

## FEATURES

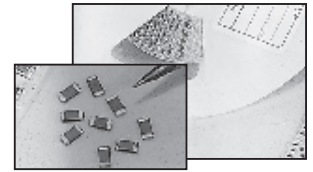
- X7R, X6S, X5R AND Y5V DIELECTRICS
- HIGH CAPACITANCE DENSITY
- ULTRA LOW ESR & ESL
- EXCELLENT MECHANICAL STRENGTH
- NICKEL BARRIER TERMINATIONS
- RoHS COMPLIANT
- SAC SOLDER COMPATIBLE\*

*Expanded Value Range  
Up to 220µF*

**RoHS  
Compliant**

Includes all homogeneous materials

\*See Part Number System for Details



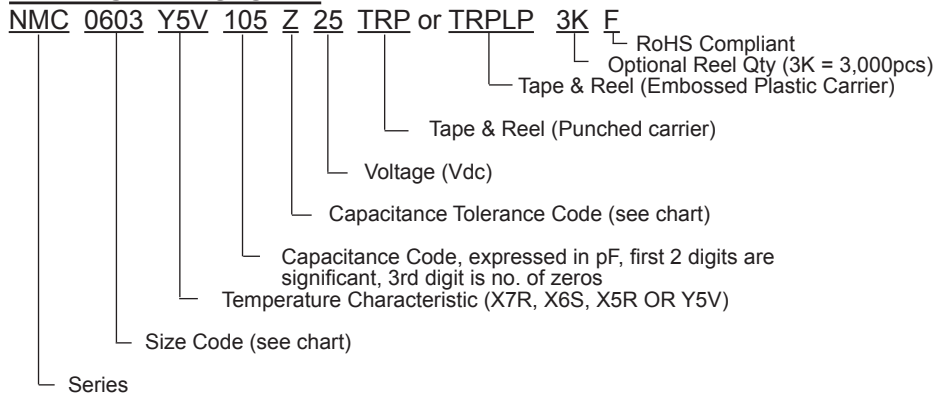
Temperature Coefficient	X7R	X6S	X5R	Y5V
Capacitance Range	1.0µF ~ 47µF	1.0µF ~ 100µF	1.0µF ~ 220µF	1.0µF ~ 100µF
Capacitance Tolerance	10% (K) & 20% (M)	10% (K) & 20% (M)	10% (K) & 20% (M)	+80%/-20% (Z)
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +105°C	-55°C ~ +85°C	-30°C ~ +85°C
Temperature Characteristics	±15% Δ Cap.	±22% Δ Cap.	±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 1 ~ 5 sec., 50mA max.		150% of Rated Voltage for 1 ~ 5 sec., 50mA max.	
Test Conditions (EIA-198-2E)	C ≤ 10µF 1KHz, 1.0V ±0.2Vrms (ALC on) C > 10µF 120Hz, 0.5V ±0.2Vrms (ALC on)		1KHz, 1.0V ±0.1Vrms (ALC on)	

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

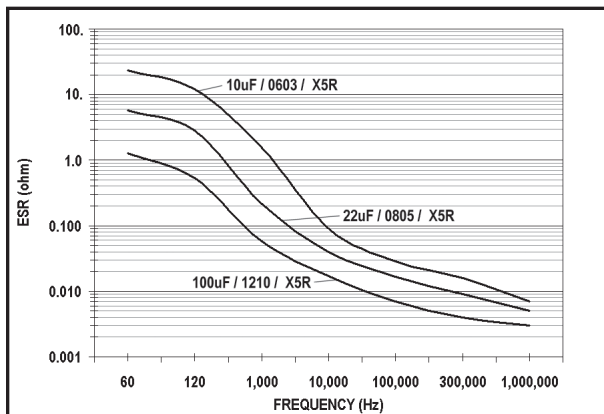
Capacitance value stability over applied VDC is not assured for class II MLCC (X7R, X5R & Y5V) and it is suggested to consider to use NPO MLCCs Ceramic Capacitors, Film Capacitors or Electrolytic Capacitors for applications where stability in capacitance value, over applied VDC, is performance requirement.

