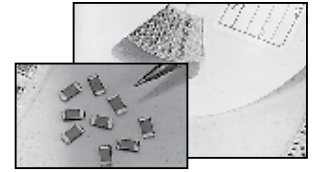


FEATURES

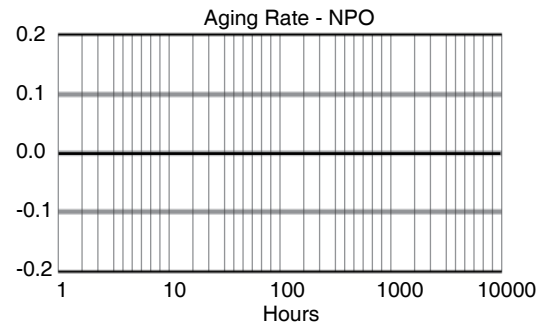
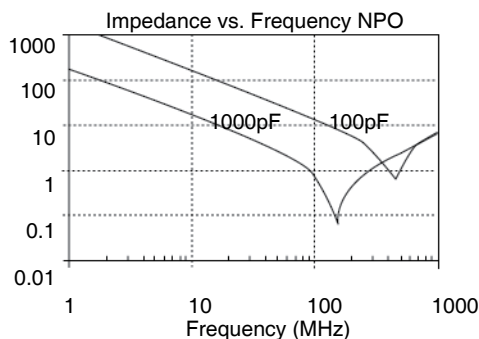
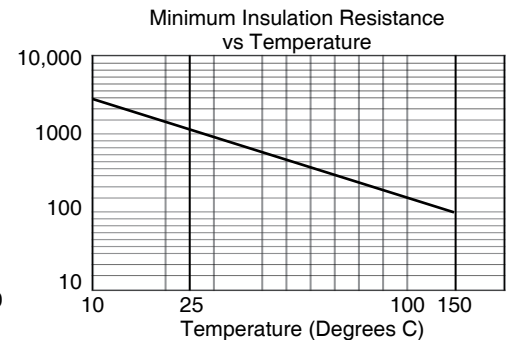
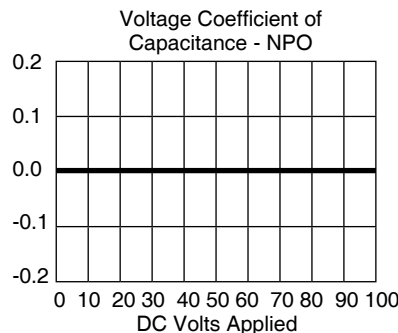
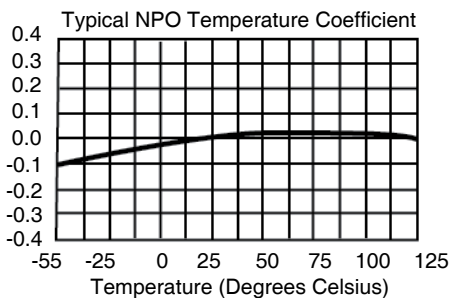
- CLASS I DIELECTRIC, TEMPERATURE COMPENSATING
- HIGH STABILITY OVER TIME, VOLTAGE AND TEMPERATURE CHANGES
- LOW DIELECTRIC LOSS
- NICKEL BARRIER TERMINATIONS AND EXCELLENT MECHANICAL STRENGTH

**Expanded
Value Range
Up to 0.1 μ F**



SPECIFICATIONS NPO

Capacitance Range	0.3pF to 0.1 μ F
Capacitance Tolerance	<5pF: ± 0.1 pF(B), ± 0.25 pF(C) ≥ 5 pF to <10pF: ± 0.1 pF(B), ± 0.25 pF(C), ± 0.5 pF(D) 10pF and above: $\pm 1\%$ (F), $\pm 2\%$ (G), $\pm 5\%$ (J)
Operating Temperature Range	-55°C ~ +125°C
Temperature Characteristics	0 $\pm$ 30ppm/°C
Rated Voltages	10Vdc, 16Vdc, 25Vdc, 35Vdc, 50Vdc, 100Vdc (see NMC-H Series for higher voltages)
Dissipation Factor	For values >30pF 0.1% @ 25°C; For values ≤ 30 pF Q=400+20 x C (C in pF)
Insulation Resistance	10,000Megohms min. or 500Megohm/ μ F (min.), whichever is less @ +25°C
Dielectric Withstanding Voltage	250% of Rated Voltage for 5 $\pm$ 1 seconds, 50mA maximum current
Test Conditions (EIA-198-2E)	≤ 1000 pF; 1MHz, 1.2Vrms max. or >1000pF; 1KHz, 1.2Vrms max.



