

## NL Series

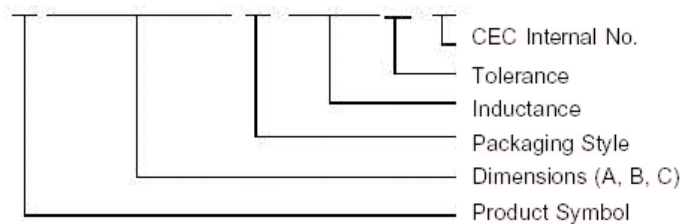


### Features

- RoHS compliant
- Strong solderability by reflow soldering and soldering iron.
- 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.
- Superior Q characteristics and the broadest L selections among peers.

### Product Identification

NL□□□□□□□-□□□□□-□



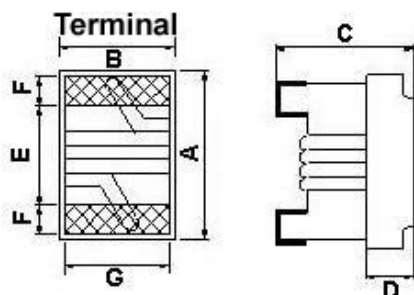
### Applications

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

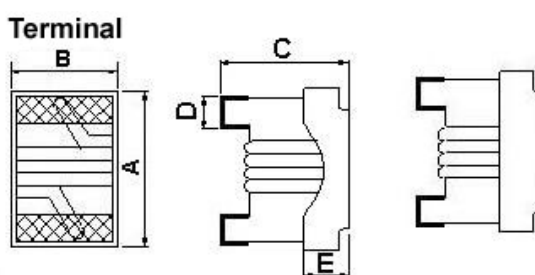
- Packaging: T : Tape and Reel

### Shapes and Dimensions

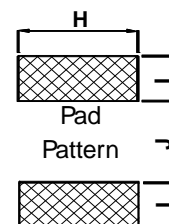
#### NL201614



#### NL252018



### Recommended Pattern



Dimensions in mm

TYPE	A Max	B Max	C Max	D	E	F	G	H	I	J
NL201614	2.40	1.72	1.52	0.70	1.02	0.50	1.27	1.78	1.02	0.76
NL252018	2.92	2.50	2.79	2.20	0.51	0.51	-	2.54	1.02	1.27

