

NMC Series

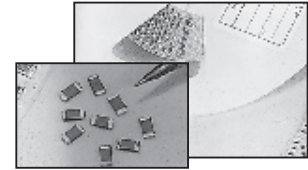
Surface Mount High Capacitance Ceramic Capacitors



FEATURES

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

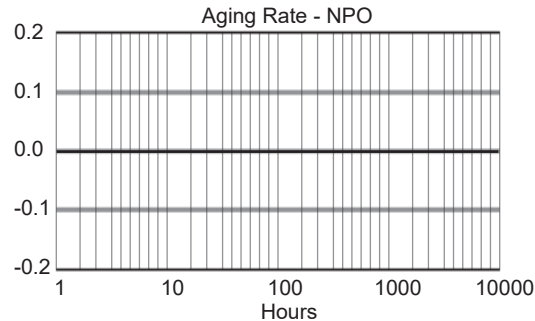
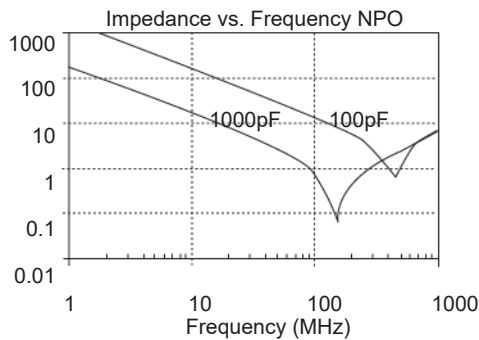
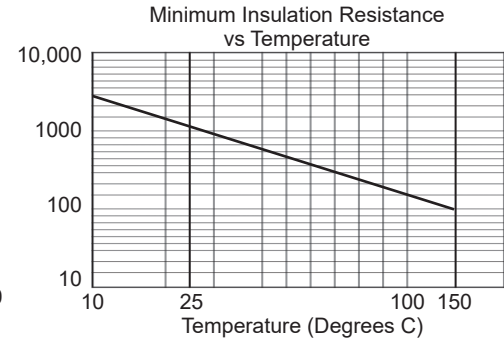
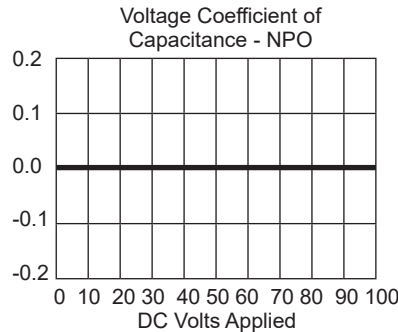
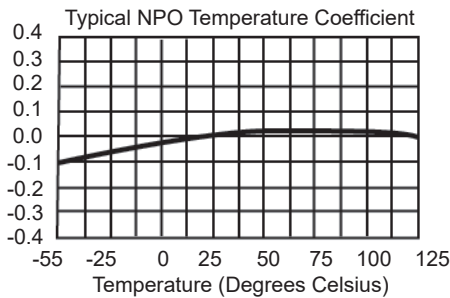
Expanded Value Range Up to 0.1 μ F



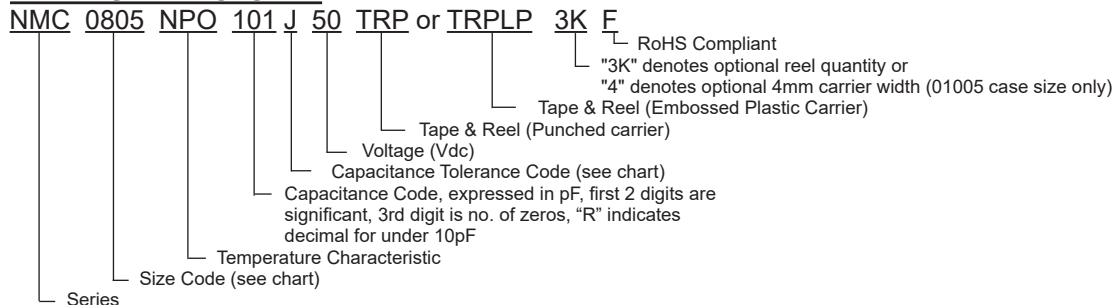
SPECIFICATIONS

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 \leq 30pF 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 1 ~ 5 seconds, 50mA maximum current
Test Conditions (EIA-198-2E)	≤ 1000 pF; 1MHz, 1.2Vrms max. or >1000pF; 1KHz, 1.2Vrms max.