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

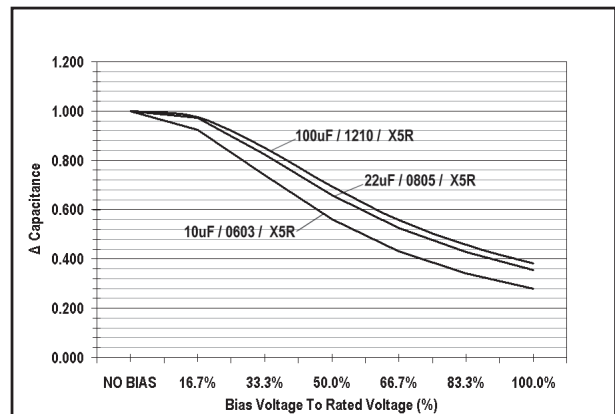
## PART NUMBER SYSTEM



Typical ESR versus Frequency



Typical Capacitance versus Bias Voltage



## X7R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC0603X7R105K6.3TRPF	0603	6.3	1.0μF	±10%	10	50.0	15.75	1.0	
NMC0603X7R225K6.3TRPF			2.2μF	±10%	10	22.7	15.75	1.0	
NMC0603X7R106M6.3TRPF			10μF	±20%	10	10	15.75	1.0	
NMC0603X7R105K10TRPF		10	1.0μF	±10%	10	50.0	25	1.0	
NMC0603X7R225K10TRPF			2.2μF	±10%	15	22.7	25	1.0	
NMC0603X7R105K16TRPF		16	1.0μF	±10%	10	50.0	40	1.0	
NMC0603X7R105K25TRPF		25	1.0μF	±10%	10	50.0	62.5	1.0	
NMC0603X7R105K50TRPF		50	1.0μF	±10%	10	50.0	125	1.0	
NMC0805X7R225K6.3TRPLPF	0805	6.3	2.2μF	±10%	10	22.7	15.75	2.2	
NMC0805X7R335K6.3TRPLPF			3.3μF	±10%	10	30.3	15.75	2.2	
NMC0805X7R475K6.3TRPLPF			4.7μF	±10%	10	10.6	15.75	2.2	
NMC0805X7R106K6.3TRPLPF			10μF	±10%	15	5.0	15.75	2.2	
NMC0805X7R105K10TRPLPF		10	1.0μF	±10%	5.0	50.0	25	1.35	
NMC0805X7R155K10TRPLPF			1.5μF	±10%	5.0	66.6	25	1.45	
NMC0805X7R225K10TRPLPF			2.2μF	±10%	10	22.7	25	2.2	
NMC0805X7R475K10TRPLPF			4.7μF	±10%	10	10.6	25	1.45	
NMC0805X7R106K10TRPLPF			10μF	±10%	15	5.0	25	1.45	
NMC0805X7R105K16TRPLPF		16	1.0μF	±10%	5.0	50.0	40	1.35	
NMC0805X7R225K16TRPLPF			2.2μF	±10%	10	22.7	40	2.2	
NMC0805X7R335K16TRPLPF			3.3μF	±10%	10	30.3	40	2.2	
NMC0805X7R475K16TRPLPF			4.7μF	±10%	10	10.6	40	2.2	
