










# INDEX

## Chip Inductor






Type	Style	Features	Series	Page
Thin Film		Thin Film Chip Inductor	AL	3
Multilayer		Multilayer Chip Inductor	CL	8
		Multilayer Ferrite Chip Inductor	ML	13
		Multilayer Chip Bead	CB	19
Wire Wound		Wire Wound Chip Inductor	WL	31
		Wire Wound Chip Inductor (Ferrite)	NL	41
		Chip Common Mode Filter	CM	56

## Power Inductor

### ◆ Miniature

Type	Dimension	Inductance						Rated DC Current(A)				Page
		0.1uH	1uH	10uH	100uH	1mH	10mH	10mA	100mA	1A	10A	
VLH 	2.5 x 2.0 x 1.0 ~ 5.7 x 5.0 x 4.7	—————						—————				62
SDIA 	3.0 x 3.0 x 1.25 ~ 8.0 x 8.0 x 4.0		—————					—————				68

### ◆ Non-Shielded




Type	Dimension	Inductance						Rated DC Current(A)				Page	
		0.1uH	1uH	10uH	100uH	1mH	10mH	10mA	100mA	1A	10A		100A
PDH 	7.5 x 5.2 x 3.2~ 22.35 x 16.26 x 8.0		—————						—————				70
PD 	6.6 x 4.45 x 2.92~ 18.54 x 15.24 x 7.11	—————							—————				72
PCD 	3.5 x 3.0 x 1.4~ 10.0 x 9.0 x 7.5		—————					—————				76	
MPI 	6.5 x 5.3 x 1.2 6.5 x 5.3 x 2.0		—————					—————				81	
MPE 	3.2 x 3.2 x 1.2		—————					—————				83	

## ◆Shielded

Type	Dimension	Inductance						Rated DC Current(A)					Page	
		0.1uH	1uH	10uH	100uH	1mH	10mH	10mA	100mA	1A	10A	100A		
PS 	6.60 x 4.45 x 2.92 12.95 x 9.40 x 5.21 18.54 x 15.24 x 7.62													84
PCS 	6.2 x 6.6 x 3.0 ~ 12.0 x 12.0 x 8.0													86
PCDR 	6.0 x 6.0 x 2.8 ~ 12.5 x 12.5 x 7.5													90
PCDS 	6.2 x 5.6 x 3.2 ~ 12.6 x 11.6 x 5.4													93
PSDB 	6.2 x 6.3 x 3.0 ~ 10.3 x 10.4 x 5													95
SCDB 	3.0 x 3.0 x 1.2 3.0 x 3.0 x 1.5 3.0 x 3.0 x 1.8													97
SCDA 	3.2 x 3.2 x 1.05~ 4.2x 4.2 x 1.8													99
SCDS 	3.8 x 3.8 x 1.8~ 6.7x 6.7 x 4.0													104
PCF 	3.8 x 3.8 x 1.25 ~ 10.0 x 10.0 x 6.7													107
PDRH 	3.85 x 3.85 x 1.25 ~ 5.9 x 5.9 x 3.0													114
SDRH 	8.0 x 8.0 x 3.0 8.0 x 8.0 x 4.0 8.0 x 8.0 x 4.5													118
SDB 	4.9x5.8x2.8 ~ 12.8x13.45x4.8													119

**Environmental Specifications (SMD)-----123**

## ◆Dip Power Choke

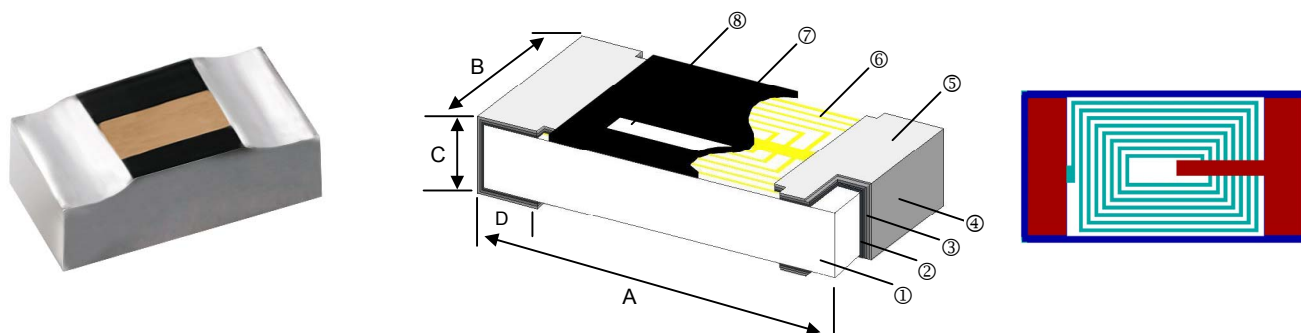
Type	Dimension	Inductance						Rated DC Current(A)					Page	
		0.1uH	1uH	10uH	100uH	1mH	10mH	10mA	100mA	1A	10A	100A		
DRGH 	6.0 x 5.0 x 4.0~ 10.0 x 10.5 x 3.5													124
DRGR 	6.0 x 6.5 x 4.0~ 10.5 x 10.5 x 3.5													127
DM 	7.5x7.5x8.5~ 18.0x15.5x18													129

**Environmental Specifications (DIP)-----132**

**Packaging Information-----133**

## Thin Film Chip Inductor – AL Series

### Construction



① Alumina Substrate	④ External Electrode (Sn)	⑦ Overcoat
② Inner Electrode (Ni-Cr)	⑤ Edge Electrode	⑧ Marking
③ Barrier Layer (Ni)	⑥ Cu Circuits	

### Features

- Photolithographic single layer ceramic chip
- High SRF, excellent Q, superior temperature stability
- Tight tolerance of  $\pm 1\%$  or  $\pm 0.1\text{nH}$
- Self resonant frequency controlled within 10%
- Stable inductance in high frequency circuit
- Highly stable design for critical needs

### Dimensions

Unit: mm

Type	Size (Inch)	A	B	C	D	Weight (g) (1000pcs)
AL01	0201	0.60 $\pm$ 0.05	0.30 $\pm$ 0.05	0.23 $\pm$ 0.05	0.15 $\pm$ 0.05	0.3
AL02	0402	1.0 $\pm$ 0.05	0.5 $\pm$ 0.05	0.32 $\pm$ 0.05	0.2 $\pm$ 0.10	0.9
AL03	0603	1.6 $\pm$ 0.10	0.8 $\pm$ 0.10	0.45 $\pm$ 0.10	0.3 $\pm$ 0.20	2.97

### Applications

- Cellular Telephone, Pagers and GPS Products
- VCO, TCXO Circuit and RF Transceiver Module
- Wireless LAN, Bluetooth Module, Communication Appliances

### Part Numbering

AL	02	G	T	10N
Product Type	Dimensions	Inductance Tolerance	Packaging Code	Inductance
	01: 0201 02: 0402 03: 0603	B: $\pm 0.1\text{nH}$ C: $\pm 0.2\text{nH}$ S: $\pm 0.3\text{nH}$ W: $\pm 0.05\text{nH}$ F: $\pm 1\%$ G: $\pm 2\%$ H: $\pm 3\%$ J: $\pm 5\%$	T: Taping Reel	1N0: 1nH 10N: 10nH 20N8: 20.8nH R10: 100nH

- Viking is capable of manufacturing the optional spec based on customer's requirement.

## Standard Electrical Specifications

AL01 Chip Inductors / Standard Type

Inductance (nH)	Inductance Tolerance (nH or %)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
0.1	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.20	400
0.2	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.20	400
0.3	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.20	400
0.4	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.25	350
0.5	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.25	350
0.6	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.25	350
0.7	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.30	300
0.8	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.30	300
0.9	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.30	300
1.0	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.30	300
1.1	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.35	300
1.2	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.35	300
1.3	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.45	250
1.4	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.45	250
1.5	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.45	250
1.6	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.55	200
1.7	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.55	200
1.8	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.55	200
1.9	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	9	0.55	200
2.0	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.70	200
2.1	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.70	200
2.2	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.70	200
2.3	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.80	150
2.4	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.80	150
2.5	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.80	150
2.6	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.80	150
2.7	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	8	0.80	150
2.8	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.00	150
2.9	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.00	150
3.0	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.00	150
3.1	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.00	150
3.2	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.00	150
3.3	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.00	150
3.4	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
3.5	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
3.6	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
3.7	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
3.8	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
3.9	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
4.0	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.20	150
4.4	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.30	140
4.7	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.40	130
4.9	$\pm 0.1, 0.2, 0.3nH$	8 / 500MHz	6	1.60	130
5.6	$\pm 2, \pm 5\%$	8 / 500MHz	4	1.80	130
6.1	$\pm 2, \pm 5\%$	8 / 500MHz	4	2.00	120
6.8	$\pm 2, \pm 5\%$	8 / 500MHz	4	2.30	110
7.4	$\pm 2, \pm 5\%$	8 / 500MHz	4	2.80	110
8.2	$\pm 2, \pm 5\%$	8 / 500MHz	3	3.00	110
9.1	$\pm 2, \pm 5\%$	8 / 500MHz	3	3.25	100
9.2	$\pm 2, \pm 5\%$	8 / 500MHz	3	3.25	100
10	$\pm 2, \pm 5\%$	8 / 500MHz	2	3.50	80

AL02 Chip Inductors / Standard Type

Inductance (nH)	Inductance Tolerance (nH or %)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
0.2	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	14	0.10	800
0.3	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	14	0.10	800
0.4	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	14	0.10	800
0.5	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	14	0.15	700
0.8	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	14	0.15	700
0.9	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	14	0.15	700
1.0	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	12	0.15	700
1.1	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	12	0.15	700
1.2	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	12	0.15	700
1.3	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	10	0.25	700
1.4	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	10	0.25	700
1.5	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	10	0.25	700
1.6	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	10	0.25	560
1.7	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	10	0.25	560
1.8	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	10	0.25	560
1.9	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	560
2.0	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	560
2.1	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.2	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.3	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.4	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.5	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.6	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.7	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	8	0.35	440
2.8	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.45	380
2.9	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.45	380
3.0	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.45	380
3.1	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.45	380
3.2	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.45	380
3.3	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.45	380
3.4	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.55	380
3.5	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.55	380
3.6	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.55	380
3.7	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.55	340
3.8	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.55	340
3.9	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.55	340
4.3	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.65	320
4.7	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.65	320
5.4	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.85	280
5.6	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.85	280
5.9	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	0.85	280
6.5	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	1.05	260
6.8	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	1.05	260
7.2	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	6	1.05	260
8.0	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	5.5	1.25	220
8.1	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	5.5	1.25	220
8.2	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	5.5	1.25	220
9.1	$\pm 0.1, 0.2, 0.3nH$	13 / 500MHz	5.5	1.25	220
10.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	4.5	1.35	200
10.8	$\pm 1, 2, 3, 5\%$	13 / 500MHz	4.5	1.35	200
12.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	3.7	1.55	180
13.8	$\pm 1, 2, 3, 5\%$	13 / 500MHz	3.7	1.75	180
15.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	3.3	1.75	130
17.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	3.1	1.95	100
18.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	3.1	2.15	100
20.8	$\pm 1, 2, 3, 5\%$	13 / 500MHz	2.8	2.55	90
22.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	2.8	2.65	90
27.0	$\pm 1, 2, 3, 5\%$	13 / 500MHz	2.5	3.25	75
33.0	$\pm 5\%$	13 / 500MHz	2.5	4.50	75

Inductance (nH)	Inductance Tolerance (nH or %)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
1.0	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	13	0.35	800
1.2	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	13	0.35	800
1.5	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	10	0.35	800
1.8	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	10	0.35	300
2.2	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	8	0.35	300
2.7	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	6	0.45	300
3.3	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	6	0.45	300
3.9	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	6	0.45	300
4.7	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	5	0.55	300
5.6	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	5	0.65	300
6.8	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	5	0.75	300
8.2	$\pm 0.1, 0.2, 0.3nH$	15 / 300MHz	4	0.95	300
10	$\pm 1, 2, 3, 5\%$	15 / 300MHz	4	0.95	300
12	$\pm 1, 2, 3, 5\%$	15 / 300MHz	3	1.05	300
15	$\pm 1, 2, 3, 5\%$	15 / 300MHz	3	1.35	300
18	$\pm 1, 2, 3, 5\%$	15 / 300MHz	2	1.65	300
22	$\pm 1, 2, 3, 5\%$	15 / 300MHz	2	1.95	250
27	$\pm 1, 2, 3, 5\%$	15 / 300MHz	2	2.35	250
33	$\pm 1, 2, 3, 5\%$	15 / 300MHz	1.5	2.75	250
39	$\pm 1, 2, 3, 5\%$	15 / 300MHz	1.5	3.00	200
47	$\pm 1, 2, 3, 5\%$	15 / 300MHz	1.5	3.00	200
56	$\pm 1, 2, 3, 5\%$	15 / 300MHz	1	5.00	150
68	$\pm 1, 2, 3, 5\%$	15 / 300MHz	1	5.00	150
100	$\pm 2, 3, 5\%$	15 / 300MHz	1	7.50	100

## ■ Environmental Characteristics

Item	Requirement	Test Method
Inductance	As Spec.	Measuring equipment and fixture: 0201: HP4287+Agilent 16196C 0402: HP4287+Agilent 16196B 0603: HP4287+Agilent 16196A
Insulation Resistance	>1000M $\Omega$	Apply 100V <sub>DC</sub> for 1minute
Damp Heat with Load	$\Delta L \leq 10\%$	40 $\pm 2^{\circ}C$ , 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Bending Strength	As Spec.	Bending Amplitude 3mm for 10 seconds
Solderability	95% min. coverage	245 $\pm 5^{\circ}C$ for 3 seconds
Resistance to Soldering Heat	$\Delta L \leq 10\%$	260 $\pm 5^{\circ}C$ for 10 seconds
Dielectric Withstand Voltage	>100V	Apply 100VA (rms) for 1minute
High Temperature Exposure	$\Delta L \leq 10\%$	85 $\pm 2^{\circ}C$ , 1000 +48/-0 hours
Low Temperature Storage	$\Delta L \leq 10\%$	-40 $\pm 3^{\circ}C$ , 1000 +48/-0 hours
Temperature Cycle	$\Delta L \leq 10\%$	-40/RT/85/RT, 10 cycles

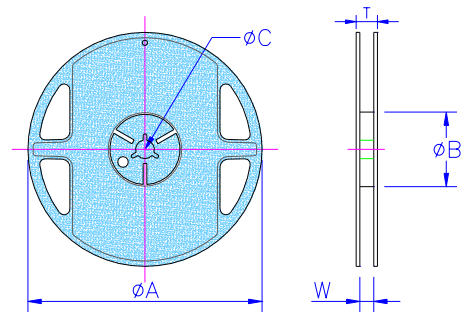
- Reference Standards: MIL-STD-202F, JIS-C 5201-1
- Storage Temperature: 25 $\pm 3^{\circ}C$ ; Humidity < 80%RH

## ■ Packaging

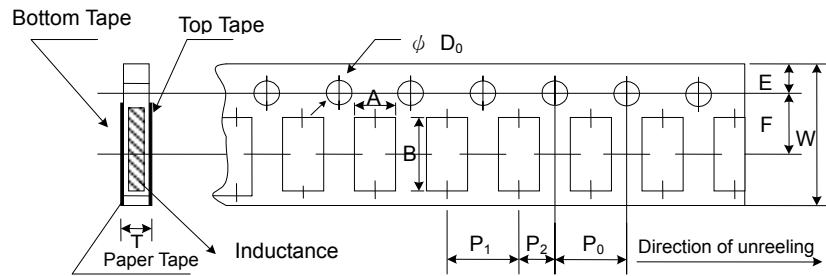
### Reel Specifications & Packaging Quantity

Unit: mm

Type	$\Phi A$	$\Phi B$	$\Phi C$	W	T	Quantity (EA)
AL01	$178.0 \pm 1.0$	$60 + 1.0$	$13.5 \pm 0.7$	$9.5 \pm 1.0$	$11.5 \pm 1.0$	10,000
AL02	$178.0 \pm 1.0$	$60 + 1.0$	$13.5 \pm 0.7$	$9.5 \pm 1.0$	$11.5 \pm 1.0$	10,000
AL03	$178.0 \pm 1.0$	$60 + 1.0$	$13.5 \pm 0.7$	$9.5 \pm 1.0$	$11.5 \pm 1.0$	5,000



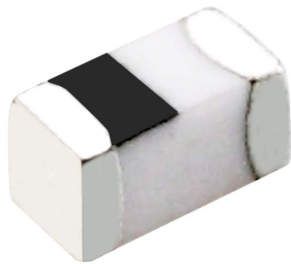
### Paper Tape Specifications



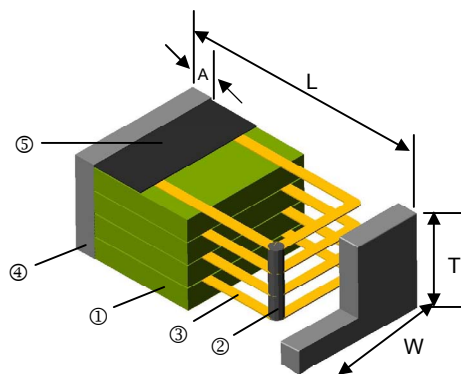
Unit: mm

Type	A	B	W	E	F	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	$\Phi D_0$	T
AL01	$0.40 \pm 0.05$	$0.70 \pm 0.05$	$8.00 \pm 0.10$	$1.75 \pm 0.05$	$3.5 \pm 0.05$	$4.00 \pm 0.10$	$2.00 \pm 0.05$	$2.00 \pm 0.05$	$1.55 \pm 0.03$	$0.42 \pm 0.02$
AL02	$0.70 \pm 0.05$	$1.16 \pm 0.05$	$8.00 \pm 0.10$	$1.75 \pm 0.05$	$3.5 \pm 0.05$	$4.00 \pm 0.10$	$2.00 \pm 0.05$	$2.00 \pm 0.05$	$1.55 \pm 0.05$	$0.40 \pm 0.03$
AL03	$1.10 \pm 0.05$	$1.90 \pm 0.05$	$8.00 \pm 0.10$	$1.75 \pm 0.05$	$3.5 \pm 0.05$	$4.00 \pm 0.10$	$4.00 \pm 0.10$	$2.00 \pm 0.05$	$1.55 \pm 0.05$	$0.60 \pm 0.03$

# Multilayer Chip Inductor—CL Series



## Construction



① Ceramic Material	③ Inner Electrode (Ag)	⑤ Direction Mark
② Through Hole	④ End-termination (Ag/Ni/Sn)	

## Features

- A ceramic material construction for high frequency application up to 10GHz
- Tight tolerance physical dimensions (+/-0.05mm)
- Tight inductance tolerance and excellent Q value
- Available in three compact sizes of 0201, 0402, 0603

## Dimensions

Unit: mm

Type	Size (Inch)	L	W	T	A (min. / max.)	Weight (g) (1000pcs)
CL01	0201	0.6±0.03	0.3±0.03	0.33 max.	0.1 / 0.2	0.28
CL02	0402	1.0±0.10	0.5±0.10	0.5±0.10	0.1 / 0.3	0.98
CL03	0603	1.6±0.15	0.8±0.15	0.8±0.15	0.2 / 0.6	3.47

## Applications

- High Frequency Application
- Cellular Phone
- EMI Countermeasure in High Frequency Circuits and Computer Communication etc.
- WLAN and RF module

## Part Numbering

CL	02	J	T	10N
Product Type	Dimensions	Inductance Tolerance	Packaging Code	Inductance
	01: 0201 02: 0402 03: 0603	J: ±5% K: ±10% S: ±0.3nH	T: Taping Reel	1N0: 1.0nH 39N: 39nH R10: 100nH

## Electrical Specifications

CL01 Multilayer Chip Inductors Type

Inductance (nH)	Tolerance	Quality Factor min.	L/Q Freq. (MHz)	Q (Typical) Freq. (MHz)			SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.
				100	500	800			
0.3	±0.3nH	4	100	5	13	18	10.0	0.07	250
0.4	±0.3nH	4	100	5	13	18	10.0	0.07	250
0.5	±0.3nH	4	100	5	13	18	10.0	0.08	250
0.6	±0.3nH	4	100	5	13	18	10.0	0.08	250
0.7	±0.3nH	4	100	5	13	18	10.0	0.09	250
0.8	±0.3nH	4	100	5	13	18	10.0	0.10	250
0.9	±0.3nH	4	100	5	13	18	10.0	0.10	250
1.0	±0.3nH	4	100	5	15	19	10.0	0.14	250
1.1	±0.3nH	4	100	5	15	19	10.0	0.14	250
1.2	±0.3nH	4	100	6	15	20	10.0	0.14	250
1.3	±0.3nH	4	100	6	15	20	10.0	0.14	250
1.5	±0.3nH	4	100	6	15	20	10.0	0.18	230
1.6	±0.3nH	4	100	6	15	20	10.0	0.18	230
1.8	±0.3nH	4	100	6	15	20	10.0	0.19	200
2.0	±0.3nH	4	100	6	15	20	8.8	0.20	200
2.2	±0.3nH	4	100	6	15	20	8.8	0.22	200
2.4	±0.3nH	4	100	6	15	20	8.3	0.24	200
2.7	±0.3nH	5	100	6	16	20	7.7	0.25	200
3.0	±0.3nH	5	100	6	16	20	7.2	0.28	180
3.3	±0.3nH	5	100	6	16	20	6.7	0.30	180



CL01 Multilayer Chip Inductors Type

Inductance (nH)	Tolerance	Quality Factor min.	L/Q Freq. (MHz)	Q (Typical) Freq. (MHz)			SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.
				100	500	800			
3.6	±0.3nH	5	100	6	16	20	6.4	0.30	170
3.9	±0.3nH	5	100	7	16	20	6.0	0.30	170
4.3	±0.3nH	5	100	7	16	20	5.7	0.40	150
4.7	±0.3nH	5	100	7	16	20	5.3	0.40	150
5.1	±0.3nH	5	100	7	16	20	5.0	0.40	150
5.6	±0.3nH	5	100	7	16	20	4.2	0.40	150
6.2	±5%	5	100	7	16	20	3.8	0.44	150
6.8	±5%	5	100	7	16	20	3.5	0.50	150
7.5	±5%	5	100	7	15	20	3.3	0.53	150
8.2	±5%	5	100	7	15	20	3.2	0.55	150
9.1	±5%	5	100	7	15	20	3.0	0.62	150
10	±5%	5	100	7	15	19	2.8	0.65	150
12	±5%	5	100	7	14	18	2.4	0.70	100
15	±5%	5	100	7	14	18	2.2	0.80	100
18	±5%	5	100	7	14	18	2.1	0.90	100
22	±5%	5	100	7	14	18	1.8	1.20	100
27	±5%	4	100	6	13	16	1.8	1.80	50
33	±5%	4	100	6	12	14	1.7	2.10	50
39	±5%	4	100	6	12	14	1.5	2.40	50
47	±5%	4	100	6	11	13	1.3	2.80	50
56	±5%	4	100	6	11	12	1.1	3.00	50

CL02 Multilayer Chip Inductors Type

Inductance (nH)	Tolerance	Quality Factor min.	L/Q Freq. (MHz)	Q (Typical) Freq. (MHz)							SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.
				100	500	800	900	1800	2000	2400			
1.0	±0.3nH	8	100	9	25	34	36	57	63	73	10.0	0.12	300
1.1	±0.3nH	8	100	9	25	34	36	57	63	73	10.0	0.12	300
1.2	±0.3nH	8	100	11	28	37	40	63	70	82	10.0	0.12	300
1.3	±0.3nH	8	100	11	29	39	42	65	73	85	10.0	0.13	300
1.5	±0.3nH	8	100	11	27	35	38	38	65	75	6.00	0.13	300
1.6	±0.3nH	8	100	11	30	39	42	64	71	81	6.00	0.14	300
1.8	±0.3nH	8	100	11	28	36	40	57	61	73	6.00	0.14	300
2.0	±0.3nH	8	100	11	26	34	37	55	61	68	6.00	0.16	300
2.2	±0.3nH	8	100	10	23	30	32	48	52	61	6.00	0.16	300
2.4	±0.3nH	8	100	10	24	30	33	48	52	61	6.00	0.17	300
2.7	±0.3nH	8	100	12	29	38	42	42	67	74	6.00	0.17	300
3.0	±0.3nH	8	100	11	27	34	37	53	58	67	6.00	0.19	300
3.3	±0.3nH, ±10%	8	100	10	25	32	34	49	52	60	6.00	0.19	300
3.6	±0.3nH, ±10%	8	100	10	23	30	32	46	50	56	5.00	0.22	300
3.9	±0.3nH, ±10%	8	100	11	26	33	35	50	54	61	4.00	0.22	300
4.3	±0.3nH, ±10%	8	100	10	23	29	31	43	46	50	4.00	0.24	300
4.7	±0.3nH, ±10%	8	100	10	23	30	33	46	49	55	4.00	0.24	300
5.1	±0.3nH, ±10%	8	100	11	25	32	35	47	49	52	4.00	0.27	300
5.6	±0.3nH, ±10%	8	100	11	25	32	35	47	49	52	4.00	0.27	300
6.2	±0.3nH, ±10%	8	100	11	25	31	33	45	47	52	3.90	0.32	300
6.8	±5, ±10%	8	100	11	25	31	34	45	48	51	3.90	0.32	300
8.2	±5, ±10%	8	100	11	25	31	34	43	44	44	3.50	0.37	300
10	±5, ±10%	8	100	11	24	31	33	39	39	37	3.20	0.42	300
12	±5, ±10%	8	100	11	24	31	33	39	39	37	2.60	0.50	300
15	±5, ±10%	8	100	11	23	30	32	35	33	28	2.30	0.55	300
18	±5, ±10%	8	100	11	23	30	30	29	27	18	2.00	0.65	300
22	±5, ±10%	8	100	12	24	30	31	27	24	14	1.60	0.80	300
27	±5, ±10%	8	100	11	24	29	30	21	16	2	1.40	0.90	300

CL02 Multilayer Chip Inductors Type

Inductance (nH)	Tolerance	Quality Factor min.	L/Q Freq. (MHz)	Q (Typical) Freq. (MHz)							SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
				100	500	800	900	1800	2000	2400			
33	$\pm 5, \pm 10\%$	8	100	12	23	26	27	11	4	-	1.20	1.00	200
39	$\pm 5, \pm 10\%$	8	100	11	22	24	24	1	-	-	1.10	1.20	200
47	$\pm 5, \pm 10\%$	8	100	11	21	23	23	-	-	-	0.90	1.30	200
56	$\pm 5, \pm 10\%$	8	100	11	21	22	22	-	-	-	0.75	1.40	200
68	$\pm 5, \pm 10\%$	8	100	12	21	21	19	-	-	-	0.75	1.40	180
82	$\pm 5, \pm 10\%$	8	100	11	18	15	13	-	-	-	0.60	1.60	150
100	$\pm 5, \pm 10\%$	8	100	11	19	15	12	-	-	-	0.60	1.60	150
120	$\pm 5, \pm 10\%$	8	100	11	15	7	2	-	-	-	0.60	1.60	150
150	$\pm 5, \pm 10\%$	8	100	12	18	9	4	-	-	-	0.55	2.40	140

CL03 Multilayer Chip Inductors Type

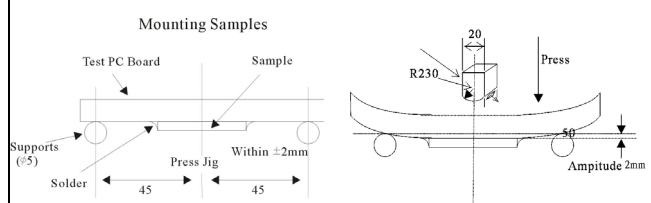
Inductance (nH)	Inductance Tolerance (nH or %)	Quality Factor min.	L/Q Freq. (MHz)	Q (Typical) Freq. (MHz)			SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
				100	500	800			
1.0	$\pm 0.3\text{nH}$	8	100	15	36	49	6.0	0.10	500
1.2	$\pm 0.3\text{nH}$	8	100	15	36	49	6.0	0.10	500
1.5	$\pm 0.3\text{nH}$	8	100	14	34	47	6.0	0.10	500
1.8	$\pm 0.3\text{nH}$	8	100	17	40	55	6.0	0.10	500
2.2	$\pm 0.3\text{nH}$	8	100	15	38	49	6.0	0.10	500
2.7	$\pm 0.3\text{nH}$	8	100	14	37	48	6.0	0.10	500
3.3	$\pm 0.3\text{nH}, \pm 10\%$	10	100	16	40	51	6.0	0.13	500
3.9	$\pm 0.3\text{nH}, \pm 10\%$	10	100	14	36	48	6.0	0.15	500
4.7	$\pm 0.3\text{nH}, \pm 10\%$	10	100	14	37	48	4.0	0.20	500
5.6	$\pm 0.3\text{nH}, \pm 10\%$	10	100	14	36	46	4.0	0.23	500
6.8	$\pm 5, \pm 10\%$	10	100	15	37	48	3.75	0.25	500
8.2	$\pm 5, \pm 10\%$	10	100	16	39	50	3.30	0.28	500
10	$\pm 5, \pm 10\%$	12	100	16	37	47	3.0	0.30	300
12	$\pm 5, \pm 10\%$	12	100	15	36	45	2.6	0.35	300
15	$\pm 5, \pm 10\%$	12	100	16	38	48	2.3	0.40	300
18	$\pm 5, \pm 10\%$	12	100	17	38	47	2.0	0.45	300
22	$\pm 5, \pm 10\%$	12	100	18	40	49	1.6	0.50	300
27	$\pm 5, \pm 10\%$	12	100	18	40	47	1.4	0.55	300
33	$\pm 5, \pm 10\%$	12	100	17	40	46	1.2	0.60	300
39	$\pm 5, \pm 10\%$	12	100	19	40	46	1.1	0.65	300
47	$\pm 5, \pm 10\%$	12	100	17	36	39	0.9	0.70	300
56	$\pm 5, \pm 10\%$	12	100	18	36	37	0.9	0.75	300
68	$\pm 5, \pm 10\%$	12	100	18	35	36	0.7	0.85	300
82	$\pm 5, \pm 10\%$	12	100	18	33	29	0.6	1.00	300
100	$\pm 5, \pm 10\%$	12	100	18	28	16	0.6	1.20	300
120	$\pm 5, \pm 10\%$	8	50	-	-	-	0.5	2.3	250
150	$\pm 5, \pm 10\%$	8	50	-	-	-	0.5	2.4	250
180	$\pm 5, \pm 10\%$	8	50	-	-	-	0.4	2.7	250
220	$\pm 5, \pm 10\%$	8	50	-	-	-	0.4	3.0	250

## ■ Environmental Characteristics

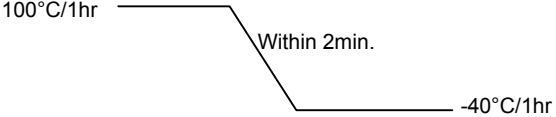
### Electrical Performance Test

Item	Requirement	Test Condition
Inductance	In within specified tolerance	a. Temperature: $25 \pm 1^\circ\text{C}$ b. Relative Humidity: 45 to 85%RH c. Atmospheric Pressure: 86 to 106kpa d. Measuring equipment and fixture: 0201: HP4291B+Agilent16196C 0402: HP4291B+Agilent16193A 0603: HP4291B+Agilent16192A
Q Value	In accordance with electrical specification	a. Temperature: $25 \pm 1^\circ\text{C}$ b. Relative Humidity: 45 to 85%RH c. Atmospheric Pressure: 86 to 106kpa
DC Resistance	In accordance with electrical specification	a. Temperature: $25 \pm 1^\circ\text{C}$ b. Relative Humidity: 45 to 85%RH c. Atmospheric Pressure: 86 to 106kpa d. Measuring equipment: HP 4338
Temperature Characteristics	Within specified tolerance	a. Temperature range: $-30$ to $+85^\circ\text{C}$ b. Reference temperature: $25^\circ\text{C}$

### Mechanical Characteristics Test

Item	Requirement	Test Condition
Bending Strength	No mechanical damage shall be observed	<p>Solder the chip to test jig then apply a force in the direction shown in below. The soldering shall be done with the reflow method and shall be conducted with care so that the soldering is uniform and free of defects such as heat shock.</p> 
Solderability	More than 75% of the terminal electrode part shall be covered with fresh solder	Immerse a test sample into a methanol solution containing rosin, preheat it at $150$ to $180^\circ\text{C}$ for 3 to 5 seconds and immerse into molten solder of $245 \pm 5^\circ\text{C}$ for $5 \pm 0.5$ seconds.
Resistance to Soldering Heat	No visible damage	Immerse a test sample into a methanol solution containing resin, preheat it at $150$ to $180^\circ\text{C}$ for 2 to 3 minutes and immerse into molten solder of $260 \pm 5^\circ\text{C}$ for $10 \pm 0.5$ seconds so that both terminal electrodes are completely submerged.
Appearance	In accordance with specification	Inductors shall be visually inspected for visible evidence of defect
Dimension	In accordance with dimension specification	Dimension shall be measured with caliper or micrometer

Climatic Test

Item	Requirement	Test Condition
Thermal Shock	No visible damage Inductance variation within 10% Q variation within 20%	Solder a test sample to printed circuit board, and conduct 100 cycles of test under the conditions shown as below. Cycle: 100°C/1hr  -40°C/1hr
High Humidity State Life	No visible damage Inductance variation within 10% Q variation within 20%	Keep a test sample in an atmosphere with a temperature of 70±2°C, 90~95%RH for 500±12 hours. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.
High Humidity Load Life	No visible damage Inductance variation within 10% Q variation within 20%	Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of 70±2°C, 90~95%RH for 500±12 hours while supplying the rated current. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.
High Temperature State Life	No visible damage Inductance variation within 10% Q variation within 20%	Keep a test sample in an atmosphere with a temperature of 100±2°C for 500±12 hours. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.
High Temperature Load	No visible damage Inductance variation within 10% Q variation within 20%	Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of 100±2°C for 500±12 hours while supplying the rated current. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.

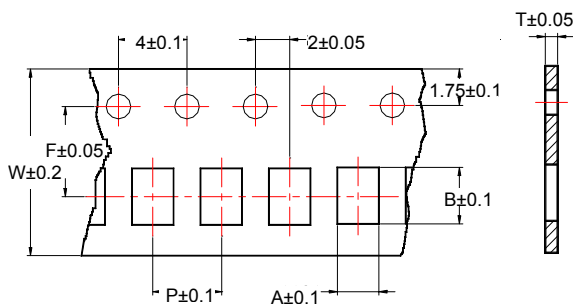
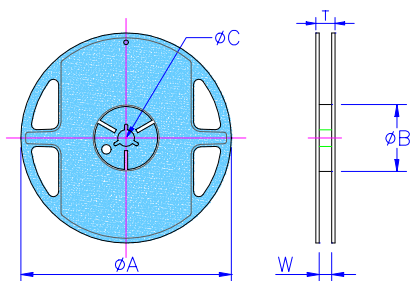
■ Storage Temperature: 25±3°C; Humidity < 80%RH

■ Packaging

Reel Dimensions

Type	A	B	C	W	T	Quantity (EA)
CL01	178±1	60.2±0.5	13.0±0.20	9.00±0.5	12.0±0.15	15,000
CL02	178±1	60.2±0.5	13.0±0.20	9.00±0.5	12.0±0.15	10,000
CL03	178±1	60.0±0.5	13.0±0.20	9.00±0.5	12.0±0.15	4,000

Unit: mm

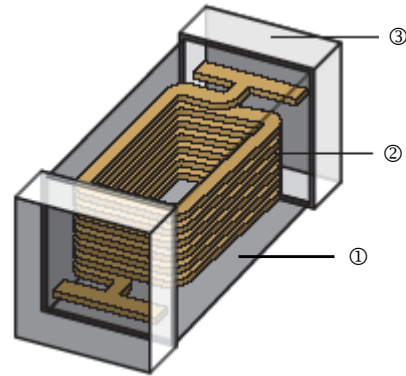


Unit: mm

Type	A	B	T	W	P	F
CL01	0.38	0.68	0.42	8	2	3.5
CL02	0.65	1.12	0.60	8	2	3.5
CL03	1.10	1.80	0.95	8	4	3.5

## Multilayer Ferrite Chip Inductor – ML Series

### Construction



① Ferrite	② Internal Electrode	③ Electrode Plating (Ag/Ni/Sn)
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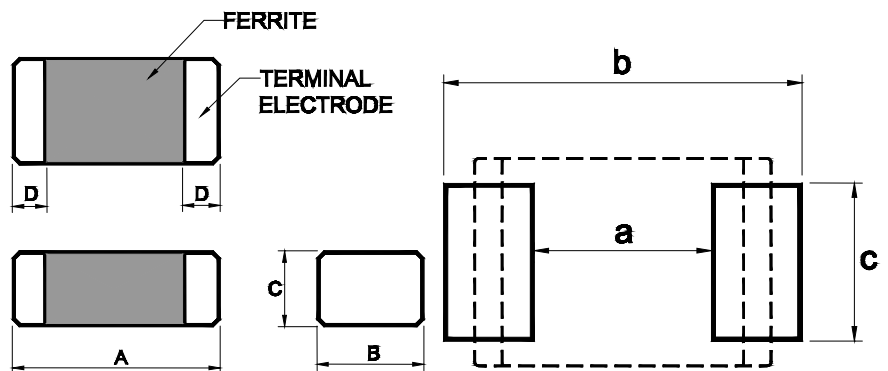
### Features

- Closed magnetic circuit avoids crosstalk
- Suitable for high density installation and re-flow soldering
- Sizes 0603 / 0805 / 1206

### Applications

- Personal Computers
- Portable Equipment
- CD-ROM, Hard Disk, Modem, Printers

### Dimensions



Unit: mm

Type	Size (Inch)	A	B	C	D	a	b	c	Weight (g) (1000pcs)
ML03	0603	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20	0.8	2.4~3.4	0.6	6.2
ML05 (≤2.2μH)	0805	2.00±0.20	1.25±0.20	0.90±0.20	0.50±0.30	1.2	3.0~4.0	1.0	10
ML05 (≥2.7μH)	0805	2.00±0.20	1.25±0.20	1.25±0.20	0.50±0.30	1.2	3.0~4.0	1.0	10
ML06	1206	3.20±0.20	1.60±0.20	1.10±0.20	0.50±0.30	2.0	4.2~5.2	1.2	30

### Part Numbering

ML	05	K	T	1R0
Product Type	Dimensions	Inductance Tolerance	Packaging Code	Inductance
	03: 0603 05: 0805 06: 1206	K: ±10% M: ±20%	T: Taping Reel	R12: 120nH R27: 270nH 2R7: 2700nH

## ■ Standard Electrical Specifications

ML03 Multilayer Ferrite Chip Inductors Type

Codes	Inductance (nH)	Tolerance	L/Q Freq. (MHz)	Q min.	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
10N	10	$\pm 20\%$	50MHz, 200mV	10	300	0.20	50
33N	33	$\pm 20\%$	50MHz, 200mV	10	270	0.20	50
47N	47	$\pm 20\%$	50MHz, 200mV	10	260	0.30	50
56N	56	$\pm 20\%$	50MHz, 200mV	10	255	0.30	50
68N	68	$\pm 20\%$	50MHz, 200mV	10	250	0.30	50
82N	82	$\pm 20\%$	50MHz, 200mV	10	245	0.30	50
R10	100	$\pm 10, \pm 20\%$	25MHz, 200mV	15	240	0.50	50
R12	120	$\pm 10, \pm 20\%$	25MHz, 200mV	15	205	0.50	50
R15	150	$\pm 10, \pm 20\%$	25MHz, 200mV	15	180	0.60	50
R18	180	$\pm 10, \pm 20\%$	25MHz, 200mV	15	165	0.60	50
R22	220	$\pm 10, \pm 20\%$	25MHz, 200mV	15	150	0.80	50
R27	270	$\pm 10, \pm 20\%$	25MHz, 200mV	15	136	0.80	50
R33	330	$\pm 10, \pm 20\%$	25MHz, 200mV	15	125	0.85	35
R39	390	$\pm 10, \pm 20\%$	25MHz, 200mV	15	110	1.00	35
R47	470	$\pm 10, \pm 20\%$	25MHz, 200mV	15	105	1.35	35
R56	560	$\pm 10, \pm 20\%$	25MHz, 200mV	15	95	1.55	35
R68	680	$\pm 10, \pm 20\%$	25MHz, 200mV	15	85	1.70	35
R82	820	$\pm 10, \pm 20\%$	25MHz, 200mV	15	75	2.10	35
1R0	1000	$\pm 10, \pm 20\%$	10MHz, 200mV	35	65	0.60	25
1R2	1200	$\pm 10, \pm 20\%$	10MHz, 200mV	35	60	0.80	25
1R5	1500	$\pm 10, \pm 20\%$	10MHz, 200mV	35	55	0.80	25
1R8	1800	$\pm 10, \pm 20\%$	10MHz, 200mV	35	50	0.95	25
2R2	2200	$\pm 10, \pm 20\%$	10MHz, 200mV	35	45	1.55	15
2R7	2700	$\pm 10, \pm 20\%$	10MHz, 200mV	35	40	1.35	15
3R3	3300	$\pm 10, \pm 20\%$	10MHz, 200mV	35	38	1.55	15
3R9	3900	$\pm 10, \pm 20\%$	10MHz, 200mV	35	35	1.70	15
4R7	4700	$\pm 10, \pm 20\%$	10MHz, 200mV	35	33	2.10	15
5R6	5600	$\pm 10, \pm 20\%$	4MHz, 200mV	35	22	1.55	5
6R8	6800	$\pm 10, \pm 20\%$	4MHz, 200mV	35	20	1.70	5
8R2	8200	$\pm 10, \pm 20\%$	4MHz, 60mV	30	18	2.10	5
100	10000	$\pm 10, \pm 20\%$	2MHz, 60mV	30	17	2.55	5

**ML05 Multilayer Ferrite Chip Inductors Type**

Codes	Inductance (nH)	Tolerance	L/Q Freq. (MHz)	Q min.	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
47N	47	$\pm 20\%$	50MHz, 200mV	20	320	0.20	300
56N	56	$\pm 20\%$	50MHz, 200mV	20	320	0.20	300
68N	68	$\pm 20\%$	50MHz, 200mV	20	280	0.20	300
82N	82	$\pm 20\%$	50MHz, 200mV	20	255	0.20	300
R10	100	$\pm 10, \pm 20\%$	25MHz, 200mV	20	235	0.30	250
R12	120	$\pm 10, \pm 20\%$	25MHz, 200mV	20	220	0.30	250
R15	150	$\pm 10, \pm 20\%$	25MHz, 200mV	20	200	0.40	250
R18	180	$\pm 10, \pm 20\%$	25MHz, 200mV	20	185	0.40	250
R22	220	$\pm 10, \pm 20\%$	25MHz, 200mV	20	170	0.50	250
R27	270	$\pm 10, \pm 20\%$	25MHz, 200mV	20	150	0.50	250
R33	330	$\pm 10, \pm 20\%$	25MHz, 200mV	20	145	0.55	250
R39	390	$\pm 10, \pm 20\%$	25MHz, 200mV	25	135	0.65	200
R47	470	$\pm 10, \pm 20\%$	25MHz, 200mV	25	125	0.65	200
R56	560	$\pm 10, \pm 20\%$	25MHz, 200mV	25	115	0.75	150
R68	680	$\pm 10, \pm 20\%$	25MHz, 200mV	25	105	0.80	150
R82	820	$\pm 10, \pm 20\%$	25MHz, 200mV	25	100	1.00	150
1R0	1000	$\pm 10, \pm 20\%$	10MHz, 200mV	45	75	0.40	50
1R2	1200	$\pm 10, \pm 20\%$	10MHz, 200mV	45	65	0.50	50
1R5	1500	$\pm 10, \pm 20\%$	10MHz, 200mV	45	60	0.50	50
1R8	1800	$\pm 10, \pm 20\%$	10MHz, 200mV	45	55	0.60	50
2R2	2200	$\pm 10, \pm 20\%$	10MHz, 200mV	45	50	0.65	30
2R7	2700	$\pm 10, \pm 20\%$	10MHz, 200mV	45	45	0.75	30
3R3	3300	$\pm 10, \pm 20\%$	10MHz, 200mV	45	41	0.80	30
3R9	3900	$\pm 10, \pm 20\%$	10MHz, 200mV	45	38	0.90	30
4R7	4700	$\pm 10, \pm 20\%$	10MHz, 200mV	45	35	1.00	30
5R6	5600	$\pm 10, \pm 20\%$	4MHz, 200mV	45	32	0.90	15
6R8	6800	$\pm 10, \pm 20\%$	4MHz, 200mV	45	29	1.00	15
8R2	8200	$\pm 10, \pm 20\%$	4MHz, 200mV	45	26	1.10	15
100	10000	$\pm 10, \pm 20\%$	2MHz, 60mV	45	24	1.15	15
120	12000	$\pm 10, \pm 20\%$	2MHz, 60mV	45	22	1.25	15
150	15000	$\pm 10, \pm 20\%$	1MHz, 60mV	30	19	0.80	5
180	18000	$\pm 10, \pm 20\%$	1MHz, 60mV	30	18	0.90	5
220	22000	$\pm 10, \pm 20\%$	1MHz, 60mV	30	16	1.10	5

## ML06 Multilayer Ferrite Chip Inductors Type

Codes	Inductance (nH)	Tolerance	L/Q Freq. (MHz)	Q min.	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
47N	47	$\pm 20\%$	50MHz, 200mV	20	320	0.15	300
56N	56	$\pm 20\%$	50MHz, 200mV	20	280	0.25	300
68N	68	$\pm 20\%$	50MHz, 200mV	20	280	0.25	300
82N	82	$\pm 20\%$	50MHz, 200mV	20	250	0.25	300
R10	100	$\pm 10, \pm 20\%$	25MHz, 200mV	20	235	0.25	250
R12	120	$\pm 10, \pm 20\%$	25MHz, 200mV	20	220	0.30	250
R15	150	$\pm 10, \pm 20\%$	25MHz, 200mV	20	200	0.30	250
R18	180	$\pm 10, \pm 20\%$	25MHz, 200mV	20	185	0.40	250
R22	220	$\pm 10, \pm 20\%$	25MHz, 200mV	20	170	0.40	250
R27	270	$\pm 10, \pm 20\%$	25MHz, 200mV	20	150	0.50	250
R33	330	$\pm 10, \pm 20\%$	25MHz, 200mV	20	145	0.60	250
R39	390	$\pm 10, \pm 20\%$	25MHz, 200mV	25	135	0.50	200
R47	470	$\pm 10, \pm 20\%$	25MHz, 200mV	25	125	0.60	200
R56	560	$\pm 10, \pm 20\%$	25MHz, 200mV	25	115	0.70	150
R68	680	$\pm 10, \pm 20\%$	25MHz, 200mV	25	105	0.80	150
R82	820	$\pm 10, \pm 20\%$	25MHz, 200mV	25	100	0.90	150
1R0	1000	$\pm 10, \pm 20\%$	10MHz, 200mV	45	75	0.40	100
1R2	1200	$\pm 10, \pm 20\%$	10MHz, 200mV	45	65	0.50	100
1R5	1500	$\pm 10, \pm 20\%$	10MHz, 200mV	45	60	0.50	80
1R8	1800	$\pm 10, \pm 20\%$	10MHz, 200mV	45	55	0.50	70
2R2	2200	$\pm 10, \pm 20\%$	10MHz, 200mV	45	50	0.60	60
2R7	2700	$\pm 10, \pm 20\%$	10MHz, 200mV	45	45	0.60	60
3R3	3300	$\pm 10, \pm 20\%$	10MHz, 200mV	45	41	0.70	60
3R9	3900	$\pm 10, \pm 20\%$	10MHz, 200mV	45	38	0.80	50
4R7	4700	$\pm 10, \pm 20\%$	10MHz, 200mV	45	35	0.90	50
5R6	5600	$\pm 10, \pm 20\%$	4MHz, 200mV	45	32	0.70	25
6R8	6800	$\pm 10, \pm 20\%$	4MHz, 200mV	45	29	0.80	25
8R2	8200	$\pm 10, \pm 20\%$	4MHz, 200mV	45	26	0.90	25
100	10000	$\pm 10, \pm 20\%$	2MHz, 60mV	45	24	1.00	25
120	12000	$\pm 10, \pm 20\%$	2MHz, 60mV	45	22	1.05	15
150	15000	$\pm 10, \pm 20\%$	1MHz, 60mV	35	19	0.70	5
180	18000	$\pm 10, \pm 20\%$	1MHz, 60mV	35	18	0.75	5
220	22000	$\pm 10, \pm 20\%$	1MHz, 60mV	35	16	0.90	5
270	27000	$\pm 10, \pm 20\%$	1MHz, 60mV	35	14	0.90	5
330	33000	$\pm 10, \pm 20\%$	1MHz, 60mV	35	13	1.05	5

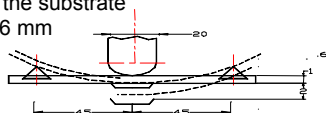


## ■ Environmental Characteristics

### Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4291B
Q		HP4291B
SRF		HP4291B
DC Resistance RDC		Agilent 34401A
Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value

### Mechanical Performance Test

Item	Requirement	Test Method
Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal. Electrode should be covered with solder. Inductance: within $\pm 15\%$ of initial value Q: within $\pm 30\%$ of initial value Inductance: within $\pm 20\%$ of initial value (0603 over 12uH)	Pre-heating: 150°C, 1min. Solder Composition: Sn/Ag3.0/Cu0.5 (Pb-Free) Solder Temperature: 260 $\pm$ 5°C (Pb-Free) Immersion Time: 10 $\pm$ 1 sec.
Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min. Solder Composition: Sn/Ag3.0/Cu0.5 (Pb-Free) Solder Temperature: 245 $\pm$ 5°C (Pb-Free) Immersion Time: 4 $\pm$ 1 sec.
Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the ferrite.	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6 mm Deflection: 2.0 mm Keeping Time: 30 sec.  *For 0402, substrate dimension is 100x40x0.8 mm
Vibration		Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1 min. Amplitude: 1.5 mm Time: 2 hrs for each axis (X, Y & Z), total 6 hrs

### Climatic Test

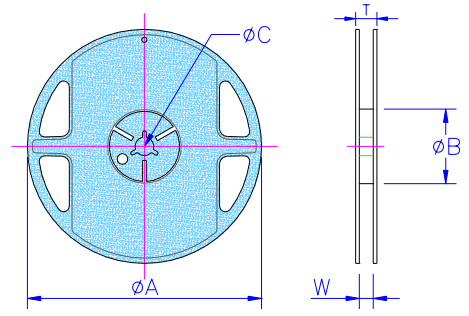
Item	Requirement	Test Method															
Damp Heat with Load	Appearance: No damage L change: within $\pm 10\%$ of initial value Q change: within $\pm 30\%$ of initial value	Temperature: 40 $\pm$ 2°C Relative Humidity: 90 ~ 95% Time: 1000 hrs Measured after exposure in the room condition for 24 hrs															
Temperature Cycle		One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> <tr> <td>3</td> <td>85<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> </tbody> </table> Total: 100 cycles Measured after exposure in the room condition for 24 hrs	Step	Temperature (°C)	Time (min.)	1	-25 $\pm$ 3	30	2	25 $\pm$ 2	3	3	85 $\pm$ 3	30	4	25 $\pm$ 2	3
Step		Temperature (°C)	Time (min.)														
1		-25 $\pm$ 3	30														
2	25 $\pm$ 2	3															
3	85 $\pm$ 3	30															
4	25 $\pm$ 2	3															
High Temperature Resistance	Temperature: 85 $\pm$ 3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000 hrs Measured after exposure in the room condition for 24 hrs																
Low Temperature Resistance	Temperature: -25 $\pm$ 3°C Relative Humidity: 0% Time: 1000 hrs Measured after exposure in the room condition for 24 hrs																

# ■ Packaging

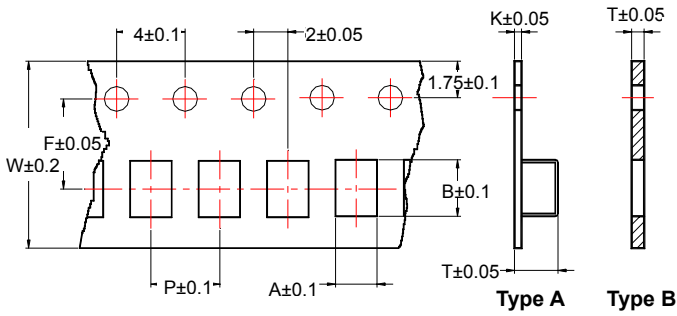
## Reel Dimensions

Unit: mm

Type	A	B	C	W	T	Quantity (EA)
ML03	178±1	60.0+0.5	13.0±0.2	9.00±0.5	12.0±0.15	4,000
ML05 (≤2.2uH)	178±1	60.0+0.5	13.0±0.2	9.00±0.5	12.0±0.15	4,000
ML05 (≥2.7uH)	178±1	60.0+0.5	13.0±0.2	12.0±0.5	12.0±0.15	3,000 2,000
ML06	178±1	60.0+0.5	13.0±0.2	9.00±0.5	12.0±0.15	3,000



