

FEATURES

- Designed for High Frequency Applications
- Available in EIA 0402 and 0603 Case Sizes
- High Q and SRF Characteristics
- Tight Tolerance D (0.3nH) and J (5%)
- Tape and Reel Packaging for Automatic Pick & Place

SPECIFICATIONS

NML Multilayer High Frequency Inductors		
Specifications	0402	0603
Inductance Range	1.0 ~ 120nH	1.5nH ~ 220nH
Inductance Tolerances	D ($\pm 0.3\text{nH}$), J ($\pm 5\%$) & K ($\pm 10\%$)	
Operating Temperature Range	$-40^\circ \sim +85^\circ\text{C}$	
Q-Factor, Self Resonant Frequency, DC Resistance, Rated DC Current and Inductance Tolerance	See Individual Product Listings	



ENVIRONMENTAL CHARACTERISTICS

Test	Specification	Test Method & Condition
Solderability	75% Min. Coverage	After 5 Sec. Dip in $+230^\circ\text{C}$ Solder Pot (Post Flux)
Humidity Resistance	(1) No Evidence of Damage (2) Inductance Shall Be Within $\pm 10\%$ of Initial Value (3) Q Factor Shall Be Within $\pm 20\%$ of Initial Value	After 500 Hrs at 60°C and 90-95% RH (No Load)
Soldering Effect		After 10 Seconds at $+260^\circ\text{C}$ (3 Minute, 150°C Pre-Heat)
Low Frequency Vibration		
Thermal Shock		After 100 Cycles ($+85^\circ\text{C}$ then -40°C) 1 hour each
Low Temperature Storage		
High Temperature Load Life	(1) No Evidence of Damage (2) Inductance Shall Be Within $\pm 10\%$ of Initial Value (3) Q Factor Shall Be Within $\pm 20\%$ of Initial Value	After 500 Hrs at 85°C with Rated DC Current
Humidity Load Life		After 500 Hrs at 60°C with 90-95% RH with Rated DC Current

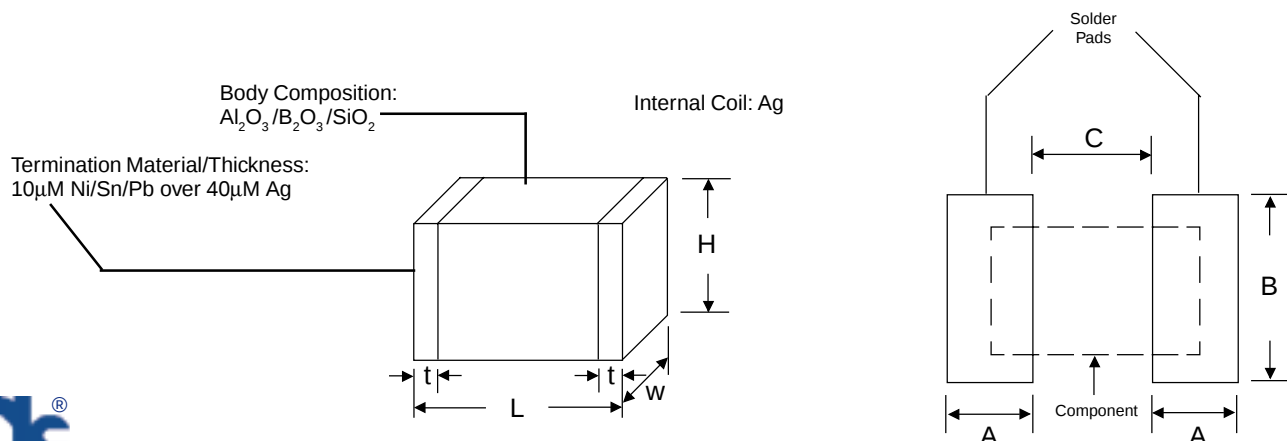
PART NUMBERING SYSTEM

NML 04 J 22N TR

Series: NML
Size Code: 04=0402, 06=0603
Tolerance Code (D= $\pm 0.3\text{nH}$, J= $\pm 5\%$, K= $\pm 10\%$)
Inductance Code (N=decimal point) in nano-henries
(Ex. 2N2 = 2.2nH, 33N=33nH, R10=100nH)
Packaging: TR = Tape/Reel

PART AND LAND PATTERN DIMENSIONS

Series	L	W	H	t	A	B	C
NML04	1.0 ± 0.05	0.5 ± 0.05	0.5 ± 0.05	0.25 ± 0.1	0.50 ± 0.05	0.50 ± 0.05	0.50 ± 0.05
NML06	1.6 ± 0.10	0.8 ± 0.10	0.8 ± 0.15	0.30 ± 0.2	0.70 ± 0.10	0.70 ± 0.10	0.70 ± 0.10