NL252018: B Max: 2.79 mm, at 5N0~R10,  
2.50 mm, at R12~101

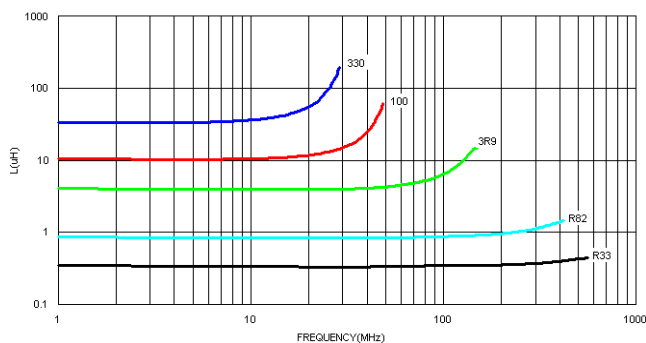
## Electrical Characteristics

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (MHz) Min	Rdc (Ω) Max	Idc (mA)	Color
NL201614T-R12□-N	0.12	25.2	10 / 5	25	25.2	500	0.20	600	White
NL201614T-R15□-N	0.15	25.2	10 / 5	25	25.2	450	0.25	600	Black
NL201614T-R18□-N	0.18	25.2	10 / 5	25	25.2	410	0.30	570	Brown
NL201614T-R22□-N	0.22	25.2	10 / 5	25	25.2	350	0.35	550	Red
NL201614T-R27□-N	0.27	25.2	10 / 5	25	25.2	280	0.40	530	Orange
NL201614T-R33□-N	0.33	25.2	10 / 5	25	25.2	235	0.45	510	Yellow
NL201614T-R39□-N	0.39	25.2	10 / 5	25	25.2	210	0.50	490	Green
NL201614T-R47□-N	0.47	25.2	10 / 5	25	25.2	170	0.55	470	Blue
NL201614T-R56□-N	0.56	25.2	10 / 5	25	25.2	150	0.60	450	Violet
NL201614T-R68□-N	0.68	25.2	10 / 5	25	25.2	140	0.70	420	Gray
NL201614T-R82□-N	0.82	25.2	10 / 5	25	25.2	130	0.75	400	White
NL201614T-1R0□-N	1.00	7.96	10 / 5	15	7.96	115	0.80	350	Black
NL201614T-1R2□-N	1.20	7.96	10 / 5	15	7.96	95	0.90	325	Brown
NL201614T-1R5□-N	1.50	7.96	10 / 5	15	7.96	85	1.05	300	Red
NL201614T-1R8□-N	1.80	7.96	10 / 5	15	7.96	80	1.20	270	Orange
NL201614T-2R2□-N	2.20	7.96	10 / 5	15	7.96	75	1.40	250	Yellow
NL201614T-2R7□-N	2.70	7.96	10 / 5	15	7.96	70	1.60	230	Green
NL201614T-3R3□-N	3.30	7.96	10 / 5	15	7.96	60	1.80	210	Blue
NL201614T-3R9□-N	3.90	7.96	10 / 5	15	7.96	55	2.00	190	Violet
NL201614T-4R7□-N	4.70	7.96	10 / 5	15	7.96	45	2.40	170	Gray
NL201614T-5R6□-N	5.60	7.96	10 / 5	15	7.96	40	2.70	150	White
NL201614T-6R8□-N	6.80	7.96	10 / 5	15	7.96	36	3.20	140	Black
NL201614T-8R2□-N	8.20	7.96	10 / 5	15	7.96	33	3.60	120	Brown
NL201614T-100□-N	10.0	2.52	10 / 5	15	2.52	30	4.50	110	Red
NL201614T-120□-N	12.0	2.52	10 / 5	15	2.52	25	5.70	105	Orange
NL201614T-150□-N	15.0	2.52	10 / 5	15	2.52	23	6.50	90	Yellow
NL201614T-180□-N	18.0	2.52	10 / 5	15	2.52	21	7.00	85	Green
NL201614T-220□-N	22.0	2.52	10 / 5	15	2.52	20	8.00	78	Blue
NL201614T-270□-N	27.0	2.52	10 / 5	15	2.52	18	9.00	75	Violet
NL201614T-330□-N	33.0	2.52	10 / 5	15	2.52	17	10.0	70	Gray

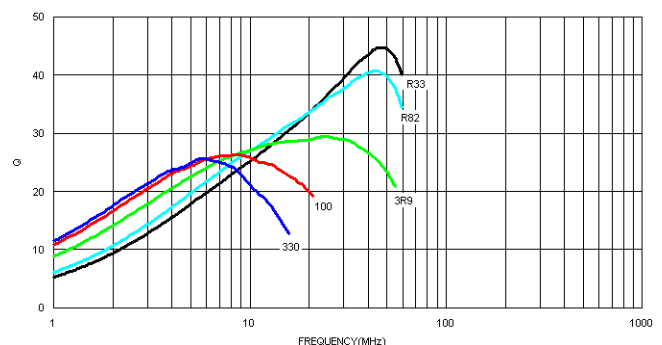
- When ordering, please specify tolerance and packaging codes.
- Tolerance : J = ±5% , K = ±10%
- L/Q : Agilent/HP4291A+ Agilent/HP16197A
- SRF: Agilent/HP4291A
- Rdc: CH502BC/ HP4338B
- Idc for Inductance drop 10% from its value without current.
- Operating temperature range from -25℃ to 105℃ . (Including self - temperature rise)

