

繞線貼片電感

LWCI08 (1008) Series  
Wire Wound Chip Inductor (Low Profile)

**Feature**

Wire wound Ceramic Construction Provide High SRFs  
Ultra-compact Inductors Provide Exceptional Q Values  
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 of  $\pm 2\%$   
Smaller Size of 0402 (1005)

**Application**

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

Figure:



**IT Applications:**

USB 2.0  
IEEE 1394

**Broad Band Applications:**

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

**ORDERING INFORMATION**

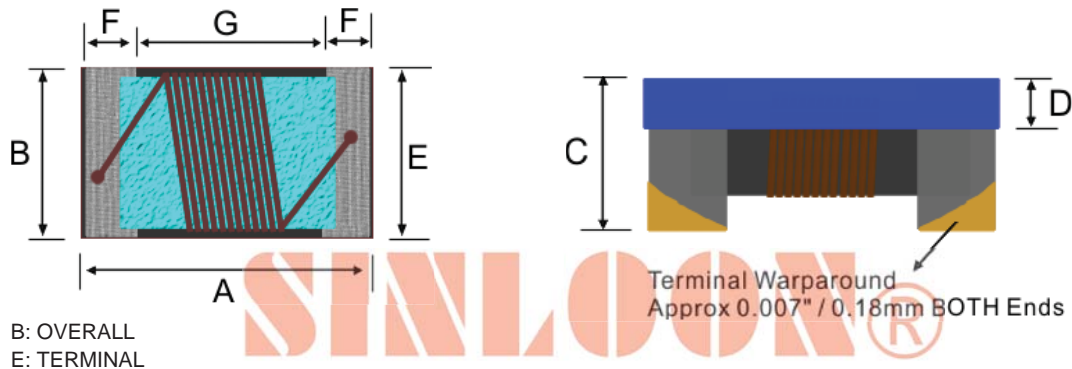
Example: LWCI08G10NT

Size	Design	Type	Tolerance	Inductance	Packing	Quantity
0402	S	WCI02	G= $\pm 2\%$	1N0=1 nH	T=Taping	4K/Reel
0603	L	WCI03	H= $\pm 3\%$	10N= 10 nH	B=Bulk	4K/Reel
0805	H	WCI05	J= $\pm 5\%$	101=100nH		2K/Reel
1008		WCI08	K= $\pm 10\%$	102=1000nH		2K/Reel
1206		WCI06	M= $\pm 20\%$	103=10000nH		2K/Reel

**DIMENSION**

Unit: mm

Type	A (Max)	B (Max.)	C (Max.)	D (Ref.)	E	F	G
SWCI02	1.27	0.76	0.61	0.15	0.15	0.23	0.56
SWCI03	1.80	1.12	1.02	0.38	0.76	0.33	0.86
SWCI05	2.29	1.73	1.52	0.51	1.27	0.44	1.02
SWCI08	2.92	2.79	2.03	0.65	2.03	0.51	1.52
SWCI06	3.56	2.16	1.52	0.50	1.20	0.50	2.20
LWCI05	2.29	1.73	1.03	0.51	1.27	0.44	1.02
LWCI08	2.92	2.79	2.03	0.65	2.03	0.51	1.52
HWCI03	1.80	1.12	1.02	0.38	0.76	0.33	0.86
HWCI05	2.29	1.73	1.52	0.51	1.27	0.44	1.02
HWCI08	2.92	2.79	2.03	0.65	2.03	0.51	1.52



**Remark Design:**

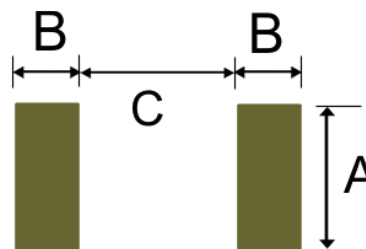
S = Standard.  
L = Low Profile Inductor.  
H = High Current and High Q

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PAD LAYOUT

Type	A	B	C
SWCI02	0.66	0.50	0.46
SWCI03	1.02	0.64	0.64
SWCI05	1.78	1.02	0.76
SWCI08	2.54	1.02	1.27
SWCI06	1.93	1.02	1.78
LWCI05	1.78	1.02	0.76
LWCI08	2.54	1.02	1.27
HWCIO3	1.02	0.64	0.64
HWCIO5	1.78	1.02	0.76
HWCIO8	2.54	1.02	1.27



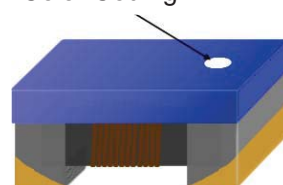
Color Coding

0603 / 0805/1206/1008 Series (0402 Series 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 series.

Color Coding



Environmental Characteristics

Mechanical Performance

Item	Specification	Test Method
1 Vibration Test	Appearance: No damage L change: within $\pm 5\%$ Q change: within $\pm 10\%$	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 Solder Temperature: $260 \pm 5^\circ\text{C}$ Immersion Time: $10 \pm 2\text{sec}$
2 Resistance to		
3 Component Adhesion	1 lbs. For 0402 2 lbs. For 0603 3 lbs. For the rest	The device should be soldered ( $260 \pm 5^\circ\text{C}$ 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
4 Drop Test	No damage	pounds without a failure of adhesion on termination Dropping chip by each side and each corner. Drop 10 times in total Drop height :100cm Drop weight:125g
5 Solderability Test	90% covered with solder.	Inductor shall be dipped in a melted solder bath at $235 \pm 5^\circ\text{C}$ for 5 second
6 Resistance to Solvent Test	No damage on appearance and marking.	MIL-STD202F, Method 215D

Electrical Performance Test

Item	Specification	Test Method
1. Inductance	Refer to standard electrical characteristic spec.	HP4291B
2. Q		HP4291B
3. SRF		HP8753D
4. DC Resistance RDC		Micro-Ohm meter (Gom-801G)
5. Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value
6. Over Load Test	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 minute
7 Withstanding Voltage Test	Inductors shall be no evidence of electrical and mechanical damage.	AC voltage of 500 VAC applied between inductors terminal and case for 1 minute.
8 Insulation Resistance Test	1000M ohm min	100 VDC applied between inductor terminal and case

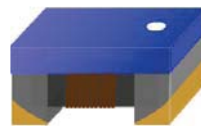
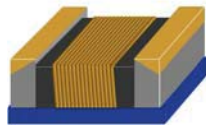


**Environmental Characteristics**

Climatic Test

Item	Specification	Test Method															
1 Temperature Characteristic	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 20\%$	-40°C ~ +125°C Temperature: 40 $\pm 2$ °C Relative Humidity: 90~95% Time: 96hrs $\pm 2$ hrs Measured after exposure in the room condition for 2hrs															
2 Humidity Resistance		Temperature: -40 $\pm 2$ °C Time: 96 $\pm 2$ hrs Inductors are tested after 1 hour at room temperature															
3 Low Temperature Storage Test		One cycle: Total: 5 cycles															
4 Thermal Shock Test		<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 3</math></td> <td>30</td> </tr> <tr> <td>2</td> <td>25<math>\pm 2</math></td> <td>15</td> </tr> <tr> <td>3</td> <td>125<math>\pm 3</math></td> <td>30</td> </tr> <tr> <td>4</td> <td>25<math>\pm 2</math></td> <td>15</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min)	1	-25 $\pm 3$	30	2	25 $\pm 2$	15	3	125 $\pm 3$	30	4	25 $\pm 2$	15
Step		Temperature (°C)	Time (min)														
1		-25 $\pm 3$	30														
2		25 $\pm 2$	15														
3	125 $\pm 3$	30															
4	25 $\pm 2$	15															
5 High Temperature Storage Test	Temperature: 125 $\pm 2$ °C Time: 96 $\pm 2$ hrs Measured after exposure in the room condition for 1hr																
6 High Temperature Load Life Test	Temperature: 85 $\pm 2$ °C Time: 1000 $\pm 12$ hrs Load: Allowed DC current																
7 Humidity Load Life	Temperature: 40 $\pm 2$ °C Relative Humidity: 90~95% Time: 1000 $\pm 12$ hrs Load: Allowed DC current																

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



**SINLOON®**

Standard Electrical Specifications  
LWCI08 Wire Wound Chip Inductors (Low Profile)

Part Number	Inductance nH	Tolerance (%)	Quality Factor /min.	Self Resonant Frequency /min. (GHz)	Resistance DC/Max (Ohm)	Current DC/Max (mA)	Color Code
LWCI08 □4N2T	4.2 @ 50MHz	10,5	42 @ 1500MHz	6.00	0.15	600	Black
LWCI08 □6N8T	6.8 @ 50MHz	10,5	50 @ 1500MHz	5.40	0.17	600	Brown
LWCI08 □8N2T	8.2 @ 50MHz	10,5	50 @ 1500MHz	5.00	0.22	600	Red
LWCI08 □15NT	15 @ 50MHz	10,5	57 @ 500MHz	3.00	0.22	600	Orange
LWCI08 □18NT	18 @ 50MHz	10,5	50 @ 350MHz	2.40	0.12	600	Gray
LWCI08 □20NT	20 @ 50MHz	10,5	72 @ 500MHz	2.40	0.33	600	Yellow
LWCI08 □27NT	27 @ 50MHz	10,5	50 @ 350MHz	1.60	0.13	600	Green
LWCI08 □30NT	30 @ 50MHz	10,5	69 @ 500MHz	2.40	0.38	600	Blue
LWCI08 □40NT	40 @ 50MHz	10,5	67 @ 500MHz	2.00	0.43	600	Violet
LWCI08 □50NT	50 @ 50MHz	10,5,2	72 @ 500MHz	1.90	0.48	600	Gray
LWCI08 □60NT	60 @ 50MHz	10,5,2	75 @ 500MHz	1.80	0.52	600	White
LWCI08 □70NT	70 @ 50MHz	10,5,2	68 @ 500MHz	1.70	0.55	510	Black
LWCI08 □80NT	80 @ 50MHz	10,5,2	75 @ 500MHz	1.40	0.56	510	Brown
LWCI08 □181NT	180 @ 50MHz	10,5,2	50 @ 350MHz	0.90	0.40	450	Blue
LWCI08 □561NT	560 @ 25MHz	10,5,2	40 @ 100MHz	0.40	1.33	400	Red