## Tape Specifications

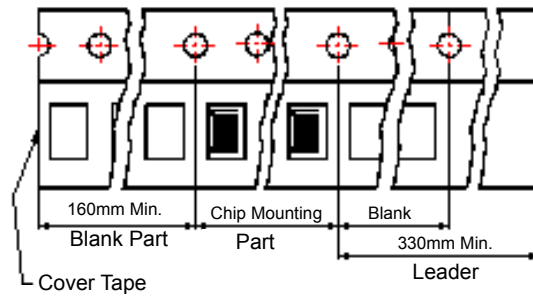


## Tape Material

Carrier tape: Polystyrene for 0603 0805 1206

Paper for 0603

Cover type: Polystyrene



Unit: mm

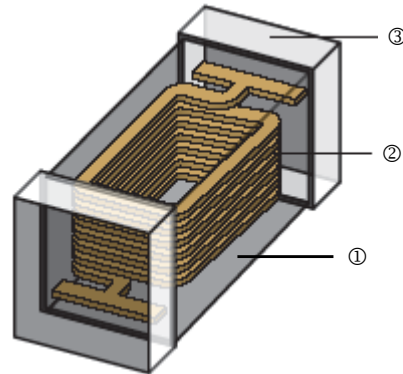
Type	A	B	T	W	P	F	K	Tape Type
ML03	1.05	1.85	0.95	8.0	4.0	3.5	-	B
ML05 (≤2.2uH)	1.50	2.42	0.95	8.0	4.0	3.5	-	B
ML03	1.01	1.80	1.02	8.0	4.0	3.5	0.22	A
ML05 (≤2.2uH)	1.42	2.25	1.04	8.0	4.0	3.5	0.22	A
ML05 (≥2.7uH)	1.50	2.35	1.45	8.0	4.0	3.5	0.22	A
ML06	1.88	3.50	1.27	8.0	4.0	3.5	0.22	A

Note:

1. Please make sure that your product is has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.

## Multilayer Chip Bead – CB Series

### Construction



① Ferrite Substance (NiO-CuO-ZnO-Ferrite)	② Silver Electrode	③ Electrode (Ag/Cu/Ni/Sn)
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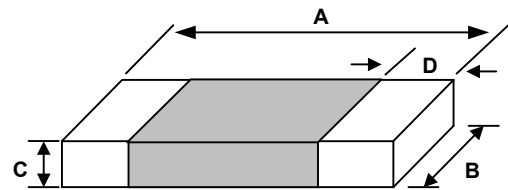
### Features

- Effective EMI protection
- Low DC resistance
- High soldering heat resistance
- Multiple size availability

### Applications

- Computers and Peripheral Equipment
- VCRS, Television
- Cellular Phones
- Digital Communication Equipment
- Various Electronics Equipments
- Circuit Where a Stable Ground is Unavailable

### Dimensions



Unit: mm

Type	Size (Inch)	A	B	C	D	Weight (g) (1000pcs)
CB02	0402	1.0±0.10	0.50±0.10	0.5±0.10	0.1~0.35	2.6
CB03	0603	1.6±0.20	0.80±0.15	0.8±0.15	0.1~0.6	6.2
CB05	0805	2.0±0.20	1.25±0.20	0.9±0.20	0.2~0.8	10
CB04	1204	3.2±0.20	1.60±0.20	1.1±0.20	0.2~1.0	30
CB06	1206	3.2±0.20	1.60±0.20	1.6±0.20	0.2~1.0	42
CB10	1210	3.2±0.20	2.50±0.20	1.3±0.20	0.2~1.0	54
CB08	1808	4.5±0.25	1.60±0.20	1.6±0.20	0.2~1.0	60
CB12	1812	4.5±0.25	3.20±0.20	1.5±0.20	0.2~1.0	62

### Part Numbering

CB	03	Y	T	Y	N	601
Product Type	Dimensions	Impedance Tolerance	Packaging Code	Design Code	Current	Impedance
	02: 0402 03: 0603 05: 0805 04: 1204 06: 1206 10: 1210 08: 1808 12: 1812	Y: ±25%	T: Taping Reel	Y: ui:200 Q:ui:75(High Speed Signals)	H: High current N: General current	090: 9Ω 110: 11Ω 451: 450Ω 152: 1500Ω

## ■ Standard Electrical Specifications

### CB02 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
6	±25%	100	0.05	500
10	±25%	100	0.05	500
30	±25%	100	0.30	300
33	±25%	100	0.30	300
40	±25%	100	0.30	300
47	±25%	100	0.40	300
60	±25%	100	0.40	300
70	±25%	100	0.40	300
75	±25%	100	0.40	300
80	±25%	100	0.40	300
90	±25%	100	0.50	300
100	±25%	100	0.50	300
120	±25%	100	0.50	300
150	±25%	100	0.50	300
220	±25%	100	0.50	300
240	±25%	100	0.50	300
300	±25%	100	0.80	300
330	±25%	100	0.80	300
480	±25%	100	0.80	300
600	±25%	100	1.00	300
1000	±25%	100	1.50	100
1500	±25%	100	2.00	60

### CB03 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
6	±25%	100	0.05	500
7	±25%	100	0.05	500
10	±25%	100	0.05	500
11	±25%	100	0.05	500
15	±25%	100	0.08	500
17	±25%	100	0.08	500
19	±25%	100	0.08	500
20	±25%	100	0.10	400
22	±25%	100	0.10	400
25	±25%	100	0.10	400
26	±25%	100	0.10	400
30	±25%	100	0.10	400
31	±25%	100	0.10	400
32	±25%	100	0.10	400
33	±25%	100	0.10	400
40	±25%	100	0.10	400
47	±25%	100	0.10	400
50	±25%	100	0.10	400
52	±25%	100	0.10	400
55	±25%	100	0.10	400
56	±25%	100	0.10	400
60	±25%	100	0.10	400
68	±25%	100	0.15	400
70	±25%	100	0.15	400
75	±25%	100	0.15	400
80	±25%	100	0.15	400
90	±25%	100	0.20	400
100	±25%	100	0.20	400
120	±25%	100	0.25	400
140	±25%	100	0.25	300

**CB03 Standard Type**

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
150	±25%	100	0.30	200
180	±25%	100	0.30	200
200	±25%	100	0.30	200
220	±25%	100	0.30	200
240	±25%	100	0.40	200
300	±25%	100	0.40	200
330	±25%	100	0.50	200
400	±25%	100	0.50	200
420	±25%	100	0.50	200
450	±25%	100	0.50	200
470	±25%	100	0.50	200
500	±25%	100	0.50	200
600	±25%	100	0.50	200
750	±25%	100	0.70	200
800	±25%	100	0.70	200
1000	±25%	100	0.70	200
1200	±25%	100	1.00	50
1500	±25%	100	1.00	50
1700	±25%	100	1.20	50
2000	±25%	100	1.20	50
2200	±25%	100	1.20	50
2500	±25%	100	1.30	50
2700	±25%	100	1.30	50

**CB05 Standard Type**

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
5	±25%	100	0.10	600
7	±25%	100	0.10	600
9	±25%	100	0.10	600
10	±25%	100	0.10	600
11	±25%	100	0.10	600
12	±25%	100	0.10	600
15	±25%	100	0.10	600
17	±25%	100	0.10	600
19	±25%	100	0.10	600
22	±25%	100	0.10	600
26	±25%	100	0.10	600
28	±25%	100	0.10	600
30	±25%	100	0.10	600
31	±25%	100	0.10	600
32	±25%	100	0.10	600
33	±25%	100	0.10	500
39	±25%	100	0.10	500
40	±25%	100	0.10	500
42	±25%	100	0.10	500
47	±25%	100	0.10	500
50	±25%	100	0.10	500
52	±25%	100	0.15	500
56	±25%	100	0.15	500
60	±25%	100	0.15	500
70	±25%	100	0.15	500
75	±25%	100	0.15	500
80	±25%	100	0.15	500
90	±25%	100	0.15	500
95	±25%	100	0.15	500
100	±25%	100	0.25	300
120	±25%	100	0.25	300
150	±25%	100	0.25	300

CB05 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
180	±25%	100	0.30	300
200	±25%	100	0.30	300
220	±25%	100	0.30	300
240	±25%	100	0.30	300
300	±25%	100	0.30	300
330	±25%	100	0.30	300
400	±25%	100	0.30	300
420	±25%	100	0.30	300
430	±25%	100	0.40	300
450	±25%	100	0.40	300
470	±25%	100	0.40	300
500	±25%	100	0.40	300
600	±25%	100	0.40	300
680	±25%	100	0.40	300
750	±25%	100	0.50	200
1000	±25%	100	0.50	200
1200	±25%	100	0.60	200
1500	±25%	100	0.60	200
2000	±25%	100	0.70	200
2200	±25%	100	0.70	200
2500	±25%	100	0.70	200
2700	±25%	100	0.70	200

CB04 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
8	±25%	100	0.05	600
9	±25%	100	0.05	600
11	±25%	100	0.05	600
17	±25%	100	0.05	600
19	±25%	100	0.05	600
22	±25%	100	0.05	600
24	±25%	100	0.05	600
26	±25%	100	0.05	600
30	±25%	100	0.05	600
31	±25%	100	0.05	600
32	±25%	100	0.05	600
33	±25%	100	0.05	600
35	±25%	100	0.10	500
47	±25%	100	0.10	500
50	±25%	100	0.10	500
52	±25%	100	0.10	500
60	±25%	100	0.10	500
70	±25%	100	0.10	500
75	±25%	100	0.15	500
80	±25%	100	0.15	500
90	±25%	100	0.15	500
100	±25%	100	0.15	500
120	±25%	100	0.15	500
150	±25%	100	0.15	500
180	±25%	100	0.20	400
200	±25%	100	0.20	400
220	±25%	100	0.20	400
240	±25%	100	0.20	400
300	±25%	100	0.20	400
400	±25%	100	0.20	400
470	±25%	100	0.20	400
500	±25%	100	0.20	400
600	±25%	100	0.30	400
700	±25%	100	0.40	200

CB04 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
1000	±25%	50	0.40	200
1200	±25%	50	0.40	200
1500	±25%	50	0.45	200
2000	±25%	30	0.60	200
2700	±25%	30	0.60	200

CB06 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
25	±25%	100	0.10	500
60	±25%	100	0.20	500
70	±25%	100	0.20	500

CB10 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
32	±25%	100	0.20	500
60	±25%	100	0.20	500
90	±25%	100	0.20	500
120	±25%	100	0.20	500

CB08 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
33	±25%	100	0.20	600
50	±25%	100	0.20	600
60	±25%	100	0.20	600
80	±25%	100	0.20	600
90	±25%	100	0.30	500
100	±25%	100	0.30	500
150	±25%	100	0.30	500
170	±25%	100	0.30	500

CB12 Standard Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
70	±25%	100	0.30	500
120	±25%	100	0.30	500

## ■ Standard Electrical Specifications ( for High Current Use)

### CB02 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
10	±25%	100	0.030	1000

### CB03 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
10	±25%	100	0.020	4000
11	±25%	100	0.020	4000
15	±25%	100	0.030	3000
17	±25%	100	0.030	3000
19	±25%	100	0.030	3000
20	±25%	100	0.030	3000
22	±25%	100	0.030	3000
25	±25%	100	0.030	3000
30	±25%	100	0.030	3000
31	±25%	100	0.030	3000
32	±25%	100	0.035	3000
33	±25%	100	0.035	3000
40	±25%	100	0.035	3000
47	±25%	100	0.040	3000
50	±25%	100	0.040	3000
56	±25%	100	0.040	3000
60	±25%	100	0.040	3000
68	±25%	100	0.050	2500
70	±25%	100	0.050	2500
75	±25%	100	0.050	2500
80	±25%	100	0.050	2500
90	±25%	100	0.050	2500
100	±25%	100	0.050	2500
120	±25%	100	0.080	2500
150	±25%	100	0.085	2000
180	±25%	100	0.090	2000
200	±25%	100	0.095	2000
220	±25%	100	0.100	2000
240	±25%	100	0.120	1500
300	±25%	100	0.120	1500
330	±25%	100	0.120	1500
400	±25%	100	0.120	1500
450	±25%	100	0.150	1500
470	±25%	100	0.150	1500
500	±25%	100	0.150	1500
600	±25%	100	0.200	1000
700	±25%	100	0.250	800
750	±25%	100	0.250	800
800	±25%	100	0.250	800
1000	±25%	100	0.250	800
1500	±25%	100	0.400	500

### CB05 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
11	±25%	100	0.010	6000
13	±25%	100	0.020	5000
15	±25%	100	0.020	5000
17	±25%	100	0.020	5000
19	±25%	100	0.020	4000
22	±25%	100	0.020	4000
26	±25%	100	0.020	4000
28	±25%	100	0.020	4000



**CB05 High Current Type**

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
30	±25%	100	0.020	4000
31	±25%	100	0.020	4000
32	±25%	100	0.020	4000
39	±25%	100	0.020	3000
40	±25%	100	0.020	3000
42	±25%	100	0.025	3000
50	±25%	100	0.025	3000
60	±25%	100	0.030	3000
70	±25%	100	0.040	3000
75	±25%	100	0.040	3000
80	±25%	100	0.040	3000
90	±25%	100	0.040	3000
100	±25%	100	0.040	3000
120	±25%	100	0.040	3000
130	±25%	100	0.050	2500
150	±25%	100	0.050	2500
180	±25%	100	0.050	2500
200	±25%	100	0.050	2500
220	±25%	100	0.080	2000
240	±25%	100	0.080	2000
250	±25%	100	0.080	2000
300	±25%	100	0.080	2000
330	±25%	100	0.080	2000
390	±25%	100	0.100	2000
400	±25%	100	0.100	2000
450	±25%	100	0.100	2000
470	±25%	100	0.100	2000
500	±25%	100	0.100	2000
600	±25%	100	0.100	2000
750	±25%	100	0.120	1500
1000	±25%	100	0.120	1500
1500	±25%	100	0.300	1000

**CB04 High Current Type**

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
7	±25%	100	0.015	6000
8	±25%	100	0.015	6000
11	±25%	100	0.015	6000
19	±25%	100	0.015	6000
26	±25%	100	0.015	6000
30	±25%	100	0.015	4000
31	±25%	100	0.015	4000
32	±25%	100	0.015	4000
35	±25%	100	0.015	4000
40	±25%	100	0.015	4000
42	±25%	100	0.015	4000
48	±25%	100	0.020	4000
50	±25%	100	0.020	4000
52	±25%	100	0.020	4000
60	±25%	100	0.020	4000
68	±25%	100	0.020	4000
70	±25%	100	0.020	4000
75	±25%	100	0.025	3000
80	±25%	100	0.025	3000
90	±25%	100	0.030	3000
100	±25%	100	0.030	2500
120	±25%	100	0.030	2500
150	±25%	100	0.040	2000
200	±25%	100	0.050	2000

CB04 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
220	±25%	100	0.050	2000
300	±25%	100	0.060	2000
330	±25%	100	0.060	2000
390	±25%	100	0.060	2000
400	±25%	100	0.100	2000
500	±25%	100	0.100	2000
600	±25%	100	0.100	2000
1000	±25%	50	0.150	1200
1200	±25%	50	0.180	1000
1500	±25%	50	0.200	800

CB10 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
19	±25%	100	0.025	4000
32	±25%	100	0.025	4000
60	±25%	100	0.025	4000
90	±25%	100	0.025	3000

CB08 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
19	±25%	100	0.020	6000
40	±25%	100	0.020	6000
50	±25%	100	0.020	6000
60	±25%	100	0.020	5000
70	±25%	100	0.025	5000
75	±25%	100	0.025	5000
80	±25%	100	0.025	4000
90	±25%	100	0.100	2000
100	±25%	100	0.100	2000
150	±25%	100	0.100	2000
190	±25%	100	0.100	2000
300	±25%	100	0.100	2000
470	±25%	100	0.100	2000
600	±25%	100	0.100	2000
850	±25%	100	0.100	2000
1000	±25%	100	0.100	2000
1300	±25%	100	0.100	2000

CB12 High Current Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
19	±25%	100	0.030	6000
30	±25%	100	0.030	6000
47	±25%	100	0.030	6000
50	±25%	100	0.030	6000
60	±25%	100	0.030	6000
70	±25%	100	0.030	6000
80	±25%	100	0.030	4000
90	±25%	100	0.030	4000
120	±25%	100	0.030	4000
125	±25%	100	0.030	4000
150	±25%	100	0.030	4000
190	±25%	100	0.030	4000

## ■ Standard Electrical Specifications ( for High Speed Signals Use)

CB02 High Speed Signals Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
6	±25%	100	0.08	300
10	±25%	100	0.10	300
22	±25%	100	0.25	300
26	±25%	100	0.25	300
30	±25%	100	0.25	300
40	±25%	100	0.25	350
75	±25%	100	0.30	300
80	±25%	100	0.30	300
100	±25%	100	0.40	300
120	±25%	100	0.40	300
220	±25%	100	0.60	200

CB03 High Speed Signals Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
6	±25%	100	0.05	500
7	±25%	100	0.05	400
10	±25%	100	0.07	400
19	±25%	100	0.20	300
20	±25%	100	0.20	300
22	±25%	100	0.20	300
30	±25%	100	0.20	300
40	±25%	100	0.20	300
47	±25%	100	0.20	300
50	±25%	100	0.25	300
60	±25%	100	0.25	300
68	±25%	100	0.25	300
70	±25%	100	0.25	300
75	±25%	100	0.25	300
80	±25%	100	0.25	300
100	±25%	100	0.30	300
120	±25%	100	0.30	300
130	±25%	100	0.30	300
140	±25%	100	0.30	300
150	±25%	100	0.30	200
160	±25%	100	0.30	200
180	±25%	100	0.35	200
200	±25%	100	0.35	200
220	±25%	100	0.35	200
240	±25%	100	0.35	200
300	±25%	100	0.40	200
400	±25%	100	0.50	200
420	±25%	100	0.50	200
470	±25%	100	0.50	200
480	±25%	100	0.50	200
600	±25%	100	0.50	200
1000	±25%	100	0.60	100
1200	±25%	100	0.60	100
1500	±25%	100	0.70	100
1800	±25%	100	0.80	100
2200	±25%	100	1.00	50
2500	±25%	100	1.50	50

CB05 High Speed Signals Type

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
5	±25%	100	0.07	800
6	±25%	100	0.07	800
7	±25%	100	0.10	700
11	±25%	100	0.10	700
26	±25%	100	0.15	600
30	±25%	100	0.15	600
32	±25%	100	0.15	600
40	±25%	100	0.15	500
60	±25%	100	0.15	500
70	±25%	100	0.15	500
75	±25%	100	0.15	500
90	±25%	100	0.15	500
100	±25%	100	0.20	400
120	±25%	100	0.20	400
150	±25%	100	0.20	400
170	±25%	100	0.30	400
200	±25%	100	0.30	300
220	±25%	100	0.30	300
240	±25%	100	0.30	300
300	±25%	100	0.30	300
400	±25%	100	0.30	300
420	±25%	100	0.30	300
470	±25%	100	0.35	200
500	±25%	100	0.35	200
600	±25%	100	0.35	200
750	±25%	100	0.40	200
1000	±25%	100	0.40	200
1200	±25%	100	0.45	200
1500	±25%	100	0.45	200
2000	±25%	100	0.50	200
2200	±25%	100	0.50	200
2500	±25%	100	0.60	200
2700	±25%	100	0.60	200

CB04 High Speed Signals Type

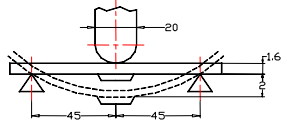

Impedance (Ω)	Tolerance	Test Freq. (MHz)	DCR (Ω) max.	Rated Current (mA) max.
15	±25%	100	0.15	600
17	±25%	100	0.15	600
19	±25%	100	0.15	600
30	±25%	100	0.15	600
32	±25%	100	0.15	600
50	±25%	100	0.15	500
60	±25%	100	0.15	500
80	±25%	100	0.15	500
90	±25%	100	0.15	500
120	±25%	100	0.20	400
150	±25%	100	0.20	400
200	±25%	100	0.25	300
220	±25%	100	0.30	300
300	±25%	100	0.30	300
350	±25%	100	0.30	300
400	±25%	100	0.30	300
600	±25%	100	0.35	300
1000	±25%	100	0.40	200
1200	±25%	100	0.40	200
1500	±25%	100	0.45	200

## ■ Environmental Characteristics

### Electrical Performance Test

Item	Specification	Test Methods
Impedance	Refer to standard electrical spec.	HP4291B
DCR		Agilent 34401A

### Mechanical Performance Test

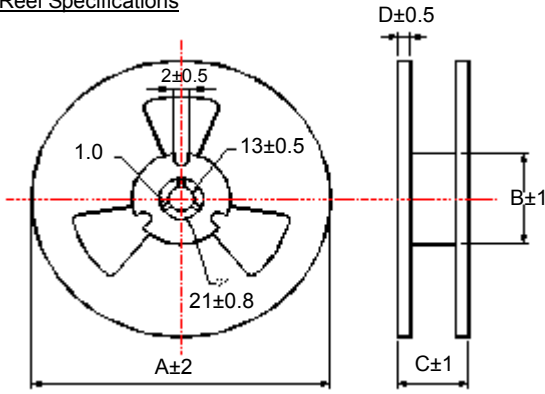
Item	Specification	Test Methods
Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the ferrite	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec ※For 0402, substrate dimension is 100x40x0.8mm 
Vibration		Test device shall be soldered on the substrate Oscillation Frequency : 10 to 55 to 10Hz for 1min Amplitude : 1.5mm Time : 2hrs for each axis (X,Y&Z), total 6hrs
Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder Impedance: within $\pm 30\%$ of initial value	Pre-heating: 150°C, 1min Solder Temperature: 260 $\pm$ 5°C Immersion Time: 10 $\pm$ 1sec
Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Temperature: 245 $\pm$ 5°C Immersion Time: 4 $\pm$ 1sec
Terminal Strength Test	0402 series : $\geq 0.2$ kg 0603 series : $\geq 0.5$ kg 0805 series : $\geq 1.0$ kg other series : $\geq 2.0$ kg	Test device shall be soldered on the substrate 
Temperature Cycle	Appearance: No damage Impedance: within $\pm 30\%$ of initial value	One cycle: One cycle/step1: -55 $\pm$ 3°C for 30min step2: 25 $\pm$ 2°C for 3.0min step3: 125 $\pm$ 3°C for 30min step4: 25 $\pm$ 2°C for 3.0min Total: 100cycles Measured after exposure in the room condition for 24hrs
Humidity Resistance		Temperature: 40 $\pm$ 2°C Relative Humidity: 90 ~ 95% time: 1000hrs Measured after exposure in the room condition for 24hrs
High Temperature Resistance		Temperature: 125 $\pm$ 3°C Relative Humidity : 0% Applied Current: Rated Current time: 1000hrs Measured after exposure in the room condition for 24hrs
Low Temperature Resistance		Temperature: -55 $\pm$ 3°C TR elative Humidity : 0% time: 1000hrs Measured after exposure in the room condition for 24hrs

■ Operating Temperature: -55°C ~ 125°C

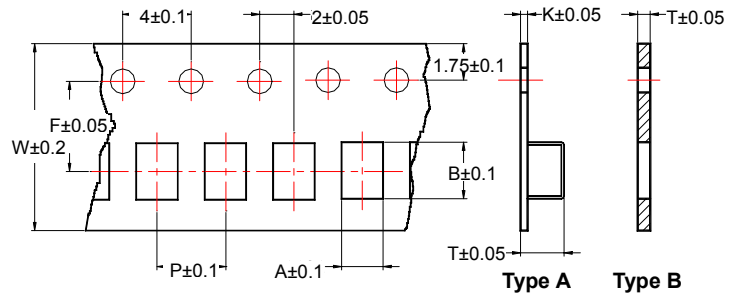
■ Storage Temperature: 25 $\pm$ 3°C ; Humidity < 80%RH

# ■ Packaging

## Reel Specifications

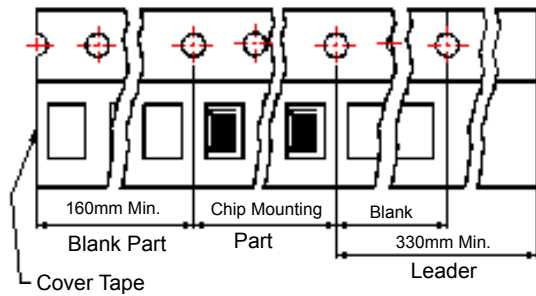


## Tape Specifications

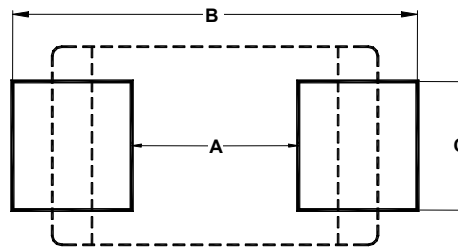


## Tape Material

Carrier tape: Polystyrene for 321609  
Cover type: Polystyrene



## Recommended Pattern

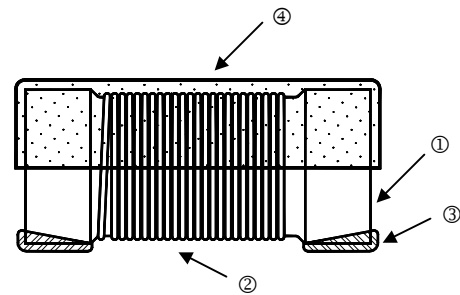


\* Don't apply narrower pattern than listed above to CB□□YTYH .  
Narrow pattern might cause excessive heat or open circuit.

Type	Tape Dimensions								Reel Dimensions				Recommended Pattern			Quantity /Reel
	A	B	T	W	P	F	K	Tape Type	A	B	C	D	A	B	C	
CB02	0.65	1.15	0.7	8.0	2.0	3.5	-	B	178	60	10	2	0.4	1.2 ~ 1.4	0.4	10,000
CB03	1.10	1.85	0.95	8.0	4.0	3.5	-	B	178	60	10	2	0.8	2.4 ~ 3.4	0.6	4,000
CB05	1.58	2.42	0.95	8.0	4.0	3.5	-	B	178	60	10	2	1.2	3.0 ~ 4.0	1.0	4,000
CB03	1.05	1.95	1.05	8.0	4.0	3.5	0.23	A	178	60	10	2	0.8	2.4 ~ 3.4	0.6	4,000
CB05	1.42	2.25	1.04	8.0	4.0	3.5	0.22	A	178	60	10	2	1.2	3.0 ~ 4.0	1.0	4,000
CB04	1.88	3.50	1.27	8.0	4.0	3.5	0.2	A	178	60	10	2	2.0	4.2 ~ 5.2	1.2	3,000
CB06	1.88	3.64	1.90	8.0	4.0	3.5	0.2	A	178	60	10	2	2.0	4.2 ~ 5.2	1.2	2,000
CB10	2.77	3.42	1.65	8.0	4.0	3.5	0.2	A	178	60	10	2	2.0	5.5 ~ 6.5	1.8	2,000
CB08	1.88	4.95	1.90	12	4.0	5.5	0.3	A	178	60	14	2	3.0	5.5 ~ 6.5	1.2	2,000
CB12	3.66	4.95	1.85	12	8.0	5.5	0.3	A	178	60	14	2	3.0	5.5 ~ 6.5	2.4	1,000

## Wire Wound Chip Inductor—WL Series

### Construction

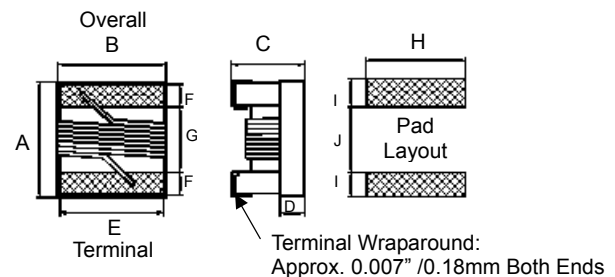


① Ceramic Core	③ Electrode (Ag/Pd+Ni+Sn)
② Magnet Wire	④ UV Glue

### Features

- Ceramic base provide high SRF
- Ultra-compact inductors provide high Q factors
- Low profile, high current are available
- Miniature SMD chip inductor for fully automated assembly
- Outstanding endurance from Pull-up force, mechanical shock and pressure
- Tighter tolerance down to  $\pm 2\%$
- Smaller size of 0402 (1005)

### Dimensions



### Applications

#### RF Products:

- Cellular Phone (CDMA/GSM/PHS)
- Cordless Phone (DECT/CT1CT2)
- Remote Control, Security System
- Smart Phone
- WLL, Wireless LAN / Mouse / Keyboard / Earphone
- VCO, RF Module & Other Wireless Products
- Base Station, Repeater
- GPS Receiver

#### Broad Band Applications:

- CATV Filter, Tuner
- Cable Modem/ XDSL Tuner
- Set Top Box

#### IT Applications:

- USB 2.0
- IEEE 1394

#### Standard

Unit: mm

Type	Size (Inch)	A max.	B max.	C max.	D Ref.	E	F	G	H	I	J	Weight (g) (1000pcs)
WL02	0402	1.27	0.76	0.61	0.15	0.51	0.23	0.56	0.66	0.50	0.46	0.8
WL03	0603	1.80	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64	3.46
WL05	0805	2.29	1.73	1.52	0.51	1.27	0.44	1.02	1.78	1.02	0.76	12.13
WL08	1008	2.92	2.79	2.13	0.65	2.03	0.51	1.52	2.54	1.02	1.27	30.73
WL06	1206	3.45	1.90	1.40	0.50	1.60	0.50	2.20	1.93	1.02	1.78	40

#### Low Profile

Unit: mm

Type	Size (Inch)	A max.	B max.	C max.	D Ref.	E	F	G	H	I	J
WL05	0805	2.29	1.73	1.03	0.51	1.27	0.44	1.02	1.78	1.02	0.76
WL08	1008	2.92	2.79	1.40	0.65	2.03	0.51	1.52	2.54	1.02	1.27

#### High Current / High Q

Unit: mm

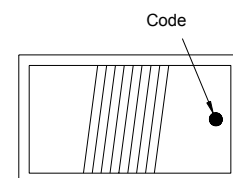
Type	Size (Inch)	A max.	B max.	C max.	D Ref.	E	F	G	H	I	J
WL03	0603	1.80	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64
WL05	0805	2.29	1.73	1.52	0.51	1.27	0.44	1.02	1.78	1.02	0.76
WL08	1008	2.92	2.79	2.03	0.65	2.03	0.51	1.52	2.54	1.02	1.27

### Color Coding

0603 / 0805 / 1008 / 1206 Type (0402 Type is No Color Coding)

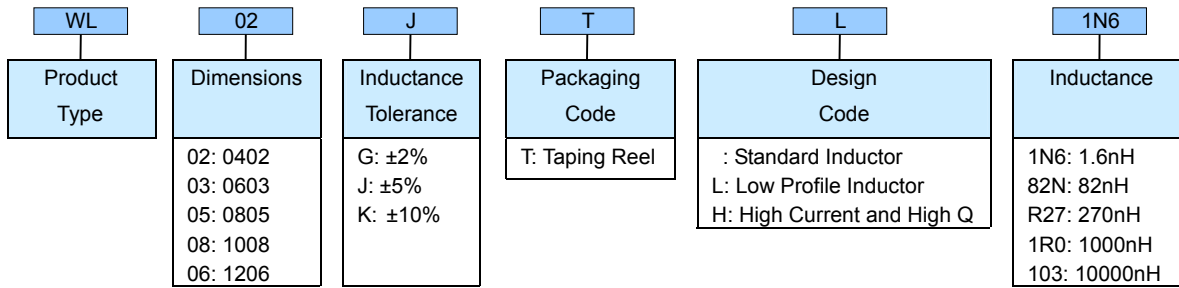
Because of small sizes, these parts are marked with a single color dot.

The inductance value represented by the dot is shown on the data page for each type.



Color Coding

## Part Numbering



## Standard Electrical Specifications

WL02 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	900MHz		1.7GHz	
							L	Q	L	Q
1.0	$\pm 10\%$	250	16	12.70	0.045	1360	1.02	77	1.02	69
1.9	$\pm 10\%$	250	16	11.30	0.070	1040	1.72	68	1.74	82
2.0	$\pm 10\%$	250	16	11.10	0.070	1040	1.93	54	1.93	75
2.2	$\pm 10\%$	250	19	10.80	0.070	960	2.19	59	2.23	100
2.4	$\pm 10\%$	250	15	10.50	0.070	790	2.24	51	2.27	68
2.7	$\pm 10\%$	250	16	10.40	0.120	640	2.23	42	2.25	61
3.3	$\pm 10\%$	250	19	7.00	0.066	840	3.10	65	3.12	87
3.6	$\pm 5, \pm 10\%$	250	19	6.80	0.066	840	3.56	45	3.62	71
3.9	$\pm 5, \pm 10\%$	250	19	5.80	0.066	840	3.89	50	4.00	75
4.3	$\pm 5, \pm 10\%$	250	18	6.00	0.091	700	4.19	47	4.30	71
4.7	$\pm 5, \pm 10\%$	250	18	4.70	0.130	640	4.55	48	4.68	68
5.1	$\pm 5, \pm 10\%$	250	20	4.80	0.083	800	5.15	56	5.25	82
5.6	$\pm 5, \pm 10\%$	250	20	4.80	0.083	760	5.16	54	5.28	81
6.2	$\pm 5, \pm 10\%$	250	20	4.80	0.083	760	6.16	52	6.37	76
6.8	$\pm 5, \pm 10\%$	250	20	4.80	0.083	680	6.56	63	6.93	78
7.5	$\pm 5, \pm 10\%$	250	22	4.80	0.104	680	7.91	60	8.22	88
8.2	$\pm 5, \pm 10\%$	250	22	4.40	0.104	680	8.50	57	8.85	84
8.7	$\pm 5, \pm 10\%$	250	18	4.10	0.200	480	8.78	54	9.21	73
9.0	$\pm 5, \pm 10\%$	250	22	4.16	0.104	680	9.07	62	9.53	78
9.5	$\pm 5, \pm 10\%$	250	18	4.00	0.200	480	9.42	54	9.98	69
10	$\pm 2, \pm 5, \pm 10\%$	250	21	3.90	0.195	480	9.80	50	10.10	67
11	$\pm 2, \pm 5, \pm 10\%$	250	24	3.68	0.120	640	10.70	52	11.20	78
12	$\pm 2, \pm 5, \pm 10\%$	250	24	3.60	0.120	640	11.90	53	12.70	71
13	$\pm 2, \pm 5, \pm 10\%$	250	24	3.45	0.210	440	13.40	51	14.60	57
15	$\pm 2, \pm 5, \pm 10\%$	250	24	3.28	0.172	560	14.60	55	15.50	77
16	$\pm 2, \pm 5, \pm 10\%$	250	24	3.10	0.220	560	16.60	46	18.80	47
18	$\pm 2, \pm 5, \pm 10\%$	250	25	3.10	0.230	420	18.30	57	20.30	62
19	$\pm 2, \pm 5, \pm 10\%$	250	24	3.04	0.202	480	19.10	50	21.10	67
20	$\pm 2, \pm 5, \pm 10\%$	250	25	3.00	0.250	420	20.70	52	23.70	53
22	$\pm 2, \pm 5, \pm 10\%$	250	25	2.80	0.300	400	23.20	53	26.80	53
23	$\pm 2, \pm 5, \pm 10\%$	250	24	2.72	0.300	400	23.80	49	26.90	64
24	$\pm 2, \pm 5, \pm 10\%$	250	25	2.70	0.300	400	25.10	51	29.50	50
27	$\pm 2, \pm 5, \pm 10\%$	250	24	2.48	0.300	400	28.70	49	33.50	63
30	$\pm 2, \pm 5, \pm 10\%$	250	25	2.35	0.350	400	31.10	46	38.50	39
33	$\pm 2, \pm 5, \pm 10\%$	250	24	2.35	0.350	400	34.90	31	41.70	32
36	$\pm 2, \pm 5, \pm 10\%$	250	24	2.32	0.440	320	39.50	44	48.40	53
39	$\pm 2, \pm 5, \pm 10\%$	250	25	2.10	0.550	200	41.70	47	50.20	45
40	$\pm 2, \pm 5, \pm 10\%$	250	24	2.24	0.500	320	39.00	44	47.40	33
43	$\pm 2, \pm 5, \pm 10\%$	250	25	2.03	0.810	100	45.80	46	61.60	34
47	$\pm 2, \pm 5, \pm 10\%$	250	25	2.10	0.830	150	50.00	38	55.80	37
51	$\pm 2, \pm 5, \pm 10\%$	250	25	1.75	0.820	100	50.40	47	59.40	37
56	$\pm 2, \pm 5, \pm 10\%$	250	25	1.76	0.970	100	57.40	49	72.40	40
68	$\pm 2, \pm 5, \pm 10\%$	250	22	1.62	1.120	100	69.60	45	83.40	38



WL03 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	900MHz		1.7GHz		Color Code
							L	Q	L	Q	
1.6	±5, ±10%	250	24	12.5	0.030	700	1.53	35	1.58	55	Blue
1.8	±5, ±10%	250	16	12.5	0.045	700	1.63	35	1.66	50	Black
2.2	±5, ±10%	250	15	6.00	0.100	700	2.18	41	2.20	64	White
2.3	±5, ±10%	250	16	>4.00	0.140	700	2.32	32	2.35	40	Yellow
3.3	±2, ±5, ±10%	250	22	>6.00	0.080	700	3.35	47	3.40	65	Red
3.6	±2, ±5, ±10%	250	22	5.80	0.063	700	3.53	49	3.58	65	Violet
3.9	±2, ±5, ±10%	250	22	>6.00	0.080	700	3.95	49	3.96	67	Brown
4.3	±2, ±5, ±10%	250	22	5.80	0.063	700	4.32	49	4.43	67	Orange
4.5	±2, ±5, ±10%	250	20	5.80	0.120	700	4.74	55	4.87	92	Gray
4.7	±2, ±5, ±10%	250	25	5.80	0.120	700	4.65	53	4.80	67	Violet
5.1	±2, ±5, ±10%	250	20	5.80	0.160	700	5.13	47	5.36	56	Green
5.6	±2, ±5, ±10%	250	20	5.80	0.170	700	5.53	56	5.86	77	Yellow
6.2	±2, ±5, ±10%	250	25	5.80	0.110	700	6.28	60	6.40	85	Black
6.3	±2, ±5, ±10%	250	25	5.80	0.110	700	6.67	41	6.86	61	Black
6.8	±2, ±5, ±10%	250	27	5.80	0.110	700	6.75	60	7.10	81	Red
7.5	±2, ±5, ±10%	250	28	4.80	0.106	700	7.70	60	7.82	65	Brown
8.2	±2, ±5, ±10%	250	27	4.80	0.110	700	8.25	64	8.40	81	Green
8.7	±2, ±5, ±10%	250	28	4.80	0.109	700	8.86	62	9.32	58	Yellow
9.1	±2, ±5, ±10%	250	35	4.80	0.130	700	9.20	70	9.70	80	Black
9.5	±2, ±5, ±10%	250	28	5.40	0.135	700	9.70	59	9.92	61	Blue
10	±2, ±5, ±10%	250	31	4.80	0.130	700	10.0	66	10.6	83	Orange
11	±2, ±5, ±10%	250	31	4.00	0.086	700	11.3	53	12.1	56	Gray
12	±2, ±5, ±10%	250	35	4.00	0.130	700	12.3	72	13.5	83	Yellow
15	±2, ±5, ±10%	250	35	4.00	0.170	700	15.4	64	16.8	89	Green
16	±2, ±5, ±10%	250	35	3.30	0.110	700	16.5	55	18.0	52	White
17	±2, ±5, ±10%	250	35	3.20	0.170	700	17.6	56	19.4	44	Red
18	±2, ±5, ±10%	250	35	3.10	0.170	700	18.7	70	21.4	69	Blue
20	±2, ±5, ±10%	250	40	3.00	0.190	700	20.7	80	23.5	30	Green
22	±2, ±5, ±10%	250	38	3.00	0.190	700	22.8	73	26.1	71	Violet
23	±2, ±5, ±10%	250	38	2.85	0.190	700	24.1	71	28.0	71	Orange
24	±2, ±5, ±10%	250	38	2.80	0.130	700	25.7	45	30.9	40	Black
27	±2, ±5, ±10%	250	40	2.80	0.220	600	29.2	74	34.6	65	Gray
30	±2, ±5, ±10%	250	40	2.80	0.150	600	31.4	47	39.8	28	Brown
33	±2, ±5, ±10%	250	40	2.30	0.220	600	36.0	67	49.5	42	White
36	±2, ±5, ±10%	250	37	2.30	0.250	600	39.1	47	48.9	24	Red
39	±2, ±5, ±10%	250	40	2.20	0.250	600	42.7	60	60.2	40	Black
43	±2, ±5, ±10%	200	38	2.00	0.280	600	46.9	44	60.3	21	Orange
47	±2, ±5, ±10%	200	38	2.00	0.280	600	52.2	62	77.2	35	Brown
51	±2, ±5, ±10%	200	38	1.90	0.280	600	55.5	69	82.2	34	Blue
56	±2, ±5, ±10%	200	38	1.90	0.310	600	62.5	56	97.0	26	Red
62	±2, ±5, ±10%	200	37	1.80	0.340	600	68.0	40	110	10	Gray
68	±2, ±5, ±10%	200	37	1.70	0.340	600	80.5	54	168	21	Orange
72	±2, ±5, ±10%	150	34	1.70	0.490	600	82.0	53	135	20	Yellow
82	±2, ±5, ±10%	150	34	1.70	0.540	400	96.2	54	177	21	Green
91	±2, ±5, ±10%	150	30	1.70	0.500	400	110.0	50	416.4	6	Brown
100	±2, ±5, ±10%	150	34	1.40	0.580	400	124.0	49	319.5	13	Blue
110	±2, ±5, ±10%	150	32	1.35	0.610	300	138.0	43	342.7	15	Violet
120	±2, ±5, ±10%	150	32	1.30	0.650	300	166.0	39	529.3	8	Gray
130	±2, ±5, ±10%	150	30	1.40	0.720	300	185.0	60	-	-	White
140	±2, ±5, ±10%	100	28	1.30	0.870	280	190.0	80	-	-	Blue
150	±2, ±5, ±10%	100	28	1.30	0.950	280	230.0	25	-	-	White
160	±2, ±5, ±10%	100	25	1.30	1.400	280	215.0	20	-	-	Yellow
180	±2, ±5, ±10%	100	25	1.25	1.400	250	305.0	22	-	-	Black
220	±2, ±5, ±10%	100	25	1.20	1.600	250	377.0	21	-	-	Brown
260	±2, ±5, ±10%	100	25	1.00	2.000	200	469.0	21	-	-	Violet
270	±2, ±5, ±10%	100	25	0.90	2.100	200	523.0	19	-	-	Red
280	±2, ±5, ±10%	100	25	1.00	2.400	100	524.0	18	-	-	Green
300	±2, ±5, ±10%	100	25	0.75	2.500	150	539.7	21	-	-	Orange
330	±2, ±5, ±10%	100	25	0.90	3.800	100	680.4	20	-	-	Blue
390	±2, ±5, ±10%	100	25	0.90	4.350	100	734.5	29	-	-	Yellow
470	±2, ±5, ±10%	100	23	0.60	3.600	80	-	-	-	-	White

WL05 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
2.7	$\pm 5, \pm 10\%$	250	80 @ 1500MHz	7.900	0.06	800	Brown
2.8	$\pm 5, \pm 10\%$	250	80 @ 1500MHz	7.900	0.06	800	Gray
3.0	$\pm 5, \pm 10\%$	250	65 @ 1500MHz	7.900	0.06	800	White
3.3	$\pm 5, \pm 10\%$	250	50 @ 1500MHz	6.000	0.08	600	Black
5.6	$\pm 5, \pm 10\%$	250	65 @ 1000MHz	5.500	0.08	600	Orange
6.2	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	5.500	0.11	600	Green
6.8	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	5.500	0.11	600	Brown
7.5	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4.500	0.14	600	Green
8.2	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4.700	0.12	600	Red
8.7	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4.000	0.21	400	White
10	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	4.200	0.10	600	Blue
12	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	4.000	0.15	600	Orange
15	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	3.400	0.17	600	Yellow
18	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	3.300	0.20	600	Green
22	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	2.600	0.22	500	Blue
24	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2.000	0.22	500	Gray
27	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	2.500	0.25	500	Violet
33	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	2.050	0.27	500	Gray
36	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	1.700	0.27	500	Orange
39	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	2.000	0.29	500	White
43	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.650	0.34	500	Yellow
47	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.650	0.31	500	Black
56	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.550	0.34	500	Brown
68	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.450	0.38	500	Red
72	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.400	0.40	500	Green
82	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.300	0.42	400	Orange
91	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.200	0.48	400	Black
100	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.200	0.46	400	Yellow
110	$\pm 2, \pm 5, \pm 10\%$	150	50 @ 250MHz	1.000	0.48	400	Brown
120	$\pm 2, \pm 5, \pm 10\%$	150	50 @ 250MHz	1.100	0.51	400	Green
150	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.920	0.56	400	Blue
180	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.870	0.64	400	Violet
200	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.860	0.66	400	Orange
220	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.850	0.70	400	Gray
240	$\pm 2, \pm 5, \pm 10\%$	100	44 @ 250MHz	0.690	1.00	350	Red
250	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.680	1.00	350	Green
270	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.650	1.00	350	White
300	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.620	1.20	330	Yellow
330	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.600	1.40	310	Black
360	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.580	1.45	300	Green
390	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.560	1.50	290	Brown
430	$\pm 2, \pm 5, \pm 10\%$	50	33 @ 100MHz	0.430	1.70	230	Blue
470	$\pm 2, \pm 5, \pm 10\%$	50	33 @ 100MHz	0.375	1.70	250	Red
560	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.340	1.90	230	Orange
600	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.260	1.60	450	White
620	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.220	2.20	210	Yellow
680	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.200	2.20	190	Green
750	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.200	2.30	180	Blue
820	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.200	2.35	180	Violet
1000	$\pm 2, \pm 5, \pm 10\%$	25	20 @ 50MHz	0.100	2.50	170	Gray
1200	$\pm 2, \pm 5, \pm 10\%$	7.9	18 @ 25MHz	0.100	2.50	170	White
1500	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 25MHz	0.100	2.50	170	Black
1800	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.9MHz	0.080	2.50	170	Brown
2200	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.9MHz	0.060	2.70	160	Red
2700	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.9MHz	0.050	3.10	150	Orange
3300	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.9MHz	0.040	4.40	90	Blue
4700	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.9MHz	0.040	6.40	90	Green

WL08 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
*5.6	$\pm 5, \pm 10\%$	50	50 @ 1500MHz	4.000	0.15	1000	Black
*10	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 500MHz	4.100	0.08	1000	Brown
*12	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 500MHz	3.300	0.09	1000	Red
*15	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 500MHz	2.500	0.11	1000	Orange
*18	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	2.400	0.12	1000	Yellow
*22	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 350MHz	2.400	0.12	1000	Green
24	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 350MHz	1.900	0.13	1000	Blue
*27	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 350MHz	1.600	0.13	1000	Violet
*33	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.600	0.14	1000	Gray
36	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.600	0.15	1000	Orange
*39	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.500	0.15	1000	White
*47	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.500	0.16	1000	Black
*56	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.300	0.18	1000	Brown
*62	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.250	0.20	1000	Blue
*68	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.300	0.20	1000	Red
75	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.100	0.21	1000	White
*82	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.000	0.22	1000	Orange
91	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	1.000	0.45	1000	White
*100	$\pm 2, \pm 5, \pm 10\%$	25	60 @ 350MHz	1.000	0.56	650	Yellow
*120	$\pm 2, \pm 5, \pm 10\%$	25	60 @ 350MHz	0.950	0.63	650	Green
*150	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.850	0.70	800	Blue
*180	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.750	0.77	620	Violet
*220	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.700	0.84	500	Gray
*240	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.650	0.88	500	White
*270	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.600	0.91	690	Black
*300	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.585	1.00	450	Brown
*330	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.570	1.05	450	Red
*360	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.530	1.10	470	Orange
*390	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.500	1.12	630	Yellow
*430	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.480	1.15	470	Green
*470	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.450	1.19	470	Blue
*560	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.415	1.33	580	Violet
*620	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.375	1.40	300	Gray
*680	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.375	1.47	540	White
*750	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.360	1.54	360	Black
*820	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.350	1.61	400	Brown
*910	$\pm 2, \pm 5, \pm 10\%$	25	35 @ 50MHz	0.320	1.68	380	Red
*1000	$\pm 2, \pm 5, \pm 10\%$	25	35 @ 50MHz	0.290	1.75	370	Orange
*1200	$\pm 2, \pm 5, \pm 10\%$	7.9	35 @ 50MHz	0.250	2.00	310	Yellow
*1500	$\pm 2, \pm 5, \pm 10\%$	7.9	28 @ 50MHz	0.200	2.30	330	Green
*1800	$\pm 2, \pm 5, \pm 10\%$	7.9	28 @ 50MHz	0.160	2.60	300	Blue
*2200	$\pm 2, \pm 5, \pm 10\%$	7.9	28 @ 50MHz	0.160	2.80	280	Violet
*2700	$\pm 2, \pm 5, \pm 10\%$	7.9	22 @ 25MHz	0.140	3.20	290	Gray
*3300	$\pm 2, \pm 5, \pm 10\%$	7.9	22 @ 25MHz	0.110	3.40	290	White
*3900	$\pm 2, \pm 5, \pm 10\%$	7.9	18 @ 25MHz	0.100	3.60	260	Black
*4700	$\pm 2, \pm 5, \pm 10\%$	7.9	18 @ 25MHz	0.090	4.00	260	Brown
5600	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.96MHz	0.020	4.00	240	Red
6800	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.96MHz	0.040	4.90	200	Orange
8200	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.96MHz	0.025	6.00	170	Yellow
10000	$\pm 2, \pm 5, \pm 10\%$	2.52	15 @ 7.96MHz	0.020	9.00	150	Green
12000	$\pm 2, \pm 5, \pm 10\%$	2.52	15 @ 7.96MHz	0.018	10.5	130	Blue
15000	$\pm 2, \pm 5, \pm 10\%$	2.52	15 @ 7.96MHz	0.015	11.5	120	Violet

" \* " Test Methods / Instrument: Network / Spectrum Analyzer

WL06 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
6.8	$\pm 5, \pm 10\%$	100	30 @ 300MHz	5.50	0.07	1000	Brown
10	$\pm 5, \pm 10\%$	100	40 @ 300MHz	4.00	0.08	1000	Red
12	$\pm 5, \pm 10\%$	100	40 @ 300MHz	3.20	0.08	1000	Orange
15	$\pm 5, \pm 10\%$	100	40 @ 300MHz	3.20	0.10	1000	Yellow
18	$\pm 5, \pm 10\%$	100	50 @ 300MHz	2.80	0.10	1000	Green
22	$\pm 5, \pm 10\%$	100	50 @ 300MHz	2.20	0.10	1000	Blue
24	$\pm 5, \pm 10\%$	100	50 @ 300MHz	2.00	0.10	1000	Red
27	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 300MHz	1.80	0.11	1000	Violet
33	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.80	0.11	1000	Gray
39	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.80	0.12	1000	White
47	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.50	0.13	1000	Black
56	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.45	0.14	1000	Brown
62	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.20	0.20	1000	Violet
68	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.20	0.26	950	Red
82	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.20	0.21	920	Orange
91	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.10	0.24	900	White
100	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.10	0.26	850	Yellow
120	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	0.75	0.26	800	Green
150	$\pm 2, \pm 5, \pm 10\%$	100	60 @ 300MHz	0.95	0.31	750	Blue
180	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 300MHz	0.90	0.43	700	Violet
220	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 300MHz	0.76	0.50	670	Gray
270	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 300MHz	0.74	0.56	630	White
300	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 150MHz	0.68	0.60	600	Green
330	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.65	0.62	590	Black
360	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.60	0.65	550	Blue
390	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.60	0.75	530	Brown
470	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.55	1.30	490	Red
560	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.47	1.34	460	Orange
620	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.47	1.58	460	Gray
680	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.45	1.58	430	Yellow
750	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.44	2.25	320	White
820	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.42	1.82	400	Green
910	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.41	2.95	310	Green
1000	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.40	2.80	320	Blue
1200	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.38	3.20	300	Violet