NMC0805X7R106K16TRPLPF			10μF	±10%	10	5.0	40	1.45	
NMC0805X7R105K25TRPLPF		25	1.0μF	±10%	5.0	50.0	62.5	1.35	
NMC0805X7R225K25TRPLPF			2.2μF	±10%	10	22.7	62.5	2.2	
NMC0805X7R335K25TRPLPF			3.3μF	±10%	10	30.3	62.5	2.2	
NMC0805X7R475K25TRPLPF			4.7μF	±10%	10	21.2	62.5	1.4	
NMC0805X7R105K50TRPLPF		50	1.0μF	±10%	10	50.0	125	1.45	
NMC0805X7R225K50TRPLPF			2.2μF	±10%	10	22.7	125	1.45	
NMC0805X7R105K100TRPLPF		100	1.0μF	±10%	5.0	500	200	1.45	
NMC1206X7R106K6.3TRPLPF		1206	6.3	10μF	±10%	10	5.0	15.75	1.9
NMC1206X7R226K6.3TRPLPF				22μF	±10%	10	2.3	15.75	1.9
NMC1206X7R105K10TRPLPF			10	1.0μF	±10%	10	50.0	25	1.9
NMC1206X7R225K10TRPLPF				2.2μF	±10%	10	22.7	25	1.9
NMC1206X7R335K10TRPLPF				3.3μF	±10%	5.0	30.3	25	1.9
NMC1206X7R475K10TRPLPF				4.7μF	±10%	10	10.6	25	1.9
NMC1206X7R106K10TRPLPF				10μF	±10%	10	5.0	25	1.9
NMC1206X7R226K10TRPLPF				22μF	±10%	10	2.3	25	1.9
NMC1206X7R105K16TRPLPF			16	1.0μF	±10%	5.0	50.0	40	1.9
NMC1206X7R225K16TRPLPF	2.2μF			±10%	10	22.7	40	1.9	
NMC1206X7R335K16TRPLPF	3.3μF			±10%	5.0	30.3	40	1.9	
NMC1206X7R475K16TRPLPF	4.7μF			±10%	10	10.6	40	1.9	
NMC1206X7R685K16TRPLPF	6.8μF			±10%	5.0	14	40	1.9	
NMC1206X7R106K16TRPLPF	10μF		±10%	10	5.0	40	2.2		
NMC1206X7R105K25TRPLPF	25		1.0μF	±10%	3.5	50.0	62.5	1.9	
NMC1206X7R225K25TRPLPF			2.2μF	±10%	5.0	2.7	62.5	1.9	
NMC1206X7R335K25TRPLPF			3.3μF	±10%	3.5	30.3	62.5	1.9	

