

## FEATURES

- LASER CUT SPIRAL COIL OVER ALUMINA CORE
- SUPER MINIATURE EIA 0201, 0402 & 0603 SIZE IN RESIN ENCLOSED BODY
- HIGH Q AND SRF FOR HIGH FREQUENCY APPLICATIONS
- TIGHT TOLERANCES ( $D \pm 0.3nH$ ,  $G \pm 2\%$  or  $J \pm 5\%$ )
- BOTH FLOW AND REFLOW SOLDERING APPLICABLE
- EMBOSSED PLASTIC TAPE PACKAGE FOR AUTOMATIC PICK-PLACE



## RoHS Compliant

includes all homogeneous materials

\*See Part Number System for Details

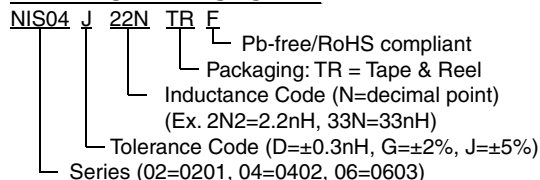
## SPECIFICATIONS

Inductance Range	1.0 ~ 220nH
Inductance Tolerance	D ( $\pm 0.3nH$ ), J ( $\pm 5\%$ )
Operating Temperature Range	-40°C ~ +85°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	90% Min. Coverage	After 3 Sec. Dip in +230°C Solder Pot (Post Flux)
Humidity Resistance	(1) No Evidence of Damage	After 500 Hrs. at +60°C & 90-95% RH (No Load)
Soldering Effect	(2) Inductance Shall Be Within $\pm 5\%$ of Initial Value	After 10 Sec. at +260°C (5 Min., 120°C Pre-Heat)
Low Frequency Vibration	(3) Q Factor Shall Be Within $\pm 20\%$ of Initial Value	After 2 Hrs per Axis, 10~55Hz, 1.5mm Amplitude
Thermal Shock	( $\pm 25\%$ for 0201 Size)	After 100 Cycles (-40°C ~ +85°C) 30 Min. Each
Low Temperature Storage		After 500 Hrs. at -40°C
High Temperature Load Life	(1) No Evidence of Damage	After 500 Hrs. at +85°C with Rated DC Current
Humidity Load Life	(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 & 90-95% RH with Rated DC Current

