

NL WOUND CHIP INDUCTORS (Ferrite)

INTRODUCTION

These revolutionary, highly reliable wound chip inductors for automatic mounting, have been developed in response to the trend toward high density in electronic equipment. With metal terminals and a body of heat resistant resin, these inductors offer many superior features.



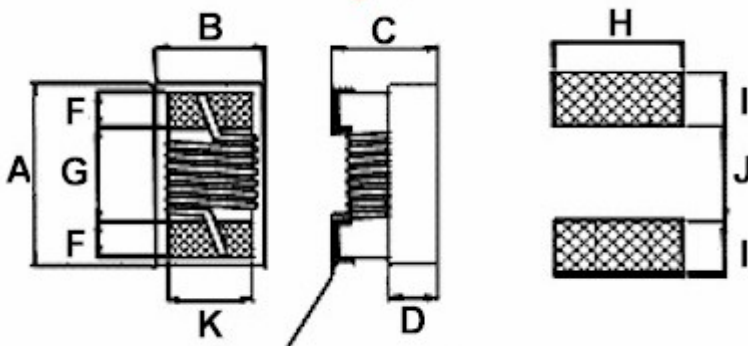
- Very strong solderability by flow soldering, soldering iron or wave soldering.
- Highly accurate dimensions, can be mounted automatically.
- Terminals are highly resistant to pull forces.
- Highly resistant to mechanical shocks and pressure.
- Highly reliable in environments of sudden temperature change and humidity. Super Q characteristics.

APPLICATIONS

Micro televisions, liquid crystal televisions, video cameras, portable VCRs, car radios, car stereos, thin tape radios, television tuners, mobile telephones, radio and other electronic devices

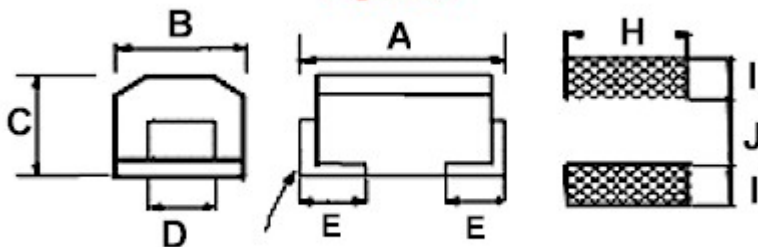
DIMENSIONS

Figure 1



Terminal Wraparound

Figure 2



Terminal Wraparound



DIMENSIONS (cont)

	Size	Figure	A Max.	B Max.	C Max.	D Ref.
NL05	0805	1	2.29	1.71	1.45	0.51
NL08	1008	1	2.92	2.79	2.10	1.20
NL10	1210	2	3.50	2.80	2.50	1.40
NL12	1812	2	4.80	3.50	3.50	1.80
NL20	2220	2	5.90	5.20	5.20	2.10
NL08(C)	1008	1	2.92	2.79	2.10	1.20
NL12(C)	1812	2	4.80	3.50	3.50	1.40
NL20(C)	2220	2	5.90	5.20	5.20	1.80

	E	F	G	K Max.	H Max.	I Max.	J Max.
NL05	/	0.44	1.02	1.27	1.78	1.02	0.76
NL08	/	0.45	1.52	2.03	2.54	1.02	1.27
NL10	0.6	/	/	/	2.00	1.20	1.60
NL12	0.9	/	/	/	2.80	1.50	3.00
NL20	1.3	/	/	/	4.50	2.00	4.00
NL08(C)	/	0.51	1.52	2.03	2.54	1.02	1.27
NL12(C)	0.9	/	/	/	2.80	1.50	3.00
NL20(C)	1.3	/	/	/	4.50	2.00	4.00