X7R Continue on next page



## X7R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC1206X7R475K25TRPLPF	1206	25	4.7μF	±10%	10	10.6	62.5	1.9	
NMC1206X7R106K25TRPLPF			10μF	±10%	10	5.0	62.5	1.9	
NMC1206X7R105K50TRPLPF		50	1.0μF	±10%	3.5	50.0	125	1.9	
NMC1206X7R225K50TRPLPF			2.2μF	±10%	10	22.7	125	1.9	
NMC1206X7R475K50TRPLPF			4.7μF	±10%	10	10.6	125	1.9	
NMC1206X7R105K100TRPLPF		100	1.0μF	±10%	10	50.0	250	1.9	
NMC1206X7R225M100TRPLPF			2.2μF	±20%	10	45.4	200	1.8	
NMC1210X7R476K6.3TRPLPF	1210	6.3	47μF	±10%	10	1.1	15.75	2.7	
NMC1210X7R105K10TRPLPF		10	1.0μF	±10%	5.0	100.0	25	2.2	
NMC1210X7R475K10TRPLPF			4.7μF	±10%	10	21.2	25	2.2	
NMC1210X7R106K10TRPLPF			10μF	±10%	10	5.0	25	2.8	
NMC1210X7R476K10TRPLPF			47μF	±10%	10	2.1	25	2.7	
NMC1210X7R105K16TRPLPF		16	1.0μF	±10%	3.5	100.0	40	2.2	
NMC1210X7R335K16TRPLPF			3.3μF	±10%	3.5	30.3	40	2.2	
NMC1210X7R475K16TRPLPF			4.7μF	±10%	3.5	21.2	40	2.2	
NMC1210X7R106K16TRPLPF			10μF	±10%	10	5.0	40	2.8	
NMC1210X7R226K16TRPLPF		25	22μF	±10%	10	4.5	40	2.7	
NMC1210X7R105K25TRPLPF			1.0μF	±10%	3.5	100.0	62.5	2.2	
NMC1210X7R225K25TRPLPF			2.2μF	±10%	3.5	45.4	62.5	2.2	
NMC1210X7R335K25TRPLPF			3.3μF	±10%	3.5	30.3	62.5	2.2	
NMC1210X7R475K25TRPLPF			4.7μF	±10%	10	10.6	62.5	2.2	
NMC1210X7R106K25TRPLPF			10μF	±10%	10	5.0	62.5	2.8	
NMC1210X7R226K25TRPLPF			22μF	±10%	10	4.5	62.5	2.7	
NMC1210X7R106K35TRPLPF			35	10μF	±10%	10	10.0	87.5	2.8
NMC1210X7R105K50TRPLPF		50	1.0μF	±10%	3.5	100.0	125	2.2	
NMC1210X7R225K50TRPLPF			2.2μF	±10%	5.0	45.5	125	2.8	
NMC1210X7R475K50TRPLPF			4.7μF	±10%	10	10.6	125	2.2	
NMC1210X7R106K50TRPLPF			10μF	±10%	10	5.0	125	2.8	
NMC1210X7R105K100TRPLPF		100	1.0μF	±10%	10	50.0	250	2.8	
NMC1210X7R225K100TRPLPF			2.2μF	±10%	10	22.7	250	2.2	
NMC1210X7R475K100TRPLPF			4.7μF	±10%	5.0	21.2	250	2.8	
NMC1812X7R105K10TRPLPF		1812	10	1.0μF	±10%	5.0	100.0	25	1.8
NMC1812X7R105K16TRPLPF			16	1.0μF	±10%	3.5	100.0	40	1.8
NMC1812X7R105K25TRPLPF			25	1.0μF	±10%	3.5	100.0	62.5	1.8
NMC1812X7R106K25TRPLPF				10μF	±10%	3.5	50.0	62.5	2.8
NMC1812X7R105K50TRPLPF			50	1.0μF	±10%	2.5	100.0	125	2.8
NMC1812X7R475K50TRPLPF				4.7μF	±10%	10	21.2	125	2.2
NMC1812X7R106K50TRPLPF	10μF			±10%	10	10.0	125	2.2	
NMC1812X7R105K100TRPLPF	100		1.0μF	±10%	2.5	100.0	250	2.8	
NMC1812X7R225K100TRPLPF			2.2μF	±10%	5.0	45.5	250	2.8	
NMC2220X7R475K50TRPLPF	2220		50	4.7μF	±10%	10	21.2	125	2.2
NMC2220X7R106K50TRPLPF		10μF		±10%	10	10.0	125	3.0	
NMC2220X7R475K100TRPLPF		100	4.7μF	±10%	2.5	21.2	250	2.2	
NMC2220X7R106K100TRPLPF			10μF	±10%	2.5	10.0	250	3.0	
NMC2225X7R105K25TRPLPF	2225	25	1.0μF	±10%	2.5	100.0	62.5	2.2	
NMC2225X7R155K25TRPLPF			1.5μF	±10%	2.5	66.6	62.5	2.2	
NMC2225X7R225K25TRPLPF			2.2μF	±10%	2.5	45.4	62.5	2.2	
NMC2225X7R105K50TRPLPF		50	1.0μF	±10%	2.5	100.0	125	2.2	
NMC2225X7R105K100TRPLPF			100	1.0μF	±10%	2.5	100.0	250	2.2
NMC2225X7R105K100TRPLPF				1.0μF	±10%	2.5	100.0	250	2.2



## 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	
NMC0402X6S106M6.3TRPF			10μF	20%	5.0	5.00	15.75	0.70	
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		25	22μF	20%	10	2.27	40	1.45	
NMC0805X6S475K25TRPLPF			4.7μF	10%	10	10.64	62.5	1.45	
NMC0805X6S106K25TRPLPF		50	10μF	10%	10	5.00	62.5	1.45	
NMC0805X6S475K50TRPLPF			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