## Low Profile Electrical Specifications

WL05 Wire Wound Chip Inductors / Low Profile Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
1.8	$\pm 5\%$	250	55 @ 1500MHz	9.40	0.03	800	Black
3.9	$\pm 5, \pm 10\%$	250	60 @ 1000MHz	6.10	0.06	800	Brown
4.7	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	5.50	0.06	800	Red
6.8	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	5.50	0.08	800	Orange
8.2	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4.80	0.08	800	Yellow
10	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 750MHz	3.30	0.08	800	Green
12	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 750MHz	3.80	0.10	800	Blue
15	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2.95	0.10	800	Violet
18	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	3.10	0.13	800	Gray
22	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2.90	0.15	800	Whit
27	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2.45	0.23	600	Black
33	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2.35	0.28	600	Brown
39	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2.20	0.33	600	Red
47	$\pm 2, \pm 5, \pm 10\%$	200	50 @ 500MHz	2.00	0.39	600	Orange
56	$\pm 2, \pm 5, \pm 10\%$	200	50 @ 500MHz	1.85	0.39	500	Yellow
68	$\pm 2, \pm 5, \pm 10\%$	200	50 @ 500MHz	1.50	0.40	500	Green
82	$\pm 2, \pm 5, \pm 10\%$	150	50 @ 500MHz	1.50	0.44	500	Blue
100	$\pm 2, \pm 5, \pm 10\%$	150	50 @ 500MHz	1.20	0.64	400	Violet
120	$\pm 2, \pm 5, \pm 10\%$	150	40 @ 250MHz	1.15	0.68	300	Gray
150	$\pm 2, \pm 5, \pm 10\%$	150	40 @ 250MHz	1.05	0.80	300	Whit
1000	$\pm 2, \pm 5, \pm 10\%$	25	16 @ 50MHz	0.08	3.50	170	Black

WL08 Wire Wound Chip Inductors / Low Profile Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
3.3	$\pm 5, \pm 10\%$	50	42 @ 1500MHz	6.00	0.03	1000	White
4.2	$\pm 5, \pm 10\%$	50	42 @ 1500MHz	6.00	0.15	1000	Black
6.8	$\pm 5, \pm 10\%$	50	50 @ 1500MHz	5.40	0.17	1000	Brown
8.2	$\pm 5, \pm 10\%$	50	50 @ 1500MHz	5.00	0.22	1000	Red
15	$\pm 5, \pm 10\%$	50	57 @ 500MHz	3.00	0.22	1000	Orange
18	$\pm 5, \pm 10\%$	50	50 @ 350MHz	2.40	0.12	1000	Gray
20	$\pm 5, \pm 10\%$	50	72 @ 500MHz	2.40	0.33	1000	Yellow
27	$\pm 5, \pm 10\%$	50	50 @ 350MHz	1.60	0.13	850	Green
30	$\pm 5, \pm 10\%$	50	69 @ 500MHz	2.40	0.38	600	Blue
40	$\pm 5, \pm 10\%$	50	67 @ 500MHz	2.00	0.43	600	Violet
50	$\pm 2, \pm 5, \pm 10\%$	50	72 @ 500MHz	1.90	0.48	600	Gray
60	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 500MHz	1.80	0.52	600	White
70	$\pm 2, \pm 5, \pm 10\%$	50	68 @ 500MHz	1.70	0.55	510	Black
80	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 500MHz	1.40	0.56	510	Brown
180	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	0.90	0.40	450	Blue
560	$\pm 2, \pm 5, \pm 10\%$	25	40 @ 100MHz	0.415	1.33	400	Red

## High Current Electrical Specifications

WL03 Wire Wound Chip Inductors / High Current Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
1.6	$\pm 5, \pm 10\%$	250	24	12.50	0.030	2400	Black
3.6	$\pm 5, \pm 10\%$	250	24	5.90	0.048	2300	Brown
3.9	$\pm 5, \pm 10\%$	250	25	5.90	0.054	2200	Red
6.8	$\pm 5, \pm 10\%$	250	35	5.80	0.054	2100	Orange
7.5	$\pm 5, \pm 10\%$	250	38	3.70	0.059	2100	Yellow
8.2	$\pm 5, \pm 10\%$	250	38	3.70	0.060	2000	White
10	$\pm 2, \pm 5, \pm 10\%$	250	38	3.70	0.071	2000	Green
12	$\pm 2, \pm 5, \pm 10\%$	250	38	3.00	0.075	2000	Blue
15	$\pm 2, \pm 5, \pm 10\%$	250	38	2.80	0.080	1900	Violet
18	$\pm 2, \pm 5, \pm 10\%$	250	40	2.80	0.099	1900	Gray
22	$\pm 2, \pm 5, \pm 10\%$	250	42	2.40	0.099	1800	White
24	$\pm 2, \pm 5, \pm 10\%$	250	42	2.40	0.105	1800	Black

## High Q Electrical Specifications

WL05 Wire Wound Chip Inductors / High Q Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
2.5	$\pm 5, \pm 10\%$	250	80 @ 1500MHz	6.00	0.020	1600	Black
5.6	$\pm 5, \pm 10\%$	250	98 @ 1500MHz	6.00	0.035	1600	Brown
6.2	$\pm 5, \pm 10\%$	250	88 @ 1000MHz	4.75	0.035	1600	Red
6.8	$\pm 5, \pm 10\%$	250	80 @ 1000MHz	4.40	0.035	1600	White
8.2	$\pm 5, \pm 10\%$	250	75 @ 1000MHz	3.00	0.075	1000	Gray
10	$\pm 5, \pm 10\%$	250	80 @ 1000MHz	3.00	0.060	1600	Black
12	$\pm 5, \pm 10\%$	250	80 @ 1000MHz	3.00	0.045	1600	Orange
15	$\pm 2, \pm 5, \pm 10\%$	250	80 @ 1000MHz	2.80	0.100	1200	Black
16	$\pm 2, \pm 5, \pm 10\%$	250	72 @ 500MHz	2.95	0.060	1500	Yellow
18	$\pm 2, \pm 5, \pm 10\%$	250	75 @ 500MHz	2.55	0.060	1400	Green
20	$\pm 2, \pm 5, \pm 10\%$	250	70 @ 500MHz	2.05	0.055	1400	Blue
22	$\pm 2, \pm 5, \pm 10\%$	250	80 @ 500MHz	2.00	0.100	1200	Black
27	$\pm 2, \pm 5, \pm 10\%$	250	75 @ 500MHz	2.00	0.070	1300	Violet
30	$\pm 2, \pm 5, \pm 10\%$	250	65 @ 500MHz	1.95	0.095	1200	Gray
39	$\pm 2, \pm 5, \pm 10\%$	250	65 @ 500MHz	1.60	0.110	1100	White
48	$\pm 2, \pm 5, \pm 10\%$	200	65 @ 500MHz	1.40	0.095	1200	Black
51	$\pm 2, \pm 5, \pm 10\%$	200	65 @ 500MHz	1.40	0.120	1000	Brown

WL08 Wire Wound Chip Inductors / High Q Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code
3.0	$\pm 5, \pm 10\%$	50	70 @ 1500MHz	6.00	0.04	1600	Black
3.9	$\pm 5, \pm 10\%$	50	75 @ 1500MHz	6.00	0.05	1600	White
4.1	$\pm 5, \pm 10\%$	50	75 @ 1500MHz	6.00	0.05	1600	Brown
7.8	$\pm 5, \pm 10\%$	50	75 @ 500MHz	3.80	0.05	1600	Red
10	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 500MHz	3.60	0.06	1600	Orange
12	$\pm 2, \pm 5, \pm 10\%$	50	70 @ 500MHz	2.80	0.06	1500	Yellow
18	$\pm 2, \pm 5, \pm 10\%$	50	62 @ 350MHz	2.70	0.07	1400	Green
22	$\pm 2, \pm 5, \pm 10\%$	50	62 @ 350MHz	2.05	0.07	1400	Blue
33	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.70	0.09	1300	Violet
39	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.30	0.09	1300	Gray
47	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.45	0.12	1200	White
56	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.23	0.12	1200	Black
68	$\pm 2, \pm 5, \pm 10\%$	50	80 @ 350MHz	1.15	0.13	1100	Brown
82	$\pm 2, \pm 5, \pm 10\%$	50	80 @ 350MHz	1.06	0.16	1100	Red
100	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	0.82	0.16	1000	Orange

Parts (3.0nH, 7.8nH) are wound on a low profile bobbin. (Max 2.41x2.01x1.09)



## ■ Environmental Characteristics

### Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4286
Q		HP4286
SRF		HP4287
DC Resistance RDC		Micro-Ohm meter (Gom-801G)
Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value
Over Load	Inductors shall have no evidence of electrical and mechanical damage	Applied 2 times of rated allowed DC current to inductor for a period of 5 minutes
Withstanding Voltage	Inductors shall be no evidence of electrical and mechanical damage.	AC voltage of 500 VAC applied between inductors terminal and case for 1 min.
Insulation Resistance	1000M ohm min.	100 V <sub>DC</sub> applied between inductor terminal and case

### Mechanical Performance Test

Item	Requirement	Test Method
Vibration	Appearance: No damage L change: within ±5% Q change: within ±10%	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1 min. Amplitude: 1.5 mm Time: 2 hrs for each axis (X, Y & Z), total 6 hrs
Resistance to Soldering Heat		Solder Temperature: 270±5°C Immersion Time: 10±2 seconds
Component Adhesion (Push Test)	1 lbs. For 0402 2 lbs. For 0603 3 lbs. For the rest	The device should be soldered (260±5 for 10 seconds) to a tinned copper subs rate. A dynamiter force gauge should be applied to the side of the component. The device must with stand a minimum force of 2 or 4 pounds without a failure of adhesion on termination
Drop	No damage	Dropping chip by each side and each corner. Drop 10 times in total Drop height: 100 cm Drop weight: 125 g
Solderability	90% covered with solder	Inductor shall be dipped in a melted solder bath at 245±5 for 3 seconds
Resistance to Solvent	No damage on appearance and marking	MIL-STD202F, Method 215D

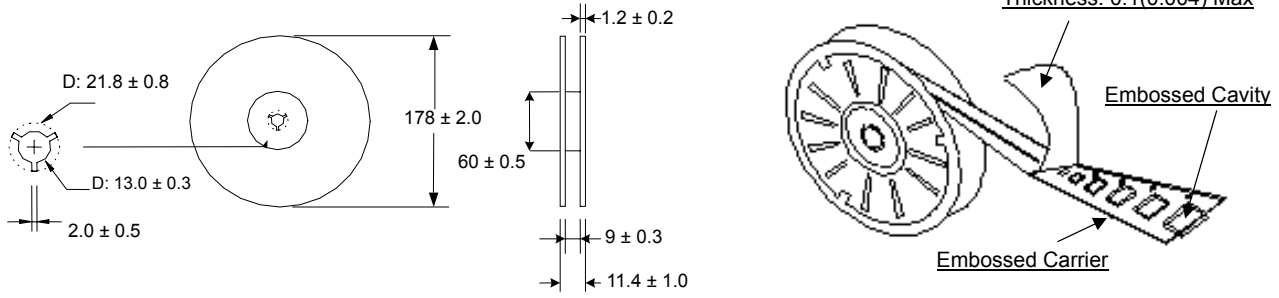
### Climatic Test

Item	Requirement	Test Method															
Temperature Characteristic	Appearance: No damage L change: within ±10% Q change: within ±20%	-40~+125°C															
Humidity		Temperature: 40±2°C Relative Humidity: 90~95% Time: 96±2 hrs Measured after exposure in the room condition for 2 hrs															
Low Temperature Storage		Temperature: -40±2°C Time: 96±2 hrs Inductors are tested after 1 hour at room temperature															
Thermal Shock		One cycle: <table border="1" data-bbox="861 1624 1396 1758"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>15</td> </tr> <tr> <td>3</td> <td>125±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>15</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min.)	1	-25±3	30	2	25±2	15	3	125±3	30	4	25±2	15
Step		Temperature (°C)	Time (min.)														
1		-25±3	30														
2		25±2	15														
3	125±3	30															
4	25±2	15															
High Temperature Storage	Temperature: 125±2°C Time: 96±2 hrs Measured after exposure in the room condition for 1 hour																
High Temperature Load Life	Temperature: 85±2°C Time: 1000±12 hrs Load: Allowed DC current																
Damp Heat with Load	Temperature: 40±2°C Relative Humidity: 90~95% Time: 1000±12 hrs Load: Allowed DC current																

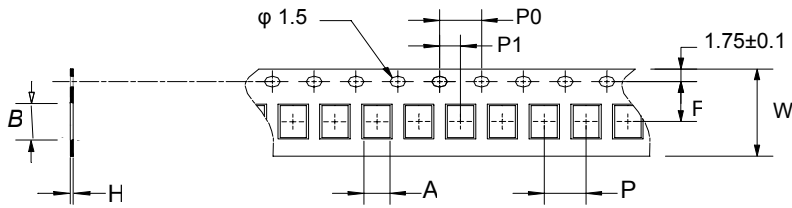
■ Storage Temperature: 25±3°C; Humidity < 80%RH

## ■ Packaging

### Reel Dimensions & Packaging Quantity



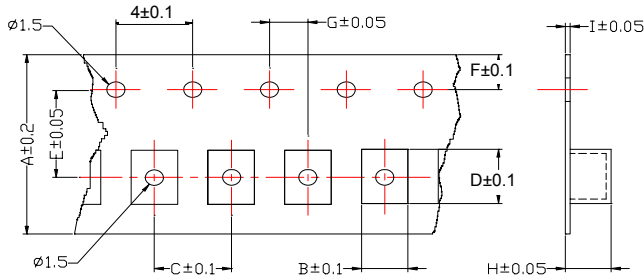
### Paper Tape specification and Packaging Quantity



Unit: mm

Type	A	B	H	F	P	P <sub>0</sub>	P <sub>1</sub>	W	Reel (EA)
WL02	0.72	1.19	0.60	3.50	4.00	4.00	2.00	8.00	4,000
WL03	1.35	1.95	0.95	3.50	4.00	4.00	2.00	8.00	4,000

### Embossed Plastic Tape specification and Packaging Quantity



Unit: mm

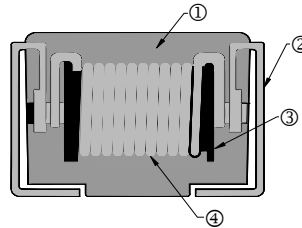
Type	A	B	C	D	E	F	G	H	I	Reel (EA)
WL05	8	1.85	4	2.30	3.5	1.75	2	1.45	0.23	2,000
WL05 (L)	8	1.80	4	2.30	3.5	1.75	2	0.90	0.23	2,000
WL05 (H)	8	1.85	4	2.30	3.5	1.75	2	1.45	0.23	2,000
WL06	8	1.95	4	3.50	3.5	1.75	2	1.50	0.23	2,000
WL08	8	2.70	4	2.80	3.5	1.75	2	2.00	0.23	2,000
WL08 (L)	8	2.70	4	2.80	3.5	1.75	2	1.50	0.23	2,000
WL08 (H)	8	2.70	4	2.80	3.5	1.75	2	2.00	0.23	2,000



## Wire Wound Chip Inductor (Ferrite) – NL Series

### Construction

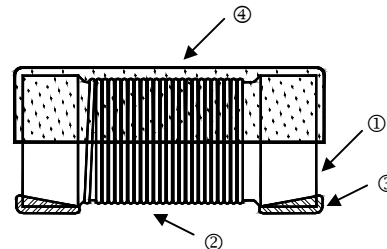
#### Molding Type



① Molded resin	③ Ferrite core
② Electrode (Ag)	④ Magnet wire



#### Open Type



① Ferrite core	③ Electrode (Ag/Pd+Ni+Sn)
② Magnet wire	④ UV Glue

1. These revolutionary, highly reliable wound chip inductors for automatic mounting, have been developed in response to the trend toward high density in electronic equipment.

2. With metal terminals and a body of heat resistant resin, these inductors offer many superior features.

### 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

### Part Numbering

NL	05	K	T	C	1R0
Product Type	Dimensions	Inductance Tolerance	Packaging Code	Current	Inductance
	03: 0603 05: 0805 08: 1008 10: 1210 12: 1812 20: 2220	J: ±5% K: ±10% M: ±20%	T: Taping Reel	: Standard C: Large Current L: Low Profile	R12: 120nH R27: 270nH 2R7: 2700nH 100: 10µH

### 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

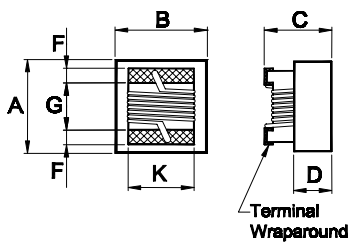


Figure 1

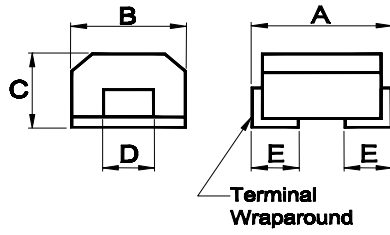


Figure 2

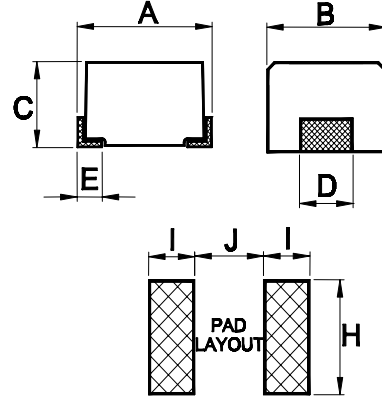


Figure 3

Unit: mm

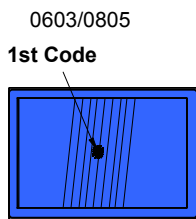
Type	Size (Inch)	Figure	A max.	B max.	C max.	D Ref.	E	F	G	H	I	J	K	Weight (g) (1000pcs)
NL03	0603	1	1.80	1.20	1.00	0.45	-	0.33	0.95	1.02	1.64	0.64	1.05	9.6
NL05	0805	1	2.40	1.71	1.45	0.65	-	0.44	1.02	1.78	1.02	0.76	1.27	14
NL08	1008	1	2.92	2.79	2.10	1.20	-	0.45	1.52	2.54	1.02	1.27	2.03	30
NL10	1210	2	3.50	2.80	2.50	1.60	0.8	-	-	2.00	1.20	1.60	-	40
NL12	1812	2	4.80	3.50	3.50	1.80	1.1	-	-	2.80	1.50	3.00	-	160
NL20	2220	3	5.90	5.20	4.30	4±0.2	0.7±0.2	-	-	4.50	2.00	4.00	-	300
NL05 (L)	0805	1	2.29	1.73	1.00	0.51	-	0.44	1.02	1.78	1.02	0.76	1.27	14
NL03 (C)	0603	1	1.80	1.20	1.10	0.45	-	0.33	0.95	1.02	1.64	0.64	1.05	9.6
NL05 (C)	0805	1	2.40	1.71	1.45	0.65	-	0.44	1.02	1.78	1.02	0.76	1.27	14
NL08 (C)	1008	1	2.92	2.79	2.10	1.30	-	0.45	1.52	2.54	1.02	1.27	2.03	30
NL12 (C)	1812	2	4.80	3.50	3.50	1.40	1.1	-	-	2.80	1.50	3.00	-	160
NL20 (C)	2220	3	5.90	5.20	4.30	4±0.2	0.7±0.2	-	-	4.50	2.00	4.00	-	300

## ■ Color Coding

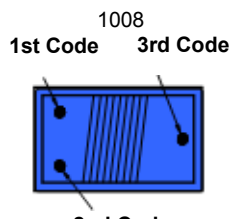
0603 / 0805 / 1008 Type

Because of small sizes, these parts are marked with a single color dot.

The inductance value represented by the dot is shown on the data page for each type.



Color Coding



Color Coding

## ■ Standard Electrical Specifications

NL03 Wire Wound Chip Inductors (Ferrite) / Standard Type

Codes	Inductance (μH)	Tolerance	Test Freq. (MHz)	Q typ.	SRF (MHz) typ.	DCR (Ω) max.	IDC (mA) max.	Color Code
1R0	1.0	±10, ±20%	7.96	16	390	0.416	860	Black
1R5	1.5	±10, ±20%	7.96	16	160	0.520	720	Brown
1R8	1.8	±10, ±20%	7.96	16	121	0.559	640	Red
2R2	2.2	±10, ±20%	7.96	16	103	0.728	600	Orange
2R7	2.7	±10, ±20%	7.96	16	72	0.806	540	Yellow
3R3	3.3	±10, ±20%	7.96	16	66	0.910	500	Green
3R9	3.9	±10, ±20%	7.96	16	61	1.079	460	Blue
4R7	4.7	±10, ±20%	7.96	16	51	1.261	400	Violet
5R6	5.6	±10, ±20%	7.96	16	47	1.430	380	Gray
6R8	6.8	±10, ±20%	7.96	16	43	1.950	340	White
8R2	8.2	±10, ±20%	7.96	16	40	2.184	300	Black
100	10	±10, ±20%	2.52	14	36	2.405	280	Brown
120	12	±10, ±20%	2.52	14	32	2.964	260	Red
150	15	±10, ±20%	2.52	14	29	3.380	240	Orange
180	18	±10, ±20%	2.52	14	28	3.770	220	Yellow
220	22	±10, ±20%	2.52	14	24	4.693	200	Green
270	27	±10, ±20%	2.52	14	20	6.760	140	Blue
330	33	±10, ±20%	2.52	14	15	8.580	120	Violet

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

NL05 Wire Wound Chip Inductors (Ferrite) / Standard Type

Codes	Inductance (μH)	Tolerance	Test Freq. (MHz)	Q min.	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	Color Code
R11	0.11	±10%	25.2	25	1200	0.05	2000	White
R12	0.12	±5, ±10%	25.2	20	700	0.18	1100	Violet
R15	0.15	±5, ±10%	25.2	20	900	0.18	1100	Gray
R18	0.18	±5, ±10%	25.2	20	600	0.20	800	Black
R22	0.22	±5, ±10%	25.2	20	550	0.25	700	Brown
R27	0.27	±5, ±10%	25.2	20	550	0.38	700	Red
R33	0.33	±5, ±10%	25.2	20	550	0.35	650	Orange
R39	0.39	±5, ±10%	25.2	20	420	0.35	600	Yellow
R47	0.47	±5, ±10%	25.2	20	350	0.45	600	Green
R56	0.56	±5, ±10%	25.2	20	300	0.45	550	Blue
R62	0.62	±5, ±10%	25.2	30	640	0.45	980	Brown
R68	0.68	±5, ±10%	25.2	20	300	0.60	500	Violet
R82	0.82	±5, ±10%	25.2	20	300	0.55	500	Gray
R91	0.91	±5, ±10%	25.2	30	500	0.55	900	Yellow
1R0	1.0	±5, ±10%	7.96	15	280	0.80	450	White
1R2	1.2	±5, ±10%	7.96	15	280	0.90	400	Black
1R5	1.5	±5, ±10%	7.96	15	250	1.05	350	Brown
1R8	1.8	±5, ±10%	7.96	15	120	1.00	350	Red
2R2	2.2	±5, ±10%	7.96	15	110	1.10	320	Orange
2R7	2.7	±5, ±10%	7.96	15	70	1.20	320	Yellow
3R3	3.3	±5, ±10%	7.96	15	60	1.50	300	Green
3R9	3.9	±5, ±10%	7.96	15	55	1.75	300	Blue
4R7	4.7	±5, ±10%	7.96	15	45	2.10	200	Violet
5R6	5.6	±5, ±10%	7.96	15	40	2.30	250	Gray
6R8	6.8	±5, ±10%	7.96	15	36	2.70	200	White
8R2	8.2	±5, ±10%	7.96	15	33	3.30	180	Black
100	10	±5, ±10%	2.52	10	30	4.50	180	Brown
120	12	±5, ±10%	2.52	16	37	2.80	220	Red
150	15	±5, ±10%	2.52	16	30	3.80	200	Orange
180	18	±5, ±10%	2.52	16	23	4.48	180	Yellow
220	22	±5, ±10%	2.52	16	20	6.30	160	Green
270	27	±5, ±10%	2.52	16	19	6.85	140	Blue
330	33	±5, ±10%	2.52	16	18	7.60	120	Violet
390	39	±5, ±10%	2.52	15	16	8.20	100	Gray

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

NL08 Wire Wound Chip Inductors (Ferrite) / Standard Type

Codes	Inductance (μH)	Tolerance	Test Freq. (MHz)	Q typ.	SRF (MHz) typ.	DCR (Ω) max.	IDC (mA) max.	Color Code		
R12	0.12	±5, ±10%	25.2	26	800	0.30	1000	Brown	Red	Brown
R18	0.18	±5, ±10%	25.2	30	600	0.30	960	Red	Gray	Brown
R20	0.20	±5, ±10%	25.2	30	735	0.30	960	Red	Black	Brown
R22	0.22	±5, ±10%	25.2	27	600	0.40	880	Red	Red	Brown
R27	0.27	±5, ±10%	25.2	29	425	0.42	900	Red	Violet	Brown
R33	0.33	±5, ±10%	25.2	30	400	0.42	900	Orange	Orange	Brown
R39	0.39	±5, ±10%	25.2	30	375	0.45	700	Orange	White	Brown
R47	0.47	±5, ±10%	25.2	30	350	0.50	900	Yellow	Violet	Brown
R56	0.56	±5, ±10%	25.2	30	325	0.55	850	Green	Blue	Brown
R62	0.62	±5, ±10%	25.2	30	460	0.55	900	Blue	Red	Brown
R68	0.68	±5, ±10%	25.2	30	300	0.55	800	Blue	Gray	Brown
R75	0.75	±5, ±10%	25.2	30	420	0.65	880	Violet	Green	Brown
R82	0.82	±5, ±10%	25.2	30	260	0.65	700	Gray	Red	Brown
R91	0.91	±5, ±10%	25.2	30	400	0.65	840	White	Brown	Brown
1R0	1.0	±5, ±10%	7.96	25	245	0.60	600	Brown	Black	Red
1R2	1.2	±5, ±10%	7.96	25	230	0.74	600	Brown	Red	Red
1R5	1.5	±5, ±10%	7.96	25	182	0.85	550	Brown	Green	Red
1R8	1.8	±5, ±10%	7.96	25	135	0.92	500	Brown	Gray	Red
2R2	2.2	±5, ±10%	7.96	25	105	1.10	500	Red	Red	Red
2R7	2.7	±5, ±10%	7.96	25	70	1.22	350	Red	Violet	Red
3R3	3.3	±5, ±10%	7.96	25	55	1.37	350	Orange	Orange	Red
3R9	3.9	±5, ±10%	7.96	25	48	1.66	310	Orange	White	Red
4R7	4.7	±5, ±10%	7.96	25	43	1.68	300	Yellow	Violet	Red
5R6	5.6	±5, ±10%	7.96	25	42	1.75	300	Green	Blue	Red
6R8	6.8	±5, ±10%	7.96	25	39	1.85	300	Blue	Gray	Red
8R2	8.2	±5, ±10%	7.96	25	36	2.00	250	Gray	Red	Red
100	10	±5, ±10%	2.52	20	33	2.32	250	Brown	Black	Orange
120	12	±5, ±10%	2.52	15	28	2.99	200	Brown	Red	Orange
150	15	±5, ±10%	2.52	15	24	3.42	200	Brown	Green	Orange
180	18	±5, ±10%	2.52	15	20	4.65	180	Brown	Gray	Orange
220	22	±5, ±10%	2.52	15	18	5.12	180	Red	Red	Orange
270	27	±5, ±10%	2.52	15	17	5.76	160	Red	Violet	Orange
330	33	±5, ±10%	2.52	15	16	6.44	120	Orange	Orange	Orange
390	39	±5, ±10%	2.52	15	15	6.85	120	Orange	White	Orange
470	47	±5, ±10%	2.52	14	13	9.94	110	Yellow	Violet	Orange
560	56	±5, ±10%	2.52	14	10	10.7	90	Green	Blue	Orange
680	68	±5, ±10%	2.52	14	8	12.8	90	Blue	Gray	Orange
820	82	±5, ±10%	2.52	14	8	18.3	80	Gray	Red	Orange
101	100	±5, ±10%	1	8	7	19.6	120	Brown	Black	Orange

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

NL10 Wire Wound Chip Inductors (Ferrite) / Standard Type

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
R18	0.18	±20%	25.2	30	400	0.28	450
R22	0.22	±20%	25.2	30	350	0.32	450
R27	0.27	±20%	25.2	30	320	0.36	450
R33	0.33	±20%	25.2	30	300	0.40	450
R39	0.39	±20%	25.2	30	250	0.45	450
R47	0.47	±20%	25.2	30	220	0.50	450
R56	0.56	±20%	25.2	30	180	0.55	450
R68	0.68	±20%	25.2	30	160	0.60	450
R82	0.82	±20%	25.2	30	140	0.65	450
1R0	1.0	±10%	7.96	30	120	0.70	400
1R2	1.2	±10%	7.96	30	100	0.75	390
1R5	1.5	±10%	7.96	30	85	0.85	370
1R8	1.8	±10%	7.96	30	80	0.90	350
2R2	2.2	±10%	7.96	30	75	1.00	320
2R7	2.7	±10%	7.96	30	70	1.10	290
3R3	3.3	±10%	7.96	30	60	1.20	260
3R9	3.9	±10%	7.96	30	55	1.30	250
4R7	4.7	±10%	7.96	30	50	1.50	220
5R6	5.6	±10%	7.96	30	45	1.60	200
6R8	6.8	±10%	7.96	30	40	1.80	180
8R2	8.2	±10%	7.96	30	35	2.00	170
100	10	±10%	2.52	30	30	2.10	150
120	12	±10%	2.52	30	20	2.50	140
150	15	±10%	2.52	30	20	2.80	130
180	18	±10%	2.52	30	20	3.30	120
220	22	±10%	2.52	30	20	3.70	110
270	27	±10%	2.52	30	20	5.00	80
330	33	±10%	2.52	30	17	5.60	70
390	39	±10%	2.52	30	16	6.40	65
470	47	±10%	2.52	30	15	7.00	60
560	56	±10%	2.52	30	13	8.00	55
680	68	±10%	2.52	30	12	9.00	50
820	82	±10%	2.52	30	11	10.00	45
101	100	±10%	0.796	20	10	10.00	40
121	120	±10%	0.796	20	10	11.00	70
151	150	±10%	0.796	20	8	15.00	65
181	180	±10%	0.796	20	7	17.00	60
221	220	±10%	0.796	20	7	21.00	50

■ L, Q: HP4291 for 0.18μH~82μH; HP4284 for 100μH~220μH

■ SRF: HP4291

■ RDC: Agilent 34401A

**NL12 Wire Wound Chip Inductors (Ferrite) / Standard Type**

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
R18	0.18	±20%	25.2	30	220	0.24	700
R22	0.22	±20%	25.2	30	200	0.25	665
R27	0.27	±20%	25.2	30	180	0.26	635
R33	0.33	±20%	25.2	30	165	0.28	605
R39	0.39	±20%	25.2	30	150	0.30	575
R47	0.47	±20%	25.2	30	145	0.32	545
R56	0.56	±20%	25.2	30	140	0.36	520
R68	0.68	±20%	25.2	30	135	0.40	500
R82	0.82	±20%	25.2	30	130	0.45	475
1R0	1.0	±10%	7.96	50	100	0.50	450
1R2	1.2	±10%	7.96	50	80	0.55	430
1R5	1.5	±10%	7.96	50	70	0.60	410
1R8	1.8	±10%	7.96	50	60	0.65	390
2R2	2.2	±10%	7.96	50	55	0.70	380
2R7	2.7	±10%	7.96	50	50	0.75	370
3R3	3.3	±10%	7.96	50	45	0.80	355
3R9	3.9	±10%	7.96	50	40	0.90	330
4R7	4.7	±10%	7.96	50	35	1.00	315
5R6	5.6	±10%	7.96	50	33	1.10	300
6R8	6.8	±10%	7.96	50	27	1.20	285
8R2	8.2	±10%	7.96	50	25	1.40	270
100	10	±10%	2.52	50	20	1.60	250
120	12	±10%	2.52	50	18	2.00	225
150	15	±10%	2.52	50	17	2.50	200
180	18	±10%	2.52	50	15	2.80	190
220	22	±10%	2.52	50	13	3.20	180
270	27	±10%	2.52	50	12	3.60	170
330	33	±10%	2.52	50	11	4.00	160
390	39	±10%	2.52	50	10	4.50	150
470	47	±10%	2.52	50	10	5.00	140
560	56	±10%	2.52	50	9	5.50	135
680	68	±10%	2.52	50	9	6.00	130
820	82	±10%	2.52	50	8	7.00	120
101	100	±10%	0.796	40	8	8.00	110
121	120	±10%	0.796	40	6	8.00	110
151	150	±10%	0.796	40	5	9.00	105
181	180	±10%	0.796	40	5	9.50	102
221	220	±10%	0.796	40	4	10.0	100
271	270	±10%	0.796	30	4	15.0	92
331	330	±10%	0.796	30	3.5	15.0	85
391	390	±10%	0.796	30	3	18.0	80
471	470	±10%	0.796	30	3	26.0	62
561	560	±10%	0.796	30	3	30.0	50
681	680	±10%	0.796	30	3	30.0	50
821	820	±10%	0.796	30	2.5	43.0	30

- L, Q: HP4291 for 0.18μH~82μH; HP4284 for 100μH~820μH
- SRF: HP4291
- RDC: Agilent 34401A

NL20 Wire Wound Chip Inductors (Ferrite) / Standard Type

Codes	Inductance (mH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
122	1.2	$\pm 5, \pm 10\%$	0.252	20	1.5	17	75
152	1.5	$\pm 5, \pm 10\%$	0.252	20	1.4	20	70
182	1.8	$\pm 5, \pm 10\%$	0.252	20	1.3	30	60
222	2.2	$\pm 5, \pm 10\%$	0.252	20	1.2	35	55
272	2.7	$\pm 5, \pm 10\%$	0.252	20	1.1	55	45
332	3.3	$\pm 5, \pm 10\%$	0.252	20	1.0	60	40
392	3.9	$\pm 5, \pm 10\%$	0.252	20	1.0	70	38
472	4.7	$\pm 5, \pm 10\%$	0.252	20	0.9	78	36
562	5.6	$\pm 5, \pm 10\%$	0.252	20	0.8	85	33
682	6.8	$\pm 5, \pm 10\%$	0.252	20	0.7	110	30
822	8.2	$\pm 5, \pm 10\%$	0.252	20	0.6	125	28
103	10	$\pm 5, \pm 10\%$	0.0796	15	0.5	150	25

- L, Q: HP4284
- SRF: HP4291
- RDC: Agilent 34401A

## Low Profile Electrical Specifications

NL05 Wire Wound Chip Inductors (Ferrite) / **Low Profile Type**

Codes	Inductance ( $\mu$ H)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.
1R0	1.0	$\pm 5, \pm 10\%$	15	L: 7.96 / Q: 25.2	115	0.90	450
3R3	3.3	$\pm 5, \pm 10\%$	13	7.96	70	1.40	450
4R7	4.7	$\pm 5, \pm 10\%$	15	7.96	65	1.90	400
6R8	6.8	$\pm 5, \pm 10\%$	15	7.96	41	2.40	400
100	10	$\pm 5, \pm 10\%$	14	7.96	31	2.70	400
150	15	$\pm 5, \pm 10\%$	12	7.96	28	5.00	300
220	22	$\pm 5, \pm 10\%$	10	7.96	25	6.00	250

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A



## ■ Large Current Electrical Specifications

NL03 Wound Chip Inductors (Ferrite) / **Large Current Type**

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	Color Code
47N	0.047	±10%	12	7.96	2000	0.075	1800	White
51N	0.051	±10%	12	7.96	1500	0.075	1800	Violet
68N	0.068	±10%	12	7.96	1500	0.12	1800	Gray
72N	0.072	±10%	12	7.96	1500	0.12	1800	Brown
R10	0.10	±10%	12	7.96	1150	0.13	1700	Black
R12	0.12	±5, ±10%	12	7.96	1100	0.15	1700	Orange
R15	0.15	±5, ±10%	15	7.96	1050	0.15	1600	Brown
R18	0.18	±5, ±10%	15	7.96	950	0.15	1500	Green
R22	0.22	±5, ±10%	15	7.96	900	0.30	1200	Red
R24	0.24	±5, ±10%	15	7.96	850	0.16	1460	Green
R27	0.27	±5, ±10%	15	7.96	835	0.30	1460	Yellow
R33	0.33	±5, ±10%	15	7.96	725	0.40	1420	Orange
R39	0.39	±5, ±10%	15	7.96	680	0.41	1400	Blue
R47	0.47	±5, ±10%	15	7.96	640	0.43	1400	Black
R56	0.56	±5, ±10%	15	7.96	630	0.44	1400	Brown
R68	0.68	±5, ±10%	15	7.96	510	0.52	1340	Red
R78	0.78	±5, ±10%	15	7.96	465	0.63	1300	Orange
R82	0.82	±5, ±10%	15	7.96	460	0.69	1200	Yellow
1R0	1.0	±5, ±10%	15	7.96	320	0.81	1100	Green
1R2	1.2	±5, ±10%	15	7.96	270	0.87	1000	Blue
1R5	1.5	±5, ±10%	15	7.96	230	0.96	920	Violet
1R8	1.8	±5, ±10%	15	7.96	210	1.10	900	Gray
2R2	2.2	±5, ±10%	15	7.96	115	1.20	740	White
2R7	2.7	±5, ±10%	15	7.96	100	1.38	700	Black
3R3	3.3	±5, ±10%	15	7.96	84	1.50	680	Brown
3R9	3.9	±5, ±10%	15	7.96	75	1.50	600	Red
4R7	4.7	±5, ±10%	15	7.96	67	2.10	580	Orange
5R6	5.6	±5, ±10%	15	7.96	55	2.37	540	Yellow
6R8	6.8	±5, ±10%	15	7.96	48	3.10	500	Green
7R8	7.8	±5, ±10%	15	7.96	40	3.35	460	Blue
8R2	8.2	±5, ±10%	15	7.96	38	3.50	440	Violet
100	10	±5, ±10%	15	7.96	32	4.46	400	Gray

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

NL05 Wire Wound Chip Inductors (Ferrite) / **Large Current Type**

Codes	Inductance (μH)	Tolerance	Test Freq. (MHz)	Q typ.	SRF (MHz) typ.	DCR (Ω) max.	IDC (mA) max.	Color Code
R47	0.47	±10, ±20%	25.2	14	850	0.156	1400	Blue
R68	0.68	±10, ±20%	25.2	14	765	0.195	1200	Gray
1R0	1.00	±10, ±20%	7.96	14	208	0.169	1100	Black
1R2	1.20	±10, ±20%	7.96	14	159	0.208	960	Red
1R5	1.50	±10, ±20%	7.96	14	159	0.221	920	Brown
1R8	1.80	±10, ±20%	7.96	14	112	0.260	860	Orange
2R2	2.20	±10, ±20%	7.96	13	87	0.286	740	Red
2R7	2.70	±10, ±20%	7.96	13	72	0.325	680	Yellow
3R3	3.30	±10, ±20%	7.96	12	70	0.364	620	Orange
3R9	3.90	±10, ±20%	7.96	14	61	0.494	580	Green
4R7	4.70	±10, ±20%	7.96	14	51	0.559	520	Yellow
5R6	5.60	±10, ±20%	7.96	12	47	0.650	480	Blue
6R8	6.80	±10, ±20%	7.96	14	46	0.884	420	Green
8R2	8.20	±10, ±20%	7.96	13	33	0.949	400	Violet
100	10	±5, ±10, ±20%	2.52	14	31	1.105	360	Blue
120	12	±5, ±10, ±20%	2.52	14	30	1.17	340	Gray
150	15	±5, ±10, ±20%	2.52	15	28	1.82	300	Violet
180	18	±5, ±10, ±20%	2.52	15	27	2.01	280	White
220	22	±5, ±10, ±20%	2.52	15	20	2.28	240	Gray
270	27	±5, ±10, ±20%	2.52	15	17	2.60	220	Black
330	33	±5, ±10, ±20%	2.52	15	17	3.05	200	White
470	47	±5, ±10, ±20%	2.52	14	15	4.42	160	Black
560	56	±5, ±10, ±20%	2.52	14	10	5.74	150	Yellow
680	68	±5, ±10, ±20%	2.52	14	10	5.78	140	Brown
820	82	±5, ±10, ±20%	2.52	14	10	9.75	100	Orange
101	100	±5, ±10, ±20%	1	10	9	9.75	100	Red

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

**NL08 Wire Wound Chip Inductors (Ferrite) / Large Current Type**

Codes	Inductance ( $\mu$ H)	Tolerance	Q typ.	Test Freq. (MHz)	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Color Code		
								1st	2nd	3rd
R22	0.22	$\pm 5, \pm 10\%$	35	25.2	800	0.15	2600	Red	Red	Brown
R47	0.47	$\pm 5, \pm 10\%$	35	25.2	460	0.20	2400	Yellow	Violet	Brown
R68	0.68	$\pm 5, \pm 10\%$	35	25.2	400	0.30	2200	Blue	Gray	Brown
R82	0.82	$\pm 5, \pm 10\%$	35	25.2	360	0.35	1800	Gray	Red	Brown
1R0	1.0	$\pm 5, \pm 10\%$	22	7.96	245	0.35	800	Brown	Black	Red
1R2	1.2	$\pm 5, \pm 10\%$	25	7.96	230	0.40	550	Brown	Red	Red
1R5	1.5	$\pm 5, \pm 10\%$	25	7.96	182	0.45	550	Brown	Green	Red
1R8	1.8	$\pm 5, \pm 10\%$	25	7.96	135	0.55	550	Brown	Gray	Red
2R2	2.2	$\pm 5, \pm 10\%$	22	7.96	105	0.60	500	Red	Red	Red
2R7	2.7	$\pm 5, \pm 10\%$	25	7.96	70	0.70	500	Red	Violet	Red
3R3	3.3	$\pm 5, \pm 10\%$	22	7.96	55	0.75	450	Orange	Orange	Red
3R9	3.9	$\pm 5, \pm 10\%$	25	7.96	50	0.80	450	Orange	White	Red
4R7	4.7	$\pm 5, \pm 10\%$	22	7.96	45	0.90	400	Yellow	Violet	Red
5R6	5.6	$\pm 5, \pm 10\%$	22	7.96	42	1.05	400	Green	Blue	Red
6R8	6.8	$\pm 5, \pm 10\%$	22	7.96	40	1.05	400	Blue	Gray	Red
8R2	8.2	$\pm 5, \pm 10\%$	22	7.96	36	1.30	350	Gray	Red	Red
100	10	$\pm 5, \pm 10\%$	20	2.52	35	1.55	300	Brown	Black	Orange
120	12	$\pm 5, \pm 10\%$	20	2.52	30	2.10	280	Brown	Red	Orange
150	15	$\pm 5, \pm 10\%$	20	2.52	24	2.38	250	Brown	Green	Orange
180	18	$\pm 5, \pm 10\%$	20	2.52	20	2.60	200	Brown	Gray	Orange
220	22	$\pm 5, \pm 10\%$	20	2.52	18	2.92	200	Red	Red	Orange
330	33	$\pm 5, \pm 10\%$	20	2.52	16	4.10	180	Orange	Orange	Orange
470	47	$\pm 5, \pm 10\%$	23	2.52	17	7.80	350	Yellow	Violet	Orange
101	100	$\pm 5, \pm 10\%$	13	1	4	13.2	200	Brown	Black	Yellow
221	220	$\pm 5, \pm 10\%$	13	1	3	26.5	140	Red	Red	Yellow
331	330	$\pm 5, \pm 10\%$	13	1	2	32.5	110	Orange	Orange	Yellow

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

NL12 Wire Wound Chip Inductors (Ferrite) / **Large Current Type**

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1.0	±10%	10	7.96	200	0.11	1050
1R2	1.2	±10%	10	7.96	160	0.12	1000
1R5	1.5	±10%	10	7.96	130	0.15	950
1R8	1.8	±10%	10	7.96	100	0.16	900
2R2	2.2	±10%	10	7.96	80	0.18	850
2R7	2.7	±10%	10	7.96	60	0.20	800
3R3	3.3	±10%	10	7.96	45	0.22	750
3R9	3.9	±10%	10	7.96	40	0.24	700
4R7	4.7	±10%	10	7.96	35	0.27	650
5R6	5.6	±10%	10	7.96	30	0.30	650
6R8	6.8	±10%	10	7.96	28	0.35	600
8R2	8.2	±10%	10	7.96	25	0.40	600
100	10	±10%	10	2.52	22	0.50	550
120	12	±10%	10	2.52	21	0.60	500
150	15	±10%	10	2.52	20	0.70	450
180	18	±10%	10	2.52	19	0.80	400
220	22	±10%	10	2.52	18	0.90	370
270	27	±10%	10	2.52	16	1.20	330
330	33	±10%	10	2.52	14	1.40	300
390	39	±10%	10	2.52	12	1.60	280
470	47	±10%	10	2.52	11.5	1.90	260
560	56	±10%	10	2.52	11	2.20	240
680	68	±10%	10	2.52	10	2.60	220
820	82	±10%	10	2.52	9	3.50	200
101	100	±10%	20	0.796	8	4.00	180
121	120	±10%	20	0.796	7.5	4.50	160
151	150	±10%	20	0.796	7	6.50	140
181	180	±10%	20	0.796	6.5	7.50	120
221	220	±10%	20	0.796	5.5	9.00	120
271	270	±10%	20	0.796	5	11.0	100
331	330	±10%	20	0.796	4	13.0	90
391	390	±10%	20	0.796	3.8	23.0	80
471	470	±10%	20	0.796	3.5	26	75
561	560	±10%	20	0.796	2.8	30	70
681	680	±10%	20	0.796	2.6	40	65
821	820	±10%	20	0.796	2.5	45	60

- L, Q: HP4291
- SRF: HP4291
- RDC: Agilent 34401A

**NL20 Wire Wound Chip Inductors (Ferrite) / Large Current Type**

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1.0	±10, ±20%	10	7.96	95	0.03	1800
1R2	1.2	±10, ±20%	10	7.96	70	0.035	1700
1R5	1.5	±10, ±20%	10	7.96	55	0.04	1600
1R8	1.8	±10, ±20%	10	7.96	47	0.05	1400
2R2	2.2	±10, ±20%	10	7.96	42	0.06	1300
2R7	2.7	±10, ±20%	10	7.96	37	0.07	1200
3R3	3.3	±10, ±20%	10	7.96	34	0.08	1120
3R9	3.9	±10, ±20%	10	7.96	32	0.09	1050
4R7	4.7	±10, ±20%	10	7.96	29	0.11	950
5R6	5.6	±10, ±20%	10	7.96	26	0.13	880
6R8	6.8	±10, ±20%	10	7.96	24	0.15	810
8R2	8.2	±10, ±20%	10	7.96	22	0.18	750
100	10	±10, ±20%	10	2.52	19	0.21	690
120	12	±10, ±20%	10	2.52	17	0.25	630
150	15	±10, ±20%	10	2.52	16	0.30	580
180	18	±10, ±20%	10	2.52	14	0.36	530
220	22	±5, ±10%	10	2.52	13	0.43	480
270	27	±5, ±10%	10	2.52	11.5	0.52	440
330	33	±5, ±10%	10	2.52	10.5	0.62	400
390	39	±5, ±10%	10	2.52	9.5	0.72	370
470	47	±5, ±10%	10	2.52	8.5	0.85	340
560	56	±5, ±10%	10	2.52	7.8	1.00	310
680	68	±5, ±10%	10	2.52	7.0	1.2	290
820	82	±5, ±10%	10	2.52	6.4	1.4	270
101	100	±5, ±10%	20	0.796	6.0	1.6	250
121	120	±5, ±10%	20	0.796	5.4	1.9	230
151	150	±5, ±10%	20	0.796	4.8	2.2	210
181	180	±5, ±10%	20	0.796	4.4	2.8	190
221	220	±5, ±10%	20	0.796	3.9	3.4	170
271	270	±5, ±10%	20	0.796	3.6	4.2	155
331	330	±5, ±10%	20	0.796	3.2	4.9	140
391	390	±5, ±10%	20	0.796	2.9	5.8	130
471	470	±5, ±10%	20	0.796	2.6	7.0	120
561	560	±5, ±10%	20	0.796	2.4	8.5	110
681	680	±5, ±10%	20	0.796	2.2	10	100
821	820	±5, ±10%	20	0.796	2.0	13	90
102	1000	±5, ±10%	20	0.252	1.8	15	85

- L, Q: HP4291 for 1.0μH~82μH; HP4284 for 100μH~1000μH
- SRF: HP4291
- RDC: Agilent 34401A

## ■ Environmental Characteristics

### Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4291 or HP4284
Q		HP4291 or HP4284
SRF		HP4291
DC Resistance DCR		Agilent 34401A
Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value

### Mechanical Performance Test

Item	Requirement	Test Method
Solderability	The electrodes shall be at least 90% covered with new solder coating	Lead-free inductor: after fluxing(alpha 100 or equiv), inductor shall be dipped in a melted solder bath at 245±5°C, 5±0.5 seconds
Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min. Solder Temperature: 260±5°C Immersion Time: 10±1 seconds
Vibration	Appearance: No damage L change: within±10% Q change: within±30% DCR: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1 min. Amplitude: 1.5 mm Time: 2 hrs for each axis (X, Y&Z), total 6 hrs

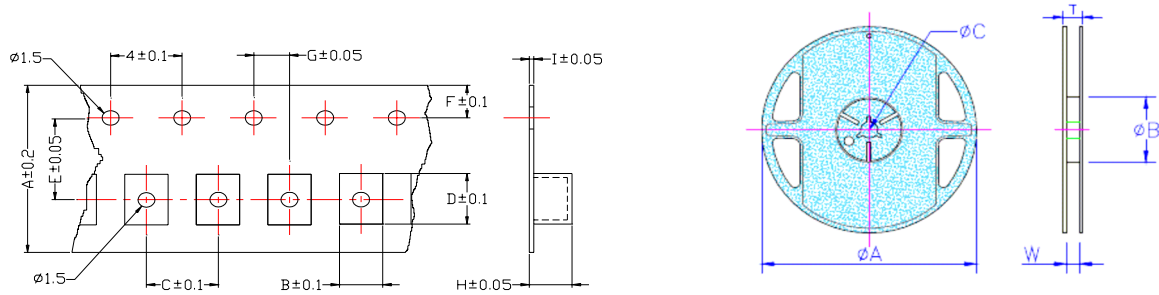
### Climatic Test

Item	Requirement	Test Method															
Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30% DCR: within specification	One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>3</td> </tr> <tr> <td>3</td> <td>85±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min.)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step		Temperature (°C)	Time (min.)														
1		-25±3	30														
2		25±2	3														
3	85±3	30															
4	25±2	3															
Damp Heat with Load	Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000 hrs Measured after exposure in the room condition for 24 hrs																
High Temperature Storage	Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000 hrs Measured after exposure in the room condition for 24 hrs																
Low Temperature Storage	Temperature: -25±3°C Relative Humidity: 0% Time: 1000 hrs Measured after exposure in the room condition for 24 hrs																

■ Storage Temperature: 25±3°C; Humidity < 80%RH

## ■ Packaging

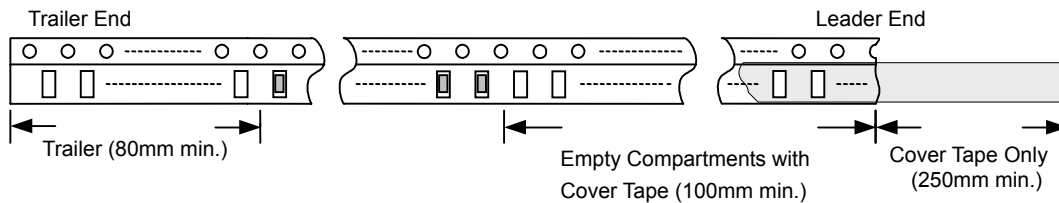
### Dimensions



Unit: mm

Type	Tape Dimensions									Reel Dimensions					Quantity /Reel
	A	B	C	D	E	F	G	H	J	ΦA	ΦB	ΦC	W	T	
NL03	8	1.25	4	1.90	3.5	1.75	2	1.00	0.23	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	4,000
NL05	8	1.85	4	2.55	3.5	1.75	2	1.45	0.23	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2,000
NL08	8	2.80	4	2.95	3.5	1.75	2	2.22	0.23	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2,000
NL10	8	2.96	4	3.60	3.5	1.75	2	2.40	0.23	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2,000
NL12	12	3.30	8	5.00	5.5	1.75	2	3.50	0.30	178±2.0	80±0.5	13±0.3	13.2±0.3	16±1.0	500
NL20	16	5.35	12	6.10	7.5	1.75	2	5.50	0.35	330±2.0	100±0.5	13±0.3	17.4±0.3	22±1.0	1,000

### Leader / Trailer Tape



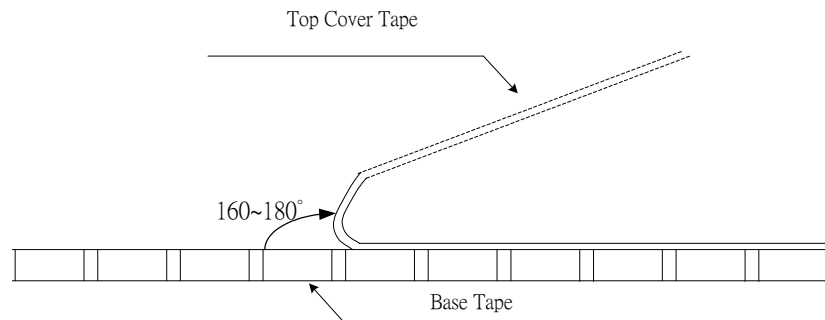
### Cover Tape Peel Strength

The force for tearing off cover tape is 0.1~0.6 (N) in the arrow direction at the following conditions:

Temperature: 5~35°C

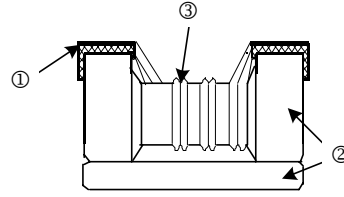
Humidity: 45~85%

Atmospheric Pressure: 860~1060 hpa



# Chip Common Mode Filter—CM Series

## Construction

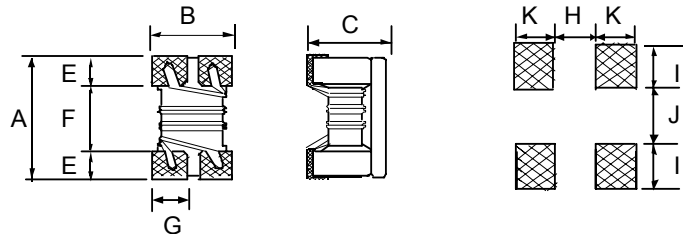


① Terminal	② Ferrite	③ Enamel-insulated Wire
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## Features

- Small chip inductor with ferrite core and two line types wire wound
- Highly effective in noise suppression High common-mode impedance at noise band and low differential-mode impedance at signal band
- Low differential-mode impedance with high coupling factor. There is almost no distortion on high-speed signal.
- Operating temperature -40°C~85°C

## Dimensions

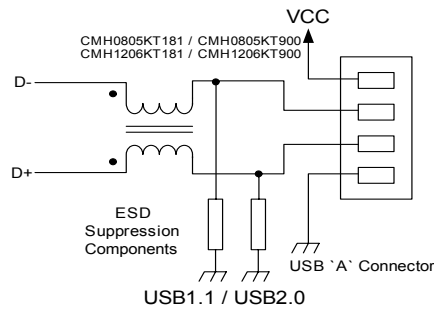
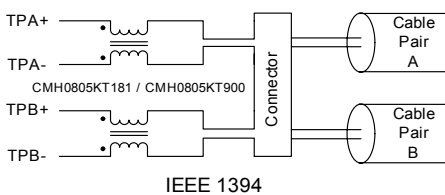


Unit: mm

Type	Size (Inch)	A	B	C	E	F	G	H	I	J	K	Weight (g) (1000pcs)
CMH05	0805	2.0±0.2	1.2±0.2	1.2±0.2	0.45	1.2	0.4	0.8	0.4	0.4	0.90	19
CMH06	1206	3.2±0.2	1.6±0.2	1.8±0.2	0.60	2.0	0.6	1.6	0.6	0.4	1.05	53.3

## Applications

- EMI Radiation Noise Suppression for Any Electronic Device
- USB Line for Personal Computers and Peripheral
- IEEE 1394 Line for Personal Computers, DVC, STB
- LCD Panels. Low-Voltage Differential Signal (LVDS)



## Part Numbering

CM	H	05	M	T	900
Product Type	Shielding Type	Dimensions	Impedance Tolerance	Packaging Code	Impedance
	H: Shielding	05: 0805 06: 1206	M: ±20%	T: Taping Reel B: Bulk	900: 90Ω 121: 120Ω 102: 1000Ω 222: 2200Ω



## ■ Standard Electrical Specifications

### CMH05 / Standard Type

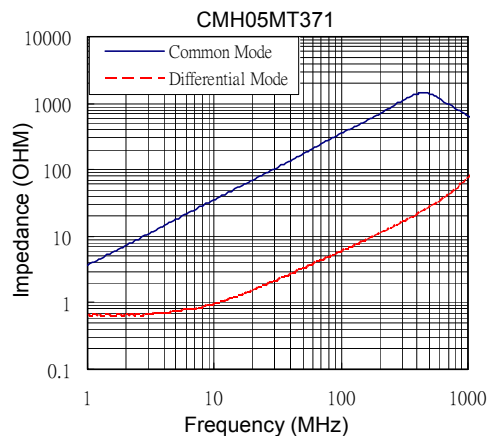
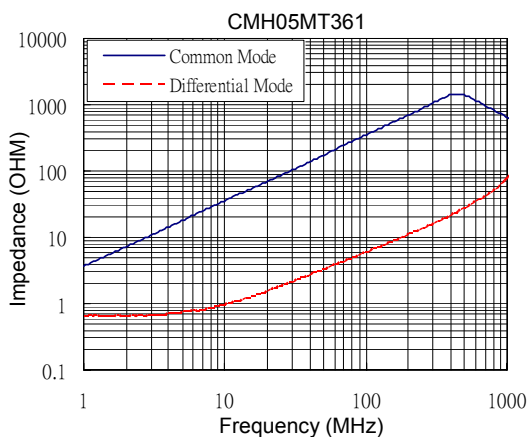
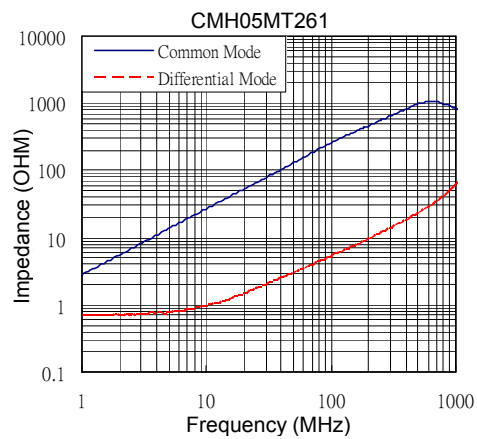
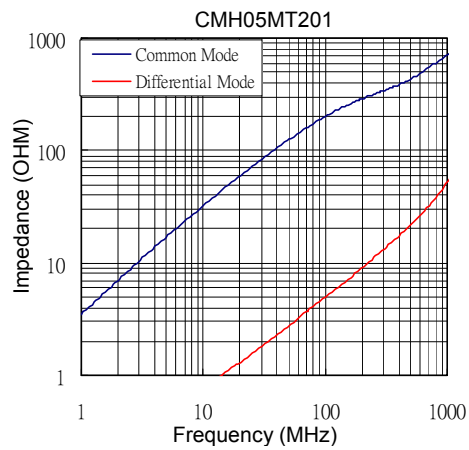
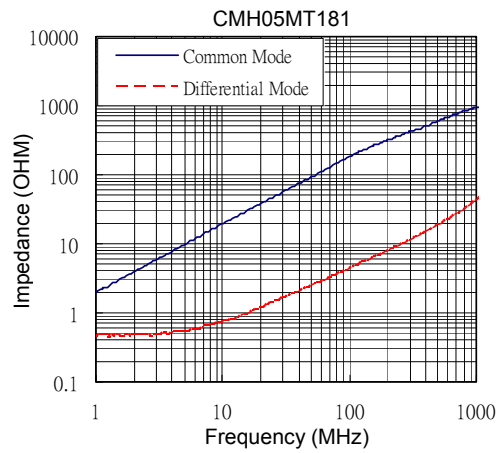
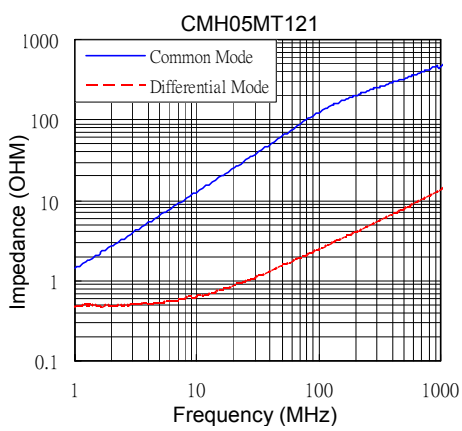
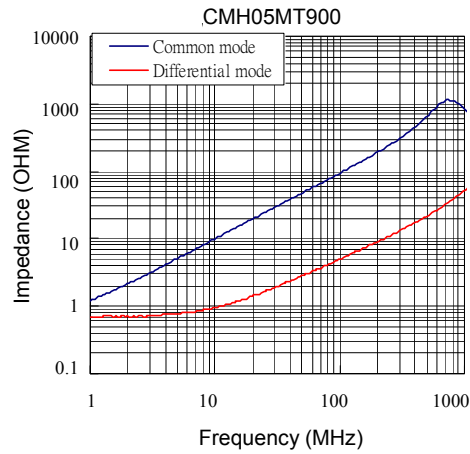
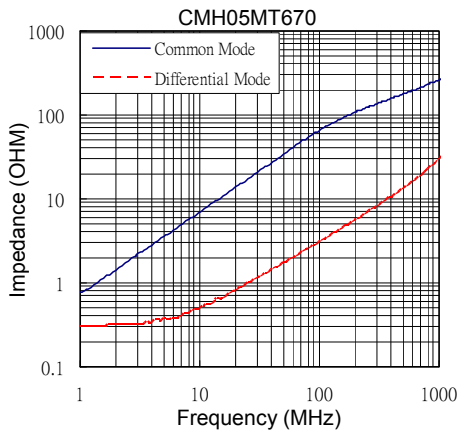
Impedance (Ω)	Tolerance	Test Condition (MHz)	DCR (Ω) max.	IDC (mA) max.	Rated Voltage Vdc (V)	Withstanding Voltage Vdc (V)	Insulation Resistance (MΩ) min.
67	±20%	100	0.25	400	50	125	10
90	±20%	100	0.35	330	50	125	10
120	±20%	100	0.30	370	50	125	10
180	±20%	100	0.35	330	50	125	10
200	±20%	100	0.35	330	50	125	10
260	±20%	100	0.40	300	50	125	10
360	±20%	100	0.40	280	50	125	10
370	±20%	100	0.40	280	50	125	10

### CMH06 / Standard Type

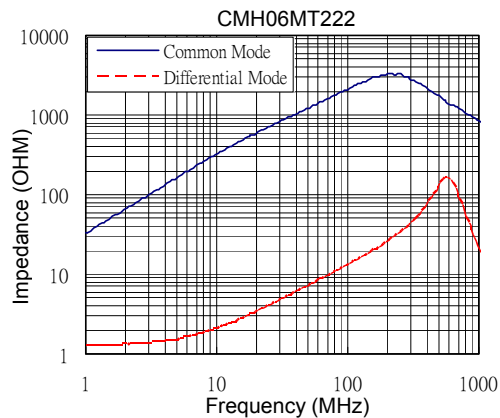
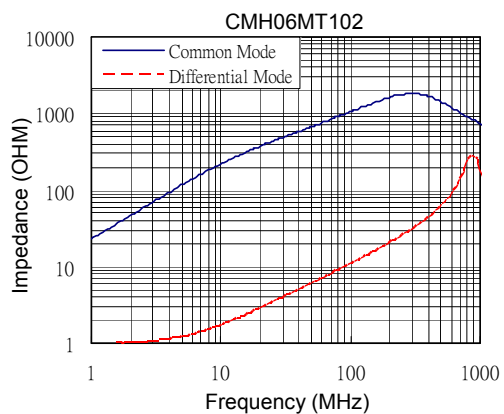
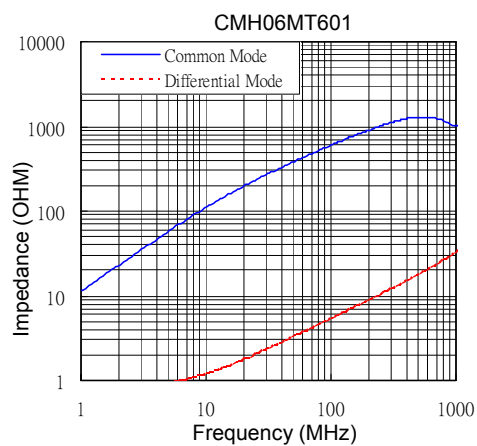
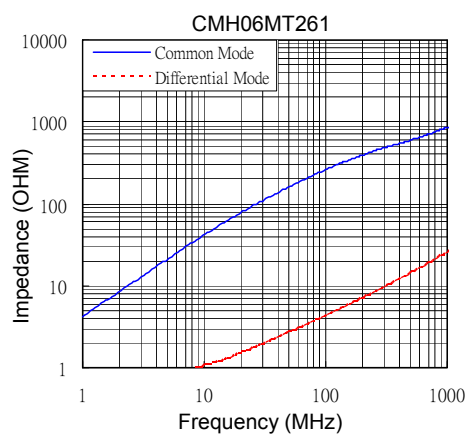
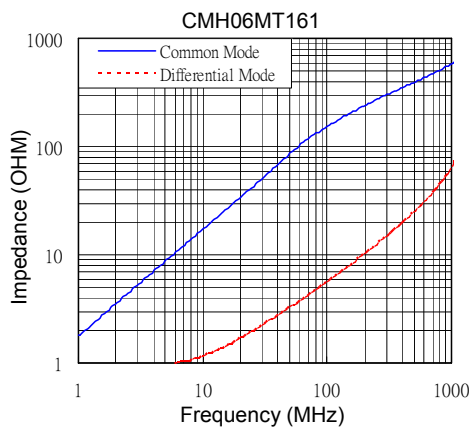
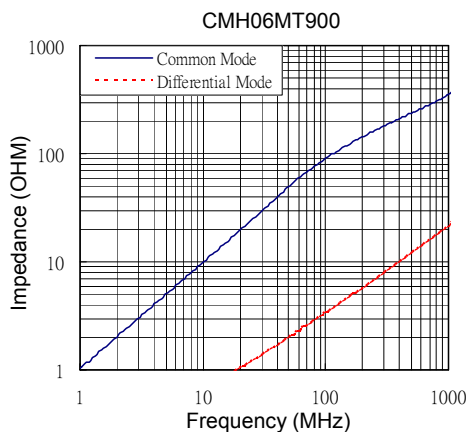
Impedance (Ω)	Tolerance	Test Condition (MHz)	DCR (Ω) max.	IDC (mA) max.	Rated Voltage Vdc (V)	Withstanding Voltage Vdc (V)	Insulation Resistance (MΩ) min.
90	±20%	100	0.30	370	50	125	10
160	±20%	100	0.40	340	50	125	10
260	±20%	100	0.50	310	50	125	10
600	±20%	100	0.80	260	50	125	10
1000	±20%	100	1.00	230	50	125	10
2200	±20%	100	1.20	200	50	125	10

■ All specifications are subject to change without notice

## Characteristics (Impedance vs. Frequency)-CMH05



## ■ Characteristics (Impedance vs. Frequency)-CMH06



## ■ Environmental Characteristics

### Electrical Performance Test

Items	Requirement	Test Conditions / Test Methods
Impedance	Refer to standard electrical characteristic spec. Component should not be damaged	LCR Meter HP 4291B
DC Resistance DCR		Micro-Ohm meter (GOM-801G)
Withstand Voltage (VDC)		Test Voltage: 2.5 Times Rated Voltage Testing Time: 60 seconds Charge Current: 0.5mA
Rated Voltage (VDC)		Test Voltage: Rated Voltage Testing Time: 1 to 5 seconds Charge Current: 1mA
Insulation Resistance (I.R)		Charge Current: 1minute 10M ohm min.

### Mechanical Performance Test

Items	Requirement	Test Conditions / Test Methods
Component Adhesion (Push Test)	Base: 0805 $\geq$ 2 Lbs Cover: 0805 $\geq$ 1 Lbs Base: 1206 $\geq$ 4 Lbs Cover: 1206 $\geq$ 2 Lbs	The component should be soldered ( $232^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 10 sec.) to tinned copper substrate Applied force gauge to the side of component It must withstand force of 2 or 4 pounds without failure of the component.
Drop	Component should not be damaged	Dropping chip by each side and corner. Drop 10 times in total Drop height: 100 cm Drop weight: 125 g
Solderability	The terminal should at least be 90% covered with solder	The component shall be dipped in a melted solder bath at $245 \pm 5^{\circ}\text{C}$ for 3 seconds
Vibration Test (Low Frequency)	Component should not be damaged	1. Amplitude: 1.5 m/m 2. Frequency: 10-55-10Hz (1min.) 3. Direction: X, Y, Z 4. Duration: 2 Hrs/X, Y, Z

### Climatic Test

Items	Requirement	Test Conditions / Test Methods
Low Temperature Storage	Impedance change: Within $\pm 20\%$ Without distinct damage in appearance	1. Temp: $-40 \pm 2^{\circ}\text{C}$ 2. Time: $1000 \pm 48$ Hours 3. Component should be tested after 1hour at room temperature
Thermal Shock		<p>Total: 5 Cycles</p>
High Temperature Storage		1. Temp: $85 \pm 2^{\circ}\text{C}$ 2. Time: $1000 \pm 48$ Hours 3. Component should be tested after 1hour at room temperature
Humidity		1. Temp: $40 \pm 2^{\circ}\text{C}$ 2. R.H. : 90 ~ 95% 3. Time: $48 \pm 2$ Hours
High Temperature Load Life		1. Temp: $85 \pm 2^{\circ}\text{C}$ 2. Time: $96 \pm 12$ Hours 3. Load: Allowed DC Current
Low Temperature Load Life	1. Temp: $-40 \pm 2^{\circ}\text{C}$ 2. Time: $96 \pm 12$ Hours 3. Load: Allowed DC Current	

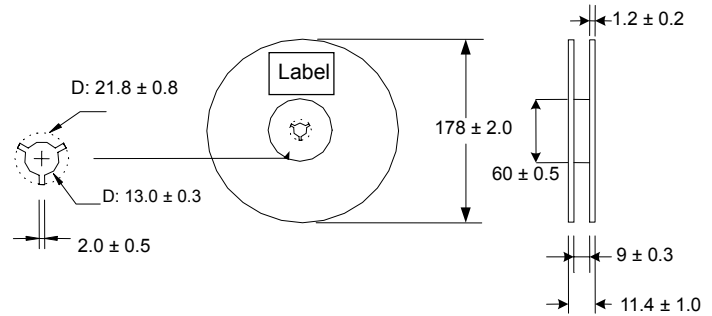
■ Storage Temperature:  $25 \pm 3^{\circ}\text{C}$ ; Humidity < 80%RH

## ■ Packaging

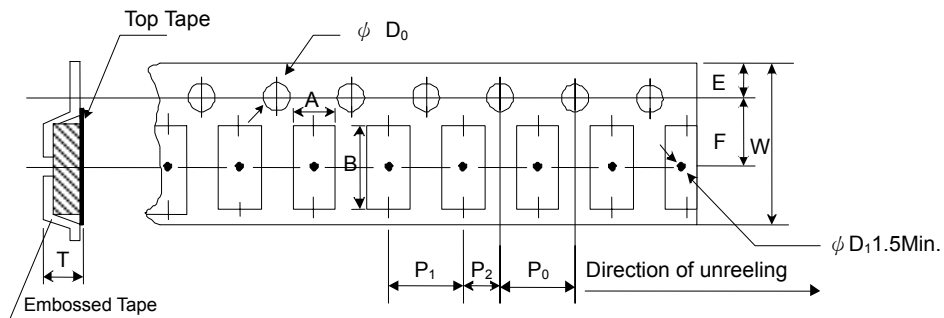
### Packaging Quantity

Type	Embossed Plastic Tape (EA)
CMH05	2,000
CMH06	2,000

### Reel Specifications



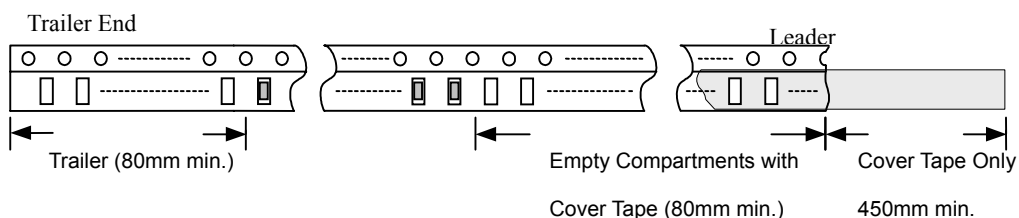
### Embossed Plastic Tape Specifications



Unit: mm

Type	A	B	W	E	F	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	ΦD <sub>0</sub>	T
CMH05	1.40±0.10	2.55±0.05	8.0±0.20	1.75±0.10	3.5±0.10	4.00±0.10	4.00±0.10	2.00±0.10	1.50±0.10	1.35±0.10
CMH06	1.90±0.10	3.50±0.05	8.0±0.20	1.75±0.10	3.5±0.10	4.00±0.10	4.00±0.10	2.00±0.10	1.50±0.10	2.10±0.10

### Leader / Tape



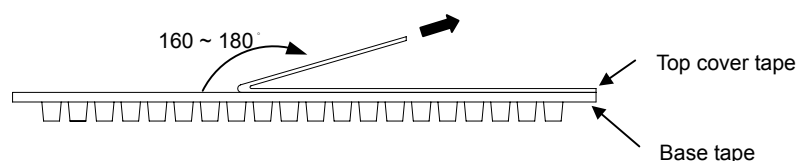
### Peel-off Force

The force for tearing off cover tape is 0.05~0.69 (N) in the arrow direction at the following conditions:

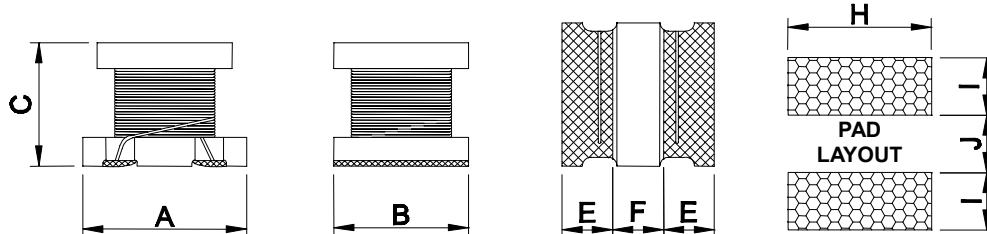
Temperature: 5 ~ 35°C

Humidity: 45 ~ 85%

Atmospheric pressure: 860 ~ 1060hpa



# SMD Power Inductor – VLH



## Dimensions

Unit: mm

Type	A	B	C	E	F	H	I	J
252010	2.5±0.2	2.0±0.2	1.0max.	0.4±0.2	1.0min.	2.1	0.90	0.8
252012	2.5±0.2	2.0±0.2	1.2max.	0.4±0.2	1.0min.	2.1	0.90	0.8
252510	2.5±0.2	2.5±0.2	1.05max.	0.85 ref	0.85 ref	2.5	1.2	0.8
322515(C)	3.2±0.3	2.5±0.2	1.55±0.3	1.05±0.3	1.05±0.3	2.0	1.5	1.0
322520(C)	3.2±0.3	2.5±0.2	2.0±0.3	1.05±0.3	1.05±0.3	2.0	1.5	1.0
453226(C)	4.5±0.3	3.2±0.2	2.6±0.3	1.0min.	1.0min.	3.0	2.0	1.2
575047C	5.7±0.3	5.0±0.3	4.7±0.5	1.3min.	1.7min.	5.0	2.0	2.0

## Features

- The miniature chip inductors is wound on a special ferrite core.
- VLH322515/322520/453226 are high Q value at high frequency and low DC resistance.
- VLH322520C/453226C/565047C are low DC resistance, high current capacity, and high impedance characteristics. They are excellent for using as a choke coil in DC power supply circuits.

## Applications

- Pagers, Cordless Phone
- High Frequency Communication Products
- Personal Computers
- Disk Drives And Computer Peripherals
- DC Power Supply Circuits

## Characteristics except 252010/252012/252510/322515C

- Rated DC Current: The current when the inductance becomes 10% lower than its initial value or the current when the temperature of coil increases  $\Delta T=20^{\circ}\text{C}$ . The smaller one is defined as Rated DC Current. (Ta=25°C)
- Operating temperature range: -40~85°C

## Inductance and rated current ranges

- VLH252010 0.47~10μH 2.80~0.65A
- VLH252012 0.47~10μH 3.70~0.90A
- VLH252510 1.00~22μH 2.30~0.51A
- VLH322515 1.00~100μH 1.00~0.1A
- VLH322520 1.00~560μH 0.445~0.04A
- VLH453226 1.00~2200μH 0.50~0.03A
- VLH322515C 0.47~120μH 3.40~0.17A
- VLH322520C 1.00~560μH 1.00~0.06A
- VLH453226C 1.00~470μH 1.08~0.09A
- VLH575047C 0.12~10000μH 6.00~0.05A
- Electrical specifications at 25°C

## Characteristics for 252010/252012/252510/322515C

- Rated DC Current(I sat): The current when the inductance becomes 30% typical its initial value (Ta=25°C)
- Temperature Rise Current (I rms): The actual current when the temperature of coil becomes  $\Delta T=40^{\circ}\text{C}$  .(Ta=25°C)
- Operating temperature range: -40~105°C

## Product Identification

VLH	453226	C	-	101	K
Product Type	Dimensions (AxBxC)	Use	Appearance	Inductance	Inductance Tolerance
	252010: 2.5x2.0x1.0 252012: 2.5x2.0x1.2 252510: 2.5x2.5x1.05 322515: 3.2x2.5x1.55 322520: 3.2x2.5x2.0 453226: 4.5x3.2x2.6 575047: 5.7x5.0x4.7	C: Choke Use : General Use	- : Standard S: Shielded	1R1: 1.1μH 470: 47μH 101: 100μH	J: ±5% K: ±10% M: ±20% N: ±30%

■ Offer shielded product by customer's requirement.

## ■ Electrical Characteristics

VLH252010- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	I rms(A) typical	I sat(A) typical
R47	0.47	M	1MHz, 0.1V	0.048	2.30	2.80
1R0	1.0	M	1MHz, 0.1V	0.085	1.70	2.00
1R5	1.5	M	1MHz, 0.1V	0.128	1.40	1.70
2R2	2.2	M	1MHz, 0.1V	0.190	1.10	1.40
3R3	3.3	M	1MHz, 0.1V	0.304	0.94	1.20
4R7	4.7	M	1MHz, 0.1V	0.440	0.78	0.98
6R8	6.8	M	1MHz, 0.1V	0.541	0.70	0.82
100	10	M	1MHz, 0.1V	0.854	0.52	0.65

VLH252012- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	I rms(A) Typical	I sat(A) Typical
R47	0.47	M	1MHz, 0.1V	0.056	2.20	3.70
1R0	1.0	M	1MHz, 0.1V	0.088	1.80	2.70
1R5	1.5	M	1MHz, 0.1V	0.126	1.50	2.20
2R2	2.2	M	1MHz, 0.1V	0.155	1.30	2.00
3R3	3.3	M	1MHz, 0.1V	0.272	1.00	1.60
4R7	4.7	M	1MHz, 0.1V	0.406	0.81	1.30
5R6	5.6	M	1MHz, 0.1V	0.450	0.72	1.15
6R8	6.8	M	1MHz, 0.1V	0.612	0.66	1.10
100	10	M	1MHz, 0.1V	0.756	0.59	0.90

VLH252510- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) Typical.	I rms(A) Typical	I sat(A) Typical
1R0	1.0	M	1MHz, 0.1V	0.085	1.90	2.30
1R5	1.5	M	1MHz, 0.1V	0.115	1.50	1.90
2R2	2.2	M	1MHz, 0.1V	0.168	1.20	1.50
3R3	3.3	M	1MHz, 0.1V	0.239	1.10	1.30
4R7	4.7	M	1MHz, 0.1V	0.316	0.90	1.10
5R6	5.6	M	1MHz, 0.1V	0.420	0.83	0.98
6R8	6.8	M	1MHz, 0.1V	0.487	0.80	0.90
8R2	8.2	M	1MHz, 0.1V	0.548	0.71	0.84
100	10	M	1MHz, 0.1V	0.610	0.68	0.79
220	22	M	1MHz, 0.1V	1.552	0.40	0.51

VLH322515- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.	SRF (MHz) min.
1R0	1.0	N	1MHz, 0.1V	0.078	1.000	100
1R5	1.5	N	1MHz, 0.1V	0.068	1.200	100
2R2	2.2	M	1MHz, 0.1V	0.126	0.790	64
3R3	3.3	M	1MHz, 0.1V	0.180	0.700	50
4R7	4.7	M	1MHz, 0.1V	0.195	0.650	43
100	10	K	1MHz, 0.1V	0.420	0.450	26
150	15	K	1MHz, 0.1V	0.750	0.300	22
220	22	K	1MHz, 0.1V	1.000	0.250	19
330	33	K	1MHz, 0.1V	1.400	0.200	17
470	47	K	1MHz, 0.1V	2.200	0.170	13
680	68	K	1MHz, 0.1V	3.200	0.130	9
101	100	K	1MHz, 0.1V	4.500	0.100	8

## Electrical Characteristics

VLH322520- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	Quality Factor		DCR ( $\Omega$ ) max.	IDC (A) max.	SRF (MHz) min.
				Spec. min.	Test Condition			
1R0	1.0	M	1MHz, 0.1V	20	1MHz, 0.1V	0.50	0.445	100
1R2	1.2	M	1MHz, 0.1V	20	1MHz, 0.1V	0.60	0.425	100
1R5	1.5	K, M	1MHz, 0.1V	20	1MHz, 0.1V	0.60	0.400	75
1R8	1.8	K, M	1MHz, 0.1V	20	1MHz, 0.1V	0.70	0.390	60
2R2	2.2	K, M	1MHz, 0.1V	20	1MHz, 0.1V	0.80	0.370	50
2R7	2.7	K, M	1MHz, 0.1V	20	1MHz, 0.1V	0.90	0.320	43
3R3	3.3	K, M	1MHz, 0.1V	20	1MHz, 0.1V	1.00	0.300	38
3R9	3.9	K, M	1MHz, 0.1V	20	1MHz, 0.1V	1.10	0.290	35
4R7	4.7	K, M	1MHz, 0.1V	20	1MHz, 0.1V	1.20	0.270	31
5R6	5.6	K, M	1MHz, 0.1V	20	1MHz, 0.1V	1.30	0.250	28
6R8	6.8	K, M	1MHz, 0.1V	20	1MHz, 0.1V	1.50	0.240	25
8R2	8.2	K, M	1MHz, 0.1V	20	1MHz, 0.1V	1.60	0.225	23
100	10	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.80	0.190	20
120	12	J, K	1MHz, 0.1V	35	1MHz, 0.1V	2.00	0.180	18
150	15	J, K	1MHz, 0.1V	35	1MHz, 0.1V	2.20	0.170	16
180	18	J, K	1MHz, 0.1V	35	1MHz, 0.1V	2.50	0.165	15
220	22	J, K	1MHz, 0.1V	35	1MHz, 0.1V	2.80	0.150	14
270	27	J, K	1MHz, 0.1V	35	1MHz, 0.1V	3.10	0.125	13
330	33	J, K	1MHz, 0.1V	40	1MHz, 0.1V	3.50	0.115	12
390	39	J, K	1MHz, 0.1V	40	1MHz, 0.1V	3.90	0.110	11
470	47	J, K	1MHz, 0.1V	40	1MHz, 0.1V	4.30	0.100	11
560	56	J, K	1MHz, 0.1V	40	1MHz, 0.1V	4.90	0.085	10
680	68	J, K	1MHz, 0.1V	40	1MHz, 0.1V	5.50	0.080	9.0
820	82	J, K	1MHz, 0.1V	40	1MHz, 0.1V	6.20	0.070	8.5
101	100	J, K	1MHz, 0.1V	40	796KHz, 0.1V	7.00	0.080	8.0
121	120	J, K	1MHz, 0.1V	40	796KHz, 0.1V	8.00	0.075	7.5
151	150	J, K	1MHz, 0.1V	40	796KHz, 0.1V	9.30	0.070	7.0
181	180	J, K	1MHz, 0.1V	40	796KHz, 0.1V	10.20	0.065	6.0
221	220	J, K	1MHz, 0.1V	40	796KHz, 0.1V	11.80	0.065	5.5
271	270	J, K	1MHz, 0.1V	40	796KHz, 0.1V	12.50	0.065	5.0
331	330	J, K	1MHz, 0.1V	40	796KHz, 0.1V	15.00	0.065	5.0
391	390	J, K	1MHz, 0.1V	50	796KHz, 0.1V	22.00	0.050	5.0
471	470	J, K	1KHz, 0.1V	50	796KHz, 0.1V	25.00	0.045	5.0
561	560	J, K	1KHz, 0.1V	50	796KHz, 0.1V	28.00	0.040	5.0 ref



## ■ Electrical Characteristics

VLH453226- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	Quality Factor		DCR ( $\Omega$ ) max.	IDC (A) max.	SRF (MHz) min.
				Spec. min.	Test Condition			
1R0	1.0	M	1MHz, 0.1V	20	1MHz, 0.1V	0.20	0.500	120
1R2	1.2	M	1MHz, 0.1V	20	1MHz, 0.1V	0.20	0.500	100
1R5	1.5	M	1MHz, 0.1V	20	1MHz, 0.1V	0.30	0.500	85
1R8	1.8	M	1MHz, 0.1V	20	1MHz, 0.1V	0.30	0.500	75
2R2	2.2	M	1MHz, 0.1V	20	1MHz, 0.1V	0.30	0.500	62
2R7	2.7	M	1MHz, 0.1V	20	1MHz, 0.1V	0.32	0.500	53
3R3	3.3	M	1MHz, 0.1V	20	1MHz, 0.1V	0.35	0.500	47
3R9	3.9	M	1MHz, 0.1V	20	1MHz, 0.1V	0.38	0.500	41
4R7	4.7	K, M	1MHz, 0.1V	30	1MHz, 0.1V	0.40	0.500	38
5R6	5.6	K, M	1MHz, 0.1V	30	1MHz, 0.1V	0.47	0.500	33
6R8	6.8	K, M	1MHz, 0.1V	30	1MHz, 0.1V	0.50	0.450	31
8R2	8.2	K, M	1MHz, 0.1V	30	1MHz, 0.1V	0.56	0.450	27
100	10	J, K	1MHz, 0.1V	35	1MHz, 0.1V	0.56	0.400	23
120	12	J, K	1MHz, 0.1V	35	1MHz, 0.1V	0.62	0.380	21
150	15	J, K	1MHz, 0.1V	35	1MHz, 0.1V	0.73	0.360	19
180	18	J, K	1MHz, 0.1V	35	1MHz, 0.1V	0.82	0.340	17
220	22	J, K	1MHz, 0.1V	35	1MHz, 0.1V	0.94	0.320	15
270	27	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.10	0.300	14
330	33	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.20	0.270	12
390	39	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.40	0.240	11
470	47	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.50	0.220	10
560	56	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.70	0.200	9.3
680	68	J, K	1MHz, 0.1V	35	1MHz, 0.1V	1.90	0.180	8.4
820	82	J, K	1MHz, 0.1V	35	1MHz, 0.1V	2.20	0.170	7.5
101	100	J, K	1MHz, 0.1V	40	796KHz, 0.1V	2.50	0.160	6.8
121	120	J, K	1MHz, 0.1V	40	796KHz, 0.1V	3.00	0.150	6.2
151	150	J, K	1MHz, 0.1V	40	796KHz, 0.1V	3.70	0.130	5.5
181	180	J, K	1MHz, 0.1V	40	796KHz, 0.1V	4.50	0.120	5.0
221	220	J, K	1MHz, 0.1V	40	796KHz, 0.1V	5.40	0.110	4.5
271	270	J, K	1MHz, 0.1V	40	796KHz, 0.1V	6.80	0.100	4.0
331	330	J, K	1MHz, 0.1V	40	796KHz, 0.1V	8.20	0.095	3.6
391	390	J, K	1MHz, 0.1V	40	796KHz, 0.1V	9.70	0.090	3.3
471	470	J, K	1KHz, 0.1V	40	796KHz, 0.1V	11.80	0.080	3.0
561	560	J, K	1KHz, 0.1V	40	796KHz, 0.1V	14.50	0.070	2.7
681	680	J, K	1KHz, 0.1V	40	796KHz, 0.1V	17.00	0.065	2.5
821	820	J, K	1KHz, 0.1V	40	796KHz, 0.1V	20.50	0.060	2.2
102	1000	J, K	1KHz, 0.1V	40	252KHz, 0.1V	25.00	0.050	2.0
122	1200	J, K	1KHz, 0.1V	40	252KHz, 0.1V	30.00	0.045	1.8
152	1500	J, K	1KHz, 0.1V	40	252KHz, 0.1V	37.00	0.040	1.6
182	1800	J, K	1KHz, 0.1V	40	252KHz, 0.1V	45.00	0.035	1.5
222	2200	J, K	1KHz, 0.1V	40	252KHz, 0.1V	50.00	0.030	1.3

## ■ Electrical Characteristics

### VLH322515C- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) $\pm$ 20%	I sat (A) max.	I rms (A) max.	SRF (MHz) min.
R47	0.47	N	1MHz, 0.1V	0.030	3.40	2.55	100
1R0	1.0	N	1MHz, 0.1V	0.045	2.30	2.05	100
1R5	1.5	N	1MHz, 0.1V	0.057	1.75	1.75	70
2R2	2.2	N	1MHz, 0.1V	0.076	1.55	1.60	70
3R3	3.3	N	1MHz, 0.1V	0.120	1.25	1.20	50
4R7	4.7	N	1MHz, 0.1V	0.180	1.00	1.00	40
6R8	6.8	N	1MHz, 0.1V	0.240	0.85	0.85	40
100	10	M	1MHz, 0.1V	0.380	0.75	0.70	30
150	15	M	1MHz, 0.1V	0.570	0.60	0.52	20
220	22	M	1MHz, 0.1V	0.810	0.50	0.45	20
330	33	M	1MHz, 0.1V	1.150	0.38	0.39	13
470	47	M	1MHz, 0.1V	1.780	0.33	0.31	11
680	68	M	1MHz, 0.1V	2.280	0.28	0.275	11
101	100	M	1MHz, 0.1V	2.700	0.18	0.250	8
121	120	M	1MHz, 0.1V	4.380	0.17	0.200	8

### VLH322520C- Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.	SRF (MHz) min.
1R0	1.0	M	1MHz, 0.1V	0.078	1.000	100
2R2	2.2	M	1MHz, 0.1V	0.126	0.790	64
3R3	3.3	M	1MHz, 0.1V	0.165	0.500	50
4R7	4.7	M	1MHz, 0.1V	0.195	0.450	43
6R8	6.8	M	1MHz, 0.1V	0.330	0.450	38
100	10	M	1MHz, 0.1V	0.572	0.300	26
220	22	K, M	1MHz, 0.1V	0.923	0.250	19
470	47	K, M	1MHz, 0.1V	1.690	0.170	12
101	100	J, K	1MHz, 0.1V	4.550	0.100	8.0
151	150	J, K	1MHz, 0.1V	9.100	0.080	7.0
221	220	J, K	1MHz, 0.1V	10.92	0.070	5.5
331	330	J, K	1MHz, 0.1V	13.00	0.060	4.5
391	390	J, K	1MHz, 0.1V	22.10	0.060	4.0
471	470	J, K	1MHz, 0.1V	24.70	0.060	3.7
561	560	J, K	1MHz, 0.1V	28.60	0.060	3.4

## ■ Electrical Characteristics

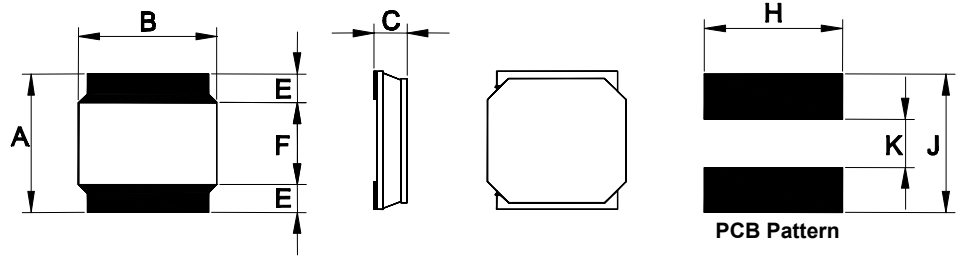
VLH453226C- Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.	SRF (MHz) min.
1R0	1.0	M	1MHz, 0.1V	0.08	1.080	100
1R5	1.5	M	1MHz, 0.1V	0.09	1.000	85
2R2	2.2	M	1MHz, 0.1V	0.11	0.900	60
3R3	3.3	M	1MHz, 0.1V	0.13	0.800	47
4R7	4.7	K, M	1MHz, 0.1V	0.15	0.750	35
6R8	6.8	K, M	1MHz, 0.1V	0.20	0.720	30
100	10	J, K	1MHz, 0.1V	0.24	0.650	23
150	15	J, K	1MHz, 0.1V	0.32	0.570	20
220	22	J, K	1MHz, 0.1V	0.60	0.420	15
330	33	J, K	1MHz, 0.1V	1.00	0.310	12
470	47	J, K	1MHz, 0.1V	1.10	0.280	10
680	68	J, K	1MHz, 0.1V	1.70	0.220	8.4
101	100	J, K	1MHz, 0.1V	2.20	0.190	6.8
151	150	J, K	1MHz, 0.1V	3.50	0.130	5.5
221	220	J, K	1MHz, 0.1V	4.00	0.110	4.5
331	330	J, K	1MHz, 0.1V	6.80	0.100	3.6
471	470	J, K	1KHz, 0.1V	8.50	0.090	3.0

VLH575047C- Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.	SRF (MHz) min.
R12	0.12	M	1MHz, 0.1V	0.0098	6.000	450
R27	0.27	M	1MHz, 0.1V	0.0140	5.300	300
R47	0.47	M	1MHz, 0.1V	0.0182	4.800	200
1R0	1.0	M	1MHz, 0.1V	0.0270	4.000	150
1R5	1.5	M	1MHz, 0.1V	0.0310	3.700	110
2R2	2.2	M	1MHz, 0.1V	0.0410	3.200	80
3R3	3.3	M	1MHz, 0.1V	0.0500	2.900	40
4R7	4.7	M	1MHz, 0.1V	0.0574	2.700	30
6R8	6.8	M	1MHz, 0.1V	0.1040	2.000	25
100	10	K, M	1MHz, 0.1V	0.1300	1.700	20
150	15	K, M	1MHz, 0.1V	0.210	1.400	17
220	22	K, M	1MHz, 0.1V	0.266	1.200	15
330	33	K, M	1MHz, 0.1V	0.448	0.900	12
470	47	K, M	1MHz, 0.1V	0.560	0.800	10 ref
680	68	K, M	1MHz, 0.1V	0.938	0.640	7.6
101	100	K, M	100KHz, 0.1V	1.204	0.560	6.5
151	150	K, M	100KHz, 0.1V	2.660	0.420	5.0
221	220	K, M	100KHz, 0.1V	3.360	0.320	4.0
331	330	K, M	100KHz, 0.1V	6.160	0.270	3.1
471	470	K, M	100KHz, 0.1V	7.560	0.240	2.4
681	680	K, M	100KHz, 0.1V	11.34	0.190	1.9
102	1000	K, M	10KHz, 0.1V	14.42	0.150	1.7
222	2200	K, M	10KHz, 0.1V	30.10	0.100	1.2
472	4700	K, M	10KHz, 0.1V	61.04	0.070	0.8
103	10000	K, M	10KHz, 0.1V	140.0	0.050	0.5

# SMD Power Inductor – SDIA



## Dimensions

Unit: mm

Type	A	B	C max.	E	F	H	J	K
SDIA0312	3.0±0.2	3.0±0.2	1.25	0.9	2.0	3.7	3.7	1.2
SDIA0412	4.0±0.2	4.0±0.2	1.2	1.0	2.0	4.6	4.6	1.6
SDIA0612	6.0±0.2	6.0±0.2	1.2	0.9	4.2	6.7	6.7	3.5
SDIA0840	8.0±0.2	8.0±0.2	4.0	1.6±0.3	4.8±0.3	8.7	8.7	4.3

## Features

- Small and Low profile inductor
- It corresponds to high current
- Shield structure magnetically
- Strong structure against a shock-proof

## Inductance and rated current ranges

- SDIA0312 1.0~100μH 1.50~0.195A
- SDIA0412 1.0~820μH 1.95~0.05A
- SDIA0612 10~100μH 0.75~0.19A
- SDIA0840 2.2~100μH 7.33~1.00A
- Electrical specifications at 25°C

## Applications

- LCD Display etc.
- For Small DC to DC Converters
- PDA

## Characteristics

- Rated DC Current: The current when the inductance becomes 30% lower than its initial value.
- Operating temperature range: -40~85°C

## Product Identification

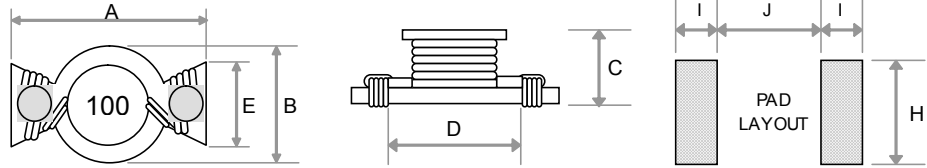
SDIA	0312	M	T	101
Product Type	Dimensions (AxC)	Inductor Tolerance	Packaging Style	Inductance
	0312: 3.0x1.25 0412: 4.0x1.2 0612: 6.0x1.2 0840: 8.0x4.0	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

SDIA0312 / 0412 / 0612 / 0840 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				0312	0412	0612	0840	0312	0412	0612	0840
1R0	1.0	N	100KHz, 0.25V	0.104	0.067	-	-	1.500	1.95	-	-
1R5	1.5	N	100KHz, 0.25V	0.183	0.085	-	-	1.360	1.49	-	-
1R8	1.8	N	100KHz, 0.25V	0.197	-	-	-	1.200	-	-	-
2R2	2.2	N	100KHz, 0.25V	0.200	0.140	-	0.017	1.100	1.40	-	7.33
3R3	3.3	M, N	100KHz, 0.25V	0.320	0.210	-	0.022	0.910	1.15	-	5.93
4R7	4.7	M, N	100KHz, 0.25V	0.380	0.290	-	0.023	0.770	0.91	-	4.70
6R8	6.8	M, N	100KHz, 0.25V	0.640	0.440	-	0.033	0.670	0.77	-	4.00
100	10	M, N	1KHz, 0.25V	0.950	0.620	0.288	0.044	0.540	0.66	0.75	3.40
120	12	M, N	1KHz, 0.25V	-	-	0.360	0.055	-	-	0.60	3.05
150	15	M, N	1KHz, 0.25V	1.068	0.930	0.396	0.065	0.440	0.54	0.58	2.70
220	22	M, N	1KHz, 0.25V	1.730	1.250	0.660	0.086	0.375	0.46	0.48	2.20
330	33	M, N	1KHz, 0.25V	2.570	1.840	0.952	0.130	0.310	0.36	0.39	1.90
470	47	M, N	1KHz, 0.25V	3.720	2.660	1.356	0.200	0.250	0.31	0.32	1.50
680	68	M, N	1KHz, 0.25V	4.470	3.700	1.620	0.300	0.240	0.24	0.22	1.20
101	100	M, N	1KHz, 0.25V	5.070	-	2.626	0.380	0.195	-	0.19	1.00
221	220	M, N	1KHz, 0.25V	-	12.35	-	-	-	0.16	-	-
821	820	M, N	1KHz, 0.25V	-	60.00	-	-	-	0.05	-	-

# SMD Power Inductor – PDH



## Features

- Miniature surface mount design
- High power, High saturation inductors
- Very low resistance
- Maximum power density
- Ideal inductors for DC-DC converters
- Available on tape and reel for auto surface mounting

## Applications

- Notebook Computers
- Handheld Communications
- LCD Televisions
- Power Supply For VTRs
- DC/DC Converters, etc.

## Characteristics

- Saturation Rated Current :The current when the inductance becomes 30% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~85°C

## Dimensions

Unit: mm

Type	A max.	B max.	C max.	D	E	H	I	J
PDH1608	7.50	5.20	3.20	4.60	2.5	4.00	2.0	4.00
PDH1813	8.89	6.40	5.00	5.84	2.6	4.06	2.0	5.08
PDH3316	13.20	9.90	6.35	9.50	4.5	6.50	2.3	9.00
PDH4920	19.40	13.30	6.80	12.7	6.6	8.00	3.8	11.70
PDH5022	22.35	16.26	8.00	16.0	8.0	8.64	4.3	14.35

## Inductance and rated current ranges

- PDH1608 0.47μH~22.0μH 7.7~0.70A
- PDH1813 0.56μH~100μH 7.7~0.53A
- PDH3316 0.47μH~100μH 11.4~0.95A
- PDH4920 0.47μH~100μH 25.1~1.80A
- PDH5022 0.78μH~1000μH 30.0~0.4A
- Electrical specifications at 25°C

## Product Identification

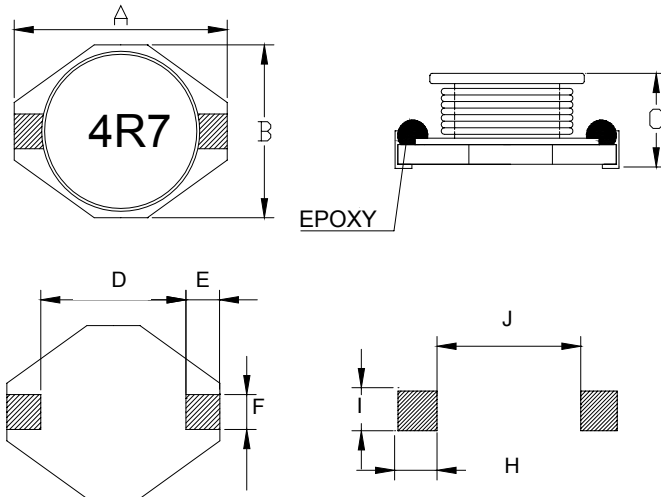
PDH	1813	M	T	101
Product Type	Dimensions (A×B×C)	Inductor Tolerance	Packaging Style	Inductance
	1608: 7.5×5.2×3.2 1813: 8.89×6.4×5.0 3316: 13.2×9.9×6.35 4920: 19.4×13.3×6.8 5022: 22.35×16.26×8.0	M: 20% P: +40%-20%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

PDH1608 / 1813 / 3316 / 4920 / 5022 TYPE

Codes	L ( $\mu$ H)	Tolerance			Test Condition	DCR ( $\Omega$ ) max.					IDC (A) max.				
		1608	1813 5022	3316 4920		1608	1813	3316	4920	5022	1608	1813	3316	4920	5022
R47	0.47	P	-	P	100KHz, 0.1V	0.025	-	0.005	0.003	-	7.7	-	11.4	25.1	-
R56	0.56	-	M	-	100KHz, 0.1V	-	0.010	-	-	-	-	7.7	-	-	-
R78	0.78	-	M	-	100KHz, 0.1V	-	-	-	-	0.003	-	-	-	-	30
1R0	1.0	M	-	P	100KHz, 0.1V	0.050	-	0.006	0.004	-	2.9	-	9.9	15.3	-
1R5	1.5	M	M	P	100KHz, 0.1V	0.050	-	0.008	0.006	0.004	2.6	-	7.9	12	25
2R2	2.2	M	M	M	100KHz, 0.1V	0.070	0.035	0.011	0.008	0.006	2.3	3.5	6.1	10.2	20
3R3	3.3	M	M	M	100KHz, 0.1V	0.080	0.040	0.014	0.009	0.009	2	3	5.1	9.3	17
3R9	3.9	-	M	-	100KHz, 0.1V	-	-	-	-	0.010	-	-	-	-	15
4R7	4.7	M	M	M	100KHz, 0.1V	0.090	0.054	0.018	0.012	0.014	1.5	2.6	4.2	7.7	13
6R0	6.0	-	M	-	100KHz, 0.1V	-	-	-	-	0.017	-	-	-	-	12
6R8	6.8	M	M	M	100KHz, 0.1V	0.130	0.08	0.027	0.019	-	1.2	2.2	3.6	6.2	-
7R8	7.8	-	M	-	100KHz, 0.1V	-	-	-	-	0.018	-	-	-	-	11
100	10	M	M	M	100KHz, 0.1V	0.160	0.111	0.038	0.027	0.026	1.1	1.9	3.3	5.2	10
150	15	M	M	M	100KHz, 0.1V	0.230	0.170	0.045	0.032	0.032	0.9	1.5	2.4	4.3	8
220	22	M	M	M	100KHz, 0.1V	0.370	0.250	0.070	0.050	0.043	0.7	1.2	2	3.7	7
330	33	-	M	M	100KHz, 0.1V	-	0.350	0.100	0.069	0.066	-	0.99	1.7	3	6
470	47	-	M	M	100KHz, 0.1V	-	0.470	0.150	0.109	0.096	-	0.87	1.4	2.4	5
680	68	-	M	M	100KHz, 0.1V	-	0.730	0.220	0.156	0.115	-	0.68	1.2	2	4
101	100	-	M	M	100KHz, 0.1V	-	1.110	0.280	0.206	0.165	-	0.53	0.95	1.8	3
221	220	-	M	-	100KHz, 0.1V	-	-	-	-	0.396	-	-	-	-	4
331	330	-	M	-	100KHz, 0.1V	-	-	-	-	0.588	-	-	-	-	1
471	470	-	M	-	100KHz, 0.1V	-	-	-	-	0.950	-	-	-	-	0.8
681	680	-	M	-	100KHz, 0.1V	-	-	-	-	1.200	-	-	-	-	0.5
102	1000	-	M	-	100KHz, 0.1V	-	-	-	-	1.600	-	-	-	-	0.4

# SMD Power Inductor – PD



## Features

- High power, High saturation inductors
- Ideal inductors for DC-DC converters in notebook computer, PDAs, Step-up or step-down converters, flash memory programmers, etc.
- PD1608 used ceramic base with gold-plating
- The others used LCP plastic base

## Applications

- Portable Telephones
- Personal Computers
- DC/DC Converters, etc.
- Other Various Electronic Appliances

## Characteristics

- Saturation Rated Current: The current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~85°C

## Dimensions

Unit: mm

Type	A max.	B max.	C max.	D	E	F	H	I	J
PD1608	6.60	4.45	2.92	4.32	1.27	1.02	3.56	1.40	4.06
PD1813	8.89	6.10	4.70	5.00	2.00	1.50	3.50	2.20	4.80
PD3308	12.95	9.40	3.00	7.62	2.54	2.54	2.79	2.92	7.37
PD3316	12.95	9.40	5.21	7.62	2.54	2.54	2.79	2.92	7.37
PD3340	12.95	9.40	11.43	7.62	2.54	2.54	2.79	2.92	7.37
PD5022	18.54	15.24	7.11	12.7	2.54	2.54	2.79	2.92	12.45

## Inductance and rated current ranges

- PD1608 1.0μH~1000μH 2.9~0.10A
- PD1813 0.18μH~100μH 14~0.53A
- PD3308 4.7μH~1000μH 4.2~0.29A
- PD3316 1.0μH~1000μH 9.0~0.30A
- PD3340 0.47μH~1000μH 40~0.8A
- PD5022 1.0μH~1000μH 20~1.0A
- Electrical specifications at 25°C

## Product Identification

PD	1608	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	1608: 6.60×4.45×2.92 1813: 8.89×6.1×4.7 3308: 12.95×9.40×3.00 3316: 12.95×9.40×5.21 3340: 12.95×9.40×11.43 5022: 18.54×15.24×7.11	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH



## ■ Electrical Characteristics

### PD1608 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
1R0	1.0	M	100KHz, 0.1V	0.05	2.90
1R5	1.5	M	100KHz, 0.1V	0.06	2.60
2R2	2.2	M	100KHz, 0.1V	0.07	2.30
3R3	3.3	M	100KHz, 0.1V	0.08	2.00
4R7	4.7	M	100KHz, 0.1V	0.09	1.50
6R8	6.8	M	100KHz, 0.1V	0.13	1.20
8R2	8.2	M	100KHz, 0.1V	0.16	1.15
100	10	M	100KHz, 0.1V	0.16	1.10
150	15	M	100KHz, 0.1V	0.23	0.90
220	22	M	100KHz, 0.1V	0.37	0.70
330	33	M	100KHz, 0.1V	0.51	0.58
470	47	M	100KHz, 0.1V	0.64	0.50
680	68	M	100KHz, 0.1V	0.86	0.40
101	100	M	100KHz, 0.1V	1.27	0.31
151	150	M	100KHz, 0.1V	2.00	0.27
221	220	M	100KHz, 0.1V	3.11	0.22
331	330	M	100KHz, 0.1V	3.80	0.18
471	470	M	100KHz, 0.1V	5.06	0.16
681	680	M	100KHz, 0.1V	9.20	0.14
102	1000	M	100KHz, 0.1V	13.8	0.10

### PD1813 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
R18	0.18	N	100KHz, 0.1V	0.007	14.0
R33	0.33	N	100KHz, 0.1V	0.008	10.0
R56	0.56	N	100KHz, 0.1V	0.010	7.7
1R2	1.2	N	100KHz, 0.1V	0.017	5.3
2R2	2.2	N	100KHz, 0.1V	0.035	3.5
3R3	3.3	N	100KHz, 0.1V	0.040	3.0
4R7	4.7	N	100KHz, 0.1V	0.064	2.6
6R8	6.8	N	100KHz, 0.1V	0.080	2.2
100	10	M	100KHz, 0.1V	0.111	1.9
150	15	M	100KHz, 0.1V	0.170	1.5
220	22	M	100KHz, 0.1V	0.250	1.2
330	33	M	100KHz, 0.1V	0.350	0.99
470	47	M	100KHz, 0.1V	0.470	0.87
680	68	M	100KHz, 0.1V	0.730	0.67
101	100	M	100KHz, 0.1V	1.110	0.53

### PD3308 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
4R7	4.7	M	100KHz, 0.1V	0.036	4.20
6R8	6.8	M	100KHz, 0.1V	0.060	3.90
100	10	M	100KHz, 0.1V	0.085	2.70
150	15	M	100KHz, 0.1V	0.12	2.30
220	22	M	100KHz, 0.1V	0.18	1.80
330	33	M	100KHz, 0.1V	0.25	1.60
470	47	M	100KHz, 0.1V	0.32	1.30
680	68	M	100KHz, 0.1V	0.54	1.10
101	100	M	100KHz, 0.1V	0.69	0.87
151	150	M	100KHz, 0.1V	0.94	0.74
221	220	M	100KHz, 0.1V	1.60	0.56
331	330	M	100KHz, 0.1V	2.15	0.50
471	470	M	100KHz, 0.1V	3.30	0.40
681	680	M	100KHz, 0.1V	4.40	0.33
102	1000	M	100KHz, 0.1V	7.00	0.29

## ■ Electrical Characteristics

### PD3316 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
1R0	1.0	M	100KHz, 0.1V	0.009	9.00
1R5	1.5	M	100KHz, 0.1V	0.010	8.00
2R2	2.2	M	100KHz, 0.1V	0.012	7.00
3R3	3.3	M	100KHz, 0.1V	0.015	6.40
4R7	4.7	M	100KHz, 0.1V	0.018	5.40
6R8	6.8	M	100KHz, 0.1V	0.027	4.60
100	10	M	100KHz, 0.1V	0.038	3.80
150	15	M	100KHz, 0.1V	0.046	3.00
220	22	M	100KHz, 0.1V	0.085	2.60
330	33	M	100KHz, 0.1V	0.100	2.00
470	47	M	100KHz, 0.1V	0.140	1.60
680	68	M	100KHz, 0.1V	0.200	1.40
101	100	M	100KHz, 0.1V	0.280	1.20
151	150	M	100KHz, 0.1V	0.400	1.00
221	220	M	100KHz, 0.1V	0.610	0.80
331	330	M	100KHz, 0.1V	1.020	0.60
471	470	M	100KHz, 0.1V	1.270	0.50
681	680	M	100KHz, 0.1V	2.020	0.40
102	1000	M	100KHz, 0.1V	3.000	0.30

### PD3340 Type

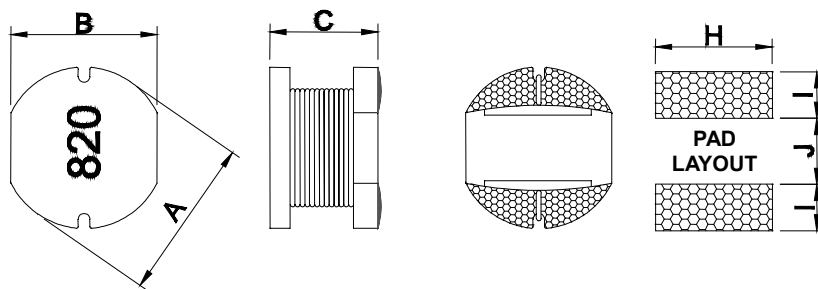
Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
R47	0.47	N	100KHz, 0.1V	0.008	40.0
R82	0.82	N	100KHz, 0.1V	0.009	34.7
1R2	1.2	N	100KHz, 0.1V	0.010	28.4
1R5	1.5	N	100KHz, 0.1V	0.010	25.7
2R2	2.2	N	100KHz, 0.1V	0.012	23.0
3R5	3.5	N	100KHz, 0.1V	0.015	21.0
4R7	4.7	N	100KHz, 0.1V	0.020	18.0
5R6	5.6	N	100KHz, 0.1V	0.022	16.0
6R8	6.8	N	100KHz, 0.1V	0.030	15.0
8R2	8.2	N	100KHz, 0.1V	0.033	10.0
100	10	M	100KHz, 0.1V	0.040	8.00
150	15	M	100KHz, 0.1V	0.050	7.00
220	22	M	100KHz, 0.1V	0.066	5.50
330	33	M	100KHz, 0.1V	0.080	4.00
470	47	M	100KHz, 0.1V	0.11	3.80
680	68	M	100KHz, 0.1V	0.17	3.00
101	100	M	100KHz, 0.1V	0.22	2.50
151	150	M	100KHz, 0.1V	0.34	2.00
221	220	M	100KHz, 0.1V	0.44	1.60
331	330	M	100KHz, 0.1V	0.70	1.20
471	470	M	100KHz, 0.1V	0.95	1.00
681	680	M	100KHz, 0.1V	1.20	1.00
102	1000	M	100KHz, 0.1V	2.00	0.80

## ■ Electrical Characteristics

PD5022 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.
1R0	1.0	M	100KHz, 0.1V	0.009	20
2R2	2.2	M	100KHz, 0.1V	0.014	16
3R3	3.3	M	100KHz, 0.1V	0.018	14
5R6	5.6	M	100KHz, 0.1V	0.020	12
100	10	M	100KHz, 0.1V	0.031	10
150	15	M	100KHz, 0.1V	0.036	8.0
220	22	M	100KHz, 0.1V	0.047	7.0
330	33	M	100KHz, 0.1V	0.066	5.5
470	47	M	100KHz, 0.1V	0.095	4.5
680	68	M	100KHz, 0.1V	0.130	3.5
101	100	M	100KHz, 0.1V	0.190	3.0
151	150	M	100KHz, 0.1V	0.250	2.6
221	220	M	100KHz, 0.1V	0.380	2.4
331	330	M	100KHz, 0.1V	0.560	1.9
471	470	M	100KHz, 0.1V	0.850	1.4
681	680	M	100KHz, 0.1V	1.100	1.2
102	1000	M	100KHz, 0.1V	1.800	1.0

# SMD Power Inductor – PCD



## Dimensions

Unit: mm

Type	A	B	C max.	H	I	J
PCD0301	3.5±0.3	3.0±0.3	1.40	3.50	1.60	0.8
PCD0302	3.5±0.3	3.0±0.3	2.40	3.50	1.60	0.8
PCD0403	4.5±0.3	4.0±0.3	3.50	4.50	1.75	1.5
PCD0502	5.8±0.3	5.2±0.3	2.80	5.50	2.15	1.7
PCD0503	5.8±0.3	5.2±0.3	3.50	5.50	2.15	1.7
PCD0504	5.8±0.3	5.2±0.3	4.85	5.50	2.15	1.7
PCD0703	7.8±0.3	7.0±0.3	4.00	7.50	3.00	2.0
PCD0705	7.8±0.3	7.0±0.3	5.50	7.50	3.00	2.0
PCD1004	10.0±0.4	9.0±0.3	4.50	9.50	3.75	2.5
PCD1005	10.0±0.4	9.0±0.3	5.80	9.50	3.75	2.5
PCD1006	10.0±0.4	9.0±0.3	7.50	9.50	3.75	2.5

## Features

- High power, High saturation inductors
- Silver Plated Type, Low cost design
- Ideal inductors for DC-DC converters
- Available on tape and reel for auto surface mounting

## Applications

- Power Supply For VTRs.
- LCD Televisions
- Personal Computers
- Handheld Communication
- DC/DC Converters, etc.

## Characteristics

- Rated DC Current: The DC current when the inductance becomes 10% lower than its initial value or DC current when temperature of coil is increased to 40°C. (Ta=25°C). The smaller one is defined as Rated DC Current.
- Operating temperature range: -40~85°C

## Inductance and rated current ranges

- PCD0301 1.0~390μH 1.40~0.10A
- PCD0302 1.0~330μH 2.20~0.09A
- PCD0403 1.0~680μH 2.70~0.128A
- PCD0502 1.0~470μH 4.00~0.15A
- PCD0503 1.0~1000μH 4.50~0.13A
- PCD0504 1.0~680μH 5.00~0.28A
- PCD0703 1.0~1000μH 1.64~0.20A
- PCD0705 1.0~1000μH 3.40~0.30A
- PCD1004 1.0~560μH 8.70~0.32A
- PCD1005 1.2~1000μH 8.63~0.20A
- PCD1006 1.0~1000μH 9.50~0.46A
- Electrical specifications at 25°C

## Product Identification

PCD	1005	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	0301: 3.5×3.0×1.4 0302: 3.5×3.0×2.4 0403: 4.5×4.0×3.5 0502: 5.8×5.2×2.8 0503: 5.8×5.2×3.5 0504: 5.8×5.2×4.85 0703: 7.8×7.0×4.0 0705: 7.8×7.0×5.5 1004: 10×9.0×4.5 1005: 10×9.0×5.8 1006: 10×9.0×7.5	K: ±10% M: ±20%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

PCD0301 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.
1R0	1.0	M	100KHz, 0.25V	0.060	1.40
1R4	1.4	M	100KHz, 0.25V	0.069	1.40
1R5	1.5	M	100KHz, 0.25V	0.081	1.30
1R8	1.8	M	100KHz, 0.25V	0.098	1.24
2R2	2.2	M	100KHz, 0.25V	0.240	1.20
2R7	2.7	M	100KHz, 0.25V	0.135	1.04
3R3	3.3	M	100KHz, 0.25V	0.270	1.00
3R9	3.9	M	100KHz, 0.25V	0.188	0.79
4R7	4.7	M	100KHz, 0.25V	0.400	0.90
5R6	5.6	M	100KHz, 0.25V	0.450	0.80
6R8	6.8	M	100KHz, 0.25V	0.500	0.70
8R2	8.2	M	100KHz, 0.25V	0.650	0.65
100	10	M	100KHz, 0.25V	0.750	0.60
120	12	M	100KHz, 0.25V	0.850	0.55
150	15	M	100KHz, 0.25V	1.200	0.50
180	18	M	100KHz, 0.25V	1.300	0.45
220	22	M	100KHz, 0.25V	1.500	0.40
270	27	M	100KHz, 0.25V	1.500	0.36
330	33	M	100KHz, 0.25V	2.800	0.30
390	39	M	100KHz, 0.25V	1.880	0.23
470	47	M	100KHz, 0.25V	4.000	0.25
560	56	M	100KHz, 0.25V	4.500	0.20
680	68	M	100KHz, 0.25V	5.000	0.18
820	82	M	100KHz, 0.25V	6.500	0.16
101	100	M	100KHz, 0.25V	7.500	0.15
221	220	M	100KHz, 0.25V	14.00	0.13
331	330	M	100KHz, 0.25V	22.00	0.11
391	390	M	100KHz, 0.25V	26.00	0.10

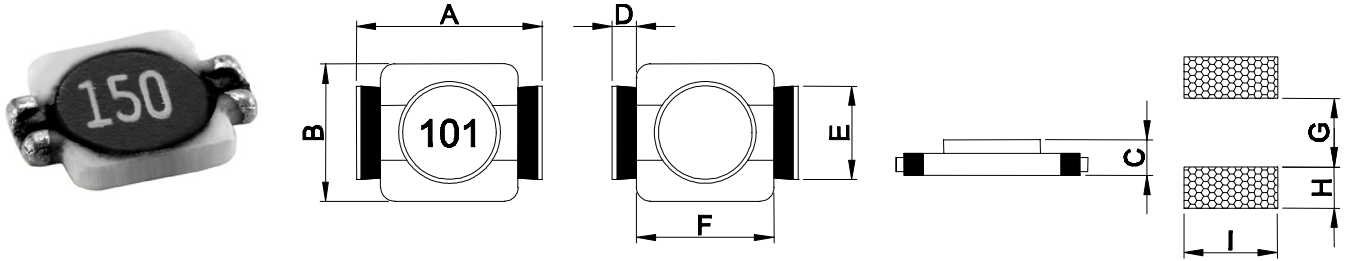
Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				0302	0403	0502	0302	0403	0502
1R0	1.0	M	7.96MHz, 0.25V	0.045	0.049	0.021	2.200	2.70	4.00
1R2	1.2	M	7.96MHz, 0.25V	0.050	0.053	0.050	2.100	2.54	4.20
1R4	1.4	M	7.96MHz, 0.25V	0.050	0.056	-	2.000	2.50	-
1R5	1.5	M	7.96MHz, 0.25V	0.055	0.061	0.060	1.700	2.24	4.00
1R8	1.8	M	7.96MHz, 0.25V	0.070	0.064	0.065	1.650	2.33	3.70
2R2	2.2	M	7.96MHz, 0.25V	0.085	0.072	0.070	1.600	2.25	3.50
2R7	2.7	M	7.96MHz, 0.25V	0.100	0.079	0.080	1.400	2.16	3.20
3R3	3.3	M	7.96MHz, 0.25V	0.120	0.086	0.100	1.040	2.00	2.70
3R9	3.9	M	7.96MHz, 0.25V	0.130	0.094	0.120	1.000	1.84	2.40
4R7	4.7	M	7.96MHz, 0.25V	0.170	0.109	0.140	1.000	1.62	2.00
5R6	5.6	M	7.96MHz, 0.25V	0.185	0.126	0.150	0.950	1.48	1.80
6R8	6.8	M	7.96MHz, 0.25V	0.200	0.131	0.160	0.950	1.43	1.50
8R2	8.2	M	7.96MHz, 0.25V	0.250	0.147	0.170	0.900	1.37	1.40
100	10	K, M	2.52MHz, 0.25V	0.320	0.182	0.200	0.760	1.04	1.30
120	12	K, M	2.52MHz, 0.25V	0.350	0.210	0.230	0.685	0.97	1.10
150	15	K, M	2.52MHz, 0.25V	0.460	0.235	0.250	0.635	0.85	1.05
180	18	K, M	2.52MHz, 0.25V	0.520	0.338	0.300	0.525	0.74	1.00
220	22	K, M	2.52MHz, 0.25V	0.660	0.378	0.350	0.500	0.68	0.90
270	27	K, M	2.52MHz, 0.25V	0.760	0.522	0.400	0.405	0.62	0.85
330	33	K, M	2.52MHz, 0.25V	0.920	0.540	0.500	0.380	0.56	0.75
390	39	K, M	2.52MHz, 0.25V	1.120	0.587	0.550	0.355	0.52	0.70
470	47	K, M	2.52MHz, 0.25V	1.270	0.844	0.650	0.330	0.44	0.60
560	56	K, M	2.52MHz, 0.25V	1.500	0.937	0.750	0.290	0.42	0.55
680	68	K, M	2.52MHz, 0.25V	2.000	1.117	0.950	0.260	0.37	0.50
820	82	K, M	2.52MHz, 0.25V	2.440	1.140	1.200	0.230	0.34	0.45
101	100	K, M	1KHz, 0.25V	2.850	1.190	1.400	0.200	0.30	0.40
121	120	K, M	1KHz, 0.25V	3.400	1.400	1.750	0.180	0.256	0.35
151	150	K, M	1KHz, 0.25V	4.470	1.800	2.000	0.160	0.212	0.25
181	180	K, M	1KHz, 0.25V	5.110	1.920	2.600	0.150	0.200	0.25
221	220	K, M	1KHz, 0.25V	7.310	2.030	3.000	0.140	0.180	0.20
271	270	K, M	1KHz, 0.25V	8.500	2.890	3.700	0.100	0.174	0.18
331	330	K, M	1KHz, 0.25V	10.19	3.760	4.300	0.090	0.168	0.17
391	390	K, M	1KHz, 0.25V	-	4.260	6.000	-	0.160	0.16
471	470	K, M	1KHz, 0.25V	-	5.140	6.700	-	0.158	0.15
561	560	K, M	1KHz, 0.25V	-	6.370	-	-	0.148	-
681	680	K, M	1KHz, 0.25V	-	9.240	-	-	0.128	-

Codes	L ( $\mu$ H)	Tolerance	Test Condition		DCR ( $\Omega$ ) max.			IDC (A) max.		
			0503 0504	0703	0503	0504	0703	0503	0504	0703
1R0	1.0	M	7.96MHz, 0.25V	100KHz, 0.25V	0.03	0.010	0.018	4.50	5.00	1.64
1R2	1.2	M	7.96MHz, 0.25V	100KHz, 0.25V	0.03	0.012	-	4.20	4.77	-
1R5	1.5	M	7.96MHz, 0.25V	100KHz, 0.25V	0.03	0.013	0.020	4.10	4.50	1.60
1R8	1.8	M	7.96MHz, 0.25V	100KHz, 0.25V	0.03	0.016	-	3.70	4.25	-
2R2	2.2	M	7.96MHz, 0.25V	100KHz, 0.25V	0.03	0.017	-	3.50	4.20	-
2R7	2.7	M	7.96MHz, 0.25V	100KHz, 0.25V	0.04	0.025	-	3.20	4.00	-
3R3	3.3	M	7.96MHz, 0.25V	100KHz, 0.25V	0.05	0.034	0.025	2.80	2.50	1.59
3R9	3.9	M	7.96MHz, 0.25V	100KHz, 0.25V	0.06	0.035	-	2.60	2.20	-
4R7	4.7	M	7.96MHz, 0.25V	100KHz, 0.25V	0.07	0.035	0.039	2.50	2.00	1.54
5R6	5.6	M	7.96MHz, 0.25V	100KHz, 0.25V	0.08	0.042	-	2.40	1.82	-
6R8	6.8	M	7.96MHz, 0.25V	100KHz, 0.25V	0.09	0.060	0.040	2.20	1.69	1.49
8R2	8.2	M	7.96MHz, 0.25V	100KHz, 0.25V	0.10	0.060	0.080	2.00	1.56	1.46
100	10	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.13	0.100	0.080	1.80	1.44	1.44
120	12	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.16	0.120	0.090	1.75	1.40	1.39
150	15	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.19	0.140	0.104	1.70	1.30	1.24
180	18	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.21	0.150	0.111	1.60	1.23	1.12
220	22	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.28	0.180	0.129	1.50	1.11	1.07
270	27	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.32	0.200	0.153	1.40	0.97	0.94
330	33	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.38	0.230	0.170	1.10	0.88	0.85
390	39	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.42	0.320	0.217	1.00	0.80	0.74
470	47	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.43	0.370	0.252	0.90	0.72	0.68
560	56	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.50	0.420	0.282	0.85	0.68	0.64
680	68	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.68	0.460	0.332	0.80	0.61	0.59
820	82	K, M	2.52MHz, 0.25V	2.52MHz, 0.25V	0.82	0.600	0.406	0.65	0.58	0.54
101	100	K, M	1KHz, 0.25V	1KHz, 0.25V	1.10	0.700	0.481	0.60	0.52	0.51
121	120	K, M	1KHz, 0.25V	1KHz, 0.25V	1.20	0.930	0.536	0.58	0.48	0.49
151	150	K, M	1KHz, 0.25V	1KHz, 0.25V	1.50	1.100	0.755	0.43	0.40	0.40
181	180	K, M	1KHz, 0.25V	1KHz, 0.25V	1.80	1.380	1.022	0.41	0.38	0.36
221	220	K, M	1KHz, 0.25V	1KHz, 0.25V	2.00	1.570	1.200	0.38	0.35	0.31
271	270	K, M	1KHz, 0.25V	1KHz, 0.25V	2.90	1.600	1.306	0.35	0.34	0.29
331	330	K, M	1KHz, 0.25V	1KHz, 0.25V	3.30	1.820	1.495	0.28	0.32	0.28
391	390	K, M	1KHz, 0.25V	1KHz, 0.25V	3.70	-	1.700	0.26	-	0.27
471	470	K, M	1KHz, 0.25V	1KHz, 0.25V	4.90	2.760	2.100	0.20	0.30	0.26
561	560	K, M	1KHz, 0.25V	1KHz, 0.25V	5.00	3.100	2.660	0.19	0.29	0.25
681	680	K, M	1KHz, 0.25V	1KHz, 0.25V	6.00	4.050	3.000	0.18	0.28	0.23
821	820	K, M	1KHz, 0.25V	1KHz, 0.25V	6.60	-	3.630	0.15	-	0.21
102	1000	K, M	1KHz, 0.25V	1KHz, 0.25V	8.00	-	4.760	0.13	-	0.20

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				0705	1004	1005	1006	0705	1004	1005	1006
1R0	1.0	M	100KHz, 0.25V	0.013	0.012	-	0.008	3.40	8.70	-	9.50
1R2	1.2	M	100KHz, 0.25V	-	0.014	0.009	-	-	8.00	8.63	-
1R5	1.5	M	100KHz, 0.25V	0.016	0.016	0.010	-	3.30	7.480	8.00	-
1R8	1.8	M	100KHz, 0.25V	0.020	0.018	-	0.011	3.20	6.80	-	8.60
2R2	2.2	M	100KHz, 0.25V	0.023	0.020	0.014	0.012	3.00	5.40	6.80	7.20
2R5	2.5	M	100KHz, 0.25V	0.026	-	-	-	2.90	-	-	-
2R7	2.7	M	100KHz, 0.25V	-	0.024	-	-	-	3.20	-	-
3R3	3.3	M	100KHz, 0.25V	0.028	0.028	0.018	0.016	2.80	2.85	3.05	6.80
3R9	3.9	M	100KHz, 0.25V	-	0.030	-	0.017	-	2.80	-	6.35
4R7	4.7	M	100KHz, 0.25V	0.045	0.038	0.020	0.019	2.70	2.75	2.90	5.45
5R6	5.6	M	100KHz, 0.25V	0.048	0.040	-	0.024	2.65	2.70	-	4.30
6R8	6.8	M	100KHz, 0.25V	0.058	0.042	0.040	0.035	2.60	2.65	2.75	3.52
8R2	8.2	M	100KHz, 0.25V	0.07	0.048	0.050	0.045	2.40	2.60	2.70	3.51
100	10	K, M	2.52MHz, 0.25V	0.07	0.053	0.060	0.060	2.30	2.38	2.60	3.50
120	12	K, M	2.52MHz, 0.25V	0.08	0.061	0.070	0.070	2.00	2.13	2.45	3.40
150	15	K, M	2.52MHz, 0.25V	0.09	0.070	0.080	0.080	1.80	1.87	2.27	3.10
180	18	K, M	2.52MHz, 0.25V	0.10	0.081	0.090	0.090	1.60	1.73	2.15	3.00
220	22	K, M	2.52MHz, 0.25V	0.11	0.088	0.100	0.100	1.50	1.60	1.95	2.60
270	27	K, M	2.52MHz, 0.25V	0.12	0.100	0.110	0.110	1.30	1.44	1.76	2.40
330	33	K, M	2.52MHz, 0.25V	0.13	0.120	0.120	0.120	1.20	1.26	1.50	2.30
390	39	K, M	2.52MHz, 0.25V	0.16	0.151	0.140	0.140	1.10	1.20	1.37	2.10
470	47	K, M	2.52MHz, 0.25V	0.18	0.170	0.170	0.170	1.10	1.10	1.28	1.95
560	56	K, M	2.52MHz, 0.25V	0.24	0.199	0.190	0.190	0.94	1.01	1.17	1.85
680	68	K, M	2.52MHz, 0.25V	0.28	0.223	0.220	0.220	0.85	0.91	1.11	1.65
820	82	K, M	2.52MHz, 0.25V	0.37	0.252	0.250	0.250	0.78	0.85	1.00	1.50
101	100	K, M	1KHz, 0.25V	0.43	0.344	0.350	0.350	0.72	0.74	0.97	1.40
121	120	K, M	1KHz, 0.25V	0.47	0.396	0.400	0.400	0.66	0.69	0.89	1.30
151	150	K, M	1KHz, 0.25V	0.64	0.544	0.470	0.470	0.58	0.61	0.78	1.20
181	180	K, M	1KHz, 0.25V	0.71	0.621	0.630	0.630	0.51	0.56	0.72	1.00
221	220	K, M	1KHz, 0.25V	0.96	0.721	0.730	0.730	0.49	0.53	0.66	0.95
271	270	K, M	1KHz, 0.25V	1.11	0.949	0.970	0.970	0.42	0.45	0.57	0.90
331	330	K, M	1KHz, 0.25V	1.26	1.100	1.150	1.150	0.40	0.42	0.52	0.80
391	390	K, M	1KHz, 0.25V	1.77	1.245	1.300	1.300	0.36	0.38	0.48	0.75
471	470	K, M	1KHz, 0.25V	1.96	1.526	1.480	1.480	0.34	0.35	0.42	0.65
561	560	K, M	1KHz, 0.25V	2.28	1.904	1.900	1.900	0.32	0.32	0.33	0.60
681	680	K, M	1KHz, 0.25V	2.48	-	2.250	2.250	0.30	-	0.28	0.50
821	820	K, M	1KHz, 0.25V	3.40	-	2.550	2.550	0.30	-	0.24	0.48
102	1000	K, M	1KHz, 0.25V	4.20	-	3.490	3.000	0.30	-	0.20	0.46



## SMD Mini Power Inductor – MPI



### ■ Features

- Very low profile.
- Constructed enclosed in a rugged to provide optimum pick and place operations.
- High inductance & high current ultra low profile power inductors.

### ■ Applications

- LCD Televisions
- Personal Computers
- Handheld Communication
- DC/DC Converters, etc.

### ■ Characteristics

- Rated Current (IDC): The DC current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~+100°C

### ■ Dimensions

Unit: mm

Type	A max.	B ±0.3	C max.	D	E	F	G	H	I
MPI0610	6.5	5.3	1.2	0.9	3.0	4.5	4.0	1.5	3.4
MPI0612	6.5	5.3	1.2	0.9	3.0	4.5	4.0	1.5	3.4
MPI0620	6.5	5.3	2.0	0.9	3.0	4.5	4.0	1.5	3.4

### ■ Inductance and rated current ranges

- MPI0610 1.2~330μH 2.1~0.13A
- MPI0612 1.2~100μH 1.8~0.235A
- MPI0620 1.0~1000μH 2.5~0.08A
- Electrical specifications at 25°C

### ■ Product Identification

MPI	0610	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	0610: 6.5×5.3×1.2 0612: 6.5×5.3×1.2 0620: 6.5×5.3×2.0	M: ±20%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

### MPI0610 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	I DC (A) max.
1R2	1.2	M	100KHz, 0.1V	0.08	2.1
1R5	1.5	M	100KHz, 0.1V	0.10	1.9
2R2	2.2	M	100KHz, 0.1V	0.12	1.6
3R3	3.3	M	100KHz, 0.1V	0.16	1.3
4R7	4.7	M	100KHz, 0.1V	0.20	1.1
6R8	6.8	M	100KHz, 0.1V	0.32	0.9
100	10	M	100KHz, 0.1V	0.41	0.8
150	15	M	100KHz, 0.1V	0.65	0.65
220	22	M	100KHz, 0.1V	0.85	0.50
330	33	M	100KHz, 0.1V	1.30	0.40
470	47	M	100KHz, 0.1V	1.80	0.35
680	68	M	100KHz, 0.1V	2.50	0.30
101	100	M	100KHz, 0.1V	3.50	0.25
151	150	M	100KHz, 0.1V	6.50	0.18
221	220	M	100KHz, 0.1V	8.50	0.16
331	330	M	100KHz, 0.1V	15.0	0.13

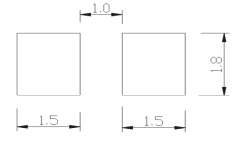
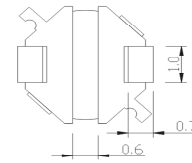
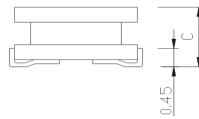
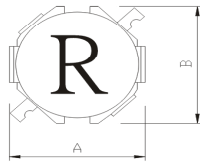
### MPI0612 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	I DC (A) max.
1R2	1.2	M	100KHz, 0.1V	0.060	1.80
2R2	2.2	M	100KHz, 0.1V	0.125	1.20
3R3	3.3	M	100KHz, 0.1V	0.155	0.96
4R7	4.7	M	100KHz, 0.1V	0.206	0.90
6R8	6.8	M	100KHz, 0.1V	0.240	0.80
100	10	M	100KHz, 0.1V	0.370	0.70
150	15	M	100KHz, 0.1V	0.460	0.60
180	18	M	100KHz, 0.1V	0.580	0.56
220	22	M	100KHz, 0.1V	0.668	0.50
270	27	M	100KHz, 0.1V	0.950	0.45
330	33	M	100KHz, 0.1V	1.100	0.42
390	39	M	100KHz, 0.1V	1.280	0.38
470	47	M	100KHz, 0.1V	1.380	0.34
560	56	M	100KHz, 0.1V	1.700	0.30
680	68	M	100KHz, 0.1V	2.100	0.28
820	82	M	100KHz, 0.1V	2.700	0.26
101	100	M	100KHz, 0.1V	3.100	0.235

### MPI0620 Type

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	I DC (A) max.
1R0	1.0	M	100KHz, 0.1V	0.04	2.5
1R5	1.5	M	100KHz, 0.1V	0.06	2.2
2R2	2.2	M	100KHz, 0.1V	0.07	1.8
3R3	3.3	M	100KHz, 0.1V	0.10	1.4
4R7	4.7	M	100KHz, 0.1V	0.12	1.2
6R8	6.8	M	100KHz, 0.1V	0.19	1.1
100	10	M	100KHz, 0.1V	0.30	1.0
150	15	M	100KHz, 0.1V	0.40	0.8
220	22	M	100KHz, 0.1V	0.54	0.6
330	33	M	100KHz, 0.1V	0.74	0.5
470	47	M	100KHz, 0.1V	1.10	0.45
680	68	M	100KHz, 0.1V	1.60	0.35
101	100	M	100KHz, 0.1V	2.30	0.30
151	150	M	100KHz, 0.1V	3.20	0.25
221	220	M	100KHz, 0.1V	5.70	0.20
331	330	M	100KHz, 0.1V	8.20	0.16
471	470	M	100KHz, 0.1V	10.8	0.14
681	680	M	100KHz, 0.1V	17.2	0.12
102	1000	M	100KHz, 0.1V	22.6	0.08

## SMD Mini Power Inductor – MPE



### Features

- Very low profile
- High current rating up to 1.4 Amps.
- Density design, small size, and low cost

### Applications

- Camcorder
- LCD TV
- MP3-Player
- G.P.S, PDA
- Portable CDR-W
- Digital Camera
- DC/DC Converters, etc.

### Dimensions

Unit: mm

Type	A	B	C max.
MPE0312	3.2±0.3	3.2±0.3	1.2

### Inductance and rated current ranges

- MPE0312 1.0~68μH 1.40~0.17A
- Electrical specifications at 25°C

### Characteristics

- Rated Current (IDC): The DC current when the inductance becomes 30% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~+100°C

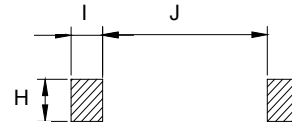
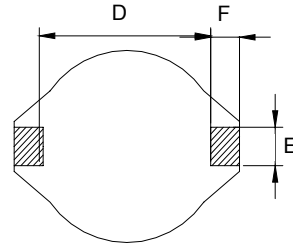
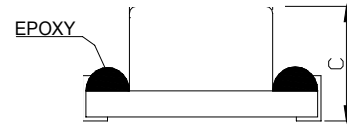
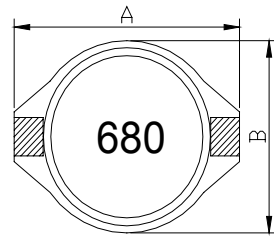
### Product Identification

MPE	0312	N	T	108
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	0312: 3.2x3.2x1.2	M: ±20% N: ±30%	T: Tape and Reel	1R8: 1.8μH 470: 47μH 101: 100μH

### Electrical Characteristics

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) ±20%	IDC (A)	Marking
1R0	1.0	N	100KHz, 0.1V	0.08	1.40	A
1R8	1.8	N	100KHz, 0.1V	0.11	1.10	C
2R2	2.2	N	100KHz, 0.1V	0.12	1.00	D
2R7	2.7	N	100KHz, 0.1V	0.15	0.95	E
4R7	4.7	N	100KHz, 0.1V	0.28	0.75	H
5R6	5.6	N	100KHz, 0.1V	0.31	0.68	I
6R8	6.8	N	100KHz, 0.1V	0.36	0.62	K
7R5	7.5	N	100KHz, 0.1V	0.39	0.60	L
100	10	M	100KHz, 0.1V	0.43	0.53	M
150	15	M	100KHz, 0.1V	0.72	0.44	O
220	22	M	100KHz, 0.1V	1.18	0.33	R
330	33	M	100KHz, 0.1V	1.90	0.26	T
470	47	M	100KHz, 0.1V	2.45	0.23	V
680	68	M	100KHz, 0.1V	4.20	0.17	X

# Shielded SMD Power Inductor—PS



## Features

- With magnetically shielded against radiation
- PS1608 can help to achieve longer battery life significantly in handheld communication devices.
- PS3316 / 5022 designed for the higher current requirements of portable computers.
- PS1608 used ceramic base with gold-plating
- PS3316 / 5022 used LCP plastic base

## Dimensions

Unit: mm

Type	A max.	B max.	C max.	D	E	F	H	I	J
PS1608	6.60	4.45	2.92	4.32	1.27	1.02	3.56	1.40	4.06
PS3316	12.95	9.40	5.21	7.62	2.54	2.54	2.79	2.92	7.37
PS5022	18.54	15.24	7.62	12.70	2.54	2.54	2.79	2.92	12.45

## Applications

- Portable Telephones
- Personal Computers
- Other Various Electronic Appliances
- DC/DC Converters, etc.

## Inductance and rated current ranges

- PS1608 1.0~10000 $\mu$ H 3.0~0.02A
- PS3316 1.0~1000 $\mu$ H 5.0~0.17A
- PS5022 10~1000 $\mu$ H 3.9~0.53A
- Electrical specifications at 25°C

## Characteristics

- Saturation Rated Current (IDC): The DC current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Temperature Rise Current (I rms): The actual current when temperature of coil becomes  $\Delta$ 40°C. (Ta=25°C)
- Operating temperature range: -40~85°C

## Product Identification

PS	1608	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	1608: 6.60×4.45×2.92 3316: 12.95×9.4×5.21 5022: 18.54×15.24×7.62	K: $\pm$ 10% M: $\pm$ 20%	T: Tape and Reel	1R1: 1.1 $\mu$ H 470: 47 $\mu$ H 101: 100 $\mu$ H

## Electrical Characteristics

### PS1608 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition		DCR ( $\Omega$ ) max.	SRF ref (MHz)	Q min.	I rms (A) max.
			L	Q				
1R0	1.0	M	100KHz, 0.1V	200KHz, 0.1V	0.040	250	30	3.00
1R5	1.5	M	100KHz, 0.1V	200KHz, 0.1V	0.045	125	30	2.30
2R2	2.2	M	100KHz, 0.1V	200KHz, 0.1V	0.050	120	40	1.80
3R3	3.3	M	100KHz, 0.1V	200KHz, 0.1V	0.055	120	40	1.60
4R7	4.7	M	100KHz, 0.1V	200KHz, 0.1V	0.060	105	40	1.40
6R8	6.8	M	100KHz, 0.1V	200KHz, 0.1V	0.065	50	40	1.20
100	10	M	100KHz, 0.1V	200KHz, 0.1V	0.075	38	40	1.00
150	15	M	100KHz, 0.1V	100KHz, 0.1V	0.090	33	40	0.80
220	22	M	100KHz, 0.1V	100KHz, 0.1V	0.11	25	40	0.70
330	33	M	100KHz, 0.1V	100KHz, 0.1V	0.19	20	40	0.60
470	47	M	100KHz, 0.1V	100KHz, 0.1V	0.23	20	40	0.50
680	68	M	100KHz, 0.1V	100KHz, 0.1V	0.29	15	40	0.40
101	100	M	100KHz, 0.1V	100KHz, 0.1V	0.48	10	40	0.30
151	150	M	100KHz, 0.1V	100KHz, 0.1V	0.59	9	40	0.26
221	220	M	100KHz, 0.1V	100KHz, 0.1V	0.90	6	40	0.22
331	330	M	100KHz, 0.1V	100KHz, 0.1V	1.40	5	40	0.20
471	470	M	100KHz, 0.1V	100KHz, 0.1V	1.80	4	40	0.19
681	680	M	100KHz, 0.1V	100KHz, 0.1V	2.20	3	40	0.18
102	1000	M	100KHz, 0.1V	100KHz, 0.1V	3.40	2	40	0.15
152	1500	M	100KHz, 0.1V	100KHz, 0.1V	4.20	2	50	0.12
222	2200	M	100KHz, 0.1V	100KHz, 0.1V	8.50	2	50	0.10
332	3300	M	100KHz, 0.1V	100KHz, 0.1V	11.0	1	50	0.08
472	4700	M	100KHz, 0.1V	100KHz, 0.1V	13.9	1	50	0.06
682	6800	M	100KHz, 0.1V	100KHz, 0.1V	25.0	1	50	0.04
103	10000	M	100KHz, 0.1V	100KHz, 0.1V	32.8	0.8	50	0.02

### PS3316 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	SRF ref (MHz)	IDC (A) max.	I rms (A) max.
1R0	1.0	M	100KHz, 0.1V	0.021	140	5.6	5.0
1R5	1.5	M	100KHz, 0.1V	0.022	120	5.2	4.5
2R2	2.2	M	100KHz, 0.1V	0.032	80	5.0	3.8
3R3	3.3	M	100KHz, 0.1V	0.039	70	3.9	3.3
4R7	4.7	M	100KHz, 0.1V	0.054	40	3.2	2.7
6R8	6.8	M	100KHz, 0.1V	0.075	38	2.8	2.2
100	10	M	100KHz, 0.1V	0.101	35	2.4	2.0
150	15	M	100KHz, 0.1V	0.150	25	2.0	1.5
220	22	M	100KHz, 0.1V	0.207	19	1.6	1.3
330	33	M	100KHz, 0.1V	0.334	15	1.4	1.1
470	47	M	100KHz, 0.1V	0.472	13	1.0	0.8
680	68	M	100KHz, 0.1V	0.660	10	0.9	0.7
101	100	M	100KHz, 0.1V	1.110	7	0.8	0.6
151	150	M	100KHz, 0.1V	1.550	6	0.6	0.5
221	220	M	100KHz, 0.1V	2.000	5	0.5	0.37
102	1000	M	100KHz, 0.1V	8.300	2	0.32	0.17

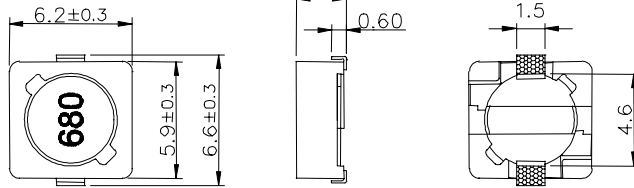
### PS5022 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	SRF ref (MHz)	IDC (A) max.	I rms (A) max.
100	10	M	100KHz, 0.1V	0.040	30	8.0	3.9
150	15	M	100KHz, 0.1V	0.048	20	7.00	3.4
220	22	M	100KHz, 0.1V	0.059	18	6.00	3.1
330	33	M	100KHz, 0.1V	0.075	14	5.00	2.8
470	47	M	100KHz, 0.1V	0.097	10	4.00	2.4
680	68	M	100KHz, 0.1V	0.138	9.0	3.00	2.0
101	100	M	100KHz, 0.1V	0.207	7.0	2.40	1.7
151	150	M	100KHz, 0.1V	0.293	6.0	2.10	1.3
221	220	M	100KHz, 0.1V	0.470	5.0	1.90	1.1
331	330	M	100KHz, 0.1V	0.780	4.0	1.10	0.86
471	470	M	100KHz, 0.1V	1.080	3.0	1.10	0.73
681	680	M	100KHz, 0.1V	1.400	2.5	0.96	0.64
102	1000	M	100KHz, 0.1V	2.010	2.0	0.80	0.53

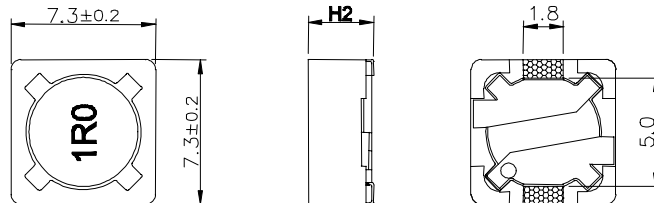
# Shielded SMD Power Inductor—PCS



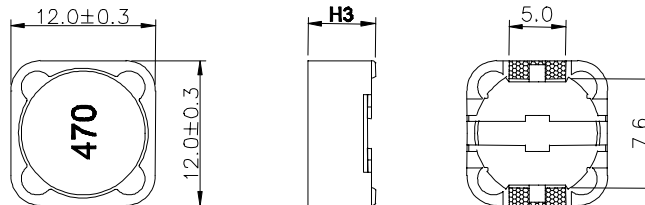
PCS62B / 64B



PCS73 / 74



PCS124 / 125 / 127



## Features

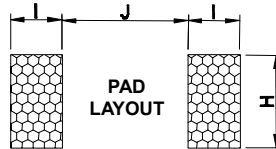
- High power, High saturation inductors
- With magnetically shielded against radiation
- Directly connected electrode on ferrite core
- Highly accurate dimensions for surface mounting

## Applications

- Power Supply for VTRs.
- LCD Televisions
- Personal Computers
- Handheld Communication Equipment
- DC/DC Converters, etc.

