F	Z	16	4.6	15	2.2
NMC1210Y5V476Z10TRPLPF		47 μ F	Z	16	2.1	15	2.2	
NMC1210Y5V105Z16TRPLPF		16	1.0 μ F	Z	12.5	100.0	24	2.2
NMC1210Y5V155Z16TRPLPF			1.5 μ F	Z	12.5	66.6	24	2.2
NMC1210Y5V225Z16TRPLPF			2.2 μ F	Z	12.5	45.4	24	2.2
NMC1210Y5V335Z16TRPLPF			3.3 μ F	Z	12.5	30.3	24	2.2
NMC1210Y5V475Z16TRPLPF			4.7 μ F	Z	12.5	21.2	24	2.2
NMC1210Y5V685Z16TRPLPF			6.8 μ F	Z	12.5	14.7	24	2.2
NMC1210Y5V106Z16TRPLPF			10 μ F	Z	12.5	10.0	24	2.2
NMC1210Y5V226Z16TRPLPF			22 μ F	Z	12.5	4.6	24	2.2
NMC1210Y5V476Z16TRPLPF		47 μ F	Z	16	2.1	24	2.2	
NMC1210Y5V105Z25TRPLPF		25	1.0 μ F	Z	9	100.0	37.5	2.2
NMC1210Y5V155Z25TRPLPF			1.5 μ F	Z	9	66.6	37.5	2.2
NMC1210Y5V225Z25TRPLPF			2.2 μ F	Z	9	45.4	37.5	2.2
NMC1210Y5V335Z25TRPLPF			3.3 μ F	Z	9	30.3	37.5	2.2
NMC1210Y5V475Z25TRPLPF			4.7 μ F	Z	9	21.2	37.5	2.2
NMC1210Y5V685Z25TRPLPF			6.8 μ F	Z	9	14.7	37.5	2.2
NMC1210Y5V106Z25TRPLPF			10 μ F	Z	9	10.0	37.5	2.2
NMC1210Y5V106Z35TRPLPF			35	10 μ F	Z	7	10.0	52.5
NMC1210Y5V105Z50TRPLPF		50	1.0 μ F	Z	7	100.0	75	2.2
NMC1210Y5V225Z50TRPLPF			2.2 μ F	Z	7	45.4	75	2.2
NMC1210Y5V475Z50TRPLPF			4.7 μ F	Z	7	21.2	75	2.2
NMC1210Y5V106Z50TRPLPF	10 μ F		Z	5	10.0	75	2.2	
NMC1812Y5V105Z10TRPLPF	1812	10	1.0 μ F	Z	12.5	100.0	15	2.8
NMC1812Y5V155Z10TRPLPF			1.5 μ F	Z	12.5	66.6	15	2.8
NMC1812Y5V225Z10TRPLPF			2.2 μ F	Z	12.5	45.4	15	2.8
NMC1812Y5V335Z10TRPLPF			3.3 μ F	Z	12.5	30.3	15	2.8
NMC1812Y5V475Z10TRPLPF			4.7 μ F	Z	12.5	21.2	15	2.8
NMC1812Y5V685Z10TRPLPF			6.8 μ F	Z	12.5	14.7	15	2.8
NMC1812Y5V106Z10TRPLPF			10 μ F	Z	12.5	10.0	15	2.8

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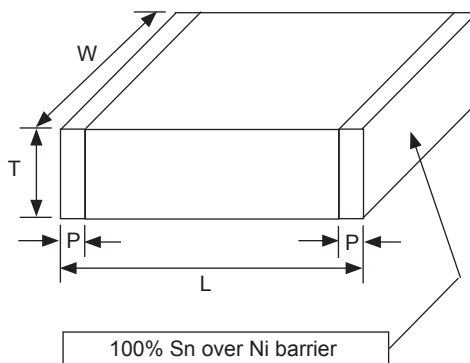