**Test Instruments : HP4291A Material/Impedance Analyzer**

### Typical L vs. Frequency



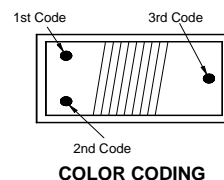
### Typical Q vs. Frequency



## Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Test Frequency (MHz)	Tolerance ( $\pm$ %)	Q Min	Test Frequency (MHz)	SRF (MHz) Min	Rdc ( $\Omega$ ) Max	Idc (mA)	Color Coding		
									1 <sup>ST</sup>	2 <sup>ND</sup>	3 <sup>RD</sup>
NL252018T-5N0□-N	0.005	100	10	10	100	3000	0.25	2000	Black	Green	Black
NL252018T-10N□-N	0.010	100	10	10	100	2500	0.25	1800	Brown	Black	Black
NL252018T-12N□-N	0.012	100	10	15	100	2400	0.26	1700	Brown	Red	Black
NL252018T-15N□-N	0.015	100	10	15	100	2300	0.28	1600	Brown	Green	Black
NL252018T-18N□-N	0.018	100	10	15	100	2200	0.30	1550	Brown	Gray	Black
NL252018T-22N□-N	0.022	100	10 / 5	20	100	2100	0.35	1500	Red	Red	Black
NL252018T-27N□-N	0.027	100	10 / 5	20	100	2000	0.40	1450	Red	Violet	Black
NL252018T-33N□-N	0.033	100	10 / 5	30	100	1600	0.42	1400	Orange	Orange	Black
NL252018T-39N□-N	0.039	100	10 / 5	35	100	1500	0.45	1350	Orange	White	Black
NL252018T-47N□-N	0.047	100	10 / 5	35	100	1400	0.50	1300	Yellow	Violet	Black
NL252018T-56N□-N	0.056	100	10 / 5	35	100	1300	0.60	1250	Green	Blue	Black
NL252018T-68N□-N	0.068	100	10 / 5	35	100	1200	0.65	1240	Blue	Gray	Black
NL252018T-82N□-N	0.082	100	10 / 5	35	100	1100	0.75	1230	Gray	Red	Black
NL252018T-R10□-N	0.10	100	10 / 5	35	100	800	0.80	1220	Brown	Black	Brown
NL252018T-R12□-N	0.12	25.2	10 / 5	30	25.2	700	0.30	900	Brown	Red	Brown
NL252018T-R15□-N	0.15	25.2	10 / 5	30	25.2	550	0.35	900	Brown	Green	Brown
NL252018T-R18□-N	0.18	25.2	10 / 5	30	25.2	500	0.40	850	Brown	Gray	Brown
NL252018T-R22□-N	0.22	25.2	10 / 5	30	25.2	450	0.50	840	Red	Red	Brown
NL252018T-R27□-N	0.27	25.2	10 / 5	30	25.2	425	0.55	830	Red	Violet	Brown
NL252018T-R33□-N	0.33	25.2	10 / 5	30	25.2	400	0.60	820	Orange	Orange	Brown
NL252018T-R39□-N	0.39	25.2	10 / 5	30	25.2	375	0.65	810	Orange	White	Brown
NL252018T-R47□-N	0.47	25.2	10 / 5	30	25.2	350	0.68	800	Yellow	Violet	Brown
NL252018T-R56□-N	0.56	25.2	10 / 5	30	25.2	325	0.75	800	Green	Blue	Brown
NL252018T-R68□-N	0.68	25.2	10 / 5	30	25.2	300	0.85	800	Blue	Gray	Brown
NL252018T-R82□-N	0.82	25.2	10 / 5	30	25.2	260	1.0	800	Gray	Red	Brown
NL252018T-1R0□-N	1.0	7.96	10 / 5	25	7.96	245	1.1	800	Brown	Black	Red
NL252018T-1R2□-N	1.2	7.96	10 / 5	25	7.96	230	1.2	790	Brown	Red	Red
NL252018T-1R5□-N	1.5	7.96	10 / 5	25	7.96	182	1.3	750	Brown	Green	Red
NL252018T-1R8□-N	1.8	7.96	10 / 5	25	7.96	135	1.45	750	Brown	Gray	Red
NL252018T-2R2□-N	2.2	7.96	10 / 5	25	7.96	105	1.55	750	Red	Red	Red
NL252018T-2R7□-N	2.7	7.96	10 / 5	25	7.96	70	1.7	740	Red	Violet	Red
NL252018T-3R3□-N	3.3	7.96	10 / 5	25	7.96	55	1.9	730	Orange	Orange	Red
NL252018T-3R9□-N	3.9	7.96	10 / 5	25	7.96	48	2.1	700	Orange	White	Red
NL252018T-4R7□-N	4.7	7.96	10 / 5	25	7.96	43	2.3	650	Yellow	Violet	Red
NL252018T-5R6□-N	5.6	7.96	10 / 5	20	7.96	42	2.5	640	Green	Blue	Red
NL252018T-6R8□-N	6.8	7.96	10 / 5	20	7.96	39	2.7	630	Blue	Gray	Red
NL252018T-8R2□-N	8.2	7.96	10 / 5	20	7.96	36	3.05	600	Gray	Red	Red
NL252018T-100□-N	10	2.52	10 / 5	15	2.52	33	3.5	600	Brown	Black	Orange
NL252018T-120□-N	12	2.52	10 / 5	15	2.52	30	3.8	550	Brown	Red	Orange
NL252018T-150□-N	15	2.52	10 / 5	15	2.52	26	4.4	430	Brown	Green	Orange
NL252018T-180□-N	18	2.52	10 / 5	15	2.52	24	4.8	400	Brown	Gray	Orange
NL252018T-220□-N	22	2.52	10 / 5	15	2.52	22	5.5	400	Red	Red	Orange
NL252018T-270□-N	27	2.52	10 / 5	15	2.52	21	6.3	360	Red	Violet	Orange
NL252018T-330□-N	33	2.52	10 / 5	15	2.52	20	7.1	350	Orange	Orange	Orange
NL252018T-390□-N	39	2.52	10 / 5	10	2.52	18	9.5	330	Orange	White	Orange
NL252018T-470□-N	47	2.52	10 / 5	10	2.52	17	11.1	300	Yellow	Violet	Orange
NL252018T-560□-N	56	2.52	10 / 5	10	2.52	16	12.1	270	Green	Blue	Orange
NL252018T-680□-N	68	2.52	10 / 5	10	2.52	15	16.6	250	Blue	Gray	Orange
NL252018T-820□-N	82	2.52	10 / 5	10	2.52	13	19	200	Gray	Red	Orange
NL252018T-101□-N	100	0.796	10 / 5	8	0.796	12	21	120	Brown	Black	Yellow