## Characteristics except PCSH127

- Rated DC Current: The DC current at which the inductance becomes 25% lower than its initial value or when  $\Delta t=40^{\circ}\text{C}$ , whichever is lower. ( $T_a=25^{\circ}\text{C}$ )
- Operating temperature range:  $-40\sim 85^{\circ}\text{C}$



## Characteristics for PCSH127

- Rated DC Current: The DC current at which the inductance becomes 30% lower than its initial value. ( $T_a=25^{\circ}\text{C}$ )
- Operating temperature range:  $-40\sim 105^{\circ}\text{C}$

## Inductance and rated current ranges

- PCS62B 2.9 $\mu\text{H}$ ~330 $\mu\text{H}$  1.94~0.19A
- PCS64B 10 $\mu\text{H}$ ~1000 $\mu\text{H}$  1.35~0.14A
- PCS73 1.0 $\mu\text{H}$ ~1000 $\mu\text{H}$  7.97~0.16A
- PCS74 1.0 $\mu\text{H}$ ~1000 $\mu\text{H}$  8.0~0.18A
- PCS124 2.5 $\mu\text{H}$ ~330 $\mu\text{H}$  8.0~0.5A
- PCS125 1.3 $\mu\text{H}$ ~1000 $\mu\text{H}$  8.0~0.4A
- PCS127 1.2 $\mu\text{H}$ ~1000 $\mu\text{H}$  9.8~0.55A
- PCS127H 4.7 $\mu\text{H}$ ~1000 $\mu\text{H}$  15.9~1.14A
- Electrical specifications at  $25^{\circ}\text{C}$

## Dimensions

Unit: mm

Type	H1 max.	H2 max.	H3 max.	H	I	J
PCS62B	3.0	-	-	1.9	1.4	4.6
PCS64B	5.0	-	-	1.9	1.4	4.6
PCS73	-	3.4	-	2.2	1.6	4.8
PCS74	-	4.5	-	2.2	1.6	4.8
PCS124	-	-	4.5	5.4	2.9	7.0
PCS125	-	-	6.0	5.4	2.9	7.0
PCS127	-	-	8.0	5.4	2.9	7.0
PCSH127	-	-	8.0	5.4	2.9	7.0

## Product Identification

PCS	62B	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
PCS: Standard PCSH: High Current	62B: 6.2×6.6×3.0 64B: 6.2×6.6×5.0 73: 7.3×7.3×3.4 74: 7.3×7.3×4.5 124: 12×12×4.5 125: 12×12×6.0 127: 12×12×8.0	M: ±20% P: +40%-20%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## Electrical Characteristics

PCS62B / 64B / 73 / 74 Type

Codes	L (μH)	Tolerance	RDC (Ω) max.				IDC (A) max.			
			62B	64B	73	74	62B	64B	73	74
1R0	1.0	M	-	-	0.016	0.020	-	-	7.970	8.000
1R5	1.5	M	-	-	0.023	0.018	-	-	5.500	7.000
2R2	2.2	M	-	-	0.027	0.028	-	-	4.500	6.000
2R9	2.9	M	0.070	-	-	-	1.940	-	-	-
3R3	3.3	M	0.075	-	0.031	0.032	1.800	-	4.000	4.800
3R9	3.9	M	-	-	0.041	0.035	-	-	3.800	4.400
4R0	4.0	M	0.080	-	-	-	1.630	-	-	-
4R7	4.7	M	0.090	-	0.048	0.038	1.55	-	3.500	4.000
5R5	5.5	M	0.100	-	-	-	1.400	-	-	-
5R6	5.6	M	-	-	0.056	0.040	-	-	3.000	3.500
6R8	6.8	M	-	-	0.062	0.045	-	-	2.000	3.000
100	10	M	0.150	0.120	0.072	0.049	1.100	1.350	1.680	1.840
120	12	M	0.200	0.130	0.098	0.058	1.000	1.220	1.520	1.710
150	15	M	0.230	0.180	0.130	0.081	0.900	1.110	1.330	1.470
180	18	M	0.270	0.240	0.140	0.091	0.800	1.020	1.200	1.310
220	22	M	0.340	0.270	0.190	0.110	0.740	0.910	1.070	1.230
270	27	M	0.380	0.300	0.210	0.150	0.660	0.820	0.960	1.120
330	33	M	0.450	0.330	0.240	0.170	0.590	0.740	0.910	0.960
390	39	M	0.490	0.370	0.320	0.230	0.540	0.690	0.770	0.910
470	47	M	0.690	0.520	0.360	0.260	0.500	0.620	0.760	0.880
560	56	M	0.780	0.560	0.470	0.350	0.460	0.580	0.680	0.750
680	68	M	1.070	0.630	0.520	0.380	0.420	0.510	0.610	0.690
820	82	M	1.210	0.710	0.690	0.430	0.380	0.460	0.570	0.610
101	100	M	1.390	1.030	0.790	0.610	0.340	0.420	0.500	0.600
121	120	M	1.900	1.150	0.890	0.660	0.310	0.380	0.490	0.520
151	150	M	2.180	1.680	1.270	0.880	0.280	0.350	0.430	0.460
181	180	M	2.770	1.870	1.450	0.980	0.260	0.320	0.390	0.420
221	220	M	3.120	2.080	1.650	1.170	0.230	0.290	0.350	0.360
271	270	M	4.380	2.370	2.310	1.640	0.220	0.260	0.320	0.340
331	330	M	4.940	2.670	2.620	1.860	0.190	0.230	0.280	0.320
391	390	M	-	2.940	2.940	2.850	-	0.220	0.260	0.290
471	470	M	-	3.930	4.180	3.010	-	0.200	0.240	0.260
561	560	M	-	5.430	4.670	3.620	-	0.180	0.220	0.230
681	680	M	-	7.320	5.730	4.630	-	0.170	0.190	0.220
821	820	M	-	8.240	6.540	5.200	-	0.150	0.180	0.200
102	1000	M	-	9.260	9.440	6.000	-	0.140	0.160	0.180

### Measuring Freq:

PCS62B: 2.9~5.5μH @100KHz 0.25V; 10~330μH @1KHz 0.25V  
 PCS64B: 10~1000μH @1KHz 0.25V  
 PCS73: 6.8~1000μH @1KHz 0.25V  
 PCS74: 1.0~1000μH @1KHz 0.25V

## ■ Electrical Characteristics

PCS124 / 125 / 127 Type

Codes	L ( $\mu$ H)	Tolerance	DCR ( $\Omega$ ) max.			IDC (A) max.		
			124	125	127	124	125	127
1R2	1.2	M	-	-	0.007	-	-	9.80
1R3	1.3	M	-	0.012	-	-	8.00	-
2R1	2.1	M	-	0.014	-	-	7.00	-
2R2	2.2	M	-	0.014	0.010	-	7.00	8.50
2R4	2.4	M	-	-	0.012	-	-	8.00
2R5	2.5	M	0.013	-	-	8.00	-	-
2R7	2.7	M	-	-	0.012	-	-	8.00
3R1	3.1	M	-	0.017	-	-	6.00	-
3R3	3.3	M	-	0.014	0.013	-	6.75	7.80
3R5	3.5	M	-	-	0.014	-	-	7.50
3R9	3.9	M	0.015	-	-	6.50	-	-
4R4	4.4	M	-	0.020	-	-	5.00	-
4R7	4.7	M	0.018	0.018	0.016	5.70	6.20	6.80
5R6	5.6	M	-	-	0.014	-	-	6.70
5R8	5.8	M	-	0.021	-	-	4.40	-
6R1	6.1	M	-	-	0.018	-	-	6.60
6R8	6.8	M	0.023	0.023	0.014	4.90	5.90	6.40
7R5	7.5	M	-	0.024	-	-	4.20	-
7R6	7.6	M	-	-	0.020	-	-	5.90
8R2	8.2	M	0.026	-	-	4.60	-	-
100	10	M	0.028	0.025	0.022	4.50	4.00	5.40
120	12	M	0.038	0.027	0.024	4.00	3.50	4.90
150	15	M	0.050	0.030	0.027	3.20	3.30	4.50
180	18	M	0.057	0.034	0.039	3.10	3.00	3.90
220	22	M	0.066	0.036	0.043	2.90	2.80	3.60
270	27	M	0.080	0.051	0.046	2.80	2.30	3.40
330	33	M	0.097	0.057	0.065	2.70	2.10	3.00
390	39	M	0.132	0.068	0.073	2.10	2.00	2.75
470	47	M	0.150	0.075	0.100	1.90	1.80	2.50
560	56	M	0.190	0.110	0.110	1.80	1.70	2.35
680	68	M	0.220	0.120	0.140	1.50	1.50	2.10
820	82	M	0.260	0.140	0.160	1.30	1.40	1.95
101	100	M	0.308	0.160	0.220	1.20	1.30	1.70
121	120	M	0.380	0.170	0.250	1.10	1.10	1.60
151	150	M	0.530	0.230	0.280	0.95	1.00	1.42
181	180	M	0.620	0.290	0.350	0.85	0.90	1.30
221	220	M	0.700	0.400	0.390	0.80	0.80	1.16
271	270	M	0.876	0.460	0.560	0.60	0.75	1.06
331	330	M	0.990	0.510	0.640	0.50	0.68	0.95
391	390	M	-	0.690	0.700	-	0.65	0.88
471	470	M	-	0.770	0.980	-	0.58	0.79
561	560	M	-	0.860	1.070	-	0.54	0.73
681	680	M	-	1.200	1.460	-	0.48	0.67
821	820	M	-	1.340	1.640	-	0.43	0.60
102	1000	M	-	1.530	1.820	-	0.40	0.55

### ■ Measuring Freq:

PCS124: 2.5~330 $\mu$ H @100KHz 0.25V

PCS125: 1.3~7.5 $\mu$ H @7.96MHz 0.25V; 10~1000 $\mu$ H @1KHz 0.25V

PCS127: 1.2~7.6 $\mu$ H @100KHz 0.25V; 10~1000 $\mu$ H @1KHz 0.25V



## ■ High Current Electrical Characteristics

PCSH127 Type

Codes	L ( $\mu$ H)	Tolerance	DCR ( $\Omega$ ) max.	IDC (A) max.
4R7	4.7	M	0.016	15.9
6R8	6.8	M	0.021	13.3
8R2	8.2	M	0.023	12.2
100	10	M	0.024	11.2
150	15	M	0.031	9.00
220	22	M	0.040	7.57
330	33	M	0.070	6.22
470	47	M	0.080	5.28
680	68	M	0.105	4.26
820	82	M	0.143	3.80
101	100	M	0.163	3.52
151	150	M	0.247	3.01
221	220	M	0.376	2.36
331	330	M	0.574	2.00
471	470	M	0.861	1.64
681	680	M	1.080	1.38
821	820	M	1.470	1.26
102	1000	M	1.660	1.14

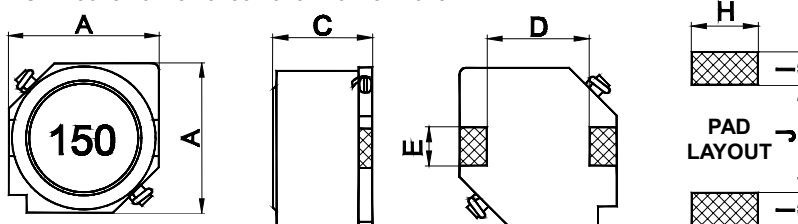
■ Measuring Freq:

PCSH127: 4.7 ~ 1000 $\mu$ H @100KHz 0.25V

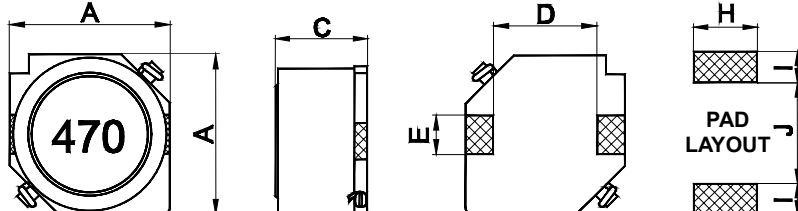
# Shielded SMD Power Inductor – PCDR



PCDR 0628 / 0728 / 0730 / 0732 / 0745 / 1045



PCDR 1255 / 1265 / 1275



## Features

- Compact, low profile with low DCR and large current
- With magnetically shielded against radiation
- Flat bottom surface allows reliable mounting onto the board
- Available on tape and reel for auto surface mounting

## Applications

- Portable Telephones
- Personal Computers
- DC/DC Converters, etc.
- Other Various Electronic Appliances

## Characteristics

- Saturation Rated Current (I sat): The current when the inductance becomes 30% lower than its nominal value. (Ta=25°C)
- Temperature Rated Current (I rms): The actual current when the temperature of coil becomes to  $\Delta 40^{\circ}\text{C}$ . (Ta=25°C)
- Operating temperature range:  $-40\sim 85^{\circ}\text{C}$

## Dimensions

Unit: mm

Type	A	C	D	E	H	I	J
PCDR0628	6.0±0.20	2.8±0.20	4.00	2.00	2.20	1.50	4.00
PCDR0728	7.0±0.20	2.8±0.20	4.00	2.00	2.20	1.50	4.00
PCDR0730	7.0±0.20	3.0±0.20	4.00	2.00	2.20	1.50	4.00
PCDR0732	7.0±0.20	3.2±0.20	4.00	2.00	2.20	1.50	4.00
PCDR0745	7.0±0.20	4.5±0.30	4.00	2.00	2.20	1.50	4.00
PCDR1045	10.1±0.30	4.5±0.30	6.00	3.00	3.20	2.50	5.60
PCDR1255	12.5±0.30	5.5±0.35	8.60	3.00	3.20	2.50	8.60
PCDR1265	12.5±0.30	6.5±0.35	8.60	3.00	3.20	2.50	8.60
PCDR1275	12.5±0.30	7.5±0.35	8.60	3.00	3.20	2.50	8.60

## Inductance and rated current ranges

– PCDR0628	4.7~100μH	1.6~0.42A
– PCDR0728	3.3~56μH	1.6~0.5A
– PCDR0730	3.3~100μH	1.8~0.35A
– PCDR0732	3.3~1000μH	1.9~0.13A
– PCDR0745	3.3~1000μH	2.5~0.14A
– PCDR1045	10~1500μH	3.0~0.22A
– PCDR1255	6.0~1500μH	3.6~0.29A
– PCDR1265	2.0~150μH	10~1.00A
– PCDR1275	1.2~220μH	13~1.30A

– Electrical specifications at 25°C

## Product Identification

PCDR	0628	M	T	101
Product Type	Dimensions (AxC)	Inductor Tolerance	Packaging Style	Inductance
	0628: 6.0×2.8 0728: 7.0×2.8 0730: 7.0×3.0 0732: 7.0×3.2 0745: 7.0×4.5 1045: 10.1×4.5 1255: 12.5×5.5 1265: 12.5×6.5 1275: 12.5×7.5	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

PCDR0628 / 0728 / 0730 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) $\pm 20\%$			IDC (A) max.					
							I sat			I rms		
				0628	0728	0730	0628	0728	0730	0628	0728	0730
3R3	3.3	M	1KHz, 0.5V	-	0.037	0.023	-	1.60	1.80	-	1.60	1.80
4R7	4.7	M	1KHz, 0.5V	0.036	0.045	0.036	1.60	1.50	1.60	2.50	1.50	1.60
6R8	6.8	M	1KHz, 0.5V	0.052	0.059	0.041	1.50	1.30	1.50	2.20	1.30	1.50
100	10	M	1KHz, 0.5V	0.068	0.083	0.053	1.30	1.10	1.30	1.80	1.10	1.30
150	15	M	1KHz, 0.5V	0.100	0.130	0.084	1.00	0.88	1.00	1.40	0.88	1.00
220	22	M	1KHz, 0.5V	0.120	0.180	0.110	0.77	0.75	0.86	1.30	0.75	0.86
330	33	M	1KHz, 0.5V	0.180	0.240	0.160	0.69	0.65	0.65	1.10	0.65	0.65
470	47	M	1KHz, 0.5V	0.270	0.340	0.240	0.59	0.54	0.57	0.92	0.54	0.57
560	56	M	1KHz, 0.5V	0.330	0.420	0.280	0.51	0.50	0.53	0.85	0.45	0.60
680	68	M	1KHz, 0.5V	0.390	-	0.310	0.50	-	0.49	0.78	-	0.49
101	100	M	1KHz, 0.5V	0.620	-	0.450	0.42	-	0.35	0.64	-	0.35

PCDR0732 / 0745 / 1045 Type

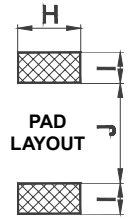
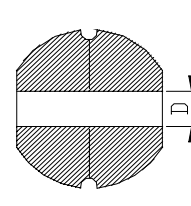
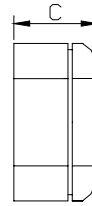
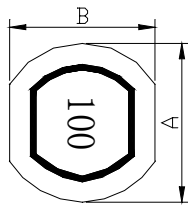
Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) $\pm 20\%$			IDC (A) max.					
							I sat			I rms		
				0732	0745	1045	0732	0745	1045	0732	0745	1045
3R3	3.3	M	1KHz, 0.5V	0.023	0.020	-	1.90	2.50	-	1.90	2.30	-
4R7	4.7	M	1KHz, 0.5V	0.036	0.030	-	1.70	2.00	-	1.70	2.10	-
6R8	6.8	M	1KHz, 0.5V	0.041	0.039	-	1.60	1.70	-	1.60	1.74	-
100	10	M	1KHz, 0.5V	0.053	0.036	0.036	1.40	1.30	3.00	1.40	1.78	2.50
150	15	M	1KHz, 0.5V	0.075	0.052	0.047	1.10	1.10	2.40	1.10	1.53	2.20
220	22	M	1KHz, 0.5V	0.110	0.061	0.059	0.96	0.90	2.10	0.96	1.34	1.90
330	33	M	1KHz, 0.5V	0.160	0.096	0.082	0.75	0.82	1.60	0.75	1.09	1.70
470	47	M	1KHz, 0.5V	0.240	0.125	0.100	0.67	0.75	1.40	0.67	0.92	1.50
560	56	M	1KHz, 0.5V	0.300	0.130	0.110	0.60	0.67	1.30	0.70	0.88	1.40
680	68	M	1KHz, 0.5V	0.310	0.175	0.140	0.59	0.60	1.20	0.59	0.77	1.30
101	100	M	1KHz, 0.5V	0.450	0.250	0.200	0.45	0.50	1.00	0.45	0.65	1.10
151	150	M	1KHz, 0.5V	0.650	0.340	0.350	0.37	0.40	0.79	0.37	0.55	0.81
221	220	M	1KHz, 0.5V	1.050	0.520	0.470	0.29	0.33	0.65	0.29	0.45	0.70
331	330	M	1KHz, 0.5V	1.670	0.740	0.680	0.22	0.25	0.54	0.22	0.37	0.58
471	470	M	1KHz, 0.5V	2.050	1.050	1.030	0.20	0.22	0.47	0.20	0.31	0.47
681	680	M	1KHz, 0.5V	3.150	1.480	1.600	0.16	0.20	0.38	0.16	0.27	0.38
102	1000	M	1KHz, 0.5V	4.780	2.280	2.800	0.13	0.14	0.32	0.13	0.25	0.29
152	1500	M	1KHz, 0.5V	-	-	3.400	-	-	0.22	-	-	0.26

## Electrical Characteristics

PCDR1255 / 1265 / 1275 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) $\pm$ 20%			IDC (A) max.					
							I sat			I rms		
				1255	1265	1275	1255	1265	1275	1255	1265	1275
1R2	1.2	N	1KHz, 0.5V	-	-	0.0069	-	-	13.00	-	-	8.20
2R0	2.0	N	1KHz, 0.5V	-	0.0117	-	-	10.0	-	-	6.20	-
2R7	2.7	N	1KHz, 0.5V	-	-	0.0094	-	-	10.00	-	-	7.00
3R9	3.9	N	1KHz, 0.5V	-	-	0.0104	-	-	9.00	-	-	6.70
4R2	4.2	N	1KHz, 0.5V	-	0.0150	-	-	7.30	-	-	5.50	-
5R6	5.6	N	1KHz, 0.5V	-	-	0.0116	-	-	7.80	-	-	6.30
6R0	6.0	N	1KHz, 0.5V	0.0164	-	-	3.60	-	-	4.90	-	-
6R8	6.8	N	1KHz, 0.5V	-	-	0.0131	-	-	7.20	-	-	5.90
7R0	7.0	M	1KHz, 0.5V	-	0.0177	-	-	5.70	-	-	5.00	-
100	10	M	1KHz, 0.5V	0.0215	0.0202	0.0156	3.40	5.00	5.50	4.30	4.80	5.40
150	15	M	1KHz, 0.5V	0.0259	0.0237	0.0184	2.80	4.20	4.70	3.90	4.40	5.00
220	22	M	1KHz, 0.5V	0.0338	0.0316	0.0263	2.30	3.50	4.00	3.40	3.80	4.00
330	33	M	1KHz, 0.5V	0.0415	0.0406	0.0395	1.90	2.80	3.20	3.10	3.40	3.40
470	47	M	1KHz, 0.5V	0.0618	0.0578	0.0528	1.60	2.40	2.70	2.50	2.80	3.00
560	56	M	1KHz, 0.5V	0.0750	0.0750	0.0670	1.45	2.20	2.30	2.30	2.50	2.60
680	68	M	1KHz, 0.5V	0.0832	0.0787	0.0778	1.30	2.00	2.00	2.20	2.40	2.40
101	100	M	1KHz, 0.5V	0.1170	0.1230	0.1250	1.10	1.60	1.90	1.80	1.90	1.90
121	120	M	1KHz, 0.5V	-	0.1850	-	-	1.30	-	-	1.50	-
151	150	M	1KHz, 0.5V	0.1900	0.2730	0.1750	0.88	1.00	1.50	1.40	1.20	1.60
221	220	M	1KHz, 0.5V	0.2700	-	0.2580	0.72	-	1.30	1.20	-	1.30
331	330	M	1KHz, 0.5V	0.4100	-	-	0.59	-	-	1.00	-	-
471	470	M	1KHz, 0.5V	0.5200	-	-	0.49	-	-	0.88	-	-
681	680	M	1KHz, 0.5V	0.7600	-	-	0.43	-	-	0.73	-	-
102	1000	M	1KHz, 0.5V	1.1200	-	-	0.34	-	-	0.60	-	-
152	1500	M	1KHz, 0.5V	1.7300	-	-	0.29	-	-	0.48	-	-

## Shielded SMD Power Inductor – PCDS



### Dimensions

Unit: mm

Type	A	B	C	D	H	I	J
PCDS63B	6.2±0.30	5.6±0.30	3.2±0.30	1.70	5.50	2.25	1.70
PCDS74B	7.8±0.35	7.0±0.35	4.5±0.40	1.90	7.50	4.00	2.00
PCDS105B	10.0±0.40	9.0±0.40	5.0±0.50	2.50	9.50	5.00	2.50
PCDS125B	12.6±0.50	11.6±0.50	5.4±0.50	3.00	12.00	6.00	3.00

### Features

- Silver Plated Type, Low cost design
- High power, High saturation inductors
- Ideal inductors for DC/DC converters
- With magnetically shielded against radiation
- Available on tape and reel for automatic surface mounting

### Inductance and rated current ranges

- PCDS63B 10~68μH 1.0~0.42A
- PCDS74B 4.7~270μH 3.15~0.33A
- PCDS105B 10~470μH 2.06~0.33A
- PCDS125B 10~820μH 2.65~0.36A
- Electrical specifications at 25°C

### Applications

- Power Supply for VTRs
- LCD Televisions
- Notebook PCs
- Portable Communication
- DC/DC Converters, etc.

### Characteristics

- Rated DC current: The current when the inductance becomes 25% lower than its initial value or the actual current when the temperature of coil increases to  $\Delta 40^{\circ}\text{C}$ . The smaller one is defined as Rated DC Current. ( $T_a=25^{\circ}\text{C}$ )
- Operating temperature range:  $-40\sim 85^{\circ}\text{C}$

### Product Identification

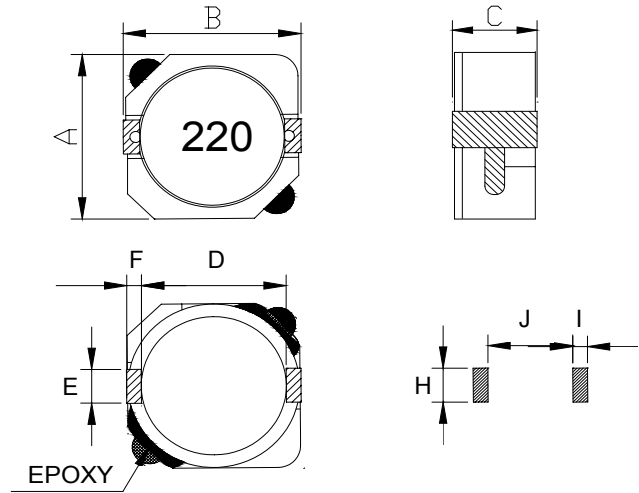
PCDS	63B	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	63B: 6.2×5.6×3.2 74B: 7.8×7.0×4.5 105B: 10.0×9.0×5.0 125B: 12.6×11.6×5.4	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

PCDS63B / 74B / 105B / 125B Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				63B	74B	105B	125B	63B	74B	105B	125B
4R7	4.7	N	100KHz, 0.25V	-	0.03	-	-	-	3.15	-	-
100	10	M	2.52MHz, 0.25V	0.14	0.07	0.06	0.05	1.00	1.65	2.06	2.65
120	12	M	2.52MHz, 0.25V	0.16	0.07	0.07	0.05	0.94	1.57	1.94	2.50
150	15	M	2.52MHz, 0.25V	0.18	0.08	0.07	0.06	0.86	1.39	1.72	2.45
180	18	M	2.52MHz, 0.25V	0.25	0.10	0.08	0.06	0.78	1.29	1.58	2.40
220	22	M	2.52MHz, 0.25V	0.32	0.13	0.08	0.07	0.76	1.12	1.42	2.20
270	27	M	2.52MHz, 0.25V	0.36	0.16	0.10	0.08	0.64	1.06	1.32	2.00
330	33	M	2.52MHz, 0.25V	0.41	0.18	0.11	0.10	0.61	0.97	1.16	1.80
390	39	M	2.52MHz, 0.25V	0.47	0.18	0.12	0.11	0.53	0.91	1.10	1.65
470	47	M	2.52MHz, 0.25V	0.51	0.27	0.14	0.12	0.50	0.80	1.00	1.50
560	56	M	2.52MHz, 0.25V	0.72	0.29	0.19	0.15	0.46	0.76	0.93	1.38
680	68	M	2.52MHz, 0.25V	0.82	0.33	0.21	0.17	0.42	0.68	0.85	1.26
820	82	M	2.52MHz, 0.25V	-	0.43	0.28	0.20	-	0.62	0.79	1.14
101	100	M	1KHz, 0.25V	-	0.49	0.34	0.25	-	0.55	0.72	1.05
121	120	M	1KHz, 0.25V	-	0.68	0.37	0.28	-	0.49	0.63	0.95
151	150	M	1KHz, 0.25V	-	0.94	0.51	0.40	-	0.44	0.55	0.85
181	180	M	1KHz, 0.25V	-	1.00	0.57	0.48	-	0.40	0.50	0.77
221	220	M	1KHz, 0.25V	-	1.18	0.78	0.52	-	0.36	0.47	0.70
271	270	M	1KHz, 0.25V	-	1.30	0.87	0.70	-	0.33	0.41	0.63
331	330	M	1KHz, 0.25V	-	-	1.20	0.80	-	-	0.37	0.57
391	390	M	1KHz, 0.25V	-	-	1.34	1.08	-	-	0.35	0.52
471	470	M	1KHz, 0.25V	-	-	1.50	1.20	-	-	0.33	0.48
561	560	M	1KHz, 0.25V	-	-	-	1.34	-	-	-	0.44
681	680	M	1KHz, 0.25V	-	-	-	1.78	-	-	-	0.40
821	820	M	1KHz, 0.25V	-	-	-	2.00	-	-	-	0.36

## Shielded SMD Power Inductor – PSDB



### Features

- Directly connected electrode on ferrite core
- High power, High saturation inductors
- Ideal inductors for DC/DC converters
- With magnetically shielded against radiation
- Available on tape and reel for automatic surface mounting.

### Applications

- Power Supply for VTRs
- LCD Televisions
- Notebook PCs
- Portable Communication
- DC/DC Converters, etc.

### Characteristics

- Rated DC current: The current when the inductance becomes 35% lower than its initial value or the actual current when the temperature of coil increases to  $\Delta T=40^{\circ}\text{C}$ . The smaller one is defined as Rated DC Current. ( $T_a=25^{\circ}\text{C}$ )
- Operating temperature range:  $-40\sim 85^{\circ}\text{C}$

### Dimensions

Unit: mm

Type	A max.	B max.	C max.	D	E	F	H	I	J
PSDB5D28	6.2	6.3	3.0	4.7	2.0	0.6	2.6	1.0	4.6
PSDB1003	10.3	10.4	3.1	7.7	3.0	1.2	3.2	1.6	7.3
PSDB1004	10.3	10.4	4.0	7.7	3.0	1.2	3.2	1.6	7.3
PSDB1005	10.3	10.4	5.0	7.7	3.0	1.2	3.2	1.6	7.3

### Inductance and rated current ranges

- PSDB5D28    2.5~100 $\mu\text{H}$     2.60~0.40A
- PSDB1003    10~150 $\mu\text{H}$     2.70~0.70A
- PSDB1004    1.3~330 $\mu\text{H}$     10.0~0.70A
- PSDB1005    1.5~1000 $\mu\text{H}$     10.5~0.35A
- Electrical specifications at  $25^{\circ}\text{C}$

### Product Identification

PSDB	5D28	N	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	5D28: 6.2×6.3×3.0 1003: 10.3×10.4×3.1 1004: 10.3×10.4×4.0 1005: 10.3×10.4×5.0	N: $\pm 30\%$	T: Tape and Reel	1R1: 1.1 $\mu\text{H}$ 470: 47 $\mu\text{H}$ 101: 100 $\mu\text{H}$

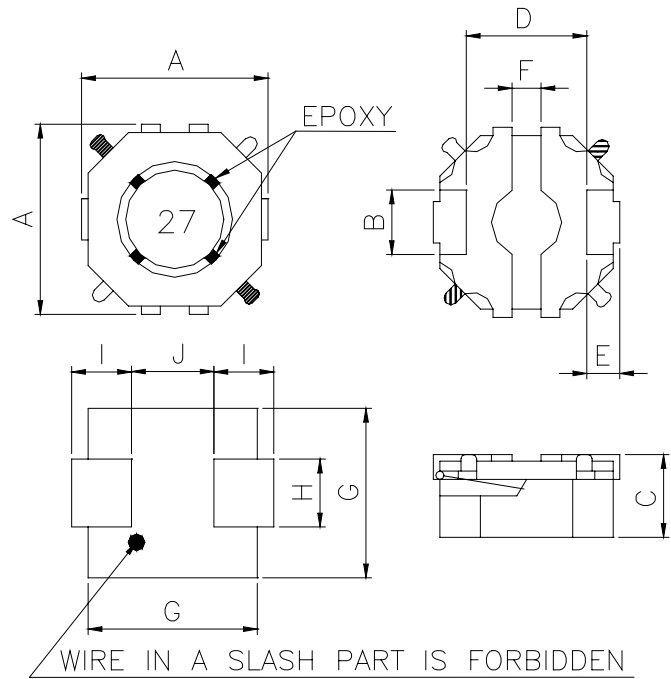
## Electrical Characteristics

PSDB5D28 / 1003 / 1004 / 1005 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ ) max.				IDC (A) max.			
				5D28	1003	1004	1005	5D28	1003	1004	1005
1R3	1.3	N	100KHz, 0.1V	-	-	8	-	-	-	10.0	-
1R5	1.5	N	100KHz, 0.1V	-	-	8	6	-	-	10.0	10.5
2R2	2.2	N	100KHz, 0.1V	-	-	11	7	-	-	8.00	9.25
2R5	2.5	N	100KHz, 0.1V	17.6	-	12	-	2.60	-	7.50	-
3R3	3.3	N	100KHz, 0.1V	20.3	-	13	10	2.30	-	6.50	7.80
3R8	3.8	N	100KHz, 0.1V	-	-	17	-	-	-	6.00	-
4R0	4.0	N	100KHz, 0.1V	27.0	-	-	-	2.10	-	-	-
4R7	4.7	N	100KHz, 0.1V	-	-	21	12	-	-	5.70	6.40
5R0	5.0	N	100KHz, 0.1V	31.1	-	-	-	1.85	-	-	-
5R2	5.2	N	100KHz, 0.1V	-	-	22	-	-	-	5.50	-
5R6	5.6	N	100KHz, 0.1V	-	-	25	-	-	-	5.20	-
6R0	6.0	N	100KHz, 0.1V	41.9	-	-	-	1.70	-	-	-
6R8	6.8	N	100KHz, 0.1V	-	-	26	18	-	-	4.90	5.40
7R0	7.0	N	100KHz, 0.1V	-	-	27	-	-	-	4.80	-
8R0	8.0	N	100KHz, 0.1V	49.9	-	-	-	1.50	-	-	-
8R2	8.2	N	100KHz, 0.1V	-	-	-	20	-	-	-	4.85
100	10	N	100KHz, 0.1V	54.0	58	35	26	1.30	2.70	4.40	3.45
120	12	N	100KHz, 0.1V	71.6	72	-	33	1.20	2.25	-	3.40
150	15	N	100KHz, 0.1V	82.4	86	50	41	1.10	2.22	3.60	2.83
180	18	N	100KHz, 0.1V	101.5	116	-	46	1.05	1.90	-	2.62
220	22	N	100KHz, 0.1V	119.0	145	73	61	0.95	1.78	2.90	2.44
270	27	N	100KHz, 0.1V	146.0	176	83	69	0.85	1.63	2.80	2.24
330	33	N	100KHz, 0.1V	182.5	213	93	84	0.76	1.46	2.30	1.88
390	39	N	100KHz, 0.1V	209.5	270	-	106	0.68	1.32	-	1.70
470	47	N	100KHz, 0.1V	229.5	299	128	130	0.60	1.18	2.10	1.56
560	56	N	100KHz, 0.1V	305.0	335	-	149	0.55	1.10	-	1.39
680	68	N	100KHz, 0.1V	351.0	451	213	201	0.48	1.04	1.50	1.36
820	82	N	100KHz, 0.1V	418.5	513	-	227	0.45	0.94	-	1.20
101	100	N	100KHz, 0.1V	520.0	700	304	253	0.40	0.84	1.35	1.09
121	120	N	100KHz, 0.1V	-	765	-	303	-	0.76	-	1.00
151	150	N	100KHz, 0.1V	-	876	506	370	-	0.70	1.15	0.91
181	180	N	100KHz, 0.1V	-	-	631	419	-	-	1.03	0.84
221	220	N	100KHz, 0.1V	-	-	756	500	-	-	0.92	0.75
271	270	N	100KHz, 0.1V	-	-	-	672	-	-	-	0.68
331	330	N	100KHz, 0.1V	-	-	1090	812	-	-	0.70	0.60
391	390	N	100KHz, 0.1V	-	-	-	953	-	-	-	0.57
471	470	N	100KHz, 0.1V	-	-	-	1289	-	-	-	0.50
561	560	N	100KHz, 0.1V	-	-	-	1430	-	-	-	0.47
681	680	N	100KHz, 0.1V	-	-	-	1599	-	-	-	0.43
821	820	N	100KHz, 0.1V	-	-	-	1768	-	-	-	0.39
102	1000	N	100KHz, 0.1V	-	-	-	1989	-	-	-	0.35



# Shielded SMD Power Inductor – SCDB



## Features

- New designed terminal for low cost
- Low profile and high current
- Magnetically shielded construction
- Ideal for digital equipment and hand phone of new generation.

## Applications

- DSD, DVC, PDA Products
- Hand Phone Of New Generation
- Hard Disk Drives

## Characteristics

- Saturation Rated Current: The current when the inductance becomes 30% lower than its initial value. (Ta=20°C)
- Temperature Rise Current: The current when temperature of coil increases up to Max. Δt=40°C. (Ta=20°C)
- Operating temperature range: -40~85°C

## Dimensions

Unit: mm

Type	A	B	C max.	D	E	F	G	H	I	J
SCDB2D12	3.0±0.2	1.0	1.2	2.0	0.5	0.5	3.2	1.2	1.1	1.8
SCDB2D15	3.0±0.2	1.0	1.5	2.0	0.5	0.5	3.2	1.2	1.1	1.8
SCDB2D18	3.0±0.2	1.0	1.8	2.0	0.5	0.5	3.2	1.2	1.1	1.8

## Inductance and rated current ranges

- SCDB2D12 1.2~22μH 0.85~0.22A
- SCDB2D15 2.2~33μH 1.00~0.25A
- SCDB2D18 2.2~47μH 1.10~0.23A
- Electrical specifications at 25°C

## Product Identification

SCDB	2D12	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	2D12: 3x3x1.2 2D15: 3x3x1.5 2D18: 3x3x1.8	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

### SCDB2D12 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.		I rms (A) max.
					20°C	100°C	
1R2	1.2	N	100KHz, 0.1V	0.117	0.85	0.70	1.05
2R2	2.2	N	100KHz, 0.1V	0.182	0.70	0.60	0.90
3R3	3.3	N	100KHz, 0.1V	0.260	0.60	0.50	0.82
4R7	4.7	N	100KHz, 0.1V	0.312	0.50	0.40	0.72
5R6	5.6	N	100KHz, 0.1V	0.442	0.46	0.35	0.67
6R8	6.8	N	100KHz, 0.1V	0.520	0.43	0.30	0.62
8R2	8.2	N	100KHz, 0.1V	0.560	0.38	0.28	0.58
100	10	M	100KHz, 0.1V	0.780	0.33	0.25	0.55
220	22	M	100KHz, 0.1V	1.650	0.22	-	-

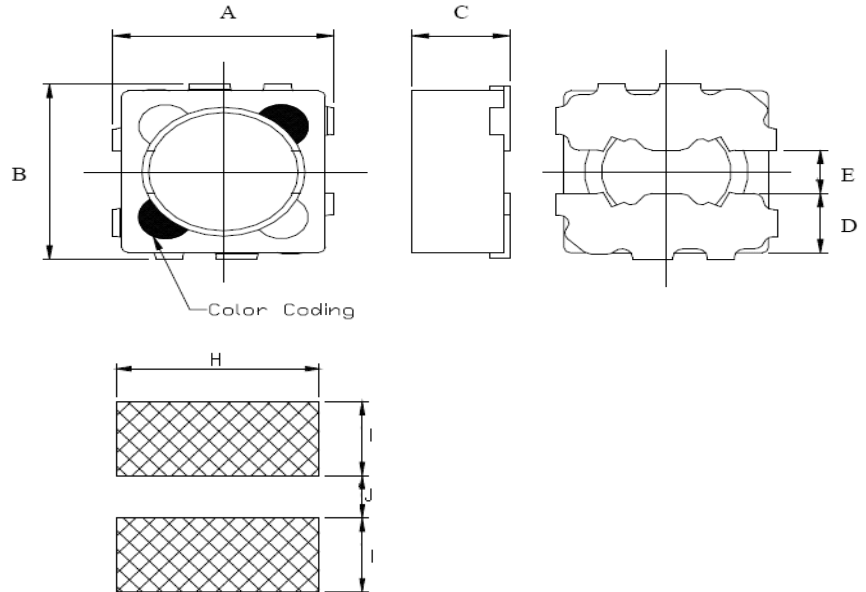
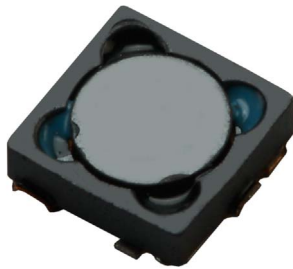
### SCDB2D15 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.		I rms (A) max.
					20°C	100°C	
2R2	2.2	N	100KHz, 0.1V	0.150	1.00	0.80	1.00
3R3	3.3	N	100KHz, 0.1V	0.234	0.90	0.70	0.90
4R7	4.7	N	100KHz, 0.1V	0.338	0.80	0.60	0.85
5R6	5.6	N	100KHz, 0.1V	0.364	0.70	0.55	0.80
6R8	6.8	N	100KHz, 0.1V	0.416	0.60	0.52	0.77
8R2	8.2	N	100KHz, 0.1V	0.572	0.55	0.48	0.72
100	10	M	100KHz, 0.1V	0.624	0.50	0.45	0.70
120	12	M	100KHz, 0.1V	0.702	0.45	0.40	0.65
150	15	M	100KHz, 0.1V	0.949	0.40	0.35	0.50
180	18	M	100KHz, 0.1V	1.090	0.35	0.30	0.40
220	22	M	100KHz, 0.1V	1.250	0.30	0.25	0.30
330	33	M	100KHz, 0.1V	2.200	0.25	-	0.25

### SCDB2D18 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.		I rms (A) max.
					20°C	100°C	
2R2	2.2	N	100KHz, 0.1V	0.117	1.10	0.90	1.10
3R3	3.3	N	100KHz, 0.1V	0.143	1.00	0.80	1.00
4R7	4.7	N	100KHz, 0.1V	0.221	0.80	0.70	0.90
5R6	5.6	N	100KHz, 0.1V	0.247	0.75	0.60	0.85
6R8	6.8	N	100KHz, 0.1V	0.312	0.70	0.55	0.82
8R2	8.2	N	100KHz, 0.1V	0.351	0.60	0.50	0.78
100	10	M	100KHz, 0.1V	0.468	0.55	0.48	0.75
120	12	M	100KHz, 0.1V	0.533	0.50	0.45	0.65
150	15	M	100KHz, 0.1V	0.598	0.45	0.40	0.55
180	18	M	100KHz, 0.1V	0.715	0.40	0.33	0.50
220	22	M	100KHz, 0.1V	0.975	0.38	0.30	0.45
270	27	M	100KHz, 0.1V	1.105	0.33	0.25	0.40
330	33	M	100KHz, 0.1V	1.222	0.30	0.23	0.33
390	39	M	100KHz, 0.1V	1.625	0.25	0.20	0.28
470	47	M	100KHz, 0.1V	1.820	0.23	0.18	0.25

# Shielded SMD Power Inductor – SCDA



## Features

- low profile, low RDC, lower resistance and high current handling capacities
- Flat bottom surface ensures secure, reliable mounting
- Magnetically shielded structure that ensures the high-density mounting configurations.

## Applications

- PDA, DSC, PDA And Other Electronic Equipments
- Hard Disk Drives
- Low Profile/ Low Resistance Specifically Suitable For Portable Telephones

## Characteristics

- Saturation Rated Current(IDC): The current when the inductance becomes 10% or 35% lower than its initial value.
- Temperature Rise Current(Irms): For a 25°C rise above 25°C ambient.
- Operating temperature range: -25~105°C

## Dimensions

Unit: mm

Type	A	B	C max.	D	E	H	I	J
SCDA2D10	3.2±0.2	3.2±0.2	1.05	1.1	0.8	3.6	1.4	0.8
SCDA2D15	3.2±0.2	3.2±0.2	1.6	1.1	0.8	3.6	1.4	0.8
SCDA2D18	3.2±0.2	3.2±0.2	1.8	1.1	0.8	3.6	1.4	0.8
SCDA3D12	4.2±0.2	4.2±0.2	1.25	1.3	1.4	4.6	1.6	1.4
SCDA3D15	4.2±0.2	4.2±0.2	1.6	1.3	1.4	4.6	1.6	1.4
SCDA3D18	4.2±0.2	4.2±0.2	1.8	1.3	1.4	4.6	1.6	1.4

## Inductance and rated current ranges

– SCDA2D10	1.2~47μH	1.40~0.18A
– SCDA2D15L	1.0~18μH	1.40~0.30A
– SCDA2D15H	0.47~100μH	3.40~0.24A
– SCDA2D18L	1.0~27μH	1.36~0.22A
– SCDA2D18H	1.0~33μH	3.00~0.47A
– SCDA3D12	1.0~33μH	3.00~0.42A
– SCDA3D15	0.5~47μH	3.90~0.34A
– SCDA3D18	1.0~100μH	3.20~0.26A

– Test equipment:

L: HP4284A Precision LCR meter

DCR: Milli-ohm meter

– Electrical specifications at 25°C

## Product Identification

SCDA	2D15	M	T	L	101
Product Type	Dimensions (AxBxC)	Inductance Tolerance	Packaging Style	Design Code	Inductance
	2D10: 3.2x3.2x1.05 2D15: 3.2x3.2x1.6 2D18: 3.2x3.2x1.8 3D12: 4.2x4.2x1.25 3D15: 4.2x4.2x1.6 3D18: 4.2x4.2x1.8	M: ±20% N: ±30%	T : Tape and Reel	: Standard L: Low Resistance H: High Current	1R1: 1.1μH 470: 47μH 101: 100μH

## Electrical Characteristics

### SCDA2D10 Type

Codes	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R2	1.2	N,M	1KHz, 1V	0.070	1.00	1.40	1.50	Black
1R5	1.5	N,M	1KHz, 1V	0.087	1.00	1.36	1.40	Brown
1R8	1.8	N,M	1KHz, 1V	0.097	0.90	1.24	1.35	Red
2R2	2.2	N,M	1KHz, 1V	0.136	0.80	0.97	1.10	Orange
2R7	2.7	N,M	1KHz, 1V	0.127	0.76	0.94	1.10	Yellow
3R3	3.3	N,M	1KHz, 1V	0.175	0.68	0.88	1.00	Green
3R9	3.9	N,M	1KHz, 1V	0.200	0.62	0.84	0.90	Blue
4R7	4.7	N,M	1KHz, 1V	0.274	0.60	0.82	0.85	Violet
5R6	5.6	N,M	1KHz, 1V	0.319	0.54	0.72	0.75	Gray
6R8	6.8	N,M	1KHz, 1V	0.330	0.46	0.60	0.70	White
8R2	8.2	N,M	1KHz, 1V	0.420	0.44	0.58	0.65	Black
100	10	M	1KHz, 1V	0.470	0.42	0.54	0.60	Brown
120	12	M	1KHz, 1V	0.675	0.32	0.44	0.55	Red
150	15	M	1KHz, 1V	0.800	0.30	0.40	0.50	Orange
180	18	M	1KHz, 1V	0.890	0.30	0.38	0.45	Yellow
220	22	M	1KHz, 1V	1.110	0.26	0.32	0.40	Green
270	27	M	1KHz, 1V	1.600	0.24	0.30	0.34	Black
330	33	M	1KHz, 1V	1.600	0.22	0.28	0.34	Blue
470	47	M	1KHz, 1V	2.430	0.18	0.22	0.24	Black

### SCDA3D12 Type

Codes	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.045	2.30	3.00	2.00	Black
1R2	1.2	N,M	1KHz, 1V	0.048	2.20	2.80	1.90	Brown
1R5	1.5	N,M	1KHz, 1V	0.055	1.90	2.40	1.80	Red
1R8	1.8	N,M	1KHz, 1V	0.073	1.80	2.30	1.75	Orange
2R2	2.2	N,M	1KHz, 1V	0.083	1.70	2.10	1.75	Yellow
2R7	2.7	N,M	1KHz, 1V	0.109	1.40	1.70	1.44	Green
3R3	3.3	N,M	1KHz, 1V	0.118	1.30	1.70	1.40	Blue
3R9	3.9	N,M	1KHz, 1V	0.143	1.26	1.60	1.30	Violet
4R7	4.7	N,M	1KHz, 1V	0.159	1.24	1.58	1.20	Gray
5R6	5.6	N,M	1KHz, 1V	0.213	1.00	1.30	1.00	White
6R8	6.8	N,M	1KHz, 1V	0.224	1.00	1.30	0.96	Black
8R2	8.2	N,M	1KHz, 1V	0.252	0.92	1.14	0.94	Brown
100	10	M	1KHz, 1V	0.327	0.86	1.06	0.90	Red
120	12	M	1KHz, 1V	0.363	0.80	0.98	0.82	Orange
150	15	M	1KHz, 1V	0.516	0.60	0.80	0.64	Yellow
180	18	M	1KHz, 1V	0.625	0.56	0.76	0.60	Green
220	22	M	1KHz, 1V	0.732	0.46	0.64	0.52	Blue
330	33	M	1KHz, 1V	1.165	0.42	0.50	0.42	Violet

## ■ Electrical Characteristics

### SCDA3D15 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
R50	0.5	N	1KHz, 1V	0.035	3.10	3.90	2.50	Black
1R0	1.0	N,M	1KHz, 1V	0.040	2.30	3.00	2.40	Black
1R2	1.2	N,M	1KHz, 1V	0.043	2.20	2.80	2.34	Brown
1R5	1.5	N,M	1KHz, 1V	0.050	2.00	2.60	2.30	Red
1R8	1.8	N,M	1KHz, 1V	0.055	1.66	2.30	2.10	Orange
2R2	2.2	N,M	1KHz, 1V	0.071	1.60	2.20	2.00	Yellow
2R7	2.7	N,M	1KHz, 1V	0.078	1.40	2.00	1.60	Green
3R3	3.3	N,M	1KHz, 1V	0.087	1.34	2.00	1.60	Blue
3R9	3.9	N,M	1KHz, 1V	0.100	1.20	1.80	1.50	Violet
4R7	4.7	N,M	1KHz, 1V	0.137	1.14	1.60	1.40	Gray
5R6	5.6	N,M	1KHz, 1V	0.147	1.06	1.46	1.20	White
6R8	6.8	N,M	1KHz, 1V	0.170	1.00	1.40	1.15	Black
8R2	8.2	N,M	1KHz, 1V	0.195	0.94	1.28	1.10	Brown
100	10	M	1KHz, 1V	0.228	0.90	1.16	1.02	Red
120	12	M	1KHz, 1V	0.275	0.88	1.08	0.90	Orange
150	15	M	1KHz, 1V	0.340	0.64	0.86	0.72	Yellow
180	18	M	1KHz, 1V	0.380	0.60	0.82	0.68	Green
220	22	M	1KHz, 1V	0.495	0.54	0.74	0.65	Blue
270	27	M	1KHz, 1V	0.735	0.50	0.70	0.55	Violet
330	33	M	1KHz, 1V	0.890	0.46	0.58	0.48	Gray
390	39	M	1KHz, 1V	1.000	0.40	0.56	0.42	White
470	47	M	1KHz, 1V	1.150	0.34	0.52	0.35	Black

### SCDA3D18 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.038	2.60	3.20	2.40	Black
1R2	1.2	N,M	1KHz, 1V	0.044	2.40	3.00	2.20	Brown
1R5	1.5	N,M	1KHz, 1V	0.050	2.20	2.70	2.20	Red
1R8	1.8	N,M	1KHz, 1V	0.045	1.90	2.40	2.00	Orange
2R2	2.2	N,M	1KHz, 1V	0.062	1.80	2.20	1.90	Yellow
2R7	2.7	N,M	1KHz, 1V	0.068	1.70	2.10	1.80	Green
3R3	3.3	N,M	1KHz, 1V	0.080	1.50	1.88	1.65	Blue
3R9	3.9	N,M	1KHz, 1V	0.084	1.40	1.80	1.56	Violet
4R7	4.7	N,M	1KHz, 1V	0.099	1.22	1.46	1.40	Gray
5R6	5.6	N,M	1KHz, 1V	0.110	1.16	1.48	1.30	White
6R8	6.8	N,M	1KHz, 1V	0.128	1.02	1.26	1.20	Black
8R2	8.2	N,M	1KHz, 1V	0.146	1.000	1.24	1.15	Brown
100	10	M	1KHz, 1V	0.165	0.90	1.10	1.05	Red
120	12	M	1KHz, 1V	0.254	0.84	1.00	0.80	Orange
150	15	M	1KHz, 1V	0.320	0.74	0.88	0.72	Yellow
180	18	M	1KHz, 1V	0.360	0.70	0.84	0.68	Green
220	22	M	1KHz, 1V	0.418	0.60	0.74	0.65	Blue
270	27	M	1KHz, 1V	0.450	0.56	0.70	0.60	Violet
330	33	M	1KHz, 1V	0.620	0.46	0.58	0.58	Gray
390	39	M	1KHz, 1V	0.650	0.45	0.56	0.48	White
470	47	M	1KHz, 1V	0.790	0.43	0.52	0.45	Black
560	56	M	1KHz, 1V	0.862	0.38	0.48	0.40	Brown
680	68	M	1KHz, 1V	1.000	0.30	0.40	0.36	Red
101	100	M	1KHz, 1V	1.380	0.26	0.32	0.36	Yellow

## Low Resistance Electrical Characteristics

### SCDA2D15 Type

Codes	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.038	1.04	1.40	1.80	Green
1R2	1.2	N,M	1KHz, 1V	0.041	1.00	1.30	1.74	Blue
1R5	1.5	N,M	1KHz, 1V	0.046	0.94	1.22	1.70	Violet
1R8	1.8	N,M	1KHz, 1V	0.058	0.92	1.16	1.64	Gray
2R2	2.2	N,M	1KHz, 1V	0.066	0.88	1.10	1.60	White
2R7	2.7	N,M	1KHz, 1V	0.070	0.74	0.93	1.45	Green
3R3	3.3	N,M	1KHz, 1V	0.091	0.68	0.90	1.24	Blue
3R9	3.9	N,M	1KHz, 1V	0.115	0.62	0.82	1.12	Violet
4R7	4.7	N,M	1KHz, 1V	0.132	0.60	0.74	1.10	Gray
5R6	5.6	N,M	1KHz, 1V	0.156	0.58	0.70	1.06	White
6R8	6.8	N,M	1KHz, 1V	0.166	0.42	0.62	1.00	Green
8R2	8.2	N,M	1KHz, 1V	0.230	0.40	0.58	0.90	Blue
100	10	M	1KHz, 1V	0.244	0.38	0.50	0.80	Violet
120	12	M	1KHz, 1V	0.324	0.36	0.44	0.70	Gray
150	15	M	1KHz, 1V	0.370	0.36	0.42	0.70	White
180	18	M	1KHz, 1V	0.489	0.30	0.38	0.62	Green

### SCDA2D18 Type

Codes	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.038	0.96	1.36	1.80	Green
1R2	1.2	N,M	1KHz, 1V	0.041	0.94	1.22	1.76	Blue
1R5	1.5	N,M	1KHz, 1V	0.048	0.90	1.14	1.70	Violet
1R8	1.8	N,M	1KHz, 1V	0.052	0.84	1.04	1.68	Gray
2R2	2.2	N,M	1KHz, 1V	0.055	0.75	0.95	1.64	White
2R7	2.7	N,M	1KHz, 1V	0.060	0.68	0.90	1.46	Green
3R3	3.3	N,M	1KHz, 1V	0.078	0.60	0.80	1.40	Blue
3R9	3.9	N,M	1KHz, 1V	0.090	0.58	0.80	1.22	Violet
4R7	4.7	N,M	1KHz, 1V	0.099	0.54	0.74	1.20	Gray
5R6	5.6	N,M	1KHz, 1V	0.110	0.50	0.66	1.12	White
6R8	6.8	N,M	1KHz, 1V	0.120	0.48	0.60	1.06	Green
8R2	8.2	N,M	1KHz, 1V	0.168	0.40	0.54	0.90	Blue
100	10	M	1KHz, 1V	0.190	0.36	0.46	0.88	Violet
120	12	M	1KHz, 1V	0.222	0.32	0.46	0.80	Gray
150	15	M	1KHz, 1V	0.285	0.30	0.40	0.72	White
180	18	M	1KHz, 1V	0.350	0.28	0.38	0.66	Green
220	22	M	1KHz, 1V	0.440	0.24	0.32	0.50	Blue
270	27	M	1KHz, 1V	0.490	0.22	0.28	0.42	Violet

## High Current Electrical Characteristics

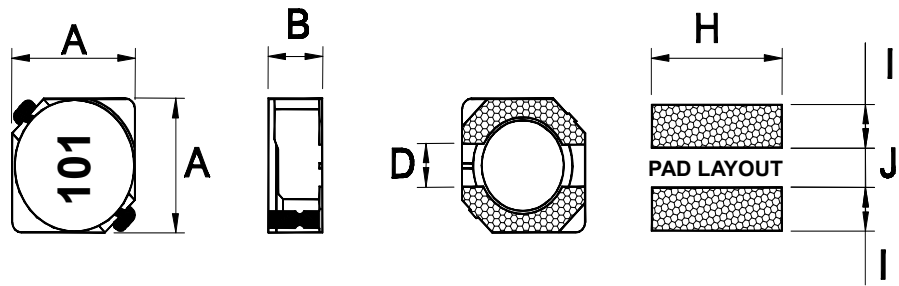
### SCDA2D15 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
R47	0.47	N,M	1KHz, 1V	0.040	3.00	3.40	2.20	Black
1R0	1.0	N,M	1KHz, 1V	0.049	2.60	3.00	2.00	Black
1R2	1.2	N,M	1KHz, 1V	0.083	2.30	2.50	1.90	Brown
1R5	1.5	N,M	1KHz, 1V	0.090	2.10	2.50	1.50	Brown
2R2	2.2	N,M	1KHz, 1V	0.090	1.80	2.10	1.28	Red
3R3	3.3	N,M	1KHz, 1V	0.149	1.50	1.72	1.10	Orange
3R9	3.9	N,M	1KHz, 1V	0.158	1.40	1.56	1.02	Yellow
4R7	4.7	N,M	1KHz, 1V	0.197	1.30	1.50	0.96	Black
5R6	5.6	N,M	1KHz, 1V	0.232	1.20	1.30	0.94	Black
6R8	6.8	N,M	1KHz, 1V	0.266	1.10	1.30	0.84	Brown
100	10	M	1KHz, 1V	0.403	0.94	1.10	0.74	Red
150	15	M	1KHz, 1V	0.567	0.76	0.86	0.60	Orange
220	22	M	1KHz, 1V	0.905	0.60	0.68	0.46	Yellow
330	33	M	1KHz, 1V	1.486	0.44	0.48	0.40	Black
470	47	M	1KHz, 1V	1.814	0.40	0.44	0.26	Brown
680	68	M	1KHz, 1V	3.520	0.29	0.33	0.26	Orange
101	100	M	1KHz, 1V	3.840	0.24	0.28	0.24	Black

### SCDA2D18 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.045	2.60	3.00	2.00	Black
1R8	1.8	N,M	1KHz, 1V	0.078	2.00	2.30	1.76	Brown
2R2	2.2	N,M	1KHz, 1V	0.090	1.80	2.14	1.44	Red
3R3	3.3	N,M	1KHz, 1V	0.103	1.50	1.80	1.10	Orange
3R9	3.9	N,M	1KHz, 1V	0.115	1.50	1.78	1.05	Yellow
4R7	4.7	N,M	1KHz, 1V	0.152	1.40	1.60	1.00	Black
6R8	6.8	N,M	1KHz, 1V	0.223	1.20	1.40	0.95	Brown
100	10	M	1KHz, 1V	0.360	0.92	1.02	0.78	Red
120	12	M	1KHz, 1V	0.410	0.84	0.98	0.68	Orange
150	15	M	1KHz, 1V	0.622	0.80	0.90	0.62	Yellow
220	22	M	1KHz, 1V	0.750	0.64	0.74	0.45	Black
330	33	M	1KHz, 1V	1.125	0.47	0.52	0.42	Brown

# Shielded SMD Power Inductor – SCDS



## Features

- Directly connected electrode on ferrite core
- Available in magnetically shielded
- Low DC resistance
- Suitable for large current
- Available on tape and reel for auto surface mounting

## Applications

- Power Supply For VTRs
- OA Equipment
- Notebook PCs
- Portable Communication Equipment
- DC/DC Converters, etc.