Y5V PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Y5V	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)		
NMC1812Y5V105Z16TRPLPF	1812	Y5V	16	1.0μF	Z	9	100.0	24	2.8		
NMC1812Y5V155Z16TRPLPF		Y5V		1.5μF	Z	9	66.6	24	2.8		
NMC1812Y5V225Z16TRPLPF		Y5V		2.2μF	Z	9	45.4	24	2.8		
NMC1812Y5V335Z16TRPLPF		Y5V		3.3μF	Z	9	30.3	24	2.8		
NMC1812Y5V475Z16TRPLPF		Y5V		4.7μF	Z	9	21.2	24	2.8		
NMC1812Y5V685Z16TRPLPF		Y5V		6.8μF	Z	9	14.7	24	2.8		
NMC1812Y5V106Z16TRPLPF		Y5V		10μF	Z	9	10.0	24	2.8		
NMC1812Y5V476Z16TRPLPF		Y5V		47μF	Z	12.5	2.1	24	2.8		
NMC1812Y5V105Z25TRPLPF		Y5V		1.0μF	25	1.0μF	Z	5	100.0	37.5	2.8
NMC1812Y5V155Z25TRPLPF		Y5V		1.5μF		Z	5	66.6	37.5	2.8	
NMC1812Y5V225Z25TRPLPF	Y5V	2.2μF	Z	5		45.4	37.5	2.8			
NMC1812Y5V335Z25TRPLPF	Y5V	3.3μF	Z	5		30.3	37.5	2.8			
NMC1812Y5V475Z25TRPLPF	Y5V	4.7μF	Z	5		21.2	37.5	2.8			
NMC1812Y5V685Z25TRPLPF	Y5V	6.8μF	Z	5		14.7	37.5	2.8			
NMC1812Y5V106Z25TRPLPF	Y5V	10μF	Z	5		10.0	37.5	2.8			
NMC1812Y5V105Z50TRPLPF	Y5V	1.0μF	50	1.0μF		Z	5	100.0	75	2.8	
NMC1812Y5V155Z50TRPLPF	Y5V	1.5μF		Z		5	66.6	75	2.8		
NMC1812Y5V225Z50TRPLPF	Y5V	2.2μF		Z		5	45.4	75	2.8		
NMC1812Y5V335Z50TRPLPF	Y5V	3.3μF		Z	5	30.3	75	2.8			
NMC1812Y5V475Z50TRPLPF	Y5V	4.7μF		Z	5	21.2	75	2.8			
NMC1812Y5V685Z50TRPLPF	Y5V	6.8μF		Z	5	14.7	75	2.8			
NMC1812Y5V106Z50TRPLPF	Y5V	10μF		Z	5	10.0	125	2.2			

CASE SIZE DIMENSIONS (mm)

EIA Case Size	0201	0402	0603	0805	1206	1210	1812	2220	2225
Length (L)	0.6 ± 0.03	1.0 ± 0.05	1.6 ± 0.15	2.0 ± 0.2	3.2±0.2	3.2±0.2	4.5±0.4	5.7±0.4	5.7±0.4
Width (W)	0.3 ± 0.03	0.5 ± 0.05	0.8 ± 0.15	1.25 ± 0.2	1.6±0.2	2.5±0.2	3.2±0.3	5.0±0.4	6.35±0.25
Thickness max. (T)	See Part Number and Specifications Tables								
Termination Width (P)	0.10 ~ 0.20	0.15 ~ 0.30	0.1 ~ 0.65	0.25 ~ 0.75	0.25 ~ 0.85	0.25 ~ 1.00	0.25 ~ 1.5	0.30 min.	0.25 ~ 1.02



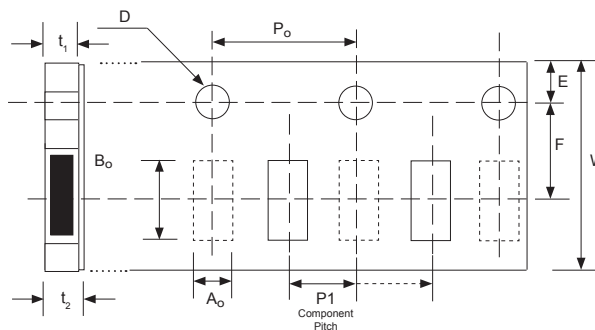
CARRIER TAPE MATERIAL

Parts with a thickness of $\geq 1\text{mm}$ will be taped on embossed plastic carrier. Parts with a thickness of less than 1mm will be taped on paper carrier

PUNCHED CARRIER TAPE DIMENSIONS (mm)