## PART NUMBER SYSTEM

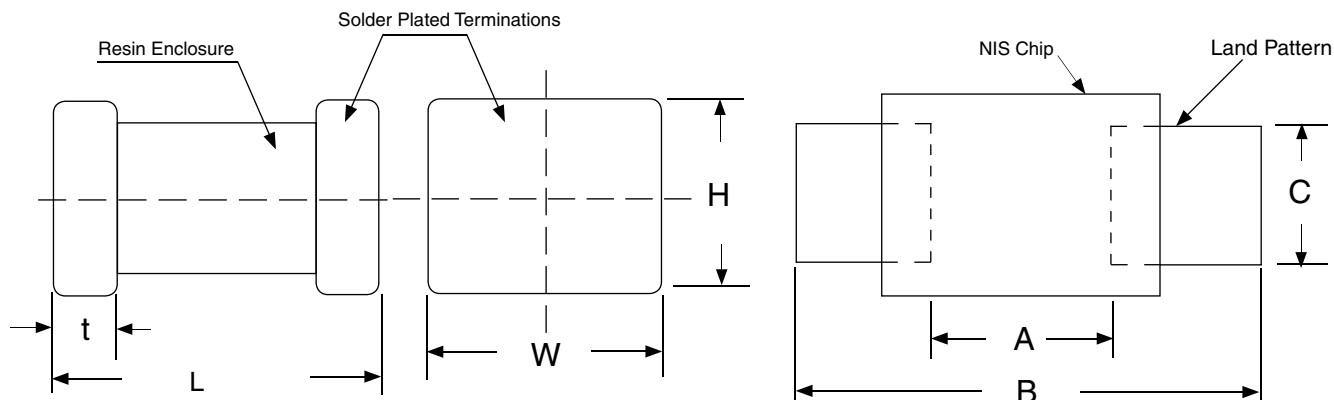


## PART AND LAND PATTERN DIMENSIONS (mm)

Series	L	W	H	t	A	B	C
NIS02	0.6 $\pm$ 0.05	0.3 $\pm$ 0.05	0.3 $\pm$ 0.05	0.15 $\pm$ 0.05	0.26~0.30	0.75~0.80	0.28~0.35
NIS04	1.0 $\pm$ 0.05	0.5 $\pm$ 0.05	0.5 $\pm$ 0.05	0.2 $\pm$ 0.05	0.5~0.6	1.5~1.7	0.5~0.6
NIS06	1.6 0.05	0.8 $\pm$ 0.15	0.8 $\pm$ 0.15	0.3 $\pm$ 0.2	0.8~1.0	2.0~2.6	0.7~0.9

Recommended land patterns for flow and reflow soldering

## DIMENSION (mm)

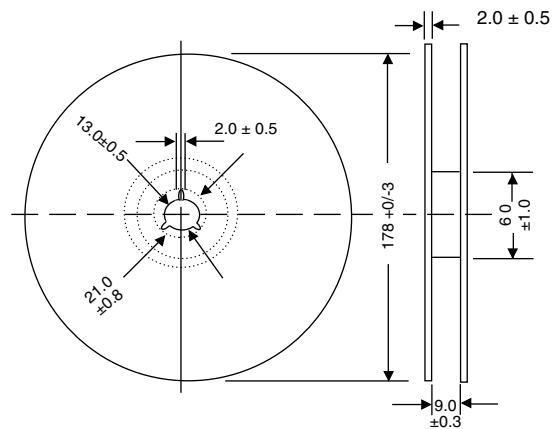
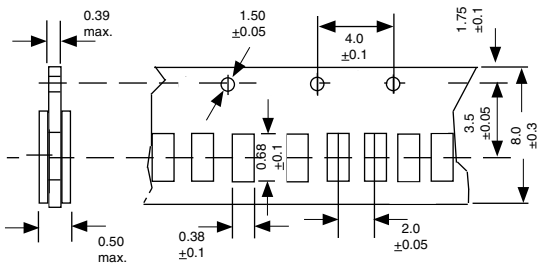


## SERIES

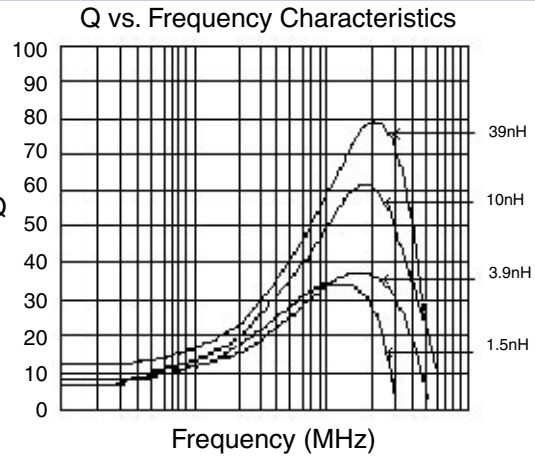
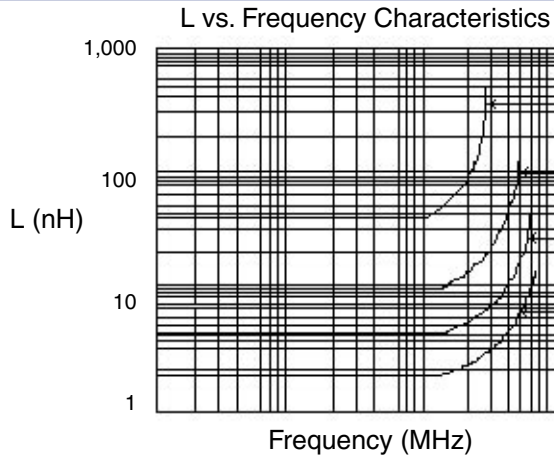
## HIGH FREQUENCY TYPE