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



PART NUMBER SYSTEM



Performance Passives By Design

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

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EIA Case Size		01005	EIA Case Size		0201	0402	0603	0805											
Length (L)		0.4±0.02	Length (L)		0.6±0.03	1.0±0.05	1.6±0.15	2.0±0.2											
Width (W)		0.2±0.02	Width (W)		0.3±0.03	0.5±0.05	0.8±0.15	1.25±0.2											
Thickness max. (T)		0.22	Thickness max. (T)		0.33	0.6	1.0	1.35											
Termination Width (P)		0.10 +0.04/-0.03	Termination Width (P)		0.15±0.05	0.2±0.1	0.12 ~ 0.51	0.25 ~ 0.71											
Capacitance	Working Voltage (Vdc)	16	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																
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			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													*	*	*	*

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

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)

*1.45mm maximum thickness

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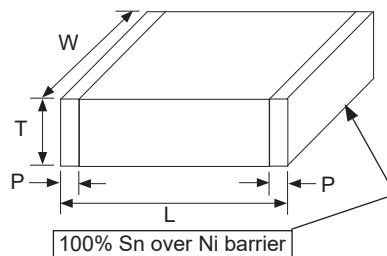


EIA Case Size	0805				1206				1210				1812			2225				
Length (L)	2.0±0.2				3.2±0.4				3.2±0.2				4.5±0.3			5.70±0.4				
Width (W)	1.25±0.2				1.6±0.3				2.5±0.2				3.2±0.25			6.35±0.25				
Thickness max. (T)	1.45				1.80				1.80				1.80			1.80				
Termination Width (P)	0.25 ~ 0.71				0.25 ~ 0.71				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																				
10pF ~ 22pF																				
24pF ~ 0.001µF																				
0.0012µF																				
0.0015µF																				
0.0018µF																				
0.0022µF																				
0.0027µF																				
0.0033µF																				
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0.015µF																				
0.018µF																				
0.022µF																				**
0.027µF																				**
0.033µF																				**
0.039µF																				**
0.047µF																				
0.056µF																				
0.068µF																				
0.082µF																				
0.1µF																	***			

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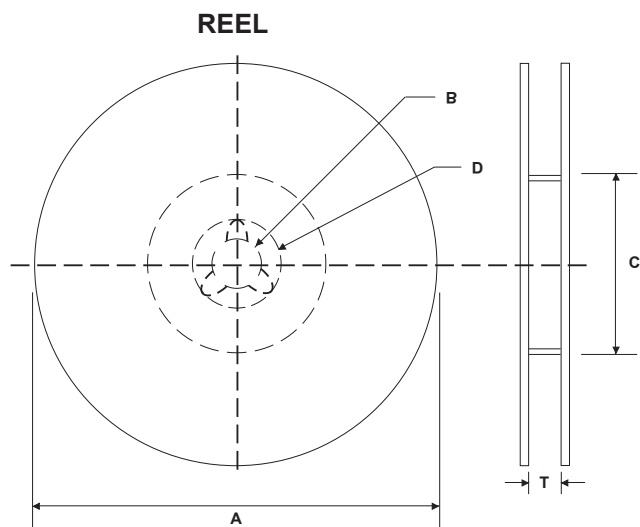
*1.90mm maximum thickness, **2.60mm maximum thickness, ***4.5mm ± 0.40 x 3.2mm ± 0.40 x 2.80mm maximum thickness

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



NMC Series

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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
10" (250 ± 2.0)		100 ± 1.0		8mm Carrier: 8.4 ± 1.0
13" (330 ± 2.0)		100 ± 1.0		12mm Carrier: 12.8 ± 0.5

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	8mm	12mm	12mm
Min. Qty Per Reel	40,000	20,000	15,000	10,000	4,000	4,000	4,000	2,000	1,000	400
Max. Qty Per Reel	40,000	20,000	15,000	10,000	4,000	5,000	5,000	5,000	2,000	1,000

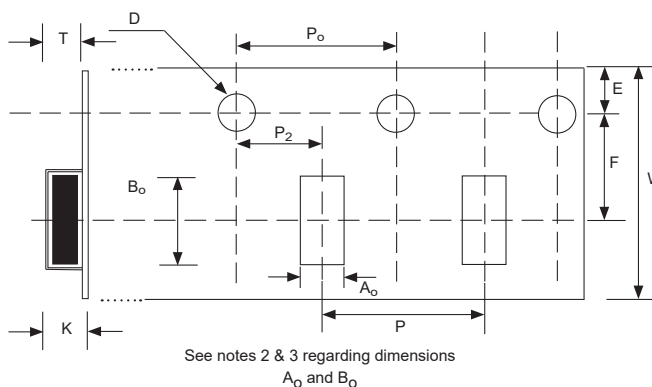
*Quantity dependent on chip thickness. Contact NIC for reel quantities on larger diameter reels.

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



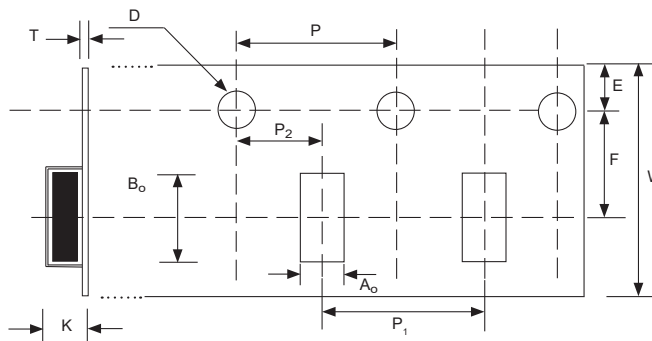
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4MM (01005 CASE SIZE) EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

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