WOUND CHIP INDUCTORS (Ferrite) NL05

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]
NL05□TR12	0.12	J, K	20	25.2	700	0.18	1100
NL05□TR15	0.15				900	0.18	1100
NL05□TR18	0.18				600	0.20	800
NL05□TR22	0.22				550	0.25	700
NL05□TR27	0.27				550	0.30	700
NL05□TR33	0.33				550	0.35	650
NL05□TR39	0.39				420	0.35	600
NL05□TR47	0.47				350	0.45	600
NL05□TR56	0.56				300	0.45	550
NL05□TR68	0.68				300	0.60	500
NL05□TR82	0.82				300	0.55	500
NL05□T1R0	1.00				15	7.96	280
NL05□T1R2	1.20		280	0.90			400
NL05□T1R5	1.50		250	1.05			350
NL05□T1R8	1.80		120	0.90			350
NL05□T2R2	2.20		110	1.10			320
NL05□T2R7	2.70		70	1.20			320
NL05□T3R3	3.30		60	1.50			300
NL05□T3R9	3.90		55	1.60			300
NL05□T4R7	4.70		45	2.10			200
NL05□T5R6	5.60		40	2.30			250
NL05□T6R8	6.80		36	2.70			200
NL05□T8R2	8.20		33	3.30			180
NL05□T100	10		10	2.52	30	4.00	180



WOUND CHIP INDUCTORS (Ferrite) NL08

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]				
NL08□TR12	0.12	J, K	30	25.2	800	0.10	1200				
NL08□TR15	0.15				800	0.15	1200				
NL08□TR18	0.18				600	0.20	1200				
NL08□TR22	0.22				600	0.25	1200				
NL08□TR27	0.27				425	0.30	1200				
NL08□TR33	0.33				400	0.20	1100				
NL08□TR39	0.39				375	0.40	1000				
NL08□TR47	0.47				350	0.45	900				
NL08□TR56	0.56				325	0.30	850				
NL08□TR68	0.68				300	0.40	800				
NL08□TR82	0.82				260	0.45	800				
NL08□T1R0	1.0				25	7.96	7.96	245	0.50	800	
NL08□T1R2	1.2		230	0.55				800			
NL08□T1R5	1.5		182	0.65				750			
NL08□T1R8	1.8		135	0.80				750			
NL08□T2R2	2.2		105	0.95				750			
NL08□T2R7	2.7		70	1.05				750			
NL08□T3R3	3.3		55	1.15				730			
NL08□T3R9	3.9		48	1.25				700			
NL08□T4R7	4.7		43	1.28				650			
NL08□T5R6	5.6		42	1.35				640			
NL08□T6R8	6.8		39	1.60				630			
NL08□T8R2	8.2		36	1.80				600			
NL08□T100	10		20	2.52				2.52	33	2.30	600
NL08□T120	12								28	2.40	550
NL08□T150	15								24	2.70	450
NL08□T180	18								20	2.80	400
NL08□T220	22								18	3.30	400
NL08□T270	27								17	3.50	360
NL08□T330	33				16	4.00	350				
NL08□T390	39	15			5.50	330					
NL08□T470	47	14			5.90	300					
NL08□T560	56	13			6.80	270					
NL08□T680	68	12	9.50	250							
NL08□T820	82	10	11.0	200							
NL08□T101	100	12	1	8	11.0	120					

WOUND CHIP INDUCTORS (Ferrite) NL10

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]
NL10□T10N	0.010	K, M	15	100	2500	0.13	450
NL10□T12N	0.012		17		2300	0.14	
NL10□T15N	0.015		19		2100	0.16	
NL10□T18N	0.018		21		1900	0.18	
NL10□T22N	0.022		23		1700	0.20	
NL10□T27N	0.027		23		1500	0.22	
NL10□T33N	0.033		25		1400	0.24	
NL10□T39N	0.039		25		1300	0.27	
NL10□T47N	0.047		26		1200	0.30	
NL10□T56N	0.056		26		1100	0.33	
NL10□T68N	0.068		27		1000	0.36	
NL10□T82N	0.082		27		900	0.40	