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.
NIS02D1N0TR	1.0	±0.3nH(D)	4.0	100 Mhz	20000	0.12	550
NIS02D1N2TR	1.2	±0.3nH(D)	4.0	100 Mhz	20000	0.15	550
NIS02D1N5TR	1.5	±0.3nH(D)	4.0	100 Mhz	20000	0.18	550
NIS02D1N8TR	1.8	±0.3nH(D)	4.0	100 Mhz	20000	0.22	420
NIS02D2N2TR	2.2	±0.3nH(D)	4.0	100 Mhz	13000	0.26	420
NIS02D2N7TR	2.7	±0.3nH(D)	4.0	100 Mhz	13000	0.32	420
NIS02D3N3TR	3.3	±0.3nH(D)	4.0	100 Mhz	10000	0.38	300
NIS02D3N9TR	3.9	±0.3nH(D)	4.0	100 Mhz	9600	0.48	300
NIS02D4N7TR	4.7	±0.3nH(D)	4.0	100 Mhz	8800	0.56	300
NIS02D5N6TR	5.6	±0.3nH(D)	4.0	100 Mhz	8300	0.70	230
NIS02J6N8 TR	6.8	±5% (J)	4.0	100 Mhz	7400	0.82	230
NIS02J8N2 TR	8.2	±5% (J)	4.0	100 Mhz	7000	1.00	230
NIS02J10N TR	10	±5% (J)	4.0	100 Mhz	6600	1.30	230
NIS02J12N TR	12	±5% (J)	3.0	100 Mhz	6100	1.60	190
NIS02J15N TR	15	±5% (J)	3.0	100 Mhz	5600	2.20	150
NIS02J18N TR	18	±5% (J)	3.0	100 Mhz	5400	2.80	130
NIS02J22N TR	22	±5% (J)	3.0	100 Mhz	4600	3.50	120