Type	A_0	B_0	W	F	E	P1	P0	D0	T1 max.	T2 max.	Mounting Hole
01005	0.25 ± 0.04	0.45 ± 0.04	8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.1	2.0 ± 0.05	4.0 ± 0.1	$1.5^{+0.1/-0.0}$	0.27	0.36	Angular Punch Hole
0201	0.37 ± 0.03	0.67 ± 0.05							0.45	0.80	
0402	0.65 ± 0.05	1.15 ± 0.05				4.0 ± 0.10			1.1	1.4	
0603	1.1 ± 0.2	1.9 ± 0.2									
0805	1.65 ± 0.2	2.4 ± 0.2									
1206	2.0 ± 0.2	3.6 ± 0.2									

PUNCHED CARRIER TAPE



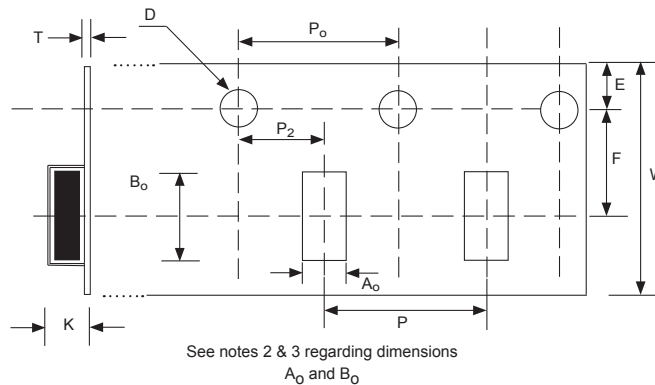
EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

Tape Size	W	F	E	P_0	P_2	D	K max.	T max.	P
8mm	8.0 ± 0.2	3.5 ± 0.05	1.75 ± 0.10	4.0 ± 0.1	2.0 ± 0.5	$1.5^{+0.1/-0.0}$	4.5	0.31	4.0 ± 0.1
12mm	12.0 ± 0.2	5.5 ± 0.05							8.0 ± 0.1

Notes:

- Specifications are in compliance with EIA RS481-1-A
"Taping of surface Mount Components for Automatic Placement"
- Dimensions A_0 (max.) equals component width dimension plus 0.5mm
- Dimension B_0 (max.) equals component length dimension plus 0.5mm

EMBOSSED PLASTIC CARRIER TAPE

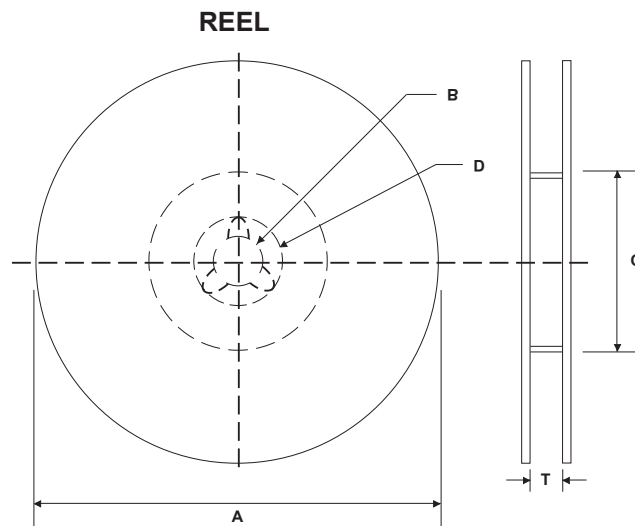


Multilayer Ceramic Chip Capacitors

Taping Specifications

REEL DIMENSIONS (mm)

Reel Diameter (A)	B	C	D	T max.
7" (178 ± 2.0)	13 ± 0.5	50 min.	21 ± 1.0	8.4 +1.0/-0 (1812 case size and larger 12.4 +2.0/-0)
10" (250 ± 2.0)		100 ± 1.0		
13" (330 ± 2.0)		100 ± 1.0		



7 INCH REEL QUANTITIES*

Size	0201	0402	0603	0805	1206	1210	1812	2220	2225
Tape Size	8mm	8mm	8mm	8mm	8mm	8mm	12mm	12mm	12mm
Min. Qty Per Reel	20,000	10,000	4,000	4,000	4,000	1,000	500	700	400
Max. Qty Per Reel	20,000	10,000	4,000	5,000	5,000	5,000	2,000	1,000	1,000

*Quantity dependent on chip thickness. Contact NIC for reel quantities on larger diameter reels.