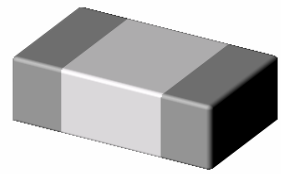
Chilisin Electronics Singapore Pte Ltd

SMD Multi-Layers Ceramic Inductors, HL Series

Feature:



Our range of Multilayer Ceramic Chips Inductors offers various sizes.

Which are specially designs for High frequency products, which are compact and highly dense with component.

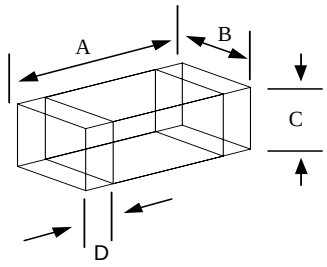
Its Provide very high SRF.

Ordering Code:

HL - 1005 - T - 8N2 - K - ☐

- Type
- Size
- Tape & Reel
- Inductance
- Tolerance ± 10%
- N = No Lead / S = Std

Dimension in mm:



Units : mm (inches)

Part Number	A	B	C	D	Inductance
HI-1005 (0402)	1.0 ± 0.15 (0.039±0.006)	0.50 ± 0.15 (0.0196 ± 0.006)	0.50 ± 0.15 (0.0196 ± 0.006)	0.25 ± 0.15 (0.98±0.006)	1.0nH to 47nH
HI-1608 (0603)	1.6 ± 0.2 (0.063±0.008)	0.80 ± 0.15 (0.031 ± 0.006)	0.80 ± 0.15 (0.031 ± 0.006)	0.3 ± 0.2 (0.012±0.008)	1.2nH to 100nH
HI-201209 (0805)	2.00 ± 0.2 (0.079±0.0008)	1.25 ± 0.2 (0.049 ± 0.008)	0.9 ± 0.2 (0.0354 ± 0.008)	0.5 ± 0.3 (0.020±0.012)	1.5nH to 100nH
HI-201212 (0805)	2.00 ± 0.2 (0.079±0.0008)	1.25 ± 0.2 (0.049 ± 0.008)	1.25 ± 0.2 (0.049 ± 0.008)	0.5 ± 0.3 (0.020±0.012)	120nH to 470nH

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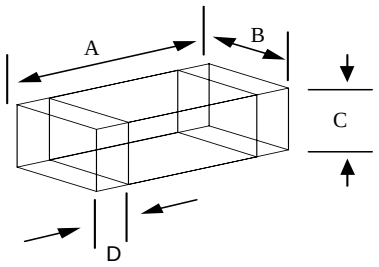

A	1.0 ± 0.10 mm
B	0.5 ± 0.10 mm
C	0.5 ± 0.10 mm
D	0.23 ± 0.10 mm

Electrical:

Part Number	Inductance nH	Q min	Test Freq. MHz	SRF MHz Min	DCR Ω Max	IDC mA Max
HL-100505-1N0 S	1.0 ± 0.3nH	8	100	>15000	0.18	300
HL-100505-1N2 S	1.2 ± 0.3nH	8	100	>15000	0.18	300
HL-100505-1N5 S	1.5 ± 0.3nH	8	100	>15000	0.20	300
HL-100505-1N8 S	1.8 ± 0.3nH	8	100	14000	0.21	300
HL-100505-2N2 S	2.2 ± 0.3nH	8	100	12000	0.24	300
HL-100505-2N7 S	2.7 ± 0.3nH	8	100	9500	0.26	300
HL-100505-3N3 ☐	3.3 ± 10% ±0.3nH	8	100	8500	0.29	300
HL-100505-3N9 ☐	3.9 ± 10% ± 0.3nH	8	100	7000	0.33	300
HL-100505-4N7 ☐	4.7 ± 10% ±0.3nH	8	100	6000	0.36	300
HL-100505-5N6 ☐	5.6 ± 10% ±0.3nH	8	100	5400	0.41	300
HL-100505-6N8 ☐	6.8 ± 5% ± 10%	8	100	5000	0.48	250
HL-100505-8N2 ☐	8.2 ± 5% ± 10%	8	100	4600	0.56	250
HL-100505-10N ☐	10 ± 5% ±10%	8	100	3700	0.63	250
HL-100505-12N ☐	12 ± 5% ± 10%	8	100	3200	0.75	250
HL-100505-15N ☐	15 ± 5% ±10%	8	100	3100	0.83	250
HL-100505-18N ☐	18 ± 5% ±10%	10	100	2900	0.98	200
HL-100505-22N ☐	22 ± 5% ±10%	10	100	2100	1.20	200
HL-100505-27N☐	27 ± 5% ±10%	10	100	1900	1.35	200
HL-100505-33N ☐	33 ± 5% ±10%	10	100	1600	1.50	200
HL-100505-39N ☐	39 ± 5% ±10%	10	100	1400	1.80	150
HL-100505-47N☐	47 ± 5% ±10%	12	100	1200	1.95	150