PART NUMBER SYSTEM

NMC 0805 NPO 101 J 50 TRP or TRPLP 3K 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)
- Capacitance Tolerance Code (see chart)
- Tape & Reel (Punched carrier)
- Tape & Reel (Embossed Plastic Carrier)
- "3K" denotes optional reel quantity or "4" denotes optional 4mm carrier width (01005 case size only)
- RoHS Compliant

EIA Case Size	01005
Length (L)	0.4±0.02
Width (W)	0.2±0.02
Thickness max. (T)	0.22
Termination Width (P)	0.10 +0.04/-0.03
Capacitance	Working Voltage (Vdc) 16
0.5pF	
0.6pF	
0.7pF	
0.8pF	
0.9pF	
1.0pF	
1.1pF	
1.2pF	
1.3pF	
1.5pF	
1.6pF	
1.8pF	
2.0pF	
2.2pF	
2.4pF	
2.5pF	
2.7pF	
3.0pF	
3.3pF	
3.6pF	
3.9pF	
4.0pF	
4.7pF	
5.0pF	
5.6pF	
6.0pF	
6.2pF	
6.8pF	
7.0pF	
7.5pF	
8.0pF	
8.2pF	
9.0pF	
9.1pF	
10pF	
12pF	
15pF	
18pF	
22pF	
27pF	
33pF	
39pF	
47pF	
56pF	
68pF	
82pF	
100pF	

Highlighted values available on 4mm carrier,
40K pieces per reel.

(CONSULT FACTORY
FOR CAPACITANCE
VALUES NOT LISTED)

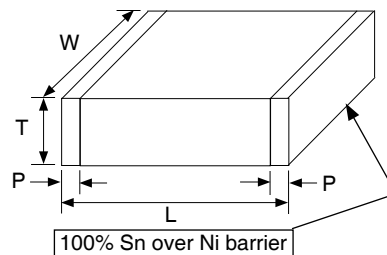
EIA Case Size	0201				0402				0603				0805			
Length (L)	0.6±0.03				1.0±0.05				1.6±0.15				2.0±0.2			
Width (W)	0.3±0.03				0.5±0.05				0.8±0.15				1.25±0.2			
Thickness max. (T)	0.33				0.6				1.0				1.35			
Termination Width (P)	0.15±0.05				0.2±0.1				0.12 ~ 0.51				0.25 ~ 0.71			
Capacitance	Working Voltage (Vdc)															
	10	16	25	50	16	25	50	100	16	25	50	100	16	25	50	100
0.3pF & 0.4pF																
0.47pF ~ 22pF																
24pF																
27pF																
30pF																
33pF																
36pF																
39pF																
43pF																
47pF																
51pF																
56pF																
62pF																
68pF																
75pF																
82pF																
91pF																
100pF																
110pF																
120pF																
130pF																
150pF																
160pF																
180pF																
200pF																
220pF																
240pF																
270pF																
300pF																
330pF																
360pF																
390pF																
430pF																
470pF																
510pF																
560pF																
620pF																
680pF																
750pF																
820pF																
910pF																
0.001μF																
0.0012μF																
0.0015μF																
0.0018μF																
0.0022μF																
0.0027μF																*
0.0033μF																*
0.0039μF															*	*
0.0047μF															*	
0.0056μF														*	*	
0.0068μF														*	*	
0.0082μF														*	*	
0.01μF														*	*	*