WOUND CHIP INDUCTORS (Ferrite) NL10

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]	
NL10□TR10	0.10	K	30	25.2	700	0.44	450	
NL10□TR12	0.12				500	0.22		
NL10□TR15	0.15				450	0.25		
NL10□TR18	0.18				400	0.28		
NL10□TR22	0.22				350	0.32		
NL10□TR27	0.27				320	0.36		
NL10□TR33	0.33				300	0.40		
NL10□TR39	0.39				250	0.45		
NL10□TR47	0.47				220	0.50		
NL10□TR56	0.56				180	0.55		
NL10□TR68	0.68				160	0.60		
NL10□TR82	0.82				140	0.65		
NL10□T1R0	1.0			7.96	400			
NL10□T1R2	1.2					95	0.70	390
NL10□T1R5	1.5					80	0.75	370
NL10□T1R8	1.8					70	0.85	350
NL10□T2R2	2.2					60	0.90	320
NL10□T2R7	2.7					50	1.00	290
NL10□T3R3	3.3					45	1.10	260
NL10□T3R9	3.9					40	1.20	250
NL10□T4R7	4.7					37	1.30	220
NL10□T5R6	5.6					32	1.50	200
NL10□T6R8	6.8					30	1.60	180
NL10□T8R2	8.2					27	1.80	170
NL10□T100	10					25	2.00	150
NL10□T120	12					20	2.10	140
NL10□T150	15					18	2.50	130
NL10□T180	18		17	2.80	120			
NL10□T220	22		15	3.30	110			
NL10□T270	27		14	3.70	80			
NL10□T330	33		13	5.00	70			
NL10□T390	39		12	5.60	65			
NL10□T470	47		12	6.40	60			
NL10□T560	56	10	7.00	55				
NL10□T680	68	9	8.00	50				
NL10□T820	82	9	9.00	45				
NL10□T101	100	8	10.00	40				
NL10□T121	120	7	11.00	70				
NL10□T151	150	7	12.00	65				
NL10□T181	180	6	15.00	60				
NL10□T221	220	6	17.00	50				
		20	0.796	7	21.00	40		
				7	12.00	70		
				6	15.00	65		
				6	17.00	60		
				5	21.00	50		



WOUND CHIP INDUCTORS (Ferrite) NL12

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]	
NL12□TR10	0.10	K	28	25.2	700	0.44	450	
NL12□TR12	0.12		30		25.2	500		0.22
NL12□TR15	0.15					450		0.25
NL12□TR18	0.18					400		0.28
NL12□TR22	0.22					350		0.32
NL12□TR27	0.27					320		0.36
NL12□TR33	0.33					300		0.40
NL12□TR39	0.39					350		0.45
NL12□TR47	0.47					220		0.50
NL12□TR56	0.56					180		0.55
NL12□TR68	0.68					160		0.60
NL12□TR82	0.82					140		0.67
NL12□T1R0	1.0			50		7.96	100	0.50
NL12□T1R2	1.2		80		0.55		410	
NL12□T1R5	1.5		70		0.60		390	
NL12□T1R8	1.8		60		0.65		380	
NL12□T2R2	2.2		55		0.70		370	
NL12□T2R7	2.7		50		0.75		355	
NL12□T3R3	3.3		45		0.80		330	
NL12□T3R9	3.9		40		0.90		315	
NL12□T4R7	4.7		35		1.00		300	
NL12□T5R6	5.6		33		1.10		285	
NL12□T6R8	6.8		27		1.20		270	
NL12□T8R2	8.2		25		1.40		250	
NL12□T100	10		20		1.60		225	
NL12□T120	12		18		2.00		200	
NL12□T150	15		17		2.50		190	
NL12□T180	18		15		2.80		180	
NL12□T220	22		13		3.20		170	
NL12□T270	27		12		3.60		160	
NL12□T330	33		11		4.00		150	
NL12□T390	39		10		4.50		140	
NL12□T470	47		10		5.00		135	
NL12□T560	56		9		5.50		130	
NL12□T680	68		9		6.00		120	
NL12□T820	82		8		7.00		110	
NL12□T101	100		40	0.796	7	8.00	110	
NL12□T121	120				6	8.00	105	
NL12□T151	150				5	9.00	102	
NL12□T181	180				5	9.50	100	
NL12□T221	220				4	12.0	92	
NL12□T271	270				3	12.0	85	
NL12□T331	330	3			14.0	80		
NL12□T391	390	3			16.0	62		
NL12□T471	470	3			26.0	50		
NL12□T561	560	2			30.0	50		
NL12□T681	680	2			40.0	30		
NL12□T821	820	2			35.0	30		
NL12□T102	1000	30	0.252	2	46.0	30		