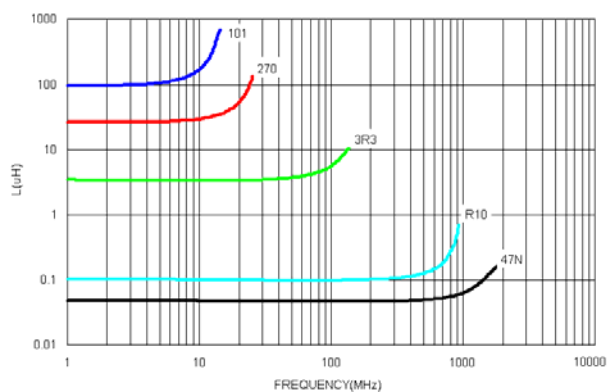
- When ordering, please specify tolerance and packaging codes.
- Tolerance : J =  $\pm 5\%$  , K =  $\pm 10\%$
- L/Q : Agilent/HP4291A+ Agilent/HP16197A(Over 1MHz) or Agilent/HP4285A+ Agilent/HP16197A(Under 1MHz)
- SRF : Agilent/HP8753D / Agilent/HP4291A
- RDC : Digital Multimeter CH502BC/HP4338B
- Idc for Inductance drop 10% from its value without current.
- Operating temperature range from -25 $^{\circ}$ C to 105 $^{\circ}$ C . (Including self - temperature rise)



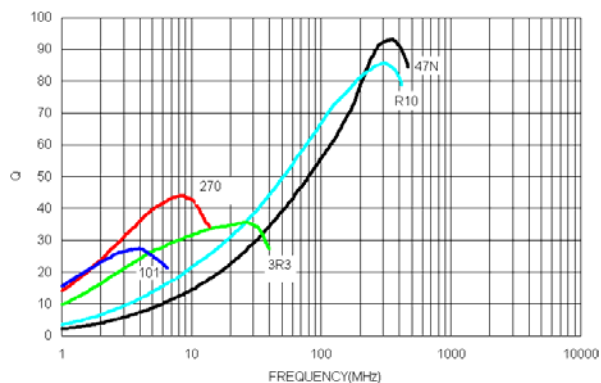
# SMD Wire Wound Ferrite Chip Inductors – NL Series

**Test Instruments :** HP4291A Material/Impedance Analyzer

## Typical L vs. Frequency

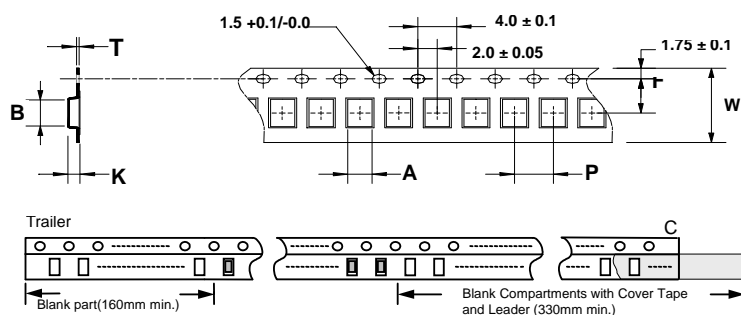


## Typical Q vs. Frequency

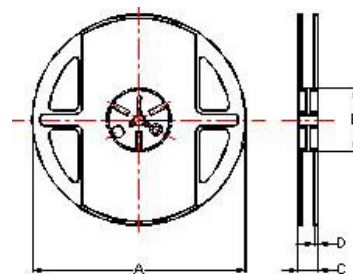


## Packaging Specifications

### Tape Dimensions



### Reel Dimensions



### Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Quantity PCS / Reel
	A	B	T	W	P	F	K	A	B	C	D	
NL201614	1.85	2.45	0.23	8	4	3.5	1.45	178	60	12	1.5	2000
NL252018(5N0~R10)	2.80	2.95	0.23	8	4	3.5	2.20	178	60	12	1.5	2000
NL252018(R12~101)	2.61	2.93	0.26	8	4	3.5	2.25	178	60	12	1.5	2000