## Characteristics

- Rated DC Current: The current when the inductance becomes 35% lower than its initial value or the current when the temperature of coil increases to  $\Delta 40^{\circ}\text{C}$ . The smaller one is defined as Rated DC Current. ( $T_a=25^{\circ}\text{C}$ )
- Operating temperature range:  $-40\sim 85^{\circ}\text{C}$

## Dimensions

Unit: mm

Type	A	B max.	D	H	I	J
SCDS3D18	$3.8\pm 0.3$	1.8	1.15	4.1	1.60	1.2
SCDS4D18	$4.7\pm 0.3$	2.0	1.5	5.3	1.75	1.5
SCDS4D22	$4.7\pm 0.3$	2.4	1.5	5.3	1.90	1.5
SCDS4D28	$4.7\pm 0.3$	3.0	1.5	5.3	1.90	1.5
SCDS5D18	$5.7\pm 0.3$	2.0	2.0	6.3	2.15	2.0
SCDS5D28	$5.7\pm 0.3$	3.0	2.0	6.3	2.15	2.0
SCDS6D28	$6.7\pm 0.3$	3.0	2.0	7.3	2.65	2.0
SCDS6D38	$6.7\pm 0.3$	4.0	2.0	7.3	2.65	2.0

## Inductance and rated current ranges

- SCDS3D18 1.5~220 $\mu\text{H}$  1.55~0.13A
- SCDS4D18 1.0~180 $\mu\text{H}$  1.72~0.14A
- SCDS4D22 1.5~150 $\mu\text{H}$  2.00~0.21A
- SCDS4D28 1.2~180 $\mu\text{H}$  2.56~0.22A
- SCDS5D18 4.1~470 $\mu\text{H}$  1.95~0.18A
- SCDS5D28 2.2~100 $\mu\text{H}$  2.60~0.42A
- SCDS6D28 1.0~330 $\mu\text{H}$  6.15~0.35A
- SCDS6D38 3.3~330 $\mu\text{H}$  3.50~0.39A
- Electrical specifications at  $25^{\circ}\text{C}$

## Product Identification

SCDS	5D28	N	T	101
Product Type	Dimensions (AxAxB)	Inductor Tolerance	Packaging Style	Inductance
	3D18: 3.8x3.8x1.8 4D18: 4.7x4.7x2.0 4D22: 4.7x4.7x2.4 4D28: 4.7x4.7x3.0 5D18: 5.7x5.7x2.0 5D28: 5.7x5.7x3.0 6D28: 6.7x6.7x3.0 6D38: 6.7x6.7x4.0	M: $\pm 20\%$ N: $\pm 30\%$	T: Tape and Reel	1R1: 1.1 $\mu\text{H}$ 470: 47 $\mu\text{H}$ 101: 100 $\mu\text{H}$



## Electrical Characteristics

SCDS3D18 / 4D18 / 4D22 / 4D28 Type

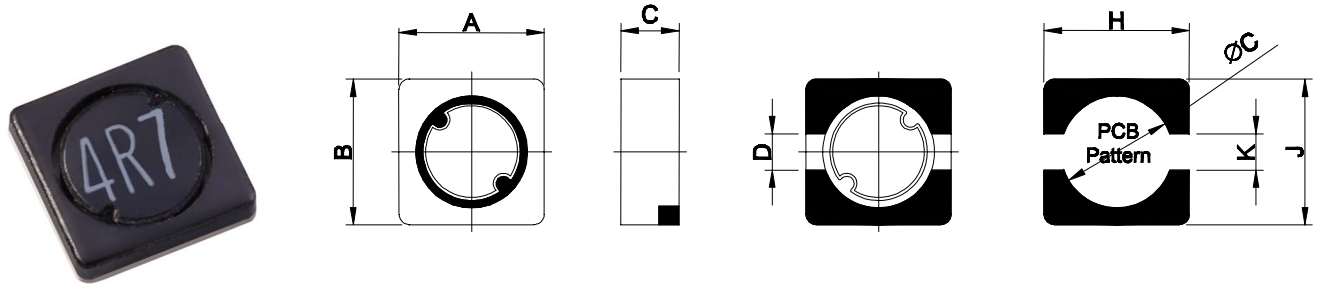
Codes	L ( $\mu$ H)	Tolerance	Test Condition		DCR ( $\Omega$ ) max.				IDC (A) max.			
			3D18 4D22 4D28	4D18	3D18	4D18	4D22	4D28	3D18	4D18	4D22	4D28
1R0	1.0	N	100KHz, 0.1V	7.96MHz, 0.1V	-	0.045	-	-	-	1.72	-	-
1R2	1.2	N	100KHz, 0.1V	7.96MHz, 0.1V	-	-	-	0.024	-	-	-	2.56
1R5	1.5	N	100KHz, 0.1V	7.96MHz, 0.1V	0.056	-	0.018	-	1.55	-	2.00	-
1R8	1.8	N	100KHz, 0.1V	7.96MHz, 0.1V	-	-	0.021	0.028	-	-	1.90	2.20
2R2	2.2	N	100KHz, 0.1V	7.96MHz, 0.1V	0.072	0.075	0.025	0.031	1.20	1.32	1.80	2.04
2R7	2.7	N	100KHz, 0.1V	7.96MHz, 0.1V	-	0.105	-	0.043	-	1.28	-	1.60
3R3	3.3	N	100KHz, 0.1V	7.96MHz, 0.1V	0.085	0.110	0.035	0.049	1.10	1.04	1.40	1.57
3R9	3.9	N	100KHz, 0.1V	7.96MHz, 0.1V	-	0.155	0.040	0.065	-	0.88	1.30	1.44
4R7	4.7	N	100KHz, 0.1V	7.96MHz, 0.1V	0.105	0.162	0.056	0.072	0.90	0.84	1.10	1.32
5R6	5.6	N	100KHz, 0.1V	7.96MHz, 0.1V	-	0.170	0.062	0.101	-	0.80	1.05	1.17
6R8	6.8	N	100KHz, 0.1V	7.96MHz, 0.1V	0.170	0.200	0.088	0.109	0.73	0.76	1.00	1.12
8R2	8.2	N	100KHz, 0.1V	7.96MHz, 0.1V	-	0.245	0.097	0.118	-	0.68	0.90	1.04
100	10	N	100KHz, 0.1V	100KHz, 0.1V	0.210	0.200	0.102	0.128	0.55	0.61	0.80	1.00
120	12	N	100KHz, 0.1V	100KHz, 0.1V	-	0.210	0.110	0.132	-	0.56	0.75	0.84
150	15	N	100KHz, 0.1V	100KHz, 0.1V	0.295	0.240	0.127	0.149	0.45	0.50	0.68	0.76
180	18	N	100KHz, 0.1V	100KHz, 0.1V	-	0.338	0.169	0.166	-	0.48	0.60	0.72
220	22	N	100KHz, 0.1V	100KHz, 0.1V	0.430	0.397	0.200	0.235	0.40	0.41	0.54	0.70
270	27	N	100KHz, 0.1V	100KHz, 0.1V	0.557	0.441	0.283	0.261	0.38	0.35	0.51	0.58
330	33	N	100KHz, 0.1V	100KHz, 0.1V	0.675	0.694	0.326	0.378	0.32	0.32	0.48	0.56
390	39	N	100KHz, 0.1V	100KHz, 0.1V	-	0.709	0.451	0.384	-	0.30	0.43	0.50
470	47	N	100KHz, 0.1V	100KHz, 0.1V	0.900	0.922	0.500	0.587	0.21	0.28	0.38	0.48
560	56	N	100KHz, 0.1V	100KHz, 0.1V	1.330	1.080	0.555	0.625	0.22	0.26	0.36	0.41
680	68	N	100KHz, 0.1V	100KHz, 0.1V	-	1.300	0.634	0.699	-	0.24	0.33	0.35
820	82	N	100KHz, 0.1V	100KHz, 0.1V	-	1.560	0.794	0.915	-	0.22	0.30	0.32
101	100	N	100KHz, 0.1V	100KHz, 0.1V	2.600	1.730	0.880	1.020	0.16	0.20	0.25	0.29
121	120	N	100KHz, 0.1V	100KHz, 0.1V	-	2.390	1.140	1.270	-	0.18	0.23	0.27
151	150	N	100KHz, 0.1V	100KHz, 0.1V	-	2.670	1.350	1.360	-	0.15	0.21	0.24
181	180	N	100KHz, 0.1V	100KHz, 0.1V	-	4.000	-	1.540	-	0.14	-	0.22
221	220	N	100KHz, 0.1V	100KHz, 0.1V	4.770	-	-	-	0.13	-	-	-

## Electrical Characteristics

SCDS5D18 / 5D28 / 6D28 / 6D38 Type

Codes	L ( $\mu$ H)	Tolerance		Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
		5D18 5D28 6D28	6D38		5D18	5D28	6D28	6D38	5D18	5D28	6D28	6D38
1R0	1.0	N	-	10KHz, 0.1V	-	-	0.012	-	-	-	6.15	-
2R2	2.2	N	-	10KHz, 0.1V	-	0.018	0.018	-	-	2.60	4.80	-
2R6	2.6	N	-	10KHz, 0.1V	-	0.018	-	-	-	2.60	-	-
3R0	3.0	N	-	10KHz, 0.1V	-	0.024	0.024	-	-	2.40	3.00	-
3R3	3.3	N	M,N	10KHz, 0.1V	-	-	0.026	0.020	-	-	2.80	3.50
3R9	3.9	N	-	10KHz, 0.1V	-	-	0.027	-	-	-	2.60	-
4R1	4.1	N	-	10KHz, 0.1V	0.057	-	-	-	1.95	-	-	-
4R2	4.2	N	-	10KHz, 0.1V	-	0.031	-	-	-	2.20	-	-
4R7	4.7	N	-	10KHz, 0.1V	0.072	0.037	0.029	-	1.77	2.00	2.50	-
5R0	5.0	N	M,N	10KHz, 0.1V	-	-	0.031	0.024	-	-	2.40	2.90
5R3	5.3	N	-	10KHz, 0.1V	-	0.038	0.033	-	-	1.90	2.30	-
5R4	5.4	N	-	10KHz, 0.1V	0.076	-	-	-	1.60	-	-	-
5R6	5.6	N	-	10KHz, 0.1V	-	0.040	-	-	-	1.85	-	-
6R0	6.0	N	-	10KHz, 0.1V	-	-	0.035	-	-	-	2.25	-
6R2	6.2	N	M,N	10KHz, 0.1V	0.096	0.045	-	0.027	1.40	1.80	-	2.50
6R8	6.8	N	-	10KHz, 0.1V	0.110	0.050	0.052	-	1.30	1.82	2.20	-
7R3	7.3	N	-	10KHz, 0.1V	-	-	0.054	-	-	-	2.10	-
7R4	7.4	N	M,N	10KHz, 0.1V	-	-	-	0.031	-	-	-	2.30
8R2	8.2	N	-	10KHz, 0.1V	-	0.053	-	-	-	1.60	-	-
8R6	8.6	N	-	10KHz, 0.1V	-	-	0.058	-	-	-	1.85	-
8R7	8.7	N	M,N	10KHz, 0.1V	-	-	-	0.034	-	-	-	2.20
8R9	8.9	N	-	10KHz, 0.1V	0.116	-	-	-	1.25	-	-	-
100	10	N	M,N	10KHz, 0.1V	0.124	0.065	0.065	0.038	1.20	1.30	1.70	2.00
120	12	N	M,N	10KHz, 0.1V	0.153	0.076	0.070	0.053	1.10	1.20	1.55	1.70
150	15	N	M,N	10KHz, 0.1V	0.196	0.103	0.084	0.057	0.97	1.10	1.40	1.60
180	18	N	M,N	10KHz, 0.1V	0.210	0.110	0.095	0.092	0.85	1.00	1.32	1.50
220	22	N	M,N	10KHz, 0.1V	0.290	0.122	0.128	0.096	0.80	0.90	1.20	1.30
270	27	N	M,N	10KHz, 0.1V	0.330	0.175	0.142	0.109	0.75	0.85	1.05	1.20
330	33	N	M,N	10KHz, 0.1V	0.386	0.189	0.165	0.124	0.65	0.75	0.97	1.10
390	39	N	M,N	10KHz, 0.1V	0.520	0.212	0.210	0.138	0.57	0.70	0.86	1.00
470	47	N	M,N	10KHz, 0.1V	0.595	0.260	0.238	0.155	0.54	0.62	0.80	0.95
560	56	N	M,N	10KHz, 0.1V	0.665	0.305	0.277	0.202	0.50	0.58	0.73	0.85
680	68	N	M,N	10KHz, 0.1V	0.840	0.355	0.304	0.234	0.43	0.52	0.65	0.75
820	82	N	M,N	10KHz, 0.1V	0.978	0.463	0.39	0.324	0.41	0.46	0.60	0.70
101	100	N	M,N	10KHz, 0.1V	1.200	0.520	0.535	0.368	0.36	0.42	0.54	0.65
151	150	N	-	10KHz, 0.1V	2.000	-	-	-	0.25	-	-	-
221	220	N	-	10KHz, 0.1V	3.28	-	1.350	-	0.20	-	0.45	-
331	330	N	M,N	10KHz, 0.1V	-	-	2.000	1.250	-	-	0.35	0.39
471	470	N	-	10KHz, 0.1V	6.560	-	-	-	0.18	-	-	-

# Shielded SMD Power Inductor – PCF



## Features

- Directly connected electrode on ferrite core
- Available in magnetically shielded
- Low DC resistance
- Suitable for large current
- Available on tape and reel for auto surface mounting

## Applications

- Power Supply For VTRs
- OA Equipment.
- Notebook PCs
- Portable Communication Equipment
- DC/DC Converters, etc.

## Characteristics

- Rated Current:  
4010/4020/5010/5020/5030/6915/6919/7040: The DC current when the inductance becomes 30% lower than its initial value.
- 4030/1015/1040/1062: The DC current when the inductance becomes 35% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40 ~ +105°C

## Dimensions

Unit: mm

Type	A	B	C max.	D	H	J	K	ΦC
PCF4010	3.8±0.3	3.8±0.3	1.25	1.2	4.4	4.4	1.1	3.0
PCF4020	3.8±0.3	3.8±0.3	2.00	1.2	4.4	4.4	1.1	3.0
PCF4030	3.8±0.3	3.8±0.3	3.00	1.2	4.4	4.4	1.1	3.0
PCF5010	5.0±0.3	5.0±0.3	1.20	2.0	5.9	5.9	1.9	4.2
PCF5020	5.0±0.3	5.0±0.3	2.00	2.0	5.9	5.9	1.9	4.2
PCF5030	5.0±0.3	5.0±0.3	3.00	2.0	5.9	5.9	1.9	4.2
PCF6915	6.9±0.3	6.9±0.3	1.50	2.5	7.3	7.3	2.0	5.3
PCF6919	6.9±0.3	6.9±0.3	1.90	2.5	7.3	7.3	2.0	5.3
PCF7040	7.0±0.4	7.0±0.4	4.30	1.8	8.0	8.0	1.6	6.0
PCF1015	10.0±0.3	10.0±0.3	1.50	2.5	10.6	10.6	2.3	8.0
PCF1040	10.0±0.3	10.0±0.3	4.00	2.5	10.6	10.6	2.3	8.0
PCF1062	10.0±0.3	10.0±0.3	6.70	2.5	10.6	10.6	2.3	8.0

## Inductance and rated current ranges

- PCF4010 1.0 ~ 180μH 1.60 ~ 0.110A
- PCF4020 0.47 ~ 1800μH 1.84 ~ 0.036A
- PCF4030 1.5 ~ 560μH 1.90 ~ 0.090A
- PCF5010 1.2 ~ 1000μH 1.77 ~ 0.067A
- PCF5020 1.0 ~ 10000μH 2.70 ~ 0.026A
- PCF5030 1.0 ~ 2500μH 4.00 ~ 0.045A
- PCF6915 1.0 ~ 820μH 3.28 ~ 0.100A
- PCF6919 1.0 ~ 1500μH 3.52 ~ 0.095A
- PCF7040 0.36 ~ 1000μH 9.24 ~ 0.180A
- PCF1015 1.0 ~ 2200μH 4.10 ~ 0.100A
- PCF1040 0.56 ~ 1000μH 12.6 ~ 0.280A
- PCF1062 0.56 ~ 39μH 10.18 ~ 1.30A
- Electrical specifications at 25°C

## Product Identification

PCF	4010	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	4010: 3.8×3.8×1.25 4020: 3.8×3.8×2.0 4030: 3.8×3.8×3.0 5010: 5.0×5.0×1.2 5020: 5.0×5.0×2.0 5030: 5.0×5.0×3.0 6915: 6.9×6.9×1.5 6919: 6.9×6.9×1.9 7040: 7.0×7.0×4.3 1015: 10×10×1.5 1040: 10×10×4.0 1062: 10×10×6.7	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## Electrical Characteristics

PCF4010 / 4020 / 4030 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				4010	4020	4030	4010	4020	4030
R47	0.47	N	100KHz, 0.25V	-	0.017	-	-	1.840	-
1R0	1.0	M, N	100KHz, 0.25V	0.060	0.030	-	1.600	1.800	-
1R2	1.2	M, N	100KHz, 0.25V	0.065	0.043	-	1.400	1.700	-
1R5	1.5	M, N	100KHz, 0.25V	0.077	0.052	0.015	1.240	1.600	1.900
1R8	1.8	M, N	100KHz, 0.25V	0.093	-	0.018	1.220	-	1.760
2R2	2.2	M, N	100KHz, 0.25V	0.125	0.058	0.020	1.200	1.500	1.670
2R4	2.4	M, N	100KHz, 0.25V	0.139	-	0.022	0.980	-	1.650
2R5	2.5	M, N	100KHz, 0.25V	-	0.059	-	-	1.400	-
2R7	2.7	M, N	100KHz, 0.25V	-	0.059	0.028	-	1.400	1.450
3R3	3.3	M, N	100KHz, 0.25V	0.187	0.064	0.032	0.890	1.300	1.440
3R5	3.5	M, N	100KHz, 0.25V	0.210	0.127	-	0.850	1.300	-
3R6	3.6	M, N	100KHz, 0.25V	-	-	0.035	-	-	1.430
3R9	3.9	M, N	100KHz, 0.25V	0.220	0.135	0.037	0.780	1.120	1.320
4R3	4.3	M, N	100KHz, 0.25V	-	-	0.043	-	-	1.000
4R7	4.7	M, N	100KHz, 0.25V	0.240	0.146	0.045	0.710	1.100	0.970
5R1	5.1	M, N	100KHz, 0.25V	-	-	0.046	-	-	0.940
5R6	5.6	M, N	100KHz, 0.25V	0.320	0.176	-	0.620	0.950	-
6R2	6.2	M, N	100KHz, 0.25V	-	0.220	-	-	0.910	-
6R8	6.8	M, N	100KHz, 0.25V	0.350	0.238	0.065	0.570	0.900	0.870
7R5	7.5	M, N	100KHz, 0.25V	-	-	0.079	-	-	0.820
8R2	8.2	M, N	100KHz, 0.25V	0.470	0.272	0.071	0.520	0.800	0.770
100	10	M	1KHz, 0.25V	0.570	0.299	0.105	0.470	0.700	0.700
120	12	M	1KHz, 0.25V	0.750	-	0.119	0.430	-	0.670
150	15	M	1KHz, 0.25V	0.810	0.472	0.140	0.380	0.610	0.540
180	18	M	1KHz, 0.25V	1.060	-	0.175	0.350	-	0.500
220	22	M	1KHz, 0.25V	1.150	0.592	0.201	0.320	0.520	0.480
270	27	M	1KHz, 0.25V	1.670	0.630	0.227	0.290	0.440	0.400
330	33	M	1KHz, 0.25V	1.840	1.075	0.287	0.280	0.430	0.350
390	39	M	1KHz, 0.25V	2.310	-	0.341	0.250	-	0.330
470	47	M	1KHz, 0.25V	2.630	1.309	0.430	0.220	0.340	0.320
560	56	M	1KHz, 0.25V	2.860	-	0.471	0.200	-	0.300
680	68	M	1KHz, 0.25V	3.940	2.613	0.532	0.180	0.250	0.270
820	82	M	1KHz, 0.25V	4.900	2.950	0.675	0.160	0.200	0.230
101	100	M	1KHz, 0.25V	5.740	3.255	0.850	0.140	0.190	0.210
121	120	M	1KHz, 0.25V	7.310	-	1.110	0.130	-	0.200
151	150	M	1KHz, 0.25V	9.080	3.550	1.230	0.120	0.120	0.170
181	180	M	1KHz, 0.25V	9.500	-	1.560	0.110	-	0.150
221	220	M	1KHz, 0.25V	-	4.900	1.800	-	0.090	0.140
271	270	M	1KHz, 0.25V	-	-	2.200	-	-	0.130
331	330	M	1KHz, 0.25V	-	7.280	2.640	-	0.080	0.120
471	470	M	1KHz, 0.25V	-	-	3.820	-	-	0.100
561	560	M	1KHz, 0.25V	-	-	4.620	-	-	0.090
681	680	M	1KHz, 0.25V	-	13.370	-	-	0.070	-
102	1000	M	1KHz, 0.25V	-	19.550	-	-	0.065	-
152	1500	M	1KHz, 0.25V	-	36.150	-	-	0.038	-
182	1800	M	1KHz, 0.25V	-	57.620	-	-	0.036	-

## ■ Electrical Characteristics

PCF5010 / 5020 / 5030 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				5010	5020	5030	5010	5020	5030
1R0	1.0	M, N	100KHz, 0.25V	-	0.030	0.015	-	2.700	4.000
1R1	1.1	M, N	100KHz, 0.25V	-	-	0.020	-	-	3.870
1R2	1.2	M, N	100KHz, 0.25V	0.050	0.044	0.022	1.770	2.150	3.800
1R5	1.5	M, N	100KHz, 0.25V	0.069	-	-	1.710	-	-
2R0	2.0	M, N	100KHz, 0.25V	0.100	0.046	0.027	1.440	1.900	2.920
2R2	2.2	M, N	100KHz, 0.25V	0.110	0.059	0.029	1.400	1.630	2.410
3R3	3.3	M, N	100KHz, 0.25V	0.140	0.062	0.034	1.140	1.500	2.360
3R5	3.5	M, N	100KHz, 0.25V	0.150	0.073	-	1.100	1.340	-
4R1	4.1	M, N	100KHz, 0.25V	-	0.081	-	-	1.200	-
4R7	4.7	M, N	100KHz, 0.25V	0.190	0.087	0.045	0.950	1.140	1.870
5R6	5.6	M, N	100KHz, 0.25V	0.193	0.093	0.052	0.900	1.000	1.600
6R2	6.2	M, N	100KHz, 0.25V	0.200	-	-	0.840	-	-
6R8	6.8	M, N	100KHz, 0.25V	0.200	0.105	0.068	0.800	0.950	1.510
8R2	8.2	M, N	100KHz, 0.25V	0.300	0.139	0.084	0.750	0.900	1.380
100	10	M	1KHz, 0.25V	0.350	0.150	0.090	0.660	0.760	1.330
120	12	M	1KHz, 0.25V	0.430	0.170	-	0.620	0.660	-
150	15	M	1KHz, 0.25V	0.440	0.210	0.142	0.590	0.630	1.050
180	18	M	1KHz, 0.25V	0.750	-	-	0.570	-	-
220	22	M	1KHz, 0.25V	0.820	0.275	0.208	0.560	0.560	0.860
270	27	M	1KHz, 0.25V	-	-	0.222	-	-	0.750
330	33	M	1KHz, 0.25V	1.160	0.455	0.257	0.430	0.440	0.720
390	39	M	1KHz, 0.25V	-	0.540	-	-	0.380	-
470	47	M	1KHz, 0.25V	1.590	0.730	0.352	0.340	0.350	0.620
560	56	M	1KHz, 0.25V	-	0.800	-	-	0.320	-
680	68	M	1KHz, 0.25V	2.140	0.935	0.525	0.290	0.300	0.510
820	82	M	1KHz, 0.25V	2.720	-	-	0.250	-	-
101	100	M	1KHz, 0.25V	3.550	1.500	0.801	0.220	0.230	0.430
121	120	M	1KHz, 0.25V	4.890	1.910	0.850	0.200	0.220	0.340
151	150	M	1KHz, 0.25V	5.200	2.680	1.100	0.190	0.210	0.260
181	180	M	1KHz, 0.25V	7.550	3.045	1.190	0.170	0.200	0.240
221	220	M	1KHz, 0.25V	7.760	3.520	1.530	0.150	0.195	0.200
271	270	M	1KHz, 0.25V	10.13	4.380	-	0.145	0.193	-
331	330	M	1KHz, 0.25V	11.23	5.560	2.030	0.140	0.190	0.190
391	390	M	1KHz, 0.25V	-	-	3.000	-	-	0.160
471	470	M	1KHz, 0.25V	16.86	7.820	3.500	0.098	0.180	0.150
561	560	M	1KHz, 0.25V	22.78	9.790	4.450	0.097	0.170	0.140
681	680	M	1KHz, 0.25V	24.87	-	-	0.085	-	-
821	820	M	1KHz, 0.25V	28.09	15.00	-	0.077	0.120	-
102	1000	M	1KHz, 0.25V	45.07	-	-	0.067	-	-
122	1200	M	1KHz, 0.25V	-	-	8.500	-	-	0.070
152	1500	M	1KHz, 0.25V	-	-	10.00	-	-	0.065
182	1800	M	1KHz, 0.25V	-	-	13.15	-	-	0.062
222	2200	M	1KHz, 0.25V	-	-	19.00	-	-	0.050
252	2500	M	1KHz, 0.25V	-	-	20.00	-	-	0.045
392	3900	M	1KHz, 0.25V	-	89.880	-	-	0.042	-
472	4700	M	1KHz, 0.25V	-	101.12	-	-	0.038	-
562	5600	M	1KHz, 0.25V	-	115.00	-	-	0.036	-
682	6800	M	1KHz, 0.25V	-	152.00	-	-	0.030	-
103	10000	M	1KHz, 0.25V	-	201.16	-	-	0.026	-

## Electrical Characteristics

PCF6915 / 6919 / 7040 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				6915	6919	7040	6915	6919	7040
R36	0.36	N	100KHz, 0.25V	-	-	0.005	-	-	9.240
R56	0.56	N	100KHz, 0.25V	-	-	0.006	-	-	8.500
R80	0.80	N	100KHz, 0.25V	-	-	0.009	-	-	5.800
1R0	1.0	M, N	100KHz, 0.25V	0.050	0.035	0.040	3.280	3.520	2.100
1R2	1.2	M, N	100KHz, 0.25V	-	-	0.040	-	-	2.100
1R5	1.5	M, N	100KHz, 0.25V	0.067	-	0.040	2.530	-	2.100
1R8	1.8	M, N	100KHz, 0.25V	-	0.052	0.040	-	3.050	2.090
2R0	2.0	M, N	100KHz, 0.25V	0.085	-	-	2.060	-	-
2R2	2.2	M, N	100KHz, 0.25V	-	0.071	0.0410	-	2.500	2.080
2R5	2.5	M, N	100KHz, 0.25V	-	-	0.0410	-	-	2.080
2R7	2.7	M, N	100KHz, 0.25V	0.110	-	-	1.870	-	-
3R0	3.0	M, N	100KHz, 0.25V	-	0.086	-	-	2.150	-
3R3	3.3	M, N	100KHz, 0.25V	0.130	-	0.0410	1.580	-	2.070
3R9	3.9	M, N	100KHz, 0.25V	0.160	0.110	-	1.460	2.010	-
4R3	4.3	M, N	100KHz, 0.25V	-	-	0.041	-	-	2.060
4R7	4.7	M, N	100KHz, 0.25V	0.200	0.130	0.042	1.300	1.950	2.050
5R6	5.6	M, N	100KHz, 0.25V	0.230	0.150	0.043	1.220	1.820	2.040
6R8	6.8	M, N	100KHz, 0.25V	0.280	0.170	0.044	1.160	1.670	2.040
8R2	8.2	M, N	100KHz, 0.25V	0.310	0.190	-	1.130	1.520	-
100	10	M	1KHz, 0.25V	0.330	0.240	0.049	1.030	1.390	2.000
120	12	M	1KHz, 0.25V	0.460	0.290	0.058	0.870	1.220	1.900
150	15	M	1KHz, 0.25V	0.530	0.380	0.081	0.800	1.090	1.600
180	18	M	1KHz, 0.25V	0.620	0.440	0.091	0.730	1.030	1.480
220	22	M	1KHz, 0.25V	0.700	0.490	0.110	0.710	0.950	1.320
270	27	M	1KHz, 0.25V	0.910	0.640	0.150	0.650	0.840	1.260
330	33	M	1KHz, 0.25V	1.150	0.740	0.170	0.570	0.800	1.100
390	39	M	1KHz, 0.25V	1.380	0.910	0.230	0.500	0.750	1.050
470	47	M	1KHz, 0.25V	1.540	1.020	0.260	0.480	0.690	1.000
560	56	M	1KHz, 0.25V	1.860	1.260	0.350	0.450	0.630	0.850
680	68	M	1KHz, 0.25V	2.320	1.570	0.380	0.410	0.560	0.780
820	82	M	1KHz, 0.25V	2.540	1.890	0.430	0.370	0.510	0.740

## ■ Electrical Characteristics

PCF6915 / 6919 / 7040 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				6915	6919	7040	6915	6919	7040
101	100	M	1KHz, 0.25V	3.20	2.12	0.61	0.32	0.47	0.70
121	120	M	1KHz, 0.25V	4.24	2.55	0.66	0.29	0.42	0.60
151	150	M	1KHz, 0.25V	4.77	3.37	0.88	0.27	0.37	0.52
181	180	M	1KHz, 0.25V	6.04	3.73	0.98	0.24	0.32	0.46
221	220	M	1KHz, 0.25V	7.95	4.54	1.17	0.22	0.29	0.40
271	270	M	1KHz, 0.25V	10.51	5.97	1.64	0.19	0.25	0.36
331	330	M	1KHz, 0.25V	11.63	7.74	1.86	0.18	0.23	0.32
391	390	M	1KHz, 0.25V	12.97	9.92	2.85	0.16	0.21	0.28
471	470	M	1KHz, 0.25V	16.87	12.95	3.01	0.15	0.18	0.26
561	560	M	1KHz, 0.25V	22.3	14.36	3.62	0.13	0.16	0.24
681	680	M	1KHz, 0.25V	25.11	18.52	4.63	0.12	0.14	0.22
821	820	M	1KHz, 0.25V	28.41	20.23	5.20	0.10	0.13	0.20
102	1000	M	1KHz, 0.25V	-	28.25	6.00	-	0.11	0.18
122	1200	M	1KHz, 0.25V	-	31.85	-	-	0.10	-
152	1500	M	1KHz, 0.25V	-	36.72	-	-	0.095	-

## Electrical Characteristics

PCF1015 / 1040 / 1062 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				1015	1040	1062	1015	1040	1062
R56	0.56	N	100KHz, 0.25V	-	0.006	0.006	-	12.60	10.18
R80	0.80	N	100KHz, 0.25V	-	0.006	-	-	12.00	-
1R0	1.0	M, N	100KHz, 0.25V	0.038	0.008	0.007	4.10	10.30	9.52
1R5	1.5	M, N	100KHz, 0.25V	-	0.0081	0.008	-	10.00	9.50
1R6	1.6	M, N	100KHz, 0.25V	-	-	0.008	-	-	9.50
1R8	1.8	M, N	100KHz, 0.25V	0.047	-	0.008	3.50	-	6.30
2R2	2.2	M, N	100KHz, 0.25V	-	0.01	0.009	-	8.00	5.82
2R4	2.4	M, N	100KHz, 0.25V	-	-	0.009	-	-	5.71
2R5	2.5	M, N	100KHz, 0.25V	-	0.011	-	-	7.50	-
2R7	2.7	M, N	100KHz, 0.25V	0.059	0.012	-	3.40	7.00	-
3R3	3.3	M, N	100KHz, 0.25V	0.063	0.012	0.010	3.00	6.60	5.18
3R8	3.8	M, N	100KHz, 0.25V	-	0.013	0.010	-	6.00	5.09
4R3	4.3	M, N	100KHz, 0.25V	-	-	0.011	-	-	5.08
4R7	4.7	M, N	100KHz, 0.25V	0.086	0.022	0.015	2.60	5.70	5.00
5R2	5.2	M, N	100KHz, 0.25V	-	0.022	0.016	-	5.50	3.25
5R6	5.6	M, N	100KHz, 0.25V	0.098	0.024	0.016	2.20	5.15	3.2
6R8	6.8	M, N	100KHz, 0.25V	0.110	0.026	0.017	2.10	4.90	2.80
7R0	7.0	M, N	100KHz, 0.25V	-	0.027	-	-	4.80	-
8R2	8.2	M, N	100KHz, 0.25V	0.130	0.032	-	1.90	4.45	-
100	10	M	1KHz, 0.25V	0.160	0.035	0.028	1.80	4.40	2.15
120	12	M	1KHz, 0.25V	0.190	0.040	-	1.48	3.65	-
150	15	M	1KHz, 0.25V	0.250	0.050	-	1.25	3.6	-
180	18	M	1KHz, 0.25V	0.290	0.060	-	1.22	2.95	-
220	22	M	1KHz, 0.25V	0.300	0.073	-	1.20	2.90	-
250	25	M	1KHz, 0.25V	-	0.080	-	-	2.60	-
270	27	M	1KHz, 0.25V	0.400	-	-	0.93	-	-
330	33	M	1KHz, 0.25V	0.460	0.093	-	0.89	2.30	-
390	39	M	1KHz, 0.25V	0.570	-	0.050	0.81	-	1.30
470	47	M	1KHz, 0.25V	0.630	0.128	-	0.80	2.10	-
560	56	M	1KHz, 0.25V	0.780	-	-	0.72	-	-
680	68	M	1KHz, 0.25V	0.990	0.213	-	0.64	1.50	-
820	82	M	1KHz, 0.25V	1.170	-	-	0.61	-	-

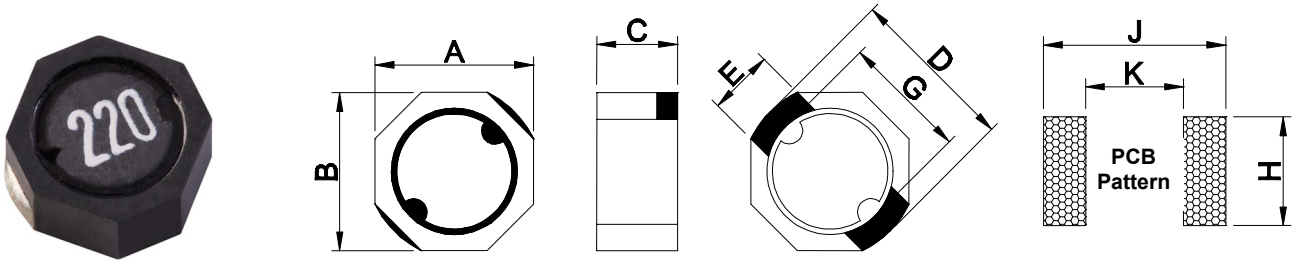


## ■ Electrical Characteristics

PCF1015 / 1040 / 1062 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				1015	1040	1062	1015	1040	1062
101	100	M	1KHz, 0.25V	1.30	0.304	-	0.60	1.35	-
121	120	M	1KHz, 0.25V	1.63	0.340	-	0.51	1.18	-
151	150	M	1KHz, 0.25V	2.02	0.506	-	0.43	1.15	-
181	180	M	1KHz, 0.25V	2.29	0.530	-	0.41	0.98	-
221	220	M	1KHz, 0.25V	2.96	0.756	-	0.36	0.92	-
271	270	M	1KHz, 0.25V	3.57	0.782	-	0.33	0.72	-
331	330	M	1KHz, 0.25V	4.50	1.090	-	0.30	0.70	-
391	390	M	1KHz, 0.25V	-	1.102	-	-	0.55	-
471	470	M	1KHz, 0.25V	6.16	1.292	-	0.25	0.45	-
561	560	M	1KHz, 0.25V	7.63	1.572	--	0.24	0.40	-
681	680	M	1KHz, 0.25V	9.06	1.882	-	0.21	0.35	-
821	820	M	1KHz, 0.25V	11.30	2.382	-	0.19	0.32	-
102	1000	M	1KHz, 0.25V	12.80	2.692	-	0.17	0.28	-
122	1200	M	1KHz, 0.25V	16.50	-	-	0.16	-	-
152	1500	M	1KHz, 0.25V	21.30	-	-	0.14	-	-
182	1800	M	1KHz, 0.25V	27.80	-	-	0.12	-	-
222	2200	M	1KHz, 0.25V	32.00	-	-	0.10	-	-

# Shielded SMD Power Inductor – PDRH



## Dimensions

Unit: mm

Type	A	B	C max.	D	E	G	H	K	J
PDRH0301	3.85±0.3	3.85±0.3	1.25	3.9±0.2	1.6	3.2	1.9	3.0	4.55
PDRH0302	3.85±0.3	3.85±0.3	2.00	3.9±0.2	1.6	3.2	1.9	3.0	4.55
PDRH0303	3.85±0.3	3.85±0.3	3.00	3.9±0.2	1.6	3.2	1.9	3.0	4.55
PDRH0415	3.85±0.3	3.85±0.3	1.50	4.80max.	1.6	3.0	2.0	2.6	5.2
PDRH0502	5.30max.	5.30max.	2.00	5.7±0.4	1.6	4.2	1.9	3.9	5.7
PDRH0503	5.30max.	5.30max.	3.00	5.7±0.4	1.6	4.2	1.9	3.9	5.7
PDRH0603	5.90±0.2	5.90±0.2	3.00	6.4±0.3	2.4	4.7	2.7	4.4	6.5

## Features

- Directly connected electrode on ferrite core
- Excellent property with high saturation for surface mounting

## Applications

- OA Equipment
- Notebook PCs
- LCD Monitor
- Portable Terminal Equipment
- DC/DC Converters, etc.
- Power Supply for VTR

## Inductance and rated current ranges

- PDRH0301 1.0~820μH 1.60~0.060A
- PDRH0302 0.47~2200μH 1.84~0.035A
- PDRH0303 1.0~6800μH 1.90~0.017A
- PDRH0415 1.0~100μH 1.50~0.100A
- PDRH0502 0.47~6800μH 2.33~0.030A
- PDRH0503 0.47~2500μH 4.82~0.045A
- PDRH0603 1.0~27000μH 4.70~0.026A
- Electrical specifications at 25°C

## Characteristics

- Rated DC Current: The current when the inductance becomes 30% lower than its initial value.
- Operating temperature: -40~85°C

## Product Identification

PDRH	0303	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	0301: 3.85x3.85x1.25 0302: 3.85x3.85x2.0 0303: 3.85x3.85x3.0 0415: 3.85x3.85x1.5 0502: 5.3x5.3x2.0 0503: 5.3x5.3x3.0 0603: 5.9x5.9x3.0	M: ±20% N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

## ■ Electrical Characteristics

PDRH0301 / 0302 / 0303 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				0301	0302	0303	0301	0302	0303
R47	0.47	N	100 KHz, 0.25V	-	0.017	-	-	1.84	-
1R0	1.0	N	100 KHz, 0.25V	0.060	0.030	0.009	1.60	1.80	1.90
1R2	1.2	N	100 KHz, 0.25V	0.065	0.043	0.010	1.40	1.70	1.75
1R5	1.5	N	100 KHz, 0.25V	0.077	0.052	0.013	1.24	1.60	0.45
1R8	1.8	N	100 KHz, 0.25V	0.093	0.056	-	1.22	1.55	-
2R0	2.0	N	100 KHz, 0.25V	-	0.057	0.016	-	1.51	1.25
2R2	2.2	N	100 KHz, 0.25V	0.125	0.058	0.025	1.20	1.50	1.15
2R4	2.4	N	100 KHz, 0.25V	0.139	0.059	-	0.98	1.41	-
2R5	2.5	N	100 KHz, 0.25V	-	0.059	0.018	-	1.40	1.05
2R7	2.7	N	100 KHz, 0.25V	-	0.060	0.020	-	1.35	1.00
3R3	3.3	N	100 KHz, 0.25V	0.187	0.064	0.030	0.89	1.30	0.96
3R5	3.5	N	100 KHz, 0.25V	0.210	0.127	0.025	0.85	1.30	0.95
3R9	3.9	N	100 KHz, 0.25V	0.220	-	0.033	0.78	-	0.87
4R7	4.7	N	100 KHz, 0.25V	0.240	0.146	0.039	0.71	1.10	0.78
5R6	5.6	N	100 KHz, 0.25V	0.320	0.176	0.044	0.62	0.95	0.74
6R2	6.2	N	100 KHz, 0.25V	-	0.220	-	-	0.91	-
6R8	6.8	N	100 KHz, 0.25V	0.350	0.238	0.051	0.57	0.90	0.68
8R2	8.2	N	100 KHz, 0.25V	0.470	0.272	0.065	0.52	0.80	0.57
100	10	M	1KHz, 0.25V	0.570	0.299	0.092	0.47	0.70	0.43
120	12	M	1KHz, 0.25V	0.750	-	0.100	0.43	-	0.38
150	15	M	1KHz, 0.25V	0.810	0.472	0.113	0.38	0.61	0.33
180	18	M	1KHz, 0.25V	1.060	0.552	0.125	0.35	0.58	0.30
220	22	M	1KHz, 0.25V	1.150	0.592	0.146	0.32	0.52	0.28
270	27	M	1KHz, 0.25V	1.670	0.630	0.176	0.29	0.44	0.26
330	33	M	1KHz, 0.25V	1.840	1.075	0.214	0.28	0.43	0.23
390	39	M	1KHz, 0.25V	2.310	1.269	0.225	0.25	0.37	0.21
470	47	M	1KHz, 0.25V	2.630	1.309	0.304	0.22	0.34	0.19
500	50	M	1KHz, 0.25V	2.700	-	-	0.21	-	-
560	56	M	1KHz, 0.25V	2.860	1.960	0.324	0.20	0.29	0.170
680	68	M	1KHz, 0.25V	3.940	2.613	0.472	0.18	0.25	0.156
820	82	M	1KHz, 0.25V	4.900	2.950	0.539	0.16	0.20	0.142
101	100	M	1KHz, 0.25V	5.740	3.255	0.608	0.14	0.19	0.128
121	120	M	1KHz, 0.25V	7.310	3.350	0.757	0.13	0.15	0.116
151	150	M	1KHz, 0.25V	9.080	3.550	0.882	0.12	0.12	0.106
181	180	M	1KHz, 0.25V	9.500	4.000	1.130	0.11	0.10	0.095
221	220	M	1KHz, 0.25V	-	4.900	1.269	-	0.09	0.087
271	270	M	1KHz, 0.25V	-	-	1.570	-	-	0.080
331	330	M	1KHz, 0.25V	20.99	7.280	1.930	0.08	0.08	0.078
391	390	M	1KHz, 0.25V	-	-	2.360	-	-	0.073
471	470	M	1KHz, 0.25V	-	-	2.770	-	-	0.068
561	560	M	1KHz, 0.25V	-	-	3.520	-	-	0.065
681	680	M	1KHz, 0.25V	-	13.37	4.250	-	0.07	0.056
821	820	M	1KHz, 0.25V	54.03	-	4.830	0.06	-	0.050
102	1000	M	1KHz, 0.25V	-	19.55	6.260	-	0.065	0.047
122	1200	M	1KHz, 0.25V	-	-	7.860	-	-	0.043
152	1522	M	1KHz, 0.25V	-	36.15	9.980	-	0.038	0.039
182	1800	M	1KHz, 0.25V	-	57.62	12.17	-	0.036	0.036
222	2200	M	1KHz, 0.25V	-	84.43	-	-	0.035	-
272	2700	M	1KHz, 0.25V	-	-	16.12	-	-	0.029
332	3300	M	1KHz, 0.25V	-	-	22.04	-	-	0.026
392	3900	M	1KHz, 0.25V	-	-	27.50	-	-	0.022
472	4700	M	1KHz, 0.25V	-	-	30.80	-	-	0.020
562	5600	M	1KHz, 0.25V	-	-	35.94	-	-	0.019
682	6800	M	1KHz, 0.25V	-	-	44.01	-	-	0.017

## ■ Electrical Characteristics

PDRH0415 Type

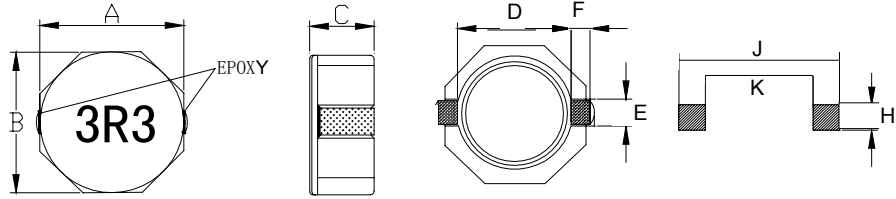
Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.	IDC (A) max.
1R0	1.0	N	100KHz, 0.1V	0.058	1.50
1R2	1.2	N	100KHz, 0.1V	0.070	1.40
2R2	2.2	N	100KHz, 0.1V	0.082	1.00
3R3	3.3	N	100KHz, 0.1V	0.105	0.92
3R9	3.9	N	100KHz, 0.1V	0.120	0.80
4R7	4.7	N	100KHz, 0.1V	0.150	0.76
5R6	5.6	N	100KHz, 0.1V	0.180	0.69
6R8	6.8	N	100KHz, 0.1V	0.220	0.62
8R2	8.2	N	100KHz, 0.1V	0.240	0.56
100	10	N	100KHz, 0.1V	0.255	0.50
150	15	N	100KHz, 0.1V	0.390	0.40
220	22	M	100KHz, 0.1V	0.610	0.32
330	33	M	100KHz, 0.1V	0.920	0.28
470	47	M	100KHz, 0.1V	1.130	0.20
680	68	M	100KHz, 0.1V	1.520	0.15
101	100	M	100KHz, 0.1V	2.120	0.10

## ■ Electrical Characteristics

PDRH0502 / 0503 / 0603 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.			IDC (A) max.		
				0502	0503	0603	0502	0503	0603
R47	0.47	N	100KHz, 0.25V	0.015	0.010	-	2.33	4.82	-
1R0	1.0	N	100KHz, 0.25V	0.024	0.015	0.014	2.27	4.00	4.70
1R1	1.1	N	100KHz, 0.25V	-	0.020	-	-	3.87	-
1R2	1.2	N	100KHz, 0.25V	0.044	0.022	0.016	2.15	3.80	3.90
1R5	1.5	N	100KHz, 0.25V	-	-	0.018	-	-	3.52
1R8	1.8	N	100KHz, 0.25V	-	-	0.019	-	-	3.25
2R0	2.0	N	100KHz, 0.25V	0.046	0.027	0.022	1.90	2.92	2.95
2R2	2.2	N	100KHz, 0.25V	0.059	0.029	0.022	1.63	2.41	2.95
2R4	2.4	N	100KHz, 0.25V	0.062	0.034	0.024	1.50	2.36	2.75
2R7	2.7	N	100KHz, 0.25V	-	-	0.027	-	-	2.55
3R3	3.3	N	100KHz, 0.25V	0.073	0.040	0.030	1.34	1.95	2.45
3R9	3.9	N	100KHz, 0.25V	0.081	-	0.034	1.20	-	2.35
4R1	4.1	N	100KHz, 0.25V	0.087	0.045	-	1.14	1.87	-
4R7	4.7	N	100KHz, 0.25V	-	0.052	0.042	-	1.60	2.25
5R6	5.6	N	100KHz, 0.25V	-	-	0.048	-	-	2.05
6R8	6.8	N	100KHz, 0.25V	0.105	0.068	0.054	0.95	1.51	1.85
8R2	8.2	N	100KHz, 0.25V	0.139	0.084	0.058	0.90	1.38	1.65
100	10	M	1KHz, 0.25V	0.150	0.090	0.065	0.76	1.33	1.45
120	12	M	1KHz, 0.25V	-	0.120	0.082	-	1.06	1.35
150	15	M	1KHz, 0.25V	0.210	0.142	0.096	0.63	1.05	1.25
180	18	M	1KHz, 0.25V	-	0.192	0.110	-	0.90	1.15
220	22	M	1KHz, 0.25V	0.275	0.208	0.140	0.56	0.86	0.98
270	27	M	1KHz, 0.25V	0.452	0.222	0.170	0.48	0.75	0.90
330	33	M	1KHz, 0.25V	0.455	0.257	0.210	0.44	0.72	0.80
390	39	M	1KHz, 0.25V	-	0.320	0.240	-	0.64	0.72
470	47	M	1KHz, 0.25V	0.730	0.352	0.280	0.35	0.62	0.70
560	56	M	1KHz, 0.25V	-	0.459	0.340	-	0.53	0.66
680	68	M	1KHz, 0.25V	0.935	0.525	0.410	0.30	0.51	0.58
820	82	M	1KHz, 0.25V	1.300	0.770	0.490	0.27	0.48	0.52
101	100	M	1KHz, 0.25V	1.500	0.801	0.550	0.23	0.43	0.46
121	120	M	1KHz, 0.25V	1.910	0.850	0.700	0.22	0.34	0.42
151	150	M	1KHz, 0.25V	2.680	1.100	0.780	0.21	0.26	0.36
181	180	M	1KHz, 0.25V	3.040	1.190	0.960	0.20	0.24	0.34
221	220	M	1KHz, 0.25V	3.520	1.530	1.080	0.195	0.20	0.32
271	270	M	1KHz, 0.25V	4.380	-	1.360	0.193	-	0.28
331	330	M	1KHz, 0.25V	5.560	2.030	1.820	0.190	0.19	0.24
391	390	M	1KHz, 0.25V	-	3.000	2.050	-	0.16	0.22
471	470	M	1KHz, 0.25V	7.820	3.500	2.580	0.180	0.15	0.20
561	560	M	1KHz, 0.25V	-	4.080	3.160	-	0.14	0.18
681	680	M	1KHz, 0.25V	-	-	4.040	-	-	0.16
821	820	M	1KHz, 0.25V	15.00	-	4.900	0.120	-	0.14
102	1000	M	1KHz, 0.25V	-	-	6.000	-	-	0.13
122	1200	M	1KHz, 0.25V	-	8.500	7.600	-	0.070	0.12
152	1522	M	1KHz, 0.25V	-	10.00	9.440	-	0.065	0.10
182	1800	M	1KHz, 0.25V	-	13.15	11.70	-	0.062	0.098
222	2200	M	1KHz, 0.25V	-	19.00	13.40	-	0.050	0.095
252	2500	M	1KHz, 0.25V	-	20.00	-	-	0.045	-
272	2700	M	1KHz, 0.25V	-	-	17.30	-	-	0.086
332	3300	M	1KHz, 0.25V	-	-	22.10	-	-	0.078
392	3900	M	1KHz, 0.25V	89.88	-	24.40	0.042	-	0.074
472	4700	M	1KHz, 0.25V	101.12	-	30.10	0.038	-	0.072
562	5600	M	1KHz, 0.25V	115.00	-	33.50	0.036	-	0.066
682	6800	M	1KHz, 0.25V	152.00	-	44.40	0.030	-	0.062
822	8200	M	1KHz, 0.25V	-	-	50.70	-	-	0.048
103	10000	M	1KHz, 0.25V	-	-	65.50	-	-	0.044
123	12000	M	1KHz, 0.25V	-	-	74.20	-	-	0.038
153	15000	M	1KHz, 0.25V	-	-	92.30	-	-	0.034
183	18000	M	1KHz, 0.25V	-	-	104.1	-	-	0.030
223	22000	M	1KHz, 0.25V	-	-	154.5	-	-	0.028
273	27000	M	1KHz, 0.25V	-	-	175.4	-	-	0.026

# SMD Power Inductor – SDRH



## Features

- Magnetically shielded construction
- RoHS compliance

## Applications

- LCD TV
- DC to DC Converters
- Notebook PC

## Characteristics

- Rated DC Current: The current when the inductance becomes 35% lower than its initial value.
- Operating temperature: -40~85°C

## Dimensions

Unit: mm

Codes	A	B	C max.	D ref	E ref	F ref	H	J	K
SDRH0830	8.0±0.3	8.0±0.3	3.0	6.3	2.5	1.2	2.8	10.1	6.1
SDRH0840	8.0±0.3	8.0±0.3	4.0	6.3	2.5	1.2	2.8	10.1	6.1
SDRH0845	8.0±0.3	8.0±0.3	4.5	6.3	2.5	1.2	2.8	10.1	6.1

## Inductance and rated current ranges

- SDRH0830 1.0~100μH 6.5~0.75A
- SDRH0840 1.8~100μH 7.0~1.05A
- SDRH0845 1.0~100μH 9.0~1.30A
- Electrical specifications at 25°C

## Product Identification

SDRH	0830	N	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	0830: 8.0x8.0x3.0 0840: 8.0x8.0x4.0 0845: 8.0x8.0x4.5	N: ±30%	T: Tape and Reel	1R1: 1.1μH 470: 47μH 101: 100μH

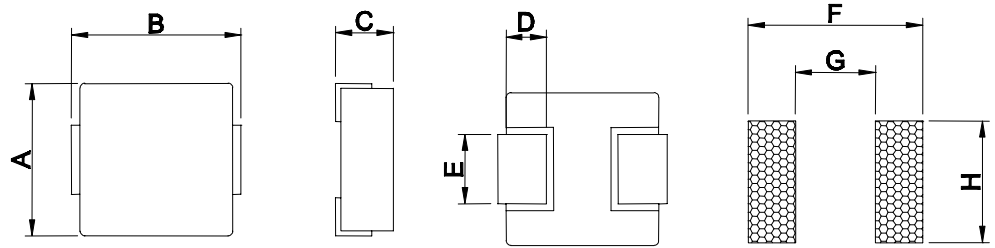
## Electrical Characteristics

Codes	L (μH)	Tolerance	DCR (mΩ) max.			IDC (A) max.		
			0830	0840	0845	0830	0840	0845
1R0	1.0	N	11.0	-	9.50	6.5	-	9.0
1R2	1.2	N	-	-	12.2	-	-	8.0
1R8	1.8	N	-	15.6	-	-	7.0	-
2R0	2.0	N	-	-	14.0	-	-	7.0
2R5	2.5	N	15.6	17.5	-	4.5	6.5	-
3R3	3.3	N	18.2	-	-	4.0	-	-
3R5	3.5	N	-	24.0	-	-	5.0	-
3R9	3.9	N	-	-	19.0	-	-	5.9
4R7	4.7	N	24.7	29.0	22.0	3.4	4.6	5.6
6R0	6.0	N	-	32.0	-	-	4.2	-
6R8	6.8	N	-	-	25.0	-	-	4.4
7R3	7.3	N	39.0	-	-	2.80	-	-
100	10	N	47.0	48.0	36.0	2.50	3.00	4.0
150	15	N	69.0	67.0	53.0	1.90	2.75	2.9
220	22	N	99.0	105	75.0	1.60	2.30	2.6
330	33	N	156	157	125	1.30	1.75	2.2
470	47	N	195	189	150	1.15	1.52	1.8
680	68	N	286	290	240	0.92	1.30	1.5
101	100	N	430	410	360	0.75	1.05	1.3

### Test Condition:

- 0830 Type: 100KHz, 0.25V
- 0840 / 0845 Type: 100KHz, 0.1V

## SMD Flat Wire Coils – SDB Series



### Features

- Large current adaptable
- Footprint compatible with most standard
- Lower temperature rise at large current
- Low profile, low DCR
- Available on tape and reel for auto surface mounting

### Dimensions

Unit: mm

Type	A	B	C	D	E	F	G	H
SDB0530	4.9±0.2	5.8±0.2	2.8±0.2	1.0±0.3	1.5±0.3	7.0	3.0	2.5
SDB0620	6.6±0.2	7.2±0.3	2.2±0.2	1.6±0.3	3.0±0.3	8.4	3.7	3.5
SDB0630	6.6±0.2	7.2±0.3	2.8±0.2	1.6±0.3	3.0±0.3	8.4	3.7	3.5
SDB1040	10.0±0.3	11.1±0.35	3.8±0.2	2.0±0.5	3.0±0.5	13.6	5.4	4.1
SDB1350	12.8±0.2	13.45±0.35	4.8±0.2	2.2±0.5	3.8±0.5	14.5	8.0	5.0

### Applications

- Laptop / Desktop / Notebook Computers
- Terminals / Portable Servers / Workstation
- DC/DC Converter in Distributed Power Systems or VRM Applications
- Thin Type On-board Power Supply Module for Exchanger

### Inductance and rated current ranges

- SDB0530 0.68μH~4.7μH @Saturation DC Current: 14~5A
- SDB0620 0.10μH~6.8μH @Saturation DC Current: 70~6A
- SDB0630 0.10μH~10μH @Saturation DC Current: 60~7A
- SDB1040 0.22μH~47μH @Saturation DC Current: 50~2.0A
- SDB1350 0.36μH~2.2μH @Saturation DC Current: 75~32A

### Characteristics

- Typical Saturation DC Current would cause Lo to drop approximately 30% (Typical)
- Typical Heat Rating DC Current would cause an approximately ΔT of 40°C
- All test data is referred to 25°C ambient

– Electrical specifications at 25°C

– Operating temperature rang: -55°C~+125°C

– The part temperature(ambient + temp rise)should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.

