



# 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
- High resistance to heat, humidity,meachanical shocks and presser, accyrate dimensions for automatically surface mounted.
- The product has good heat durability that withstands lead-free compati ble reffow sldering conditions.

## APPLICATIONS

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

## PRODUCT IDENTIFICATION



01 Type	
ZNL	Wire Wound SMD Inductor

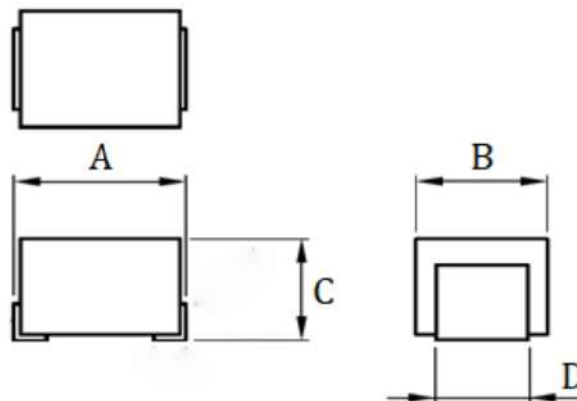
02 External Dimensions (LxWxH)(mm)	
252018	2.5x 2.0x 1.8
322522	3.2x 2.5x 2.2
453232	4.5x 3.2x 3.2

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

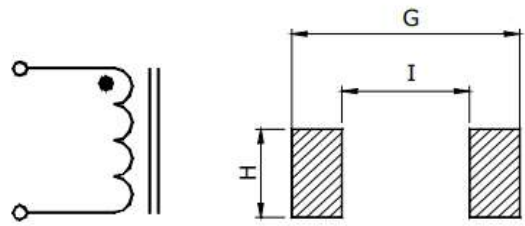
## SHAPE AND DIMENSIONS



Multilayer Chip Ferrite Beads  
 Large Current Multilayer Chip Ferrite beads  
 Ferrite Chip Bead Arrays

Part Number	Dimensions(mm)			
	A Max	B Max	C Max	F Max
ZNL252018	2.5±0.20	2.0±0.20	1.8±0.20	1.5±0.20
ZNL322522	3.2±0.50	2.5±0.50	2.2±0.50	1.2±0.30
ZNL453232	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
ZNL252018	3.50	1.50	1.50
ZNL322522	4.40	1.50	3.40
ZNL453232	5.90	1.50	4.20

## SPECIFICATIONS

### ● ZNL252028 TYPE

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max(Ω)	Rated Current Max (mA)
ZNL252018-1R0	1.0	J、K	30	7.96	150	0.75	245
ZNL252018-1R2	1.2	J、K	30	7.96	130	0.87	230
ZNL252018-1R5	1.5	J、K	30	7.96	120	1.00	220
ZNL252018-1R8	1.8	J、K	30	7.96	110	1.10	210
ZNL252018-2R2	2.2	J、K	30	7.96	105	1.30	200
ZNL252018-3R3	3.3	J、K	30	7.96	55	1.60	185
ZNL252018-4R7	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)
ZNL252018-5R6	5.6	J、K	30	7.96	42	2.20	170
ZNL252018-6R8	6.8	J、K	30	7.96	39	2.40	165
ZNL252018-8R2	8.2	J、K	30	7.96	36	2.60	160
ZNL252018-100	10.0	J、K	25	2.52	33	2.20	155
ZNL252018-150	15.0	J、K	25	2.52	26	2.80	140
ZNL252018-180	18.0	J、K	25	2.52	22	3.20	130
ZNL252018-220	22.0	J、K	25	2.52	21	3.60	125
ZNL252018-330	33.0	J、K	25	2.52	17	4.70	110
ZNL252018-390	39.0	J、K	25	2.52	15	8.10	85
ZNL252018-470	47.0	J、K	25	2.52	14	8.80	80
ZNL252018-560	56.0	J、K	25	2.52	13	10.0	75
ZNL252018-680	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

● **ZNL322522 TYPE**

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max(Ω)	Rated Current Max (mA)
ZNL322522-47N	0.047	K、M	27	100	1200	0.30	450
ZNL322522-68N	0.068	K、M	27	100	1000	0.36	450
ZNL322522-82N	0.082	K、M	27	100	900	0.40	450
ZNL322522-R10	0.10	K、M	30	25.2	700	0.44	450
ZNL322522-R12	0.12	K、M	30	25.2	500	0.22	450
ZNL322522-R15	0.15	K、M	30	25.2	450	0.25	450
ZNL322522-R18	0.18	K、M	30	25.2	400	0.28	450
ZNL322522-R22	0.22	K、M	30	25.2	350	0.32	450
ZNL322522-R27	0.27	K、M	30	25.2	320	0.36	450
ZNL322522-R33	0.33	K、M	30	25.2	300	0.40	450
ZNL322522-R39	0.39	K、M	30	25.2	250	0.45	450
ZNL322522-R47	0.47	K、M	30	25.2	220	0.50	450
ZNL322522-R56	0.56	K、M	30	25.2	180	0.55	450

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max(Ω)	Rated Current Max (mA)
ZNL322522-R68	0.68	K	30	25.2	160	0.60	450
ZNL322522-R82	0.82	K	30	25.2	140	0.65	450
ZNL322522-1R0	1.0	J、K	30	7.96	120	0.70	400
ZNL322522-1R2	1.2	J、K	30	7.96	100	0.75	390
ZNL322522-1R5	1.5	J、K	30	7.96	85	0.85	370
ZNL322522-1R8	1.8	J、K	30	7.96	80	0.90	350
ZNL322522-2R2	2.2	J、K	30	7.96	65	1.0	320
ZNL322522-2R7	2.7	J、K	30	7.96	65	1.1	290
ZNL322522-3R3	3.3	J、K	30	7.96	50	1.2	260
ZNL322522-3R9	3.9	J、K	30	7.96	45	1.3	250
ZNL322522-4R7	4.7	J、K	30	7.96	45	1.5	220
ZNL322522-5R6	5.6	J、K	30	7.96	40	1.6	200
ZNL322522-6R8	6.8	J、K	30	7.96	40	1.8	180
ZNL322522-8R2	8.2	J、K	30	7.96	35	2.0	170
ZNL322522-100	10	J、K	30	2.52	30	2.1	150
ZNL322522-120	12	J、K	30	2.52	20	2.5	140
ZNL322522-150	15	J、K	30	2.52	20	2.8	130
ZNL322522-180	18	J、K	30	2.52	20	3.3	120
ZNL322522-220	22	J、K	30	2.52	20	3.7	110
ZNL322522-330	33	J、K	30	2.52	17	5.6	70
ZNL322522-390	39	J、K	30	2.52	16	6.4	650
ZNL322522-470	47	J、K	30	2.52	15	7.0	60
ZNL322522-560	56	J、K	30	2.52	13	8.0	55
ZNL322522-680	68	J、K	30	2.52	12	9.0	50
ZNL322522-820	82	J、K	30	2.52	10	10.0	45
ZNL322522-101	100	J、K	30	0.796	9	10.0	40
ZNL322522-151	150	J、K	25	0.796	8	15.0	65
ZNL322522-181	180	J、K	25	0.796	7	17.0	60
ZNL322522-221	220	J、K	25	0.796	7	21.0	50
ZNL322522-331	330	J、K	25	0.796	5	34.0	40

**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



## ● ZNL453232 TYPE

Part Number	Inductance (uH)	Tolerance	Qmin	L Q Test condition (MHz)	SRFmin(MHz)	DCR Max( $\Omega$ )	Rated Current Max (mA)
ZNL453232-1R0	1.0	J、K	50	7.96	100	0.50	450
ZNL453232-1R2	1.2	J、K	50	7.96	80	0.55	430
ZNL453232-1R5	1.5	J、K	50	7.96	70	0.60	410
ZNL453232-1R8	1.8	J、K	50	7.96	60	0.65	390
ZNL453232-2R2	2.2	J、K	50	7.96	55	0.70	380
ZNL453232-2R7	2.7	J、K	50	7.96	50	0.75	370
ZNL453232-3R3	3.3	J、K	50	7.96	45	0.80	355
ZNL453232-3R9	3.9	J、K	50	7.96	40	0.90	330
ZNL453232-4R7	4.7	J、K	50	7.96	35	1.0	315
ZNL453232-5R6	5.6	J、K	50	7.96	33	1.1	300
ZNL453232-6R8	6.8	J、K	50	7.96	27	1.2	285
ZNL453232-8R2	8.2	J、K	50	7.96	25	1.4	270
ZNL453232-100	10	J、K	50	2.52	20	1.6	250
ZNL453232-120	12	J、K	50	2.52	18	2.0	225
ZNL453232-150	15	J、K	50	2.52	17	2.5	200
ZNL453232-180	18	J、K	50	2.52	15	2.8	190
ZNL453232-220	22	J、K	50	2.52	13	3.2	180
ZNL453232-330	33	J、K	50	2.52	11	4.0	160
ZNL453232-390	39	J、K	50	2.52	10	4.5	150
ZNL453232-470	47	J、K	50	2.52	10	5.0	140
ZNL453232-560	56	J、K	50	2.52	9	5.5	135
ZNL453232-680	68	J、K	50	2.52	9	6	130
ZNL453232-820	82	J、K	50	2.52	8	7	120
ZNL453232-101	100	J、K	40	0.796	8	8	110
ZNL453232-121	120	J、K	40	0.796	6	8	110
ZNL453232-151	150	J、K	40	0.796	5	9	105
ZNL453232-181	180	J、K	40	0.796	5	9.5	102
ZNL453232-221	220	J、K	40	0.796	4	10	100
ZNL453232-271	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

