

繞線貼片電感

SWCI08 (1008) Series
Wire Wound Chip Inductor (Standard)

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

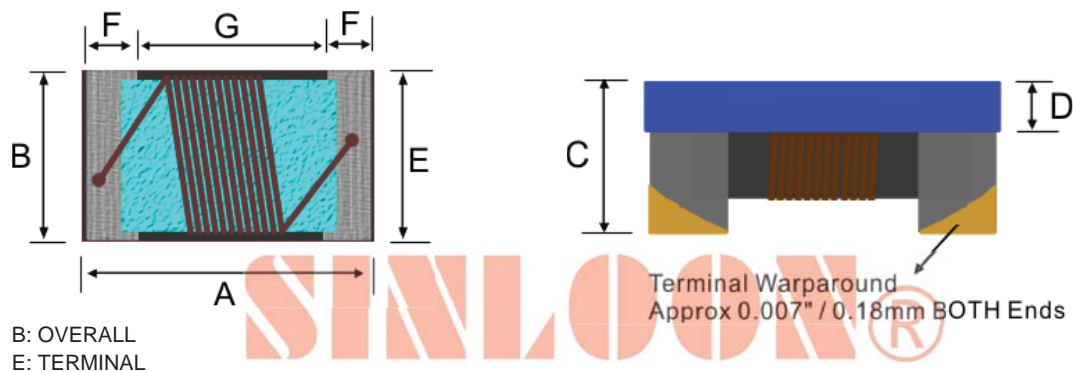
Example: SWCI08G10NT

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:

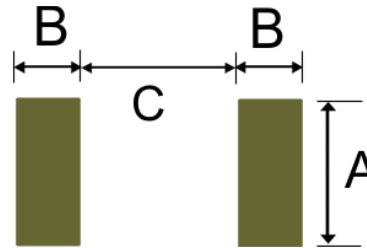
S = Standard.
L = Low Profile Inductor.
H = High Current and High Q

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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
HWCI03	1.02	0.64	0.64
HWCI05	1.78	1.02	0.76
HWCI08	2.54	1.02	1.27



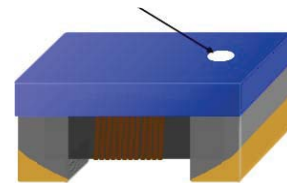
Color Coding

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

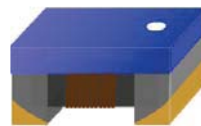
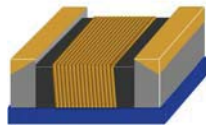
Item	Specification	Test Method
1. Inductance	Refer to standard electrical characