

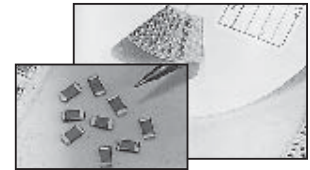
FEATURES

- HIGH K DIELECTRIC
- HIGH CAPACITANCE DENSITY
- EXCELLENT MECHANICAL STRENGTH
- NICKEL BARRIER TERMINATIONS

RoHS Compliant

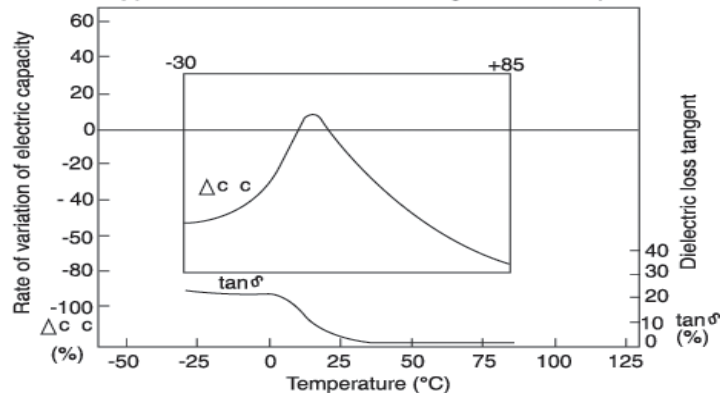
Includes all homogeneous materials

*See Part Number System for Details



Capacitance Range	0.01 μ F ~ 0.82 μ F (see high CV datasheet for higher capacitance values)
Capacitance Tolerance	+80%/-20% (Z)
Operating Temperature Range	-30°C ~ +85°C
Temperature Characteristics	+22%, -82% max. capacitance Δ over temperature range
Rated Voltages	4Vdc, 6.3Vdc, 16Vdc, 25Vdc, 50Vdc & 100Vdc (see NMC-H Series for higher voltages)
Dissipation Factor	(See Values Table)
Insulation Resistance	10,000Megohms min. or 500Megohm/ μ F min. whichever is less @ +25°C
Dielectric Withstanding Voltage	150% of Rated Voltage for 5 $\pm$ 1 seconds, 50mA maximum current
Test Conditions (EIA-198-2E)	1KHz, 1.0V $\pm$ 0.2Vrms

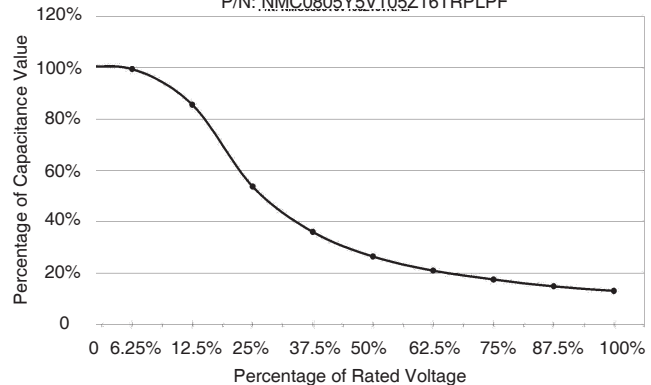
Typical Y5V C and DF Change over Temp.



CAPACITANCE CHANGE AS FUNCTION OF APPLIED VOLTAGE (VDC)

1.0 μ F / 16VDC / Y5V Dielectric

P/N: NMC0805Y5V105Z16TRPLPF



PART NUMBER SYSTEM

NMC 0805 Y5V 103 Z 50 TRP or TRPLP 3K 7C3 E

- NMC: Series
- 0805: Size Code (see chart)
- Y5V: Temperature Characteristic
- 103: Capacitance Code, expressed in pF, first 2 digits are significant, 3rd digit is no. of zeros, "R" indicates decimal for under 10pF
- Z: Capacitance Tolerance Code (see chart)
- 50: Voltage (Vdc)
- TRP or TRPLP: Tape & Reel (Punched carrier) or Tape & Reel (Embossed Plastic Carrier)
- 3K: Optional Reel Qty (3K=3,000pcs)
- 7C3: Optional RoHS 7C-III Exemption Free*
- E: RoHS Compliant

* - Part Number Level Identification of Y5V MLCCs that do not take RoHS exemption 7C-III

