



# Wire Wound SMD Inductors–NL Series

## FEATURES

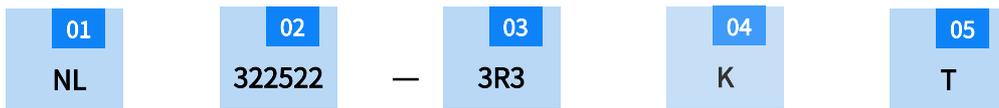
- Lead-free materials in used for the plating on the terminals.
- The product uses metal terminals, which realize excellent connection reliability
- The product has good heat durability that withstands lead-free compatible reflow soldering conditions.
- High resistance to heat, humidity, mechanical shocks and pressure, accurate dimensions for automatically surface mounted.



## APPLICATIONS

- Communication, equipment and instrument. Hard Disk drives, and other electronic equipment.

## PRODUCT IDENTIFICATION



01 Type	
ZNL	Wire Wound SMD Inductor

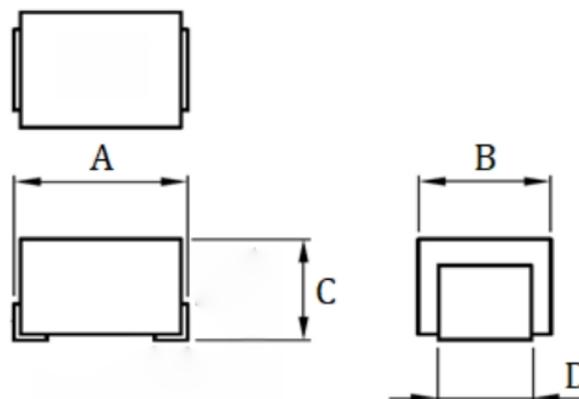
02 External Dimensions (LxWxH)(mm)	
252018	2.5x 2.0x 1.8
322522	3.2x 2.5x 2.2
453232	4.5x 3.2x 3.2

03 Nominal Inductance	
Example	Nominal value
3R3	3.3uH
330	33uH
331	330uH

04 Tolerance	
J	±5%
K	±10%
M	±20%

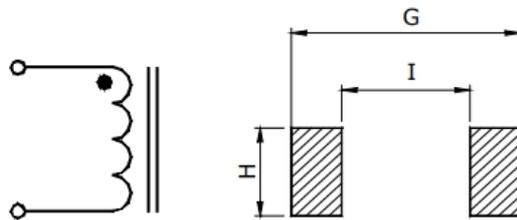
05 Packing	
T	Tape & Reel

## SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)			
	A Max	B Max	C Max	F Max
NL252018	2.5±0.20	2.0±0.20	1.8±0.20	1.5±0.20
NL322522	3.2±0.50	2.5±0.50	2.2±0.50	1.2±0.30
NL453232	4.5±0.50	3.2±0.50	3.2±0.50	1.4±0.30

## RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)		
	G	I	H
NL252018	3.50	1.50	1.50
NL322522	4.40	1.50	3.40
NL453232	5.90	1.50	4.20

## SPECIFICATIONS

### ● NL252028 TYPE

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max(Ω)	Rated Current Max (mA)
NL252018-1R0	1.0	J、K	30	7.96	150	0.75	245
NL252018-1R2	1.2	J、K	30	7.96	130	0.87	230
NL252018-1R5	1.5	J、K	30	7.96	120	1.00	220
NL252018-1R8	1.8	J、K	30	7.96	110	1.10	210
NL252018-2R2	2.2	J、K	30	7.96	105	1.30	200
NL252018-3R3	3.3	J、K	30	7.96	55	1.60	185
NL252018-4R7	4.7	J、K	30	7.96	43	1.90	175



Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max(Ω)	Rated Current Max (mA)
NL252018-5R6	5.6	J、K	30	7.96	42	2.20	170
NL252018-6R8	6.8	J、K	30	7.96	39	2.40	165
NL252018-8R2	8.2	J、K	30	7.96	36	2.60	160
NL252018-100	10.0	J、K	25	2.52	33	2.20	155
NL252018-150	15.0	J、K	25	2.52	26	2.80	140
NL252018-180	18.0	J、K	25	2.52	22	3.20	130
NL252018-220	22.0	J、K	25	2.52	21	3.60	125
NL252018-330	33.0	J、K	25	2.52	17	4.70	110
NL252018-390	39.0	J、K	25	2.52	15	8.10	85
NL252018-470	47.0	J、K	25	2.52	14	8.80	80
NL252018-560	56.0	J、K	25	2.52	13	10.0	75
NL252018-680	68.0	J、K	25	2.52	12	11.5	70

**Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%;**

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● **NL322522 TYPE**

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max(Ω)	Rated Current Max (mA)
NL322522-47N	0.047	K、M	27	100	1200	0.30	450
NL322522-68N	0.068	K、M	27	100	1000	0.36	450
NL322522-82N	0.082	K、M	27	100	900	0.40	450
NL322522-R10	0.10	K、M	30	25.2	700	0.44	450
NL322522-R12	0.12	K、M	30	25.2	500	0.22	450
NL322522-R15	0.15	K、M	30	25.2	450	0.25	450
NL322522-R18	0.18	K、M	30	25.2	400	0.28	450
NL322522-R22	0.22	K、M	30	25.2	350	0.32	450
NL322522-R27	0.27	K、M	30	25.2	320	0.36	450
NL322522-R33	0.33	K、M	30	25.2	300	0.40	450
NL322522-R39	0.39	K、M	30	25.2	250	0.45	450
NL322522-R47	0.47	K、M	30	25.2	220	0.50	450
NL322522-R56	0.56	K、M	30	25.2	180	0.55	450



Specifications subject to change without notice. Please check our website for latest information.

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Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max( $\Omega$ )	Rated Current Max (mA)
NL322522-R68	0.68	K	30	25.2	160	0.60	450
NL322522-R82	0.82	K	30	25.2	140	0.65	450
NL322522-1R0	1.0	J、K	30	7.96	120	0.70	400
NL322522-1R2	1.2	J、K	30	7.96	100	0.75	390
NL322522-1R5	1.5	J、K	30	7.96	85	0.85	370
NL322522-1R8	1.8	J、K	30	7.96	80	0.90	350
NL322522-2R2	2.2	J、K	30	7.96	65	1.0	320
NL322522-2R7	2.7	J、K	30	7.96	65	1.1	290
NL322522-3R3	3.3	J、K	30	7.96	50	1.2	260
NL322522-3R9	3.9	J、K	30	7.96	45	1.3	250
NL322522-4R7	4.7	J、K	30	7.96	45	1.5	220
NL322522-5R6	5.6	J、K	30	7.96	40	1.6	200
NL322522-6R8	6.8	J、K	30	7.96	40	1.8	180
NL322522-8R2	8.2	J、K	30	7.96	35	2.0	170
NL322522-100	10	J、K	30	2.52	30	2.1	150
NL322522-120	12	J、K	30	2.52	20	2.5	140
NL322522-150	15	J、K	30	2.52	20	2.8	130
NL322522-180	18	J、K	30	2.52	20	3.3	120
NL322522-220	22	J、K	30	2.52	20	3.7	110
NL322522-330	33	J、K	30	2.52	17	5.6	70
NL322522-390	39	J、K	30	2.52	16	6.4	650
NL322522-470	47	J、K	30	2.52	15	7.0	60
NL322522-560	56	J、K	30	2.52	13	8.0	55
NL322522-680	68	J、K	30	2.52	12	9.0	50
NL322522-820	82	J、K	30	2.52	10	10.0	45
NL322522-101	100	J、K	30	0.796	9	10.0	40
NL322522-151	150	J、K	25	0.796	8	15.0	65
NL322522-181	180	J、K	25	0.796	7	17.0	60
NL322522-221	220	J、K	25	0.796	7	21.0	50
NL322522-331	330	J、K	25	0.796	5	34.0	40