## 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	±20%	12.5	50.0	10	0.35	
NMC0201X5R105K6.3TRPF		6.3	1.0μF	±10%	10	50.0	15.75	0.33	
NMC0201X5R225M6.3TRPF			2.2μF	±20%	12.5	4.54	15.75	0.39	
NMC0201X5R105M10TRPF		10	1.0μF	±20%	12.5	10.0	25	0.35	
NMC0201X5R225M10TRPF			2.2μF	±20%	15.0	4.5	25	0.39	
NMC0201X5R105M16TRPF		16	1.0μF	±20%	12.5	10	40	0.39	
NMC0402X5R225K4TRPF	0402	4	2.2μF	±10%	10	22.7	10	0.60	
NMC0402X5R475K4TRPF			4.7μF	±10%	15	10.6	10	0.60	
NMC0402X5R105K6.3TRPF		6.3	1.0μF	±10%	12.5	50.0	15.75	0.60	
NMC0402X5R225K6.3TRPF			2.2μF	±10%	10	22.7	15.75	0.60	
NMC0402X5R475K6.3TRPF**			4.7μF	±10%	12.5	10.6	15.75	0.65	
NMC0402X5R106K6.3TRPF			10μF	±10%	15	5.0	15.75	0.60	
NMC0402X5R106M6.3TRPF		10	10μF	±20%	15	5.0	15.75	0.60	
NMC0402X5R105K10TRPF			1.0μF	±10%	15	50.0	25	0.60	
NMC0402X5R225K10TRPF			2.2μF	±10%	15	22.7	25	0.60	
NMC0402X5R475K10TRPF			4.7μF	±10%	15	21.0	25	0.70	
NMC0402X5R106M10TRPF			10μF	±20%	12.5	5.0	25	0.70	
NMC0402X5R105K16TRPF			16	1.0μF	±10%	12.5	50.0	40	0.60
NMC0402X5R475M16TRPF		4.7μF		±20%	12.5	10.6	40	0.70	
NMC0402X5R105K25TRPF		25	1.0μF	±10%	10	100.0	62.5	0.60	
NMC0402X5R225M25TRPF			2.2μF	±20%	10	45.4	62.5	0.70	
NMC0402X5R105K50TRPF			50	1.0μF	±10%	10	100	125	0.70
NMC0603X5R106K4TRPF		0603	4	10μF	±10%	10	5.0	10	1.0
NMC0603X5R226K4TRPF*				22μF	±10%	12.5	2.3	10	1.0
NMC0603X5R476M4TRPF				47μF	±20%	12.5	10.4	10	1.1
NMC0603X5R105K6.3TRPF			6.3	1.0μF	±10%	10	50.0	15.75	1.0
NMC0603X5R225K6.3TRPF	2.2μF			±10%	10	22.7	15.75	1.0	
NMC0603X5R226M6.3TRPF	22μF			±20%	12.5	2.3	15.75	1.0	
NMC0603X5R475K6.3TRPF	4.7μF			±10%	10	10.6	15.75	1.0	
NMC0603X5R106K6.3TRPF	10μF			±10%	10	5.0	15.75	1.0	
NMC0603X5R226M6.3TRPF	22μF			±20%	15	4.54	15.75	1.0	
NMC0603X5R476M6.3TRPF	47μF		±20%	15	2.12	15.75	1.0		
NMC0603X5R105K10TRPF	10		1.0μF	±10%	10	50.0	25	1.0	
NMC0603X5R225K10TRPF			2.2μF	±10%	10	22.7	25	1.0	
NMC0603X5R475K10TRPF			4.7μF	±10%	10	10.6	25	1.0	
NMC0603X5R106K10TRPF			10μF	±10%	10	5.0	25	1.0	
NMC0603X5R226M10TRPF			22μF	±20%	20	4.5	25	1.0	
NMC0603X5R105K16TRPF			16	1.0μF	±10%	10	50.0	40	1.0
NMC0603X5R225K16TRPF	2.2μF			±10%	10	22.7	40	1.0	
NMC0603X5R475K16TRPF	4.7μF			±10%	10	10.6	40	1.0	
NMC0603X5R106M16TRPF	10μF			±20%	10	10.0	40	1.0	
NMC0603X5R105K25TRPF	25		1.0μF	±10%	10	50.0	62.5	1.0	
NMC0603X5R106M25TRPF			10μF	±20%	10	10.0	62.5	1.0	
NMC0603X5R105K35TRPF	35		1.0μF	±10%	10	50.0	87.5	1.0	
NMC0603X5R225K35TRPF			2.2μF	±10%	10	10.0	87.5	1.0	
NMC0603X5R105K50TRPF	50		1.0μF	±10%	10	50.0	125	1.0	

\*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 table on page 10)