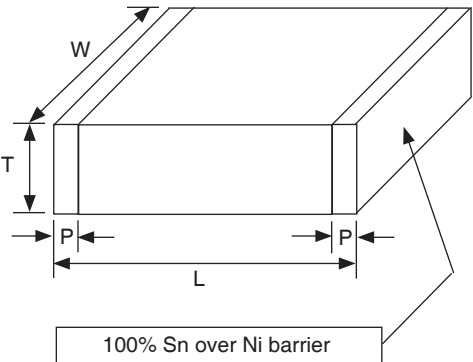


Y5V CAPACITOR SIZE AND DISSIPATION FACTOR CHART (mm)

EIA Case Size	0201				0402				0603			
Length (L)	0.6 ± 0.05				1.0 ± 0.05				1.6 ± 0.15			
Width (W)	0.3 ± 0.05				0.5 ± 0.05				0.8 ± 0.15			
Thickness max. (T)	0.33				0.6				1.0			
Termination Width (P)	0.10 ~ 0.20				0.2±0.1				0.12 ~ 0.51			
Capacitance	Working Voltage (Vdc)											
	4	6.3	10	6.3	10	16	25	50	10	16	25	50
0.01µF					12.5%	9%	7%	7%	12.5%	7%	5%	5%
0.015µF					12.5%	9%	7%	7%	12.5%	7%	5%	5%
0.022µF	16%	16%	12.5%	16%	12.5%	9%	7%	7%	12.5%	7%	5%	5%
0.027µF	16%	16%	12.5%	16%	12.5%	9%	7%	7%	12.5%	7%	5%	5%
0.033µF	16%	16%	12.5%	16%	12.5%	9%	7%	7%	12.5%	7%	5%	5%
0.036µF	16%	16%	12.5%	16%	12.5%	9%	7%		12.5%	7%	5%	5%
0.039µF	16%	16%	12.5%	16%	12.5%	9%	7%		12.5%	7%	5%	5%
0.047µF	16%	16%	12.5%	16%	12.5%	9%	7%		12.5%	7%	5%	5%
0.056µF	16%	16%		16%	12.5%	9%			12.5%	7%	5%	5%
0.068µF	16%	16%		16%	12.5%	9%			12.5%	7%	5%	5%
0.075µF	16%	16%		16%	12.5%	9%			12.5%	7%	5%	5%
0.082µF	16%	16%		16%	12.5%	9%			12.5%	7%	5%	5%
0.1µF				16%	12.5%	9%			12.5%	7%	7%	7%
0.15µF				16%	12.5%				12.5%	9%	9%	9%
0.18µF				16%	12.5%				12.5%	9%	9%	9%
0.22µF				16%	12.5%				12.5%	9%	9%	9%
0.27µF				16%	12.5%				12.5%	12.5%	9%	
0.33µF				16%	12.5%				12.5%	12.5%	9%	
0.36µF				16%	12.5%				12.5%	12.5%	9%	
0.39µF				16%	12.5%				12.5%	12.5%	9%	
0.47µF				16%	12.5%				12.5%	12.5%	9%	
0.56µF				16%					12.5%	12.5%	9%	
0.68µF				16%					12.5%	12.5%	9%	
0.82µF				16%					12.5%	12.5%	9%	

(CONSULT FACTORY
FOR CAPACITANCE
VALUES NOT LISTED)

Percentages in the table represent the dissipation factor for that value.



See NMC High CV series for values above 0.82µF



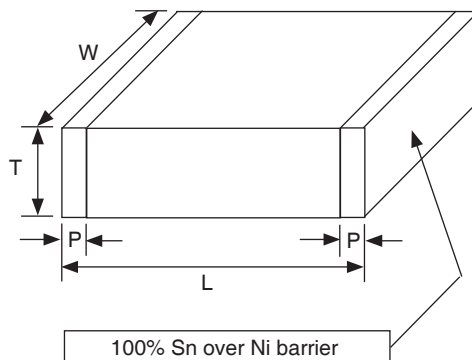
Y5V CAPACITOR SIZE AND DISSIPATION FACTOR CHART (mm)