### TAPE AND REEL PACKAGING



QUANTITY PER REEL: 15,000 pcs

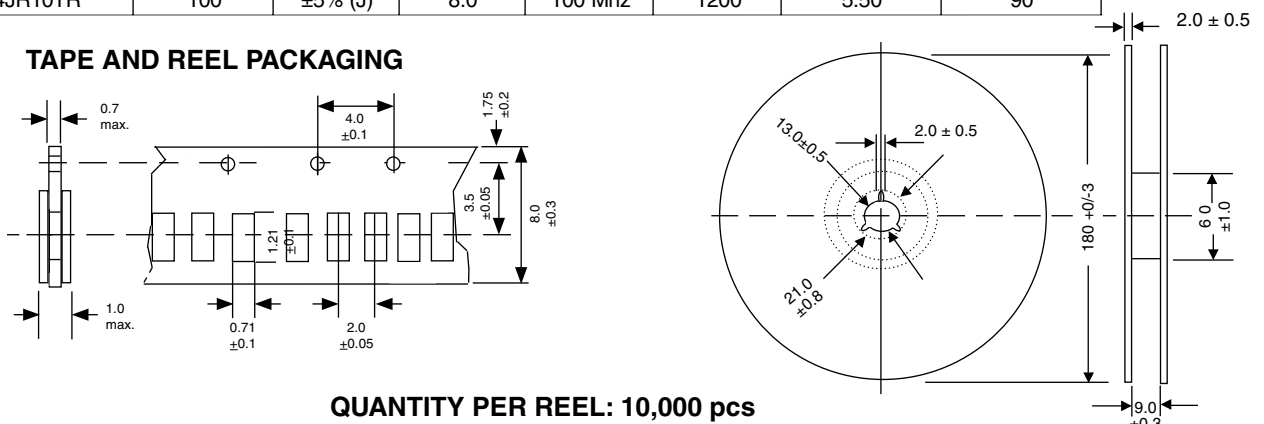


## SERIES

## HIGH FREQUENCY TYPE

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.
NIS04D1N0TR	1.0	±0.3nH(D)	8.0	100 Mhz	6000	0.05	400
NIS04D1N2TR	1.2	±0.3nH(D)	8.0	100 Mhz	6000	0.06	400
NIS04D1N5TR	1.5	±0.3nH(D)	8.0	100 Mhz	6000	0.07	400
NIS04D1N8TR	1.8	±0.3nH(D)	8.0	100 Mhz	6000	0.08	400
NIS04D2N2TR	2.2	±0.3nH(D)	8.0	100 Mhz	6000	0.09	400
NIS04D2N7TR	2.7	±0.3nH(D)	8.0	100 Mhz	5500	0.10	400
NIS04D3N3TR	3.3	±0.3nH(D)	8.0	100 Mhz	5500	0.12	400
NIS04D3N9TR	3.9	±0.3nH(D)	8.0	100 Mhz	5200	0.15	360
NIS04D4N7TR	4.7	±0.3nH(D)	8.0	100 Mhz	4800	0.17	360
NIS04D5N6TR	5.6	±0.3nH(D)	8.0	100 Mhz	4600	0.19	340
NIS04J6N8 TR	6.8	±5% (J)	8.0	100 Mhz	4000	0.30	320
NIS04J8N2 TR	8.2	±5% (J)	8.0	100 Mhz	3500	0.35	320
NIS04J10N TR	10	±5% (J)	8.0	100 Mhz	2800	0.41	320
NIS04J12N TR	12	±5% (J)	8.0	100 Mhz	2800	0.45	320
NIS04J15N TR	15	±5% (J)	8.0	100 Mhz	2500	0.60	240
NIS04J18N TR	18	±5% (J)	8.0	100 Mhz	2200	0.70	240
NIS04J22N TR	22	±5% (J)	8.0	100 Mhz	2000	0.80	200
NIS04J27N TR	27	±5% (J)	8.0	100 Mhz	1800	1.20	200
NIS04J33N TR	33	±5% (J)	8.0	100 Mhz	1800	1.40	170
NIS04J39N TR	39	±5% (J)	8.0	100 Mhz	1800	1.70	150
NIS04J47N TR	47	±5% (J)	8.0	100 Mhz	1800	2.10	140
NIS04J56NTR	56	±5% (J)	8.0	100 Mhz	1500	2.50	130
NIS04J68NTR	68	±5% (J)	8.0	100 Mhz	1500	4.00	120
NIS04J82NTR	82	±5% (J)	8.0	100 Mhz	1400	4.50	110
NIS04JR10TR	100	±5% (J)	8.0	100 Mhz	1200	5.50	90

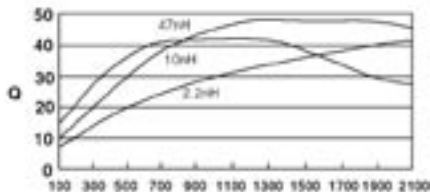
## TAPE AND REEL PACKAGING



QUANTITY PER REEL: 10,000 pcs



Q vs. Frequency  
NIS Series (0603 size)  
High Frequency Type



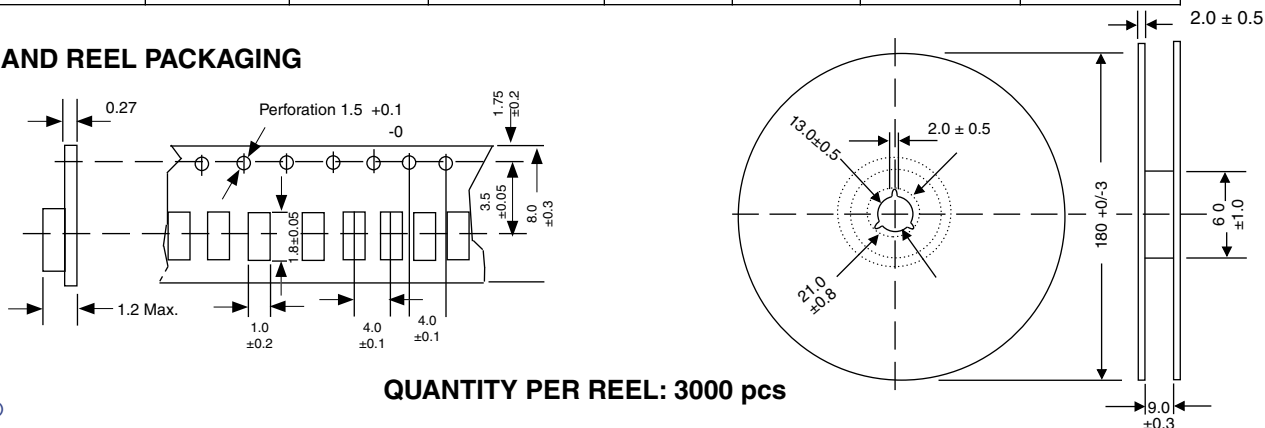
For Quality Factor (Q) and Inductance (L) over Frequency curves see [www.RFpassives.com](http://www.RFpassives.com)