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## X5R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)	
NMC0603X5R225K50TRPF	0603	50	2.2μF	±10%	10	45.4	125	1.0	
NMC0805X5R476K4TRPLPF	0805	4	47μF	K	10	1.1	10	1.45	
NMC0805X5R107M4TRPLPF			100μF	M	15	0.5	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	
NMC0805X5R107M6.3TRPLPF			100μF	M	15	1.0	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	
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			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		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	10	5.0	62.5	1.45		
NMC0805X5R226M25TRPLPF		22μF	M	10	4.54	62.5	1.45		
NMC0805X5R226M35TRPLPF		35	22μF	M	10	22.7	87.5	1.45	
NMC0805X5R106K50TRPLPF	50	10μF	K	10	10.0	125	1.45		
NMC1206X5R476K4TRPLPF	1206	4	47μF	K	15	1.1	10	1.9	
NMC1206X5R107K4TRPLPF			100μF	K	15	0.5	10	1.9	
NMC1206X5R227M4TRPLPF			220μF	M	15	0.45	10	1.9	
NMC1206X5R475K6.3TRPLPF		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	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	
NMC1206X5R107M10TRPLPF		100μF		M	10	1.0	25	1.0	



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## X5R PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size	Voltage (Vdc)	Cap.	Cap. Tol.	DF (%)	IR (MΩ)	DWV (Vdc)	Max. T (mm)		
NMC1206X5R225K16TRPLPF	1206	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	
NMC1206X5R476M25TRPLPF		47μF	M	10	10.6	62.5	1.8			
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	
NMC1210X5R227M4TRPLPF		1210	4	220μF	M	15	0.45	10	2.8	
NMC1210X5R106K6.3TRPLPF			6.3	6.3	10μF	K	10	10.0	15.75	2.2
NMC1210X5R226K6.3TRPLPF					22μF	K	10	2.3	15.75	2.2
NMC1210X5R476K6.3TRPLPF					47μF	K	10	1.1	15.75	2.8
NMC1210X5R107M6.3TRPLPF	100μF				M	15	0.5	15.75	2.8	
NMC1210X5R227K6.3TRPLPF	220μF				K	15	0.45	15.75	2.8	
NMC1210X5R475K10TRPLPF	10				10	4.7μF	K	5	21.2	25
NMC1210X5R106K10TRPLPF			10μF	K		5	10.0	25	2.8	
NMC1210X5R226K10TRPLPF			22μF	K		10	2.3	25	2.8	
NMC1210X5R476K10TRPLPF			47μF	K		10	1.1	25	2.8	
NMC1210X5R107M10TRPLPF			100μF	M		10	1.0	25	2.8	
NMC1210X5R475K16TRPLPF	16		16	4.7μF	K	5	10.6	40	2.2	
NMC1210X5R106K16TRPLPF				10μF	K	5	5.0	40	2.2	
NMC1210X5R226K16TRPLPF				22μF	K	10	2.3	40	2.8	
NMC1210X5R476K16TRPLPF				47μF	K	10	1.1	40	2.8	
NMC1210X5R107M16TRPLPF				100μF	M	10	0.50	40	2.8	
NMC1210X5R475K25TRPLPF				25	25	4.7μF	K	10	10.6	62.5
NMC1210X5R106K25TRPLPF	10μF		K			10	5.0	62.5	2.2	
NMC1210X5R226K25TRPLPF	22μF		K			10	4.5	62.5	2.7	
NMC1210X5R476M25TRPLPF	47μF		M			10	2.12	62.5	2.8	
NMC1210X5R106K35TRPLPF	35		35	10μF	K	10	10.0	87.5	2.2	
NMC1210X5R225K35TRPLPF				2.2μF	K	3.5	45.4	87.5	2.2	
NMC1210X5R105K50TRPLPF	50		50	1.0μF	K	10	100.0	125	1.45	
NMC1210X5R106K50TRPLPF				10μF	K	10	10.0	125	2.2	
NMC1210X5R106M50TRPLPF				10μF	M	10	5.0	125	2.7	
NMC1812X5R107M6.3TRPLPF	1812		6.3	100μF	M	10	1.0	15.75	3.1	
NMC2220X5R106K50TRPLPF	2220		50	10μF	K	2.5	10.0	125	3.0	
NMC2220X5R106M50TRPLPF			50	10μF	M	2.5	10.0	125	3.0	