S = ± 0.3nH, K = ± 10% , J = ± 5% , G = ± 2%

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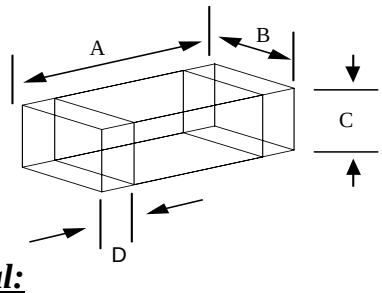

A	1.6 ± 0.15 mm
B	0.8 ± 0.15 mm
C	0.8 ± 0.15 mm
D	0.3 ± 0.2 mm

Electrical:

Part Number	Inductance nH	Q min	Test Freq. MHz	SRF MHz Min	DCR Ω Max	IDC mA Max
HL-160808-1N0 S	1.0 ± 0.3nH	8	100	>17000	0.10	300
HL-160808-1N2 S	1.2 ± 0.3nH	8	100	>17000	0.10	300
HL-160808-1N5 S	1.5 ± 0.3nH	8	100	>17000	0.10	300
HL-160808-1N8 S	1.8 ± 0.3nH	8	100	13000	0.15	300
HL-160808-2N2 S	2.2 ± 0.3nH	8	100	12000	0.15	300
HL-160808-2N7 S	2.7 ± 0.3nH	8	100	8600	0.20	300
HL-160808-3N3 ☐	3.3 ± 10% ±0.3nH	8	100	6800	0.25	300
HL-160808-3N9 ☐	3.9 ± 10% ± 0.3nH	8	100	6500	0.25	300
HL-160808-4N7 ☐	4.7 ± 10% ±0.3nH	8	100	5400	0.30	300
HL-160808-5N6 ☐	5.6 ± 10% ±0.3nH	8	100	4800	0.30	300
HL-160808-6N8 ☐	6.8 ± 5% ± 10%	8	100	4600	0.35	300
HL-160808-8N2 ☐	8.2 ± 5% ± 10%	8	100	3800	0.40	300
HL-160808-10N ☐	10 ± 5% ±10%	8	100	3700	0.45	300
HL-160808-12N ☐	12 ± 5% ± 10%	8	100	3200	0.50	300
HL-160808-15N ☐	15 ± 5% ±10%	8	100	2900	0.55	300
HL-160808-18N ☐	18 ± 5% ±10%	10	100	2100	0.60	300
HL-160808-22N ☐	22 ± 5% ±10%	10	100	2100	0.65	300
HL-160808-27N ☐	27 ± 5% ±10%	10	100	2000	0.70	300
HL-160808-33N ☐	33 ± 5% ±10%	10	100	1600	0.80	300
HL-160808-39N ☐	39 ± 5% ±10%	10	100	1500	0.85	300
HL-160808-47N ☐	47 ± 5% ±10%	12	100	1200	1.00	300
HL-160808-56N ☐	56 ± 5% ± 10%	12	100	1100	1.10	300
HL-160808-68N ☐	68 ± 5% ± 10%	12	100	1000	1.20	300
HL-160808-82N ☐	82 ± 5% ± 10%	12	100	850	1.80	300
HL-160808-R10 ☐	100 ± 5% ±10%	12	100	750	2.00	300
HL-160808-R12 ☐	120 ± 5% ± 10%	8	50	700	2.30	300
HL-160808-R15 ☐	150 ± 5% ±10%	8	50	650	2.40	300
HL-160808-R18 ☐	180 ± 5% ±10%	8	50	550	2.70	300
HL-160808-R22 ☐	220 ± 5% ±10%	8	50	450	2.80	300

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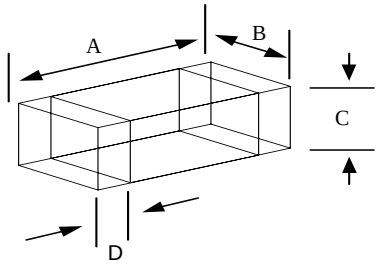

A	2.0 ± 0.2 mm
B	1.2 ± 0.2 mm
C	0.85 ± 0.2 mm
D	0.45 ± 0.2 mm

Electrical:

Part Number	Inductance nH	Q min	Test Freq. MHz	SRF MHz Min	DCR Ω Max	IDC mA Max
HL-201209-1N5 S	1.5 ± 0.3nH	10	100	>6000	0.15	300
HL-201209-1N8 S	1.8 ± 0.3nH	10	100	>6000	0.15	300
HL-201209-2N2 S	2.2 ± 0.3nH	10	100	>6000	0.15	300
HL-201209-2N7 S	2.7 ± 0.3nH	12	100	>6000	0.15	300
HL-201209-3N3 ☐	3.3 ± 10% ±0.3nH	12	100	>6000	0.20	300
HL-201209-3N9 ☐	3.9 ± 10% ± 0.3nH	12	100	5600	0.22	300
HL-201209-4N7 ☐	4.7 ± 10% ±0.3nH	12	100	5500	0.30	300
HL-201209-5N6 ☐	5.6 ± 10% ±0.3nH	12	100	4700	0.35	300
HL-201209-6N8 ☐	6.8 ± 5% ± 10%	15	100	3900	0.35	300
HL-201209-8N2 ☐	8.2 ± 5% ± 10%	15	100	3200	0.40	300
HL-201209-10N ☐	10 ± 5% ±10%	15	100	3100	0.40	300
HL-201209-12N ☐	12 ± 5% ± 10%	15	100	2800	0.45	300
HL-201209-15N ☐	15 ± 5% ±10%	15	100	2400	0.45	300
HL-201209-18N ☐	18 ± 5% ±10%	15	100	2100	0.50	300
HL-201209-22N ☐	22 ± 5% ±10%	15	100	2000	0.50	300
HL-201209-27N ☐	27 ± 5% ±10%	15	100	1800	0.55	300
HL-201209-33N ☐	33 ± 5% ±10%	15	100	1700	0.60	300
HL-201209-39N ☐	39 ± 5% ±10%	18	100	1400	0.65	300
HL-201209-47N ☐	47 ± 5% ±10%	18	100	1200	0.70	300
HL-201209-56N ☐	56 ± 5% ± 10%	18	100	1000	0.75	300
HL-201209-68N ☐	68 ± 5% ± 10%	18	100	900	0.80	300
HL-201209-82N ☐	82 ± 5% ± 10%	18	100	900	0.90	300
HL-201209-R10 ☐	100 ± 5% ±10%	18	100	700	0.90	300
HL-201212-R12 ☐	120 ± 5% ± 10%	13	50	600	0.95	300
HL-201212-R15 ☐	150 ± 5% ±10%	13	50	500	1.00	300
HL-201212-R18 ☐	180 ± 5% ±10%	13	50	430	1.10	300
HL-201212-R22 ☐	220 ± 5% ±10%	12	50	400	1.20	300
HL-201212-R27 ☐	270 ± 5% ±10%	12	50	340	1.30	300
HL-201212-R33 ☐	330 ± 5% ±10%	12	50	320	1.50	300
HL-201212-R39 ☐	390 ± 5% ±10%	10	50	270	1.60	300
HL-201212-R47 ☐	470 ± 5% ±10%	10	50	250	1.80	300

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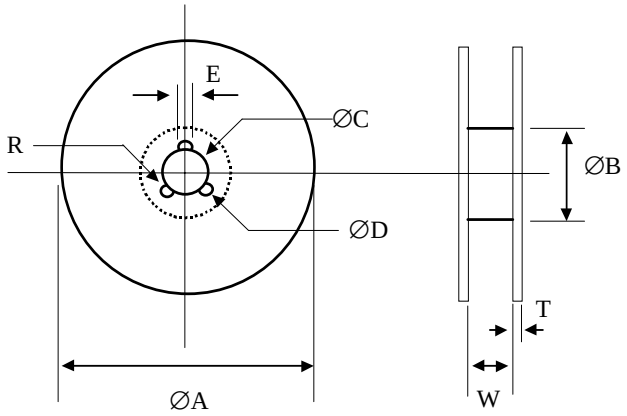
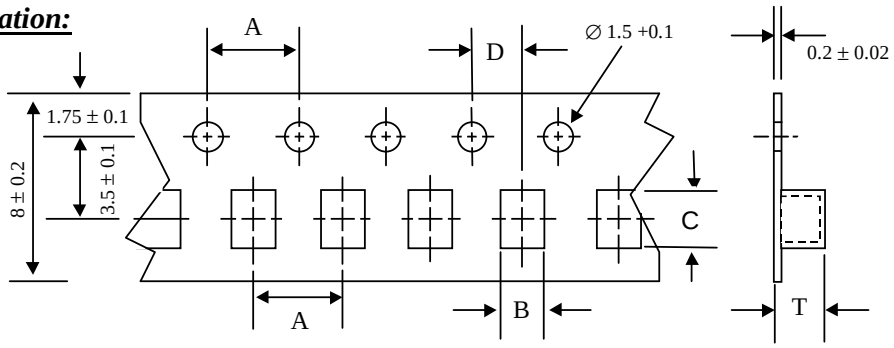
Reel Dimensions:



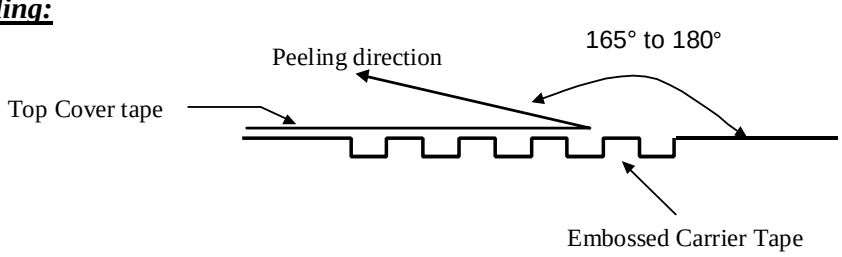
ØA	ØB	ØC	ØD	E	W	T	R
178 ±2	60 ± 1	13.0 ± 0.5	21.0 ± 0.8	2.0 ± 0.5	10.0 ± 1.0	2.0 ± 0.5	1.0

Tape Specification:

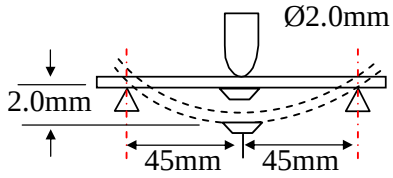


Type	A	B	C	D	T
HL - 100505	2.0 ± 0.1	0.6 ± 0.1	1.1 ± 0.1	1.0 ± 0.1	Max 1.0
HL - 160808	4.0 ± 0.1	1.0 ± 0.1	1.8 ± 0.1	2.0 ± 0.1	Max 1.3
HL - 201209	4.0 ± 0.1	1.6 ± 0.1	2.4 ± 0.1	2.0 ± 0.1	Max 1.3

Tape peeling:



Reliability Test (Mechanical Performances):

No.	Item	Specification	Test Condition
1.	Solderability	More than 90% of the terminal Electrode shall be coved with fresh solder	Pre heat = 150°C Pre heat Time = 1 minute Solder = Sn/Ag3.0/Cu0.5 (Pb –Free) Solder Temperature = 245°C ± 5°C Immersion Time = 4 ± 1 Sec
2.	Resistance to Soldering Heat	The chips shall not crack. More than 75% of the terminal Electrode Shall be cover with solder	Pre Heat = 150°C Pre heat Time = 1 minute Solder = Sn/Ag3.0/Cu0.5 (Pb –Free) Solder Temperature = 260°C ± 5°C Immersion Time = 10 ± 1 Sec
3.	Bending Strength	The Ferrite and Terminal Electrode shall not be damage When force are applied per test Condition on the right	Test device shall be solder to substrate Substrate Dimension = 100mmx40mmx1.6mm Deflection = 2.0mm Duration = 30Sec.  For 1005 Substrate size 100mmx40mmx0.8mm
4.	Vibration		Test Device shall be soldered on the substrate Oscillation Freq.= 10 to 55 to 10Hz for 1 min Amplitude = 1.5mm Time = 2hrs for each axis (X,Y&Z) total 6 hrs

Reliability Test (Environmental Performances):

<table>
<tr><th>No.</th><th>Item</th><th>Specification</th><th>Test Condition</th></tr>
<tr><td>5.</td><td>Temperature Cycle</td><td rowspan="4">Appearance No damage
Impedance within ±20%
Of the initial value</td><td>One Cycle
<table>
<tr><th>Step</th><th>Temperate</th><th>Time (min)</th></tr>
<tr><td>1</td><td>-55°C</td><td>30</td></tr>
<tr><td>2</td><td>25°C</td><td>3</td></tr>
<tr><td>3</td><td>125°C</td><td>30</td></tr>
<tr><td>4</td><td>25°C</td><td>3</td></tr>
</table>
Total 100 Cycles
Measured after exposure in room condition = 24hrs</td></tr>
<tr><td>6</td><td>Humidity
Resistance</td><td>Temperature: +40°C ± 2°C
Humidity: 90% to 95%
Time 1000 ± 12 Hours
Measured after exposure in room condition = 24hrs</td></tr>
<tr><td>7</td><td>High Temperature
Resistance</td><td>Temperature = 125°C ± 3°C
Relative Humidity = 0%
Applied Current = Rated Current as state
Time = 1000 hrs ± 12 hrs
Measure after exposure in room Condition = 24hrs</td></tr>
<tr><td>8.</td><td>Low Temperature
Resistance</td><td>Temperature = -55°C ± 3°C
Relative Humidity = 0%
Time = 1000 hrs ± 12 hrs
Measure after exposure in room Condition = 24hrs</td></tr>
</table>