NML04 SERIES

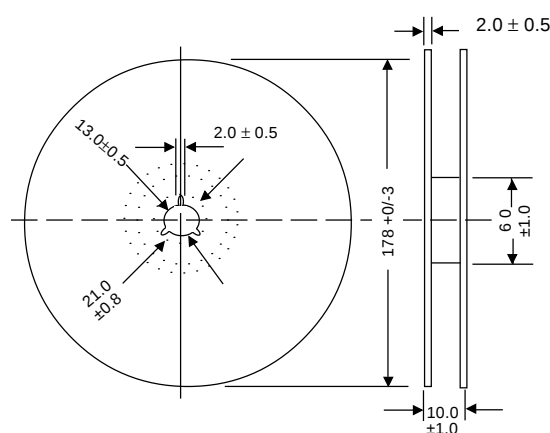
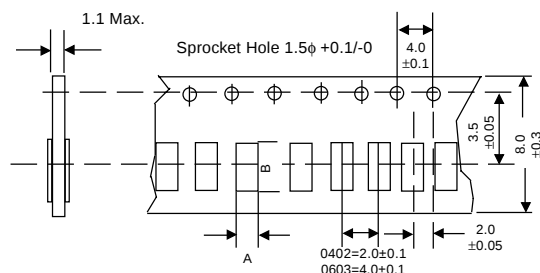
VALUES AND SPECIFICATIONS

NIC P/N	'L' Inductance (nH)	Tolerance (std)	'Q' Factor (min.)	L & Q Test Freq.	SRF Mhz (min.)	DC Resistance (ohms) Max.	Rated DC Current (mA) Max.
NML04D1N0TR	1.0	±0.3nH(D)	8.0	100 Mhz	4000	0.12	300
NML04D1N2TR	1.2	±0.3nH(D)	8.0	100 Mhz	4000	0.12	300
NML04D1N5TR	1.5	±0.3nH(D)	8.0	100 Mhz	4000	0.13	300
NML04D1N8TR	1.8	±0.3nH(D)	8.0	100 Mhz	4000	0.14	300
NML04D2N0TR	2.0	±0.3nH(D)	8.0	100 Mhz	4000	0.16	300
NML04D2N2TR	2.2	±0.3nH(D)	8.0	100 Mhz	4000	0.16	300
NML04D2N7TR	2.7	±0.3nH(D)	8.0	100 Mhz	4000	0.17	300
NML04D3N3TR	3.3	±0.3nH(D)	8.0	100 Mhz	4000	0.19	300
NML04D3N9TR	3.9	±0.3nH(D)	8.0	100 Mhz	4000	0.22	300
NML04D4N7TR	4.7	±0.3nH(D)	8.0	100 Mhz	4000	0.24	300
NML04D5N6TR	5.6	±0.3nH(D)	8.0	100 Mhz	4000	0.27	300
NML04J6N8TR	6.8	±5% (J)	8.0	100 Mhz	3900	0.32	250
NML04J8N2TR	8.2	±5% (J)	8.0	100 Mhz	3500	0.37	250
NML04J10NTR	10	±5% (J)	8.0	100 Mhz	3200	0.42	250
NML04J12NTR	12	±5% (J)	8.0	100 Mhz	2600	0.50	250
NML04J15NTR	15	±5% (J)	8.0	100 Mhz	2300	0.55	250
NML04J18NTR	18	±5% (J)	8.0	100 Mhz	2000	0.65	200
NML04J22NTR	22	±5% (J)	8.0	100 Mhz	1600	0.80	200
NML04J27NTR	27	±5% (J)	8.0	100 Mhz	1400	0.90	200
NML04J33NTR	33	±5% (J)	9.0	100 Mhz	1200	1.00	200
NML04J39NTR	39	±5% (J)	8.0	100 Mhz	1100	1.20	150
NML04J47NTR	47	±5% (J)	8.0	100 Mhz	900	1.30	150
NML04J56NTR	56	±5% (J)	8.0	100 Mhz	750	1.40	150
NML04J68NTR	68	±5% (J)	8.0	100 Mhz	750	1.40	150
NML04J82NTR	82	±5% (J)	8.0	100 Mhz	600	1.60	100
NML04JR10TR	100	±5% (J)	8.0	100 Mhz	600	1.60	100
NML04JR12TR	120	±5% (J)	8.0	100 Mhz	600	1.60	100

TAPE AND REEL DIMENSIONS (mm)

TYPE	A	B	Qty/Reel
NML04	0.7 ±0.05	1.2 ±0.05	10,000
NML06	1.0 ±0.20	1.8 ±0.20	4,000

TAPE AND REEL PACKAGING (mm)