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

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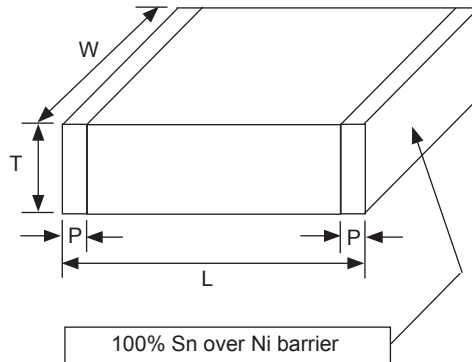


## Y5V PART NUMBERS AND SPECIFICATIONS

Part Number	Case Size		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	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		50	1.0μF	Z	5	100.0	75
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



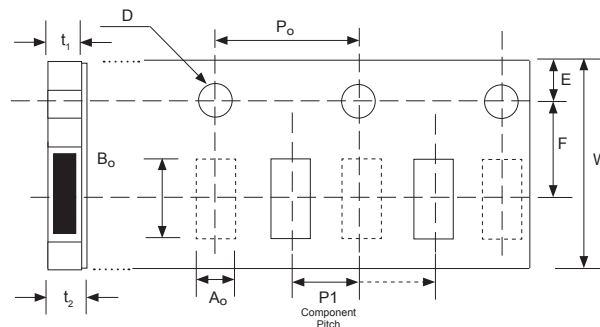
## CARRIER TAPE MATERIAL

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

## PUNCHED CARRIER TAPE DIMENSIONS (mm)

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

### PUNCHED CARRIER TAPE



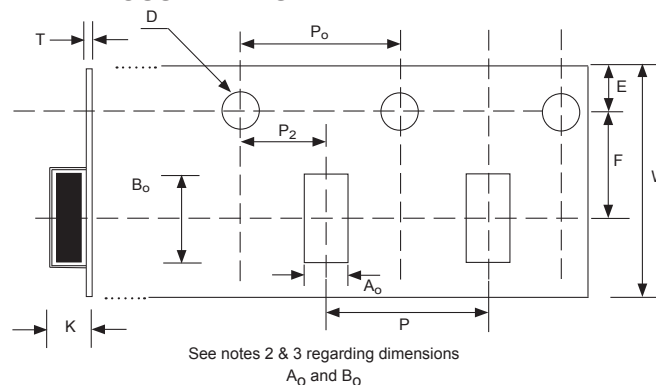
## EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

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

### Notes:

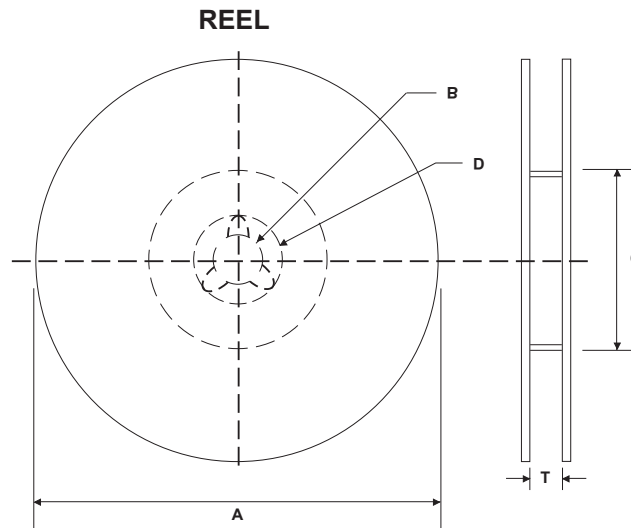
- Specifications are in compliance with EIA RS481-1-A  
"Taping of surface Mount Components for Automatic Placement"
- Dimensions  $A_o$  (max.) equals component width dimension plus  $0.5\text{mm}$
- Dimension  $B_o$  (max.) equals component length dimension plus  $0.5\text{mm}$

### EMBOSSED PLASTIC CARRIER TAPE



## 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
10" (250 ± 2.0)		100 ± 1.0		(1812 case size and larger
13" (330 ± 2.0)		100 ± 1.0		12.4 +2.0/-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.