**Note: When ordering, please specify tolerance code. Tolerance: K:  $\pm 10\%$ , M:  $\pm 20\%$ ;**

1. Operating temperature range  $-40 - 125^{\circ}\text{C}$

2. Isat for Inductance drop 30% from its value without current



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## ● NL453232 TYPE

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max( $\Omega$ )	Rated Current Max (mA)
NL453232-1R0	1.0	J、K	50	7.96	100	0.50	450
NL453232-1R2	1.2	J、K	50	7.96	80	0.55	430
NL453232-1R5	1.5	J、K	50	7.96	70	0.60	410
NL453232-1R8	1.8	J、K	50	7.96	60	0.65	390
NL453232-2R2	2.2	J、K	50	7.96	55	0.70	380
NL453232-2R7	2.7	J、K	50	7.96	50	0.75	370
NL453232-3R3	3.3	J、K	50	7.96	45	0.80	355
NL453232-3R9	3.9	J、K	50	7.96	40	0.90	330
NL453232-4R7	4.7	J、K	50	7.96	35	1.0	315
NL453232-5R6	5.6	J、K	50	7.96	33	1.1	300
NL453232-6R8	6.8	J、K	50	7.96	27	1.2	285
NL453232-8R2	8.2	J、K	50	7.96	25	1.4	270
NL453232-100	10	J、K	50	2.52	20	1.6	250
NL453232-120	12	J、K	50	2.52	18	2.0	225
NL453232-150	15	J、K	50	2.52	17	2.5	200
NL453232-180	18	J、K	50	2.52	15	2.8	190
NL453232-220	22	J、K	50	2.52	13	3.2	180
NL453232-330	33	J、K	50	2.52	11	4.0	160
NL453232-390	39	J、K	50	2.52	10	4.5	150
NL453232-470	47	J、K	50	2.52	10	5.0	140
NL453232-560	56	J、K	50	2.52	9	5.5	135
NL453232-680	68	J、K	50	2.52	9	6	130
NL453232-820	82	J、K	50	2.52	8	7	120
NL453232-101	100	J、K	40	0.796	8	8	110
NL453232-121	120	J、K	40	0.796	6	8	110
NL453232-151	150	J、K	40	0.796	5	9	105
NL453232-181	180	J、K	40	0.796	5	9.5	102
NL453232-221	220	J、K	40	0.796	4	10	100
NL453232-271	270	J、K	40	0.796	4	12	92

**Note: When ordering, please specify tolerance code. Tolerance: K:  $\pm 10\%$ 、M:  $\pm 20\%$ ;**

1. Operating temperature range -40 -125°C

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Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max( $\Omega$ )	Rated Current Max (mA)
NL453232-331	330	J、K	40	7.96	3.5	14	85
NL453232-390	390	J、K	40	7.96	3.0	16	80
NL453232-470	470	J、K	40	7.96	3.0	26	62
NL453232-560	560	J、K	30	7.96	3.0	30	50
NL453232-681	680	J、K	30	7.96	3.0	30	50
NL453232-821	820	J、K	30	7.96	2.5	35	30
NL453232-102	1000	J、K	20	7.96	2.5	40	30

**Note: When ordering, please specify tolerance code. Tolerance: J:  $\pm 5\%$ 、K:  $\pm 10\%$ ;**

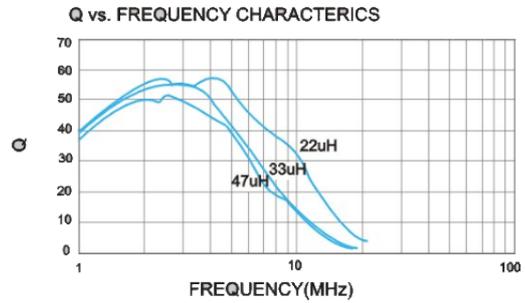
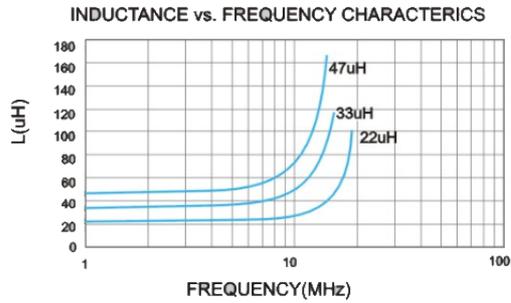
1. Operating temperature range  $-40 - 125^{\circ}\text{C}$