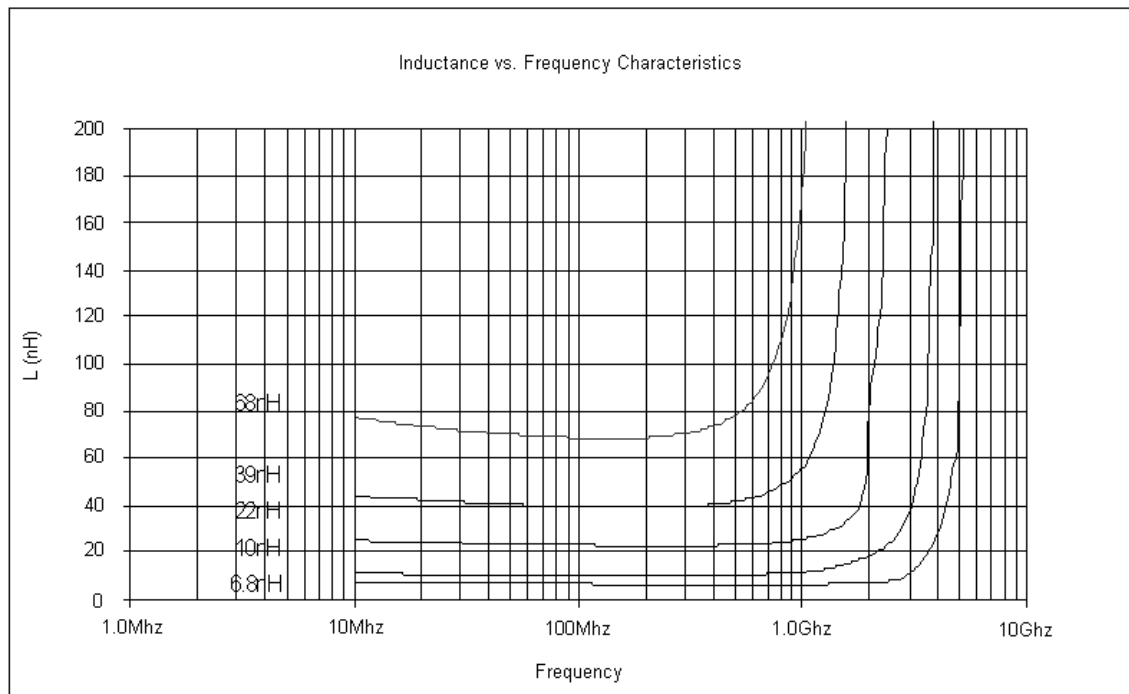


NML06 SERIES

VALUES AND SPECIFICATIONS

NIC P/N	'L' Inductance (nH)	Tolerance (std)	'Q' Factor (min.)	L & Q Test Freq.	SRF Mhz (min.)	DC Resistance (ohms) Max.	Rated DC Current (mA) Max.
NML06D1N5TR	1.5	±0.3nH(D)	8.0	100 Mhz	4000	0.10	300
NML06D1N8TR	1.8	±0.3nH(D)	8.0	100 Mhz	4000	0.10	300
NML06D2N2TR	2.2	±0.3nH(D)	8.0	100 Mhz	4000	0.10	300
NML06D2N7TR	2.7	±0.3nH(D)	10.0	100 Mhz	4000	0.10	300
NML06D3N3TR	3.3	±0.3nH(D)	10.0	100 Mhz	4000	0.13	300
NML06D3N9TR	3.9	±0.3nH(D)	10.0	100 Mhz	4000	0.15	300
NML06D4N7TR	4.7	±0.3nH(D)	10.0	100 Mhz	4000	0.20	300
NML06D5N6TR	5.6	±0.3nH(D)	10.0	100 Mhz	4000	0.23	300
NML06J6N8TR	6.8	±5% (J)	10.0	100 Mhz	4000	0.25	300
NML06J8N2TR	8.2	±5% (J)	10.0	100 Mhz	3500	0.28	300
NML06J10NTR	10	±5% (J)	12.0	100 Mhz	3200	0.30	300
NML06J12NTR	12	±5% (J)	12.0	100 Mhz	2600	0.35	300
NML06J15NTR	15	±5% (J)	12.0	100 Mhz	2300	0.40	300
NML06J18NTR	18	±5% (J)	12.0	100 Mhz	2000	0.45	300
NML06J22NTR	22	±5% (J)	12.0	100 Mhz	1600	0.50	300
NML06J27NTR	27	±5% (J)	12.0	100 Mhz	1400	0.55	300
NML06J33NTR	33	±5% (J)	12.0	100 Mhz	1200	0.60	300
NML06J39NTR	39	±5% (J)	12.0	100 Mhz	1100	0.65	300
NML06J47NTR	47	±5% (J)	12.0	100 Mhz	900	0.70	300
NML06J56NTR	56	±5% (J)	12.0	100 Mhz	900	0.75	300
NML06J68NTR	68	±5% (J)	12.0	100 Mhz	700	0.80	300
NML06J82NTR	82	±5% (J)	12.0	100 Mhz	600	0.85	300
NML06JR10TR	100	±5% (J)	12.0	100 Mhz	600	0.90	300
NML06JR12TR	120	±5% (J)	8.0	50 Mhz	500	1.00	300
NML06JR15TR	150	±5% (J)	8.0	50 Mhz	500	1.20	300
NML06JR18TR	180	±5% (J)	9.0	50 Mhz	400	1.30	300
NML06JR22TR	220	±5% (J)	8.0	50 Mhz	400	1.50	300

Performance Curves



Performance Curves