## SERIES

## HIGH FREQUENCY TYPE

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.
NIS06D1N0TR	1.0	±0.3nH	7.0	100Mhz	6000	0.05	500
NIS06D1N2TR	1.2	±0.3nH	7.0	100Mhz	6000	0.06	500
NIS06D1N5TR	1.5	±0.3nH(D)	8.0	100 Mhz	6000	0.07	500
NIS06D1N8TR	1.8	±0.3nH(D)	8.0	100 Mhz	6000	0.08	500
NIS06D2N2TR	2.2	±0.3nH(D)	8.0	100 Mhz	6000	0.09	500
NIS06D2N7TR	2.7	±0.3nH(D)	8.0	100 Mhz	6000	0.10	500
NIS06D3N3TR	3.3	±0.3nH(D)	9.0	100 Mhz	5500	0.12	500
NIS06J3N9TR	3.9	±5% (J)	9.0	100 Mhz	5500	0.15	450
NIS06J4N7TR	4.7	±5% (J)	9.0	100 Mhz	4800	0.17	450
NIS06J5N6TR	5.6	±5% (J)	9.0	100 Mhz	4600	0.18	430
NIS06J6N8TR	6.8	±5% (J)	9.0	100 Mhz	3550	0.20	430
NIS06J8N2TR	8.2	±5% (J)	9.0	100 Mhz	3500	0.28	400
NIS06J10NTR	10	±5% (J)	10.0	100 Mhz	2800	0.32	400
NIS06J12NTR	12	±5% (J)	10.0	100 Mhz	2800	0.35	400
NIS06J15NTR	15	±5% (J)	10.0	100 Mhz	2500	0.41	350
NIS06J18NTR	18	±5% (J)	10.0	100 Mhz	2300	0.45	350
NIS06J22NTR	22	±5% (J)	10.0	100 Mhz	2000	0.50	300
NIS06J27NTR	27	±5% (J)	10.0	100 Mhz	2000	0.55	300
NIS06J33NTR	33	±5% (J)	10.0	100 Mhz	1800	0.60	300
NIS06J39NTR	39	±5% (J)	11.0	100 Mhz	1800	0.80	300
NIS06J47NTR	47	±5% (J)	11.0	100 Mhz	1800	0.95	250
NIS06J56NTR	56	±5% (J)	12.0	100 Mhz	1800	1.20	250
NIS06J68NTR	68	±5% (J)	12.0	100 Mhz	1500	1.30	250
NIS06J82NTR	82	±5% (J)	12.0	100 Mhz	1500	1.50	250
NIS06JR10TR	100	±5% (J)	12.0	100 Mhz	1300	1.80	200
NIS06JR12TR	120	±5% (J)	5.0	25.2 Mhz	1200	3.00	130
NIS06JR15TR	150	±5% (J)	5.0	25.2 Mhz	1100	4.50	100
NIS06JR18TR	180	±5% (J)	4.0	25.2 Mhz	1000	6.50	80
NIS06JR22TR	220	±5% (J)	4.0	25.2 Mhz	900	7.50	70

## TAPE AND REEL PACKAGING



QUANTITY PER REEL: 3000 pcs