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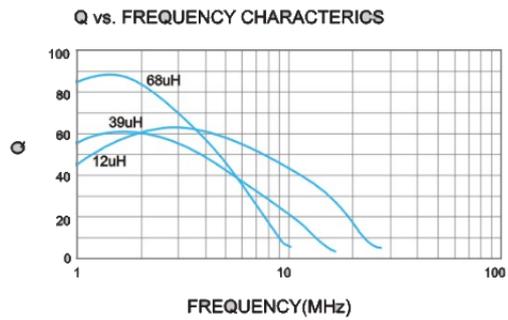
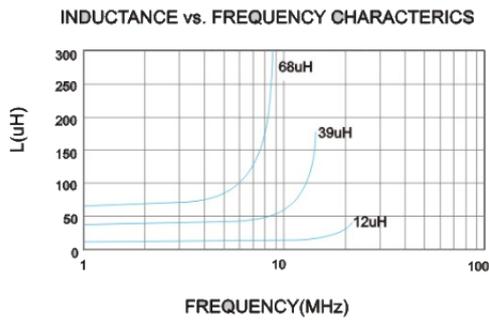


## DETAIL ELECTRICAL CHARACTERISTICS

### ● NL322522



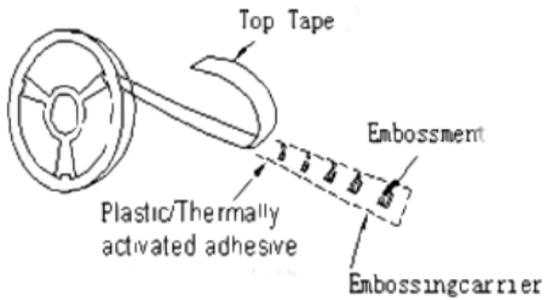
### ● NL453232



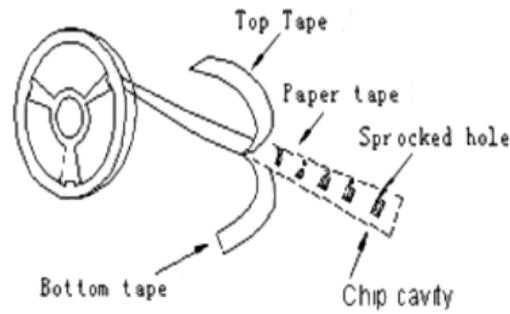
## PACKAGING STYLE

### • Taping Material

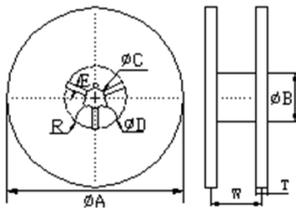
Embossing Tape



Paper Tape



### • Reel Dimensions(mm)



Tape Width	A	B	C	D	E	W	T	R
8mm	178±2	60±1	13±0.5	21±0.8	2±0.5	10±1	1.5±0.5	1
12mm	178±2	60±1	13±0.5	21±0.8	2±0.5	14±1	1.5±0.5	1

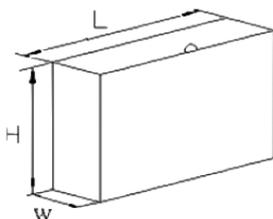
## STORAGE

### • Quantity

Type	PCS/REEL	PCS/INNERBOX	PCS/OUTERBOX
252018	2000	10000	50000
322522	2000	10000	50000
453232	500	2000	10000

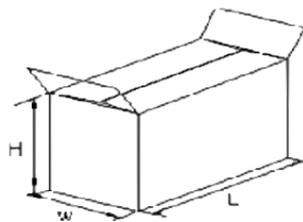
### • Packing Dimensions(mm)

Inner Box Dimensions



L	W	H	THICK
180±3	70±3	190±3	2±0.8

Outer Box Dimensions



L	W	H	THICK
370±3	200±3	210±3	2±0.8

### • Storage

Please be sure to the parts at 40°C, or less, 70%RH or less, and isolate the parts from sulphic and chloric atmosphere.