WOUND CHIP INDUCTORS (Ferrite) NL20

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]
NL20□T-122	1.2	J, K	30	0.252	1.5	17	75
NL20□T-152	1.5				1.4	20	70
NL20□T-182	1.8				1.3	30	60
NL20□T-222	2.2				1.2	35	55
NL20□T-272	2.7				1.1	55	45
NL20□T-332	3.3				1	60	40
NL20□T-392	3.9				1	70	38
NL20□T-472	4.7				0.9	78	36
NL20□T-562	5.6				0.8	85	33
NL20□T-682	6.8				0.7	110	30
NL20□T-822	8.2				0.6	125	28
NL20□T-103	10	20	0.0796	0.5	150	25	

WOUND CHIP INDUCTORS (Ferrite) NL08 LARGE CURRENT

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]
NL08□TC1R0	1.0	J, K	22	7.96	350	0.35	1500
NL08□TC1R2	1.2		25		300	0.40	1200
NL08□TC1R5	1.5		25		300	0.45	1200
NL08□TC1R8	1.8		25		300	0.55	1100
NL08□TC2R2	2.2		22		250	0.60	1050
NL08□TC2R7	2.7		25		70	0.70	1000
NL08□TC3R3	3.3		22		55	0.75	900
NL08□TC3R9	3.9		25		50	0.80	900
NL08□TC4R7	4.7		22		45	0.90	800
NL08□TC5R6	5.6		22		42	1.05	750
NL08□TC6R8	6.8		22		40	1.00	750
NL08□TC8R2	8.2		22		36	1.30	700
NL08□TC100	10		20		35	1.50	700
NL08□TC100	12		20		30	1.70	550
NL08□TC150	15		20		24	1.90	500
NL08□TC180	18		20		20	2.60	470
NL08□TC220	22		20		18	2.80	470
NL08□TC220	27	20	17	3.40	400		
NL08□TC330	33	20	16	3.50	400		



WOUND CHIP INDUCTORS (Ferrite) NL12 LARGE CURRENT

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]
NL12□TC1R0	1.0	K	10	7.96	200	0.11	1050
NL12□TC1R2	1.2				160	0.12	100
NL12□TC1R5	1.5				130	0.15	950
NL12□TC1R8	1.8				100	0.16	900
NL12□TC2R2	2.2				80	0.18	850
NL12□TC2R7	2.7				60	0.20	800
NL12□TC3R3	3.3				45	0.22	750
NL12□TC3R9	3.9				40	0.24	700
NL12□TC4R7	4.7				35	0.27	650
NL12□TC5R6	5.6				30	0.30	650
NL12□TC6R8	6.8				28	0.35	600
NL12□TC8R2	8.2				25	0.40	600
NL12□TC100	10				22	0.50	550
NL12□TC120	12				21	0.60	500
NL12□TC150	15				20	0.70	450
NL12□TC180	18				19	0.80	400
NL12□TC220	22				18	0.90	370
NL12□TC270	27				16	1.20	330
NL12□TC330	33		14	1.40	300		
NL12□TC390	39		12	1.60	280		
NL12□TC470	47		11.5	1.90	260		
NL12□TC560	56		11	2.20	240		
NL12□TC680	68		10	2.60	220		
NL12□TC820	82		9	3.50	200		
NL12□TC101	100		8	4.00	180		
NL12□TC121	120		7.5	4.50	160		
NL12□TC151	150		7	6.50	140		
NL12□TC181	180		6.5	7.50	120		
NL12□TC221	220		5.5	9.00	120		
NL12□TC271	270		5	11.0	100		
NL12□TC331	330		4	13.0	90		
NL12□TC391	390		3.8	23.0	80		
NL12□TC471	470		3.5	26	75		
NL12□TC451	560		2.8	30	70		
NL12□TC681	680		2.6	40	65		
NL12□TC821	820		2.5	45	60		
NL12□TC102	1000	2.3	50	55			
		20	0.796	0.796	8	4.00	180
NL12□TC121	120				7.5	4.50	160
NL12□TC151	150				7	6.50	140
NL12□TC181	180				6.5	7.50	120
NL12□TC221	220				5.5	9.00	120
NL12□TC271	270				5	11.0	100
NL12□TC331	330				4	13.0	90
NL12□TC391	390				3.8	23.0	80
NL12□TC471	470				3.5	26	75
NL12□TC451	560				2.8	30	70
NL12□TC681	680				2.6	40	65
NL12□TC821	820				2.5	45	60
NL12□TC102	1000				2.3	50	55