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



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(Ω)	Rated Current Max (mA)
ZNL453232-331	330	J、K	50	7.96	100	0.50	450
ZNL453232-390	390	J、K	50	7.96	80	0.55	430
ZNL453232-470	470	J、K	50	7.96	70	0.60	410
ZNL453232-560	560	J、K	50	7.96	60	0.65	390
ZNL453232-681	680	J、K	50	7.96	55	0.70	380
ZNL453232-821	820	J、K	50	7.96	50	0.75	370
ZNL453232-102	1000	J、K	50	7.96	45	0.80	355

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

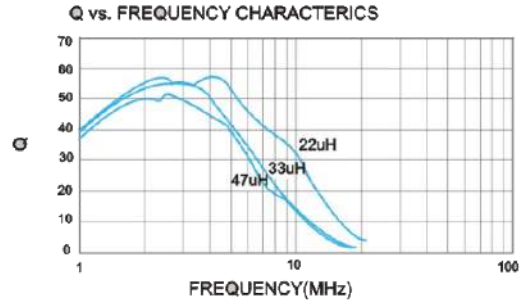
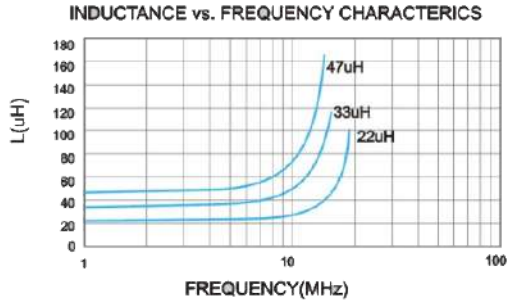
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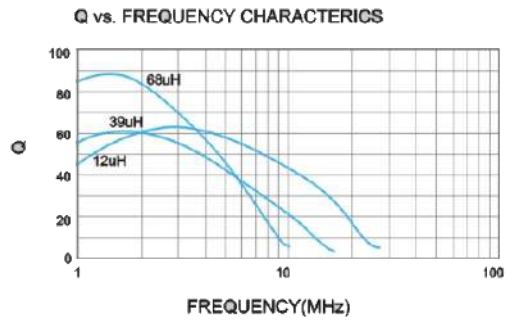
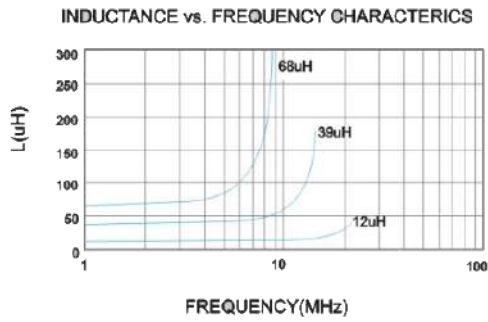


## DETAIL ELECTRICAL CHARACTERISTICS

### ● ZNL322522



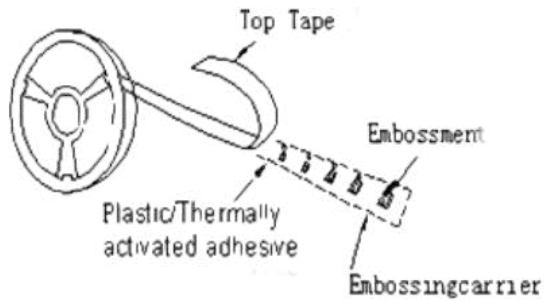
### ● ZNL453232



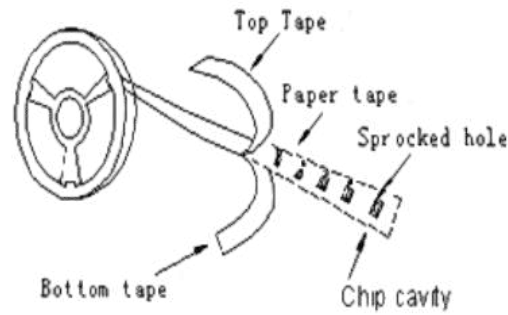
## PACKAGING STYLE

### • Taping Material

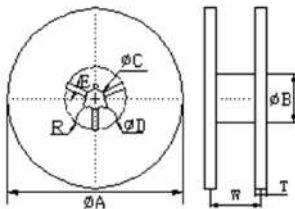
Embossing Tape



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

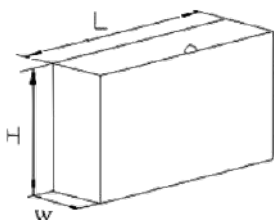
## STORAGE

### • Quantity

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

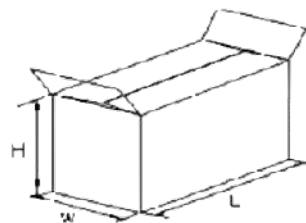
### • Packing Dimensions(mm)

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.