– The rated current as listed is either the saturation current or the heating current depending on with value is lower.

### Product Identification

SDB	0630	M	T	100
Product Type	Dimensions (AxC)	Inductor Tolerance	Packaging Style	Inductance
	0530: 4.9×2.8 0620: 6.6×2.2 0630: 6.6×2.8 1040: 10.0×3.80 1350: 12.8×4.8	M: ±20%	T: Tape and Reel	R47: 0.47μH 1R0: 1.0μH 100: 10μH

## ■ Electrical Characteristics

### SDB0530 Type

Codes	Inductance L0 @0A (uH)	Tolerance	Test Condition	DCR (mΩ)		Heat Rating Current	Saturation Current
				Typical	Max.	IDC (A)	I sat (A)
						Typical	Typical
R68	0.68	M	100KHz, 0.1V	11.0	12.0	8.5	14.0
1R0	1.0	M	100KHz, 0.1V	13.0	14.0	7.0	11.0
1R2	1.2	M	100KHz, 0.1V	15.0	16.0	6.5	11.0
1R5	1.5	M	100KHz, 0.1V	20.0	25.0	6.0	10.0
2R2	2.2	M	100KHz, 0.1V	29.0	35.0	5.5	9.0
3R3	3.3	M	100KHz, 0.1V	32.0	38.0	5.0	7.0
4R7	4.7	M	100KHz, 0.1V	50.0	60.0	4.0	5.0

### SDB0620Type

Codes	Inductance L0 @0A (uH)	Tolerance	Test Condition	DCR (mΩ)		Heat Rating Current	Saturation Current
				Typical	Max.	IDC (A)	I sat (A)
						Typical	Typical
R10	0.10	M	100KHz, 0.1V	1.5	1.7	30.0	70.0
R20	0.20	M	100KHz, 0.1V	2.2	2.8	25.0	50.0
R22	0.22	M	100KHz, 0.1V	2.6	3.2	21.0	34.0
R47	0.47	M	100KHz, 0.1V	4.9	5.5	15.0	22.0
R56	0.56	M	100KHz, 0.1V	5.9	6.5	13.0	20.0
R81	0.81	M	100KHz, 0.1V	8.3	9.5	11.0	14.0
1R0	1.0	M	100KHz, 0.1V	11.2	13.5	9.0	16.0
1R5	1.5	M	100KHz, 0.1V	17.0	20.0	9.0	15.0
2R2	2.2	M	100KHz, 0.1V	23.0	28.0	7.0	14.0
3R3	3.3	M	100KHz, 0.1V	31.0	39.0	5.5	13.0
4R7	4.7	M	100KHz, 0.1V	41.0	50.0	5.0	10.0
6R8	6.8	M	100KHz, 0.1V	57.0	70.0	4.0	6.0



SDB0630 Type

Codes	Inductance L0 @0A (uH)	Tolerance	Test Condition	DCR (mΩ)		Heat Rating Current	Saturation Current
				Typical	Max.	IDC (A)	I sat (A)
						Typical	Typical
R10	0.10	M	100KHz, 0.1V	1.5	1.7	32.5	60.0
R15	0.15	M	100KHz, 0.1V	1.9	2.5	30.0	45.0
R20	0.20	M	100KHz, 0.1V	2.4	3.0	24.0	41.0
R22	0.22	M	100KHz, 0.1V	2.5	2.8	23.0	40.0
R33	0.33	M	100KHz, 0.1V	3.5	3.9	20.0	30.0
R36	0.36	M	100KHz, 0.1V	2.6	3.9	20.0	26.0
R47	0.47	M	100KHz, 0.1V	4.0	4.2	17.5	26.0
R56	0.56	M	100KHz, 0.1V	4.7	5.0	16.5	25.5
R68	0.68	M	100KHz, 0.1V	5.0	5.5	15.5	25.0
R82	0.82	M	100KHz, 0.1V	6.7	8.0	13.0	24.0
1R0	1.0	M	100KHz, 0.1V	9.0	10	11.0	22.0
1R5	1.5	M	100KHz, 0.1V	14	15	9.0	18.0
2R2	2.2	M	100KHz, 0.1V	18	20	8.0	14.0
2R5	2.5	M	100KHz, 0.1V	20	22	7.0	14.0
3R3	3.3	M	100KHz, 0.1V	28	30	6.0	13.5
4R7	4.7	M	100KHz, 0.1V	37	40	5.5	10.0
5R6	5.6	M	100KHz, 0.1V	39	42	5.5	6.0
6R8	6.8	M	100KHz, 0.1V	54	60	4.5	8.0
7R5	7.5	M	100KHz, 0.1V	54	60	4.2	7.8
8R2	8.2	M	100KHz, 0.1V	64	68	4.0	7.5
100	10	M	100KHz, 0.1V	102	105	3.0	7.0

## ■ Electrical Characteristics

### SDB1040 Type

Codes	Inductance L0 @0A ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ )		Heat Rating Current	Saturation Current
				Typical	Max.	IDC (A)	I sat (A)
						Typical	Typical
R22	0.22	M	100KHz, 0.1V	1.1	1.5	32.0	50.0
R36	0.36	M	100KHz, 0.1V	1.5	1.7	31.5	50.0
R47	0.47	M	100KHz, 0.1V	1.5	1.9	27.5	49.0
R56	0.56	M	100KHz, 0.1V	1.9	2.3	27.5	49.0
R68	0.68	M	100KHz, 0.1V	2.0	2.5	23.0	40.0
R88	0.88	M	100KHz, 0.1V	2.7	3.0	20.0	38.0
1R0	1.0	M	100KHz, 0.1V	3.7	4.1	17.5	36.0
1R5	1.5	M	100KHz, 0.1V	5.3	6.0	15.0	27.5
1R8	1.8	M	100KHz, 0.1V	7.0	8.2	15.0	27.5
2R2	2.2	M	100KHz, 0.1V	8.2	9.0	12.0	25.6
3R3	3.3	M	100KHz, 0.1V	10.8	11.8	10.0	18.6
4R7	4.7	M	100KHz, 0.1V	15.0	16.5	9.5	17.0
5R6	5.6	M	100KHz, 0.1V	17.6	19.3	8.5	16.0
6R8	6.8	M	100KHz, 0.1V	17.5	25.0	8.0	14.0
8R2	8.2	M	100KHz, 0.1V	21.2	26.3	8.0	13.5
100	10	M	100KHz, 0.1V	33.2	36.5	6.8	12.0
150	15	M	100KHz, 0.1V	51.0	65.0	3.5	7.0
220	22	M	100KHz, 0.1V	90.0	120.0	2.0	3.0
330	33	M	100KHz, 0.1V	155.0	200.0	1.8	2.8
470	47	M	100KHz, 0.1V	170.0	210.0	1.2	2.0

### SDB1350 Type

Codes	Inductance L0 @0A ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ )		Heat Rating Current	Saturation Current
				Typical	Max.	IDC (A)	I sat (A)
						Typical	Typical
R36	0.36	M	100KHz, 0.1V	0.77	1.1	41.0	75.0
R47	0.47	M	100KHz, 0.1V	1.10	1.3	38.0	65.0
R68	0.68	M	100KHz, 0.1V	1.50	1.7	34.0	54.0
1R0	1.0	M	100KHz, 0.1V	2.10	2.5	29.0	50.0
1R5	1.5	M	100KHz, 0.1V	3.40	4.1	23.0	48.0
1R8	1.8	M	100KHz, 0.1V	4.20	4.9	19.0	40.0
2R2	2.2	M	100KHz, 0.1V	4.60	5.5	20.0	32.0

## SMD Power Inductor Environmental Specifications

### General

Item	Requirement
Shelf Storage Conditions	Temperature range: 25±3°C; Humidity: <80% relative humidity. Recommended product should be used within six months from the time of delivery.

### Electrical Performance Test

Item	Requirement	Test Equipment
Inductance	Refer to standard electrical characteristic spec.	HP4284A/ HP4285A/ HP4192A LCR meter
Q		HP4284A/ HP4285A/ HP4192A LCR meter
DC Resistance RDC		Milli-ohm meter

### Environmental Test

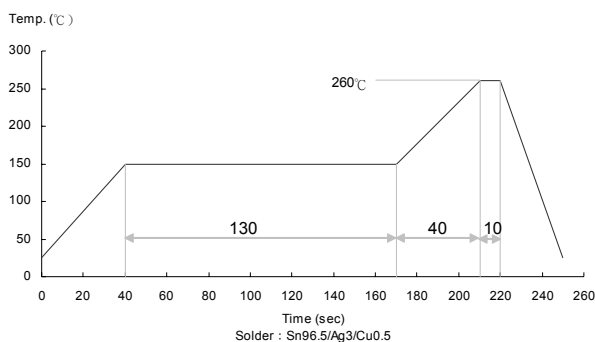
Item	Requirement	Test Condition / Test Method
High Temperature Storage	No case deformation or change in appearance. $\Delta L/L \leq 10\%$ $\Delta Q/Q \leq 30\%$	Temperature 85±2°C Time: 48±2 hours, Tested after 1hour at room temperature.
Low Temperature Storage		Temperature -25±2°C Time: 48±2 hours, Tested after 1hour at room temperature.
Humidity		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours, apply rated current, Tested after 1hour at room temperature.
Thermal Shock		First -25°C 30minutes then 25°C 10 minutes last 85°C, 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

### Mechanical Test

Item	Requirement	Test Condition / Test Method
Solderability	Terminal area must have 90% minimum solder coverage.	Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds.
Heat Endurance of Reflow Soldering	No case deformation or change in appearance. $\Delta L/L \leq 10\%$ $\Delta Q/Q \leq 30\%$	Refer to the reflow soldering condition. Go through 3 times.
Vibration test		Apply frequency 10~55Hz. 1.5Mm amplitude in each of perpendicular direction for 2 hours.
Shock Resistance		Drop down with 981m/s <sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

### The condition of reflow (recommendation)

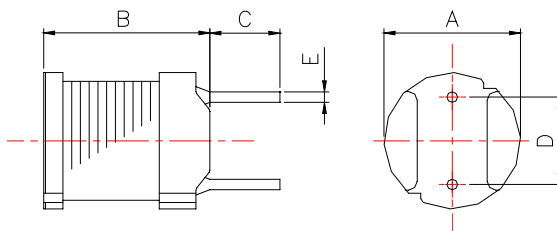
Lead-free



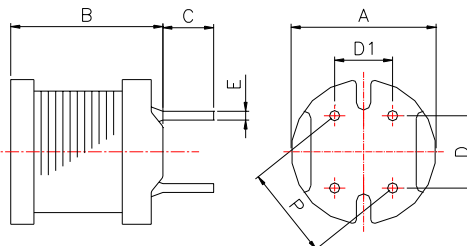
# DIP Power Inductor – DRGH Series



DRGH 654 / 664 / 855 / 875 / 895



DRGH 106 / 108 / 110



## Dimensions

Unit: mm

Type	A	B max.	C	D	D1	E	P
DRGH654	6.0±0.5	5.0	4.0±1.0	4.0±0.3	–	0.50±0.1	–
DRGH664	6.0±0.5	6.5	4.0±1.0	4.0±0.3	–	0.50±0.1	–
DRGH855	7.8±0.5	5.5	5.0±1.0	5.0±0.3	–	0.65±0.1	–
DRGH875	7.8±0.5	7.5	5.0±1.0	5.0±0.3	–	0.65±0.1	–
DRGH895	7.8±0.5	9.5	5.0±1.0	5.0±0.3	–	0.65±0.1	–
DRGH106	10.0±0.5	6.5	3.5±1.0	5.0±0.3	4.0±0.3	0.80±0.1	6.40±0.5
DRGH108	10.0±0.5	8.5	3.5±1.0	5.0±0.3	4.0±0.3	0.65±0.1	6.40±0.5
DRGH110	10.0±0.5	10.5	3.5±1.0	5.0±0.3	4.0±0.3	0.70±0.1	6.40±0.5

## Features

- Density design, small size, and low cost
- Comparatively range rated current and high inductance
- Low DCR and high dip stability

## Inductance and rated current ranges

– DRGH654	22~1000μH	0.90~0.13A
– DRGH664	22~1000μH	1.27~0.19A
– DRGH855	10~10000μH	2.50~0.081A
– DRGH875	10~10000μH	2.90~0.084A
– DRGH895	10~47000μH	2.60~0.038A
– DRGH106	10~1000μH	3.60~0.36A
– DRGH108	10~1000μH	4.50~0.45A
– DRGH110	10~1000μH	5.30~0.53A
– Electrical specifications at 25°C		

## Applications

- Personal Computers
- Variety of Battery Power Equipment
- DC Power Supply Circuits

## Characteristics

- Rated DC Current: The current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range -40~100°C

## Product Identification

DRGH	664	K	B	100
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	654: 6.0x5.0x4.0 664: 6.0x6.5x4.0 855: 7.8x5.5x5.0 875: 7.8x7.5x5.0 895: 7.8x9.5x5.0 106: 10x6.5x3.5 108: 10x8.5x3.5 110: 10x10.5x3.5	K: ±10% M: ±20%	B: Bulk	100: 10μH

## ■ Electrical Characteristics

DRGH654 / 664 / 855 / 875 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				654	664	855	875	654	664	855	875
100	10	M	100KHz, 0.1V	-	-	0.07	0.05	-	-	2.50	2.90
120	12	M	100KHz, 0.1V	-	-	0.08	0.06	-	-	2.40	2.50
150	15	M	100KHz, 0.1V	-	-	0.09	0.07	-	-	2.10	2.20
180	18	M	100KHz, 0.1V	-	-	0.10	0.08	-	-	2.00	1.90
220	22	M	100KHz, 0.1V	0.18	0.11	0.12	0.09	0.90	1.27	1.70	1.80
270	27	M	100KHz, 0.1V	0.21	0.14	0.14	0.11	0.81	1.14	1.60	1.70
330	33	M	100KHz, 0.1V	0.27	0.17	0.17	0.13	0.74	1.03	1.40	1.50
390	39	M	100KHz, 0.1V	0.29	0.19	0.21	0.14	0.68	0.95	1.30	1.30
470	47	M	100KHz, 0.1V	0.34	0.23	0.24	0.15	0.62	0.87	1.20	1.30
560	56	M	100KHz, 0.1V	0.42	0.26	0.31	0.18	0.57	0.80	1.10	1.20
680	68	M	100KHz, 0.1V	0.48	0.28	0.34	0.20	0.51	0.72	1.00	1.10
820	82	M	100KHz, 0.1V	0.55	0.39	0.40	0.24	0.47	0.66	0.93	1.00
101	100	K	1KHz, 0.1V	0.68	0.43	0.52	0.28	0.42	0.59	0.81	0.89
121	120	K	1KHz, 0.1V	0.77	0.54	0.59	0.36	0.39	0.54	0.76	0.81
151	150	K	1KHz, 0.1V	0.95	0.64	0.71	0.42	0.35	0.48	0.67	0.72
181	180	K	1KHz, 0.1V	1.15	0.74	0.89	0.57	0.32	0.44	0.62	0.66
221	220	K	1KHz, 0.1V	1.30	0.96	1.04	0.63	0.29	0.40	0.54	0.57
271	270	K	1KHz, 0.1V	1.55	1.12	1.28	0.88	0.26	0.36	0.49	0.51
331	330	K	1KHz, 0.1V	2.18	1.48	1.47	1.05	0.23	0.33	0.44	0.46
391	390	K	1KHz, 0.1V	2.47	1.66	1.67	1.17	0.21	0.30	0.41	0.44
471	470	K	1KHz, 0.1V	2.92	1.91	1.95	1.34	0.20	0.27	0.38	0.41
561	560	K	1KHz, 0.1V	3.97	2.31	2.83	1.72	0.18	0.25	0.35	0.36
681	680	K	1KHz, 0.1V	4.57	2.67	3.25	1.96	0.16	0.23	0.32	0.33
821	820	K	1KHz, 0.1V	5.28	3.10	3.82	2.56	0.15	0.21	0.31	0.30
102	1000	K	1KHz, 0.1V	7.06	4.45	5.28	2.94	0.13	0.19	0.25	0.27
122	1200	K	1KHz, 0.1V	-	-	6.03	4.04	-	-	0.23	0.24
152	1500	K	1KHz, 0.1V	-	-	7.15	4.70	-	-	0.21	0.22
182	1800	K	1KHz, 0.1V	-	-	8.26	5.05	-	-	0.20	0.20
222	2200	K	1KHz, 0.1V	-	-	11.1	6.25	-	-	0.18	0.18
272	2700	K	1KHz, 0.1V	-	-	13.1	8.72	-	-	0.16	0.16
332	3300	K	1KHz, 0.1V	-	-	15.9	10.6	-	-	0.14	0.15
392	3900	K	1KHz, 0.1V	-	-	18.0	14.2	-	-	0.13	0.14
472	4700	K	1KHz, 0.1V	-	-	23.9	16.7	-	-	0.12	0.12
562	5600	K	1KHz, 0.1V	-	-	26.8	18.7	-	-	0.11	0.11
682	6800	K	1KHz, 0.1V	-	-	31.7	21.8	-	-	0.098	0.10
822	8200	K	1KHz, 0.1V	-	-	46.5	28.7	-	-	0.088	0.093
103	10000	K	1KHz, 0.1V	-	-	55.7	33.0	-	-	0.081	0.084

## Electrical Characteristics

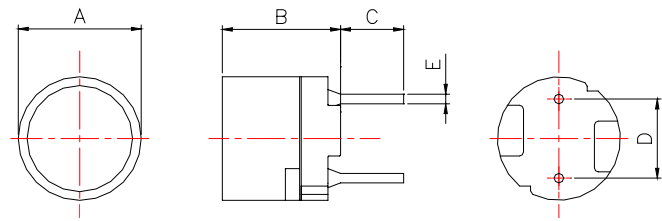
DRGH895 / 106 / 108 / 110 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				895	106	108	110	895	106	108	110
100	10	M	100KHz, 0.1V	0.04	0.040	0.027	0.022	2.60	3.60	4.50	5.30
120	12	M	100KHz, 0.1V	0.04	0.044	0.031	0.023	2.60	3.30	4.10	4.90
150	15	M	100KHz, 0.1V	0.05	0.058	0.036	0.026	2.10	2.90	3.70	4.40
180	18	M	100KHz, 0.1V	0.05	0.064	0.049	0.033	2.00	2.70	3.40	4.00
220	22	M	100KHz, 0.1V	0.06	0.088	0.055	0.037	1.70	2.40	3.10	3.60
270	27	M	100KHz, 0.1V	0.06	0.100	0.062	0.048	1.60	2.20	2.80	3.30
330	33	M	100KHz, 0.1V	0.07	0.110	0.078	0.055	1.40	2.00	2.50	2.90
390	39	M	100KHz, 0.1V	0.08	0.140	0.087	0.073	1.40	1.80	2.30	2.70
470	47	M	100KHz, 0.1V	0.10	0.160	0.099	0.083	1.30	1.70	2.10	2.50
560	56	M	100KHz, 0.1V	0.11	0.190	0.130	0.092	1.20	1.50	1.90	2.30
680	68	M	100KHz, 0.1V	0.14	0.220	0.140	0.120	1.10	1.40	1.70	2.10
820	82	M	100KHz, 0.1V	0.16	0.290	0.160	0.140	1.00	1.30	1.60	1.90
101	100	K	1KHz, 0.1V	0.19	0.320	0.210	0.160	0.90	1.30	1.40	1.70
121	120	K	1KHz, 0.1V	0.22	0.380	0.240	0.200	0.82	1.20	1.30	1.50
151	150	K	1KHz, 0.1V	0.27	0.500	0.320	0.230	0.74	1.00	1.20	1.40
181	180	K	1KHz, 0.1V	0.31	0.560	0.350	0.310	0.71	0.84	1.10	1.30
221	220	K	1KHz, 0.1V	0.38	0.780	0.450	0.340	0.64	0.76	0.96	1.10
271	270	K	1KHz, 0.1V	0.53	0.920	0.610	0.400	0.57	0.69	0.87	1.00
331	330	K	1KHz, 0.1V	0.61	1.100	0.690	0.520	0.51	0.62	0.79	0.93
391	390	K	1KHz, 0.1V	0.69	1.300	0.780	0.650	0.48	0.57	0.72	0.86
471	470	K	1KHz, 0.1V	0.89	1.500	1.000	0.710	0.43	0.52	0.66	0.78
561	560	K	1KHz, 0.1V	1.01	1.900	1.200	1.000	0.40	0.48	0.60	0.71
681	680	K	1KHz, 0.1V	1.18	2.200	1.400	1.100	0.35	0.43	0.55	0.65
821	820	K	1KHz, 0.1V	1.57	2.600	1.800	1.300	0.32	0.40	0.50	0.59
102	1000	K	1KHz, 0.1V	1.84	3.200	2.100	1.700	0.30	0.36	0.45	0.53
122	1200	K	1KHz, 0.1V	2.10	-	-	-	0.27	-	-	-
152	1500	K	1KHz, 0.1V	2.80	-	-	-	0.23	-	-	-
182	1800	K	1KHz, 0.1V	3.21	-	-	-	0.21	-	-	-
222	2200	K	1KHz, 0.1V	4.21	-	-	-	0.19	-	-	-
272	2700	K	1KHz, 0.1V	4.94	-	-	-	0.17	-	-	-
332	3300	K	1KHz, 0.1V	6.16	-	-	-	0.15	-	-	-
392	3900	K	1KHz, 0.1V	6.84	-	-	-	0.14	-	-	-
472	4700	K	1KHz, 0.1V	7.89	-	-	-	0.13	-	-	-
562	5600	K	1KHz, 0.1V	11.50	-	-	-	0.12	-	-	-
682	6800	K	1KHz, 0.1V	13.20	-	-	-	0.11	-	-	-
822	8200	K	1KHz, 0.1V	15.20	-	-	-	0.10	-	-	-
103	10000	K	1KHz, 0.1V	22.00	-	-	-	0.089	-	-	-
123	12000	K	1KHz, 0.1V	25.00	-	-	-	0.073	-	-	-
153	15000	K	1KHz, 0.1V	29.10	-	-	-	0.068	-	-	-
183	18000	K	1KHz, 0.1V	38.90	-	-	-	0.066	-	-	-
223	22000	K	1KHz, 0.1V	44.90	-	-	-	0.059	-	-	-
273	27000	K	1KHz, 0.1V	55.70	-	-	-	0.052	-	-	-
333	33000	K	1KHz, 0.1V	64.20	-	-	-	0.048	-	-	-
393	39000	K	1KHz, 0.1V	74.20	-	-	-	0.042	-	-	-
473	47000	K	1KHz, 0.1V	96.40	-	-	-	0.038	-	-	-

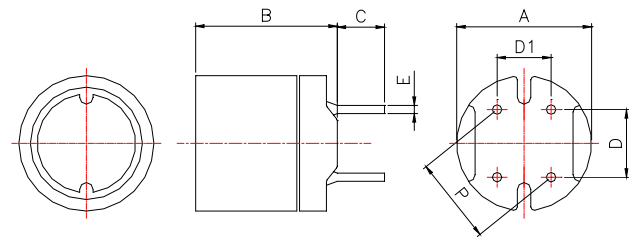
## DIP Power Inductor – DRGR Series



**DRGR 664 / 875**



**DRGR 108 / 110**



### Dimensions

Unit: mm

Type	A	B	C	D	D1	E	P
DRGR664	6.0±0.5	6.5 max.	4.0±1.0	4.0±0.3	–	0.50±0.1	–
DRGR875	7.8±0.5	7.5 max.	5.0±1.0	5.0±0.3	–	0.65±0.1	–
DRGR108	10.5±0.5	8.0 max.	3.5±1.0	5.0±0.3	4.0±0.3	0.80±0.1	6.40±0.5
DRGR110	10.5±0.5	10.5±0.5	3.5±1.0	5.0±0.3	4.0±0.3	0.80±0.1	6.40±0.5

### Features

- Magnetically shielded & DIP type
- Comparatively range rated current and high inductance
- Low radiation and high dip stability

### Inductance and rated current ranges

- DRGR664      22~1000μH    0.96~0.14A
- DRGR875      22~10000μH    1.60~0.074A
- DRGR108      10~1000μH    2.80~0.28A
- DRGR110      10~1000μH    3.51~0.35A
- Electrical specifications at 25°C

### Applications

- Personal Computers
- Variety of Battery Power Equipment
- DC Power Supply Circuits

### Characteristics

- Rated DC Current: The current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range -40~100°C

### Product Identification

DRGR	664	K	B	100
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	664: 6.0x6.5x4.0 875: 7.8x7.5x5.0 108: 10.5x8.0x3.5 110: 10.5x10.5x3.5	K: ±10% M: ±20%	B: Bulk	100: 10μH

## Electrical Characteristics

DRGR664 / 875 / 108 / 110 Type

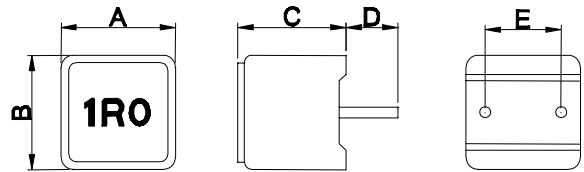
Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				664	875	108	110	664	875	108	110
100	10	M	100KHz, 0.1V	-	-	0.05	0.023	-	-	2.80	3.51
120	12	M	100KHz, 0.1V	-	-	0.06	0.024	-	-	2.50	3.24
150	15	M	100KHz, 0.1V	-	-	0.07	0.036	-	-	2.30	2.88
180	18	M	100KHz, 0.1V	-	-	0.08	0.039	-	-	2.10	2.61
220	22	M	100KHz, 0.1V	0.13	0.08	0.09	0.042	0.96	1.60	2.00	2.34
270	27	M	100KHz, 0.1V	0.18	0.10	0.10	0.045	0.87	1.40	1.76	2.16
330	33	M	100KHz, 0.1V	0.21	0.14	0.11	0.057	0.78	1.30	1.60	1.89
390	39	M	100KHz, 0.1V	0.26	0.15	0.12	0.076	0.72	1.20	1.38	1.80
470	47	M	100KHz, 0.1V	0.29	0.17	0.14	0.100	0.66	1.10	1.28	1.62
560	56	M	100KHz, 0.1V	0.33	0.19	0.15	0.110	0.60	0.99	1.20	1.44
680	68	M	100KHz, 0.1V	0.36	0.21	0.16	0.150	0.55	0.89	1.00	1.35
820	82	M	100KHz, 0.1V	0.39	0.27	0.18	0.160	0.50	0.81	0.96	1.26
101	100	K	1KHz, 0.1V	0.54	0.32	0.20	0.190	0.45	0.74	0.92	1.08
121	120	K	1KHz, 0.1V	0.62	0.36	0.24	0.210	0.41	0.67	0.80	0.99
151	150	K	1KHz, 0.1V	0.72	0.51	0.35	0.230	0.37	0.60	0.73	0.90
181	180	K	1KHz, 0.1V	0.88	0.57	0.40	0.260	0.34	0.55	0.64	0.82
221	220	K	1KHz, 0.1V	0.99	0.76	0.54	0.290	0.30	0.50	0.61	0.74
271	270	K	1KHz, 0.1V	1.52	0.86	0.76	0.360	0.27	0.45	0.56	0.67
331	330	K	1KHz, 0.1V	1.69	0.97	0.86	0.510	0.25	0.41	0.50	0.61
391	390	K	1KHz, 0.1V	1.85	1.28	0.93	0.690	0.23	0.37	0.44	0.55
471	470	K	1KHz, 0.1V	2.85	1.44	1.23	0.980	0.21	0.34	0.41	0.51
561	560	K	1KHz, 0.1V	3.21	1.61	1.34	1.100	0.19	0.31	0.38	0.46
681	680	K	1KHz, 0.1V	3.60	2.07	1.53	1.200	0.17	0.28	0.34	0.42
821	820	K	1KHz, 0.1V	4.87	2.33	2.10	1.300	0.16	0.26	0.32	0.38
102	1000	K	1KHz, 0.1V	5.56	2.72	2.30	1.500	0.14	0.23	0.28	0.35
122	1200	K	1KHz, 0.1V	-	3.98	-	-	-	0.21	-	-
152	1500	K	1KHz, 0.1V	-	4.50	-	-	-	0.19	-	-
182	1800	K	1KHz, 0.1V	-	6.81	-	-	-	0.17	-	-
222	2200	K	1KHz, 0.1V	-	7.56	-	-	-	0.16	-	-
272	2700	K	1KHz, 0.1V	-	8.54	-	-	-	0.14	-	-
332	3300	K	1KHz, 0.1V	-	9.74	-	-	-	0.13	-	-
392	3900	K	1KHz, 0.1V	-	12.90	-	-	-	0.12	-	-
472	4700	K	1KHz, 0.1V	-	14.70	-	-	-	0.11	-	-
562	5600	K	1KHz, 0.1V	-	20.40	-	-	-	0.099	-	-
682	6800	K	1KHz, 0.1V	-	23.00	-	-	-	0.089	-	-
822	8200	K	1KHz, 0.1V	-	30.60	-	-	-	0.081	-	-
103	10000	K	1KHz, 0.1V	-	35.00	-	-	-	0.074	-	-



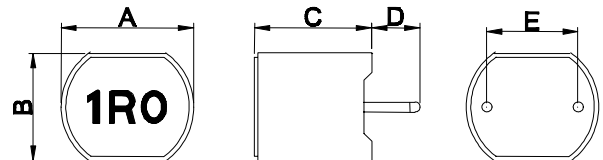
## DIP Power Inductor – DM Series



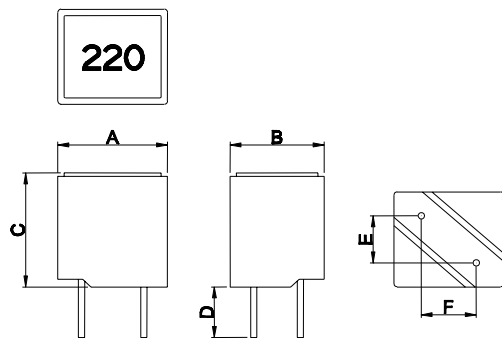
DM0708



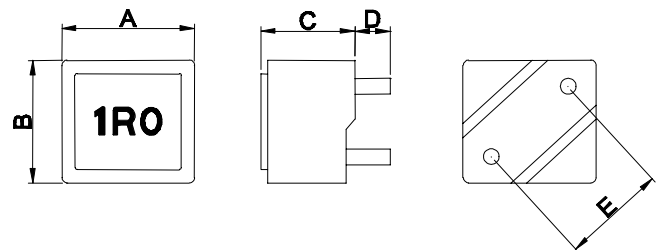
DM0808 / 1210



DM1818



DM1310



### ■ Dimensions

Unit: mm

Type	A	B	C Max.	D	E	F
DM0708	7.5±0.5	7.5±0.5	8.5	3.4±0.5	5.0±0.4	-
DM0808	8.7±0.5	7.2±0.5	8.5	3.4±0.5	6.0±0.5	-
DM1210	12.3±0.5	10.2±0.5	10.0	3.4±0.5	8.0±0.5	-
DM1310	13.0±0.5	12.0±0.5	10.0	3.4±0.5	10.0±0.5	-
DM1818	18.0 max	15.5 max	18.0	8.0±0.5	7.0±0.5	5.0±0.1

### ■ Features

- Ultra low cost
- Shielded construction
- High current rating up DC 40A
- High frequency range up to 500KHz
- Very low DC resistance
- Low noise

### ■ Characteristics

- Saturation Rated Current (IDC/Isat) : The DC current when the inductance becomes 20% Typical its initial value. (Ta=25°C)
- Temperature Rise Current (Irms) : The actual current when temperature of coil becomes Δ40°C (Ta=25°C)
- Operating Temperature Range : -25°C ~ 125°C

### ■ Applications

- Motherboards For Laptop And Desktop Computers
- DC/DC Converter

### ■ Inductance and rated current ranges

- DM0708 0.56~4.7μH 32A~12A
- DM0808 0.56~4.7μH 32A~12A
- DM1210 0.22~4.7μH 56A~15A
- DM1310 0.33~2.2μH 55A~25A
- DM1818 10~33μH 11A~6A
- Electrical specifications at 25°C

## Product Identification

DM	1210	M	B	R50
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	0708: 7.5x7.5x8.5 0808: 8.7x7.2x8.5 1210: 12.3x10.2x10 1310: 13.0x12.0x10 1818: 18.0x15.5x18	M: $\pm 20\%$	B: Bulk	R25: 0.25 $\mu$ H R50: 0.5 $\mu$ H 1R0: 1.0 $\mu$ H 100: 10 $\mu$ H

## Electrical Characteristics

### DM0708 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ ) Max	IDC (A) Max
R56	0.56	M	100KHz, 0.1V	2.50	32
1R0	1.0	M	100KHz, 0.1V	5.60	21
1R5	1.5	M	100KHz, 0.1V	7.50	18
2R2	2.2	M	100KHz, 0.1V	10.0	16
2R8	2.8	M	100KHz, 0.1V	11.8	15
3R3	3.3	M	100KHz, 0.1V	13.6	14
4R7	4.7	M	100KHz, 0.1V	17.0	12

### DM0808 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ ) Max	IDC (A) Max
R56	0.56	M	100KHz, 0.1V	2.50	32
1R0	1.0	M	100KHz, 0.1V	5.60	21
1R5	1.5	M	100KHz, 0.1V	7.50	18
2R2	2.2	M	100KHz, 0.1V	10.0	16
2R8	2.8	M	100KHz, 0.1V	11.8	15
3R3	3.3	M	100KHz, 0.1V	13.6	14
4R7	4.7	M	100KHz, 0.1V	17.0	12

## ■ Electrical Characteristics

DM1210 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ ) Max	IDC (A) Max
R22	0.22	M	100KHz, 0.1V	0.60	56
R33	0.33	M	100KHz, 0.1V	0.80	48
R36	0.36	M	100KHz, 0.1V	0.80	45
R39	0.39	M	100KHz, 0.1V	0.80	45
R47	0.47	M	100KHz, 0.1V	1.00	40
R56	0.56	M	100KHz, 0.1V	1.00	40
R60	0.60	M	100KHz, 0.1V	1.00	40
R68	0.68	M	100KHz, 0.1V	1.00	40
R80	0.80	M	100KHz, 0.1V	1.25	36
1R0	1.0	M	100KHz, 0.1V	2.00	32
1R5	1.5	M	100KHz, 0.1V	3.50	30
2R2	2.2	M	100KHz, 0.1V	5.00	24
2R8	2.8	M	100KHz, 0.1V	6.40	20
3R3	3.3	M	100KHz, 0.1V	7.70	16
4R7	4.7	M	100KHz, 0.1V	10.0	15

DM1310 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ ) Max	IDC (A) Max
R33	0.33	M	100KHz, 0.1V	0.65	55
R39	0.39	M	100KHz, 0.1V	0.65	55
R47	0.47	M	100KHz, 0.1V	0.80	54
R56	0.56	M	100KHz, 0.1V	0.80	52
R60	0.60	M	100KHz, 0.1V	0.80	52
R68	0.68	M	100KHz, 0.1V	0.80	50
R80	0.80	M	100KHz, 0.1V	0.85	48
1R0	1.00	M	100KHz, 0.1V	1.35	40
1R5	1.50	M	100KHz, 0.1V	1.70	38
2R2	2.20	M	100KHz, 0.1V	3.30	25

DM1818 Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR (m $\Omega$ ) Max		Isat (A) Max	Irms (A) Max
				Typical	Max		
100	10	M	10KHz, 0.1V	10.0	13.0	11.0	11.0
150	15	M	10KHz, 0.1V	13.0	17.0	10.0	10.0
220	22	M	10KHz, 0.1V	16.0	20.0	8.0	8.0
330	33	M	10KHz, 0.1V	23.0	25.0	6.0	6.0

# Reliability of DIP Ferrite Wire Wound Power Inductor

## ■ Electrical Performance Test

Item	Requirement	Test Equipment
Inductance	Refer to standard electrical characteristic spec.	HP4284A LCR meter
Q		HP4284A LCR meter
DC Resistance RDC		Milli-ohm meter

## ■ Mechanical Performance

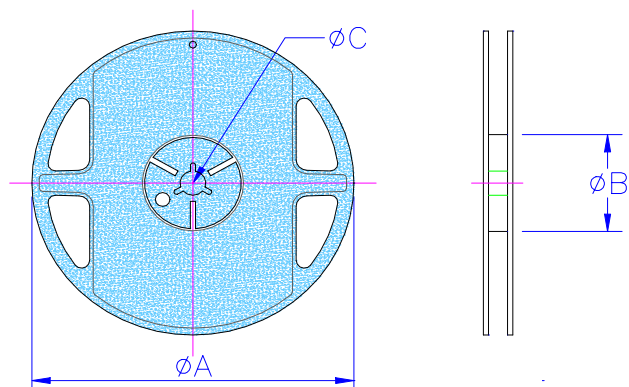
Item	Requirement	Test Method
Vibration	Appearance: No damage L change: within±10% Q change: within±30% RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min. Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
Resistance to Soldering Heat	Appearance: No Damage	Pre-heating: 150°C, 1min. Solder Composition: Sn/Ag/Cu=95.6/3.0/0.5 Solder Temperature: 260±5°C Immersion Time: 4±1 sec.
Solderability	The electrodes shall be at least 90% covered with new solder coating.	Pre-heating: 150°C, 1min. Solder Composition: Sn/Ag/Cu=95.6/3.0/0.5 Solder Temperature: 245±5°C Immersion Time: 4±1 sec.

## ■ Environmental Performance

Item	Requirement	Test Method		
Temperature Shock	Appearance: No damage L change: within±10% Q change: within±30% RDC: within specification	10 cycles (Air to Air) 1 cycles shall consist of: 30 minutes exposure to -55°C 30 minutes exposure to 125°C 15 seconds maximum transition between temperatures		
Temperature Cycle		One cycle:		
		Step	Temperature (°C)	Time (min.)
		1	-25±3	30
		2	25±2	3
		3	30	
		4	25±2	3
		Total: 100 cycles Measured after exposure in the room condition for 24hrs		
Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000 hrs Measured after exposure in the room condition for 24hrs		
Heat Temperature Resistance		Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000 hrs Measured after exposure in the room condition for 24hrs		
Low Temperature Resistance		Temperature: -25±3°C Relative Humidity: 0% Time: 1000 hrs Measured after exposure in the room condition for 24hrs		

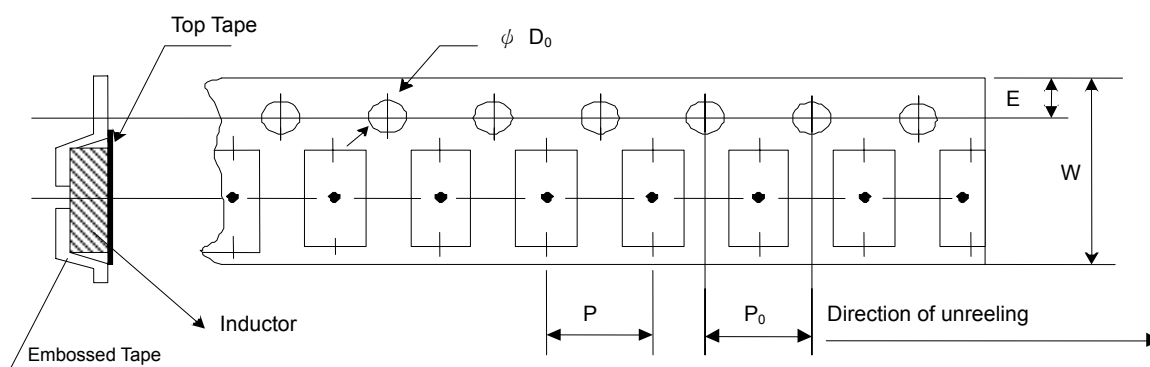
## Packaging Information

### ■ SMD Tape and Reel Specifications



Unit: mm

Reel Diameter	ΦA	ΦB	ΦC
7 inch	178.5±1.5	60 <sup>+1/-0</sup>	13.0±0.5
13 inch	330±1.0	100±0.5	13.0±0.5



Unit: mm

Type	E	P <sub>0</sub>	ΦD <sub>0</sub>
Dimension	1.75±0.10	4.00±0.10	1.50+0.1, -0

## SMD Tape and Reel Specifications

Series	Tape size		Parts Per Reel			Per Carton	
	W	P	7"	13"	G.W.	Q'ty	G.W.
VLH252010	8	4	2000	-	0.20Kg	100K	6.4Kg
VLH252012	8	4	2000	-	0.20Kg	100K	6.4Kg
VLH252510	8	4	2000	-	0.20Kg	100K	6.4Kg
VLH322515	8	4	2000	-	0.20Kg	100K	11.4Kg
VLH322520	8	4	2000	-	0.18Kg	120K	15Kg
VLH453226	12	8	500	-	0.14Kg	24K	11Kg
VLH575047	16	12	-	1000	0.78Kg	16K	16Kg
SDIA0312	12	8	1000	-	0.13Kg	40K	6.5Kg
SDIA0412	12	8	1000	3500	0.15 / 0.65Kg	40K	7.4Kg
SDIA0612	12	8	1000	3500	0.4 / 1.4Kg	40K	17.4Kg
SDIA0840	16	12	-	1000	1.40Kg	8K	13.7Kg
PDH1608	16	8	-	1500	0.72Kg	32K	16Kg
PDH1813	16	12	-	1000	1.00Kg	24K	20Kg
PDH3316	24	16	-	750	1.00Kg	6K	16Kg
PDH4920	32	20	-	350	1.60Kg	2.8K	17Kg
PDH5022	44	20	-	250	2.20Kg	2K	22Kg
PD1608	16	8	-	2000	0.72Kg	32K	16Kg
PD1813	24	12	-	1000	1.00Kg	12K	18Kg
PD3308	24	12	-	1000	1.30Kg	12K	20Kg
PD3316	24	12	-	1000	1.10Kg	6K	18Kg
PD3340	24	20	-	225	1.00Kg	3K	16Kg
PD5022	32	20	-	250	1.60Kg	2K	17Kg
PCD0301	12	8	-	3000	0.50Kg	40K	12Kg
PCD0302	12	8	-	2000	0.53Kg	40K	13Kg
PCD0403	12	8	-	1500	0.72Kg	40K	18Kg
PCD0502	12	8	-	2000	0.88Kg	40K	20Kg
PCD0503	12	8	-	1500	0.88Kg	40K	20Kg
PCD0504	12	8	-	1500	0.89Kg	30K	22Kg
PCD0703	16	12	-	1000	0.89Kg	16K	18Kg
PCD0705	16	12	-	1000	1.20Kg	16K	24Kg
PCD1004	24	12	-	1000	1.20Kg	9K	18Kg
PCD1005	24	12	-	1000	1.21Kg	3K	10Kg
PCD1005	24	16	-	500	1.30Kg	2.5K	9Kg
PCD1006	24	12	-	500	1.00Kg	9K	12Kg
MPI0610	16	8	-	2000	0.72Kg	32K	17Kg
MPI0612	16	8	-	2000	0.88Kg	32K	17Kg
MPI0620	16	8	-	2000	0.88Kg	32K	17Kg
MPE0312	12	8	1500	-	0.89Kg	80K	18Kg
PS1608	16	8	-	2000	0.82Kg	32K	17Kg
PS3316	24	12	-	1000	1.30Kg	6K	20Kg
PS5022	32	20	-	250	1.60Kg	2K	17Kg
PCS62B	16	12	-	1500	0.65Kg	24K	15Kg
PCS64B	16	12	-	1000	-	-	-
PCS73	16	12	-	1000	1.00Kg	16K	20Kg
PCS74	16	12	-	1000	1.20Kg	16K	24Kg
PCS124	24	16	-	500	1.60Kg	6K	24Kg
PCS125	24	16	-	400	1.90Kg	6K	26Kg
PCS127	24	16	-	400	1.80Kg	4.2K	26Kg
PCSH127	24	16	-	500	-	-	-
PCDR0628	16	12	-	1000	0.60Kg	16K	14Kg
PCDR0728	16	12	-	1000	0.75Kg	16K	16Kg
PCDR0730	16	12	-	1000	0.80Kg	16K	17Kg
PCDR0732	16	12	-	1000	0.85Kg	16K	18Kg
PCDR0745	16	12	-	1000	1.10Kg	16k	22Kg
PCDR1045	24	16	-	750	1.70Kg	9K	25Kg
PCDR1255	24	16	-	500	1.60Kg	6K	24Kg

## SMD Tape and Reel Specifications

Series	Tape size		Parts Per Reel			Per Carton	
	W	P	7"	13"	G.W.	Q'ty	G.W.
PCDR1265	24	16	-	500	1.80Kg	4.2K	26Kg
PCDR1275	24	16	-	350	1.60Kg	4.2K	24Kg
PCDS63B	12	8	-	1500	0.90Kg	30K	22Kg
PCDS74B	16	12	-	1000	1.30Kg	16K	25Kg
PCDS105B	24	12	-	750	1.50Kg	9K	22Kg
PCDS125B	24	16	-	500	1.60Kg	6K	24Kg
PSDB5D28	12	8	-	2000	1.10Kg	40K	25Kg
PSDB1003	24	16	-	1000	1.60Kg	12K	24Kg
PSDB1004	24	16	-	750	1.60Kg	9K	24Kg
PSDB1005	24	16	-	750	1.80Kg	9K	26Kg
SCDB2D12	12	8	-	3000	0.63Kg	80K	16Kg
SCDB2D15	12	8	-	3000	0.67Kg	80K	17Kg
SCDB2D18	12	8	-	3000	0.75Kg	80K	18Kg
SCDS3D18	12	8	-	2000	0.80Kg	80K	21Kg
SCDS4D18	12	8	-	2000	0.54Kg	40K	15Kg
SCDS4D22	12	8	-	2000	0.77Kg	20K	10.2Kg
SCDS4D28	12	8	-	2000	0.68Kg	40K	18Kg
SCDS5D18	12	8	-	2000	0.86Kg	40K	22Kg
SCDS5D28	12	8	-	2000	1.10Kg	40K	25Kg
SCDS6D28	16	12	-	1500	1.00Kg	24K	20Kg
SCDS6D38	16	12	-	1000	1.10Kg	16K	22Kg
SCDA2D10	12	8	1000	-	-	-	-
SCDA2D15	12	8	1000	-	-	-	-
SCDA2D18	12	8	1000	-	-	-	-
SCDA3D12	12	8	1000	-	-	-	-
SCDA3D15	12	8	1000	-	-	-	-
SCDA3D18	12	8	1000	-	-	-	-
PCF4010	12	8	-	3500	0.70Kg	35K	9.50Kg
PCF4020	12	8	-	3500	0.80Kg	35K	10.5Kg
PCF4030	12	8	-	2500	0.92Kg	25K	11.7Kg
PCF5010	12	8	-	4000	1.00Kg	40K	12.5Kg
PCF5020	12	8	-	3500	0.85Kg	35K	11Kg
PCF5030	12	8	-	2000	1.20Kg	25K	14.5Kg
PCF6915	16	12	-	2000	1.00Kg	16K	10.5Kg
PCF6919	16	12	-	2000	1.20Kg	16K	12.1Kg
PCF7040	16	12	-	1000	1.28Kg	8K	12.74Kg
PCF1015	24	12	-	2000	1.70Kg	10K	11Kg
PCF1040	24	16	-	900	1.90Kg	4.5K	12Kg
PCF1062	24	16	-	500	1.60Kg	2.5K	10.5Kg
PDRH0301	12	8	-	3500	0.60Kg	35K	8.5Kg
PDRH0302	12	8	-	3500	0.70Kg	35K	9.5Kg
PDRH0303	12	8	-	2500	0.90Kg	25K	11.5Kg
PDRH0415	12	8	-	2500	0.62Kg	50K	16Kg
PDRH0502	12	8	-	3500	1.04Kg	35K	12.9Kg
PDRH0503	12	8	-	2500	1.03Kg	25K	12.8Kg
PDRH0603	16	8	-	2000	1.10Kg	20K	13.5Kg
SDRH0830	16	12	-	1000	1.50Kg	12K	14.5Kg
SDRH0840	16	12	-	1000	1.33Kg	4K	5.32Kg
SDRH0845	16	12	-	1000	1.40Kg	8K	13.7Kg
SDB0530	16	12	-	1500	-	-	-
SDB0620	16	12	-	1000	-	-	-
SDB0630	16	12	-	1000	1.3Kg	4K	5.2Kg
SDB1040	24	16	-	500	1.4Kg	4K	11.2Kg
SDB1350	24	16	-	500	-	-	-

## ■ Package for Dip Power Inductor

Tape	Parts plate	Parts per box
DRGH654	253/plate	1265/box
	350/plate	1050/box
DRGH664	198/plate	990/box
DRGH855	209/plate	1045/box
DRGH875	176/plate	880/box
	350/plate	1050/box
DRGH895	143/plate	715/box
	200/plate	-
DRGH106	220/plate	1100/box
	128/plate	-
DRGH108	176/plate	880/box
	130/plate	260/box
DRGH110	143/plate	715/box
	120/plate	240/box
DRGR664	220/plate	1100/box
DRGR875	176/plate	880/box
DRGR108	176/plate	880/box
DRGR110	132/plate	660/box
DM0708	150/plate	750/box
DM0808	121/plate	605/box
DM1210	104/plate	500/box
DM1310	60/plate	300/box
DM1818	60/plate	240/box