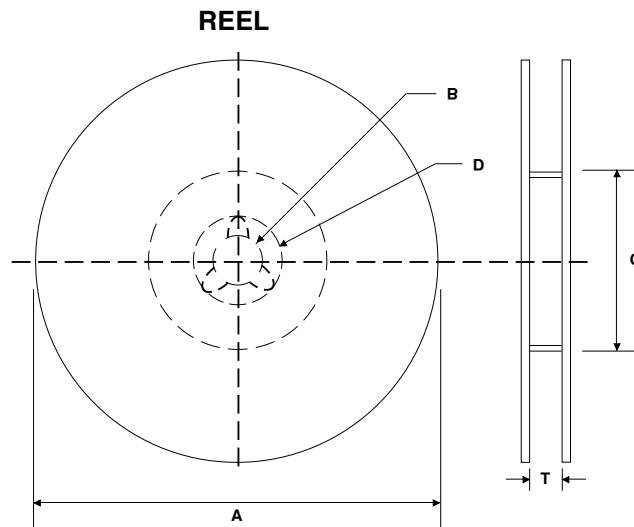
*1.45mm maximum thickness

EIA Case Size	0805				1206				1210					1812			2225		
Length (L)	2.0±0.2				3.2±0.2				3.2±0.2					4.5±0.3			5.70±0.4		
Width (W)	1.25±0.2				1.6±0.2				2.5±0.2					3.2±0.25			6.35±0.25		
Thickness max. (T)	1.45				1.80				1.80					1.80			1.80		
Termination Width (P)	0.25 ~ 0.71				0.25 ~ 0.71				0.25 ~ 0.71					0.25 ~ 0.76			0.25 ~ 1.02		
Capacitance	Working Voltage (Vdc)																		
	16	25	50	100	10	16	25	50	100	10	16	25	50	100	25	50	100	50	100
0.47pF ~ 9.1pF	See the previous page																		
10pF ~ 22pF																			
24pF ~ 0.001μF																			
0.0012μF																			
0.0015μF																			
0.0018μF																			
0.0022μF																			
0.0027μF																			
0.0033μF																			
0.0039μF																			
0.0047μF																			
0.0056μF																			
0.0068μF																			
0.0075μF																			
0.0082μF																			
0.0091μF																			
0.01μF																			
0.012μF																			
0.015μF																			
0.018μF																			
0.022μF																		**	
0.027μF																		**	
0.033μF																		**	
0.039μF																		**	
0.047μF																			
0.056μF																			
0.068μF																			
0.082μF																			
0.1μF																			

*1.90mm maximum thickness, **2.60mm maximum thickness

**See NMC High Capacitance datasheet for higher capacitance values
or NMC-H High Voltage datasheet for higher voltage ratings**





REEL DIMENSIONS (mm)

Reel Diameter (A)	B	C	D	T max.
7" (178 ± 2.0)	13.0 ± 0.5	50 min.	21.0 ± 1.0	4mm Carrier: 5.0 ± 1.5 8mm Carrier: 8.4 ± 1.0 12mm Carrier: 12.8 ± 0.5
10" (250 ± 2.0)		100 ± 1.0		
13" (330 ± 2.0)		100 ± 1.0		

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

7 INCH REEL QUANTITIES*

Size	01005	0201	0402	0603	0805	1206	1210	1812	2225
Tape Size	4mm	8mm	8mm	8mm	8mm	8mm	8mm	12mm	12mm
Min. Qty Per Reel	40,000	20,000	20,000	10,000	4,000	4,000	4,000	2,000	1,000
Max. Qty Per Reel	40,000	20,000	20,000	10,000	4,000	5,000	5,000	2,000	1,000

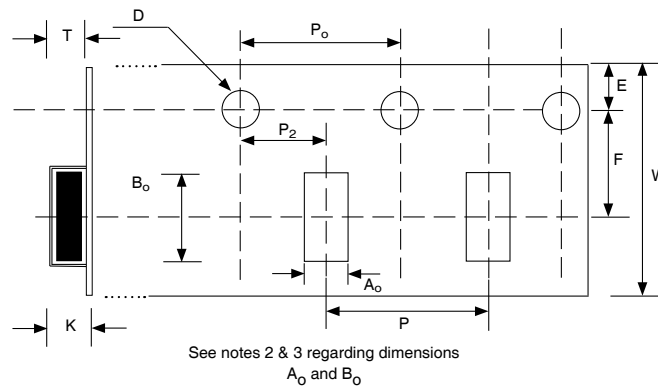
*Quantity dependent on chip thickness. Contact NIC for reel quantities on larger diameter reels.

8MM & 12MM EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

Carrier Width	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

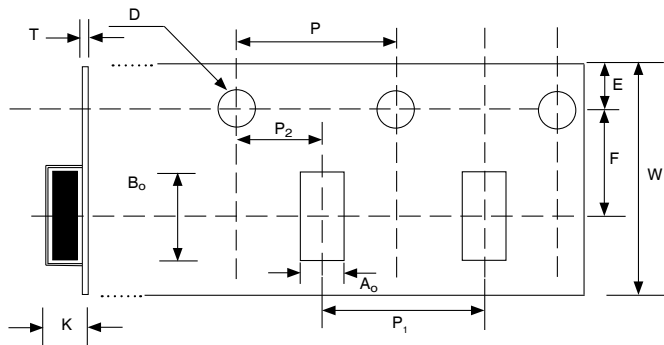
Notes:

- 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



4MM (01005 CASE SIZE) EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

Carrier Width	A ₀	B ₀	W	F	E	P	P ₁	P ₂	D	K max.	T max.
4mm	0.23 ± 0.02	0.43 ± 0.02	4.0 ± 0.05	1.8 ± 0.02	0.90 ± 0.05	2.0 ± 0.04	1.0 ± 0.02	1.0 ± 0.02	1.5 ^{+0.1} _{-0.0}	0.50	0.15 ~ 0.40



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