WOUND CHIP INDUCTORS (Ferrite) NL20 LARGE CURRENT

Part Number	Inductance [nH]	Tolerance [%]	Q Factor [min]	Test Freq. [MHz]	Self Resonant Frequency [GHz]	DC Resistance [ohms max]	Rated Current [mA max]
NL20□TC1R0	1.0	J, K	10	7.96	95	0.03	1800
NL20□TC1R2	1.2				70	0.035	1700
NL20□TC1R5	1.5				55	0.04	1600
NL20□TC1R8	1.8				47	0.05	1400
NL20□TC2R2	2.2				42	0.06	1300
NL20□TC2R7	2.7				37	0.07	1200
NL20□TC3R3	3.3				34	0.08	1120
NL20□TC3R9	3.9				32	0.09	1050
NL20□TC4R7	4.7				29	0.11	950
NL20□TC5R6	5.6				26	0.13	880
NL20□TC6R8	6.8				24	0.15	810
NL20□TC8R2	8.2				22	0.18	750
NL20□TC100	10				19	0.21	690
NL20□TC120	12				17	0.25	630
NL20□TC150	15				16	0.30	580
NL20□TC180	18				14	0.36	530
NL20□TC220	22				13	0.43	480
NL20□TC270	27		11.5	0.52	440		
NL20□TC330	33		10.5	0.62	400		
NL20□TC390	39		9.5	0.72	370		
NL20□TC470	47		8.5	0.85	340		
NL20□TC560	56		7.8	1.00	310		
NL20□TC680	68		7	1.2	290		
NL20□TC820	82		6.4	1.4	270		
NL20□TC101	100		6	1.6	250		
NL20□TC121	120		5.4	1.9	230		
NL20□TC151	150		4.8	2.2	210		
NL20□TC181	180		4.4	2.8	190		
NL20□TC221	220		3.9	3.4	170		
NL20□TC271	270		3.6	4.2	155		
NL20□TC331	330		3.2	4.9	140		
NL20□TC391	390		2.9	5.8	130		
NL20□TC471	470		2.6	7	120		
NL20□TC451	560		2.4	8.5	110		
NL20□TC681	680	2.2	10	100			
NL20□TC821	820	2	13	90			
NL20□TC102	1000	1.8	15	85			
		20	0.796	7.96	6	1.6	250
NL20□TC121	120				5.4	1.9	230
NL20□TC151	150				4.8	2.2	210
NL20□TC181	180				4.4	2.8	190
NL20□TC221	220				3.9	3.4	170
NL20□TC271	270				3.6	4.2	155
NL20□TC331	330				3.2	4.9	140
NL20□TC391	390				2.9	5.8	130
NL20□TC471	470				2.6	7	120
NL20□TC451	560				2.4	8.5	110
NL20□TC681	680				2.2	10	100
NL20□TC821	820				2	13	90
NL20□TC102	1000				1.8	15	85

ORDERING PROCEDURE EXAMPLE