EIA Case Size	0805						1206					
Length (L)	2.0 ± 0.2						3.2 ± 0.2					
Width (W)	1.25 ± 0.2						1.6 ± 0.2					
Thickness max. (T)	1.30						1.80					
Termination Width (P)	0.25 ~ 0.71						0.25 ~ 0.71					
Capacitance	Working Voltage (Vdc)											
	6.3	10	16	25	50	100	6.3	10	16	25	50	100
0.01μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.015μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.022μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.027μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.033μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.036μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.039μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.047μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.056μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.068μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.075μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.082μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.1μF	16%	12.5%	9%	5%	5%	5%	16%	12.5%	9%	5%	5%	5%
0.15μF	16%	12.5%	9%	5%	5%		16%	12.5%	9%	5%	5%	5%
0.18μF	16%	12.5%	9%	5%	5%		16%	12.5%	9%	5%	5%	5%
0.22μF	16%	12.5%	9%	5%	5%		16%	12.5%	9%	5%	5%	5%
0.27μF	16%	12.5%	9%	5%	5%		16%	12.5%	9%	5%	5%	
0.33μF	16%	12.5%	9%	7%	7%		16%	12.5%	9%	5%	5%	
0.36μF	16%	12.5%	9%	9%			16%	12.5%	9%	5%	5%	
0.39μF	16%	12.5%	9%	9%			16%	12.5%	9%	5%	5%	
0.47μF	16%	12.5%	9%	9%			16%	12.5%	9%	5%	5%	
0.56μF	16%	12.5%	9%	9%			16%	12.5%	9%	5%	5%	
0.68μF	16%	12.5%	9%	9%*			16%	12.5%	9%	5%	5%	
0.82μF	16%	12.5%	9%	9%*			16%	12.5%	9%	5%	5%	

*1.35mm maximum thickness

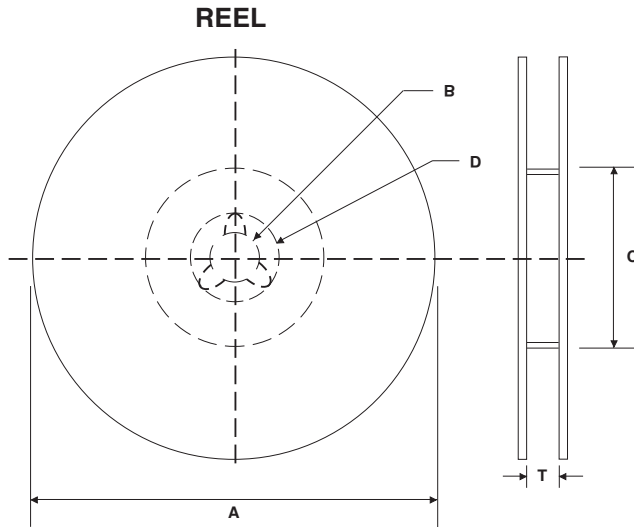
(CONSULT FACTORY
FOR CAPACITANCE
VALUES NOT LISTED)

Percentages in the table represent the dissipation factor for that value.



See NMC High CV series for values above 0.82μF





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 12.4 +2.0/-0)
10" (250 ± 2.0)		100 ± 1.0		
13" (330 ± 2.0)		100 ± 1.0		

7 INCH REEL QUANTITIES*

Size	01005	0201	0402	0603	0805	1206	1210	1812
Tape Size	8mm	8mm	8mm	8mm	8mm	8mm	8mm	12mm
Min. Qty Per Reel	20,000	20,000	10,000	4,000	4,000	4,000	2,000	1,000
Max. Qty Per Reel	20,000	20,000	10,000	4,000	5,000	5,000	5,000	2,000

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

CARRIER TAPE MATERIAL

Parts with a thickness of ≥ 1 mm will be taped on embossed plastic carrier. Parts with a thickness of less than 1mm will be taped on paper carrier

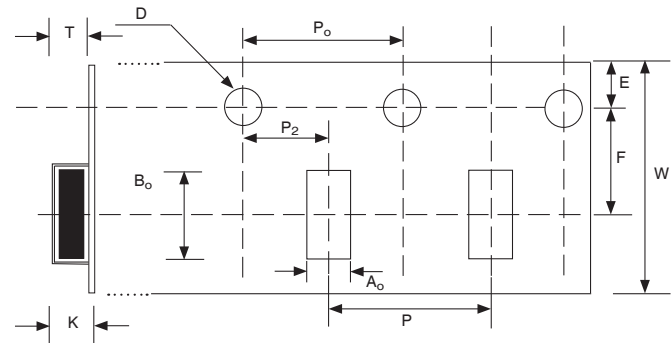
EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

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}	3.0	2.0	4.0 ± 0.1
12mm	12 ± 0.2	5.5 ± 0.05						4.5	8.0 ± 0.1

Notes:

- Specifications are in compliance with EIA RS481-1-A "Taping of surface Mount Components for Automatic Placement"
- Dimensions A₀ (max.) equals component width dimension plus 0.5mm
- Dimension B₀ (max.) equals component length dimension plus 0.5mm

EMBOSSED PLASTIC CARRIER TAPE



See notes 2 & 3 regarding dimensions A₀ and B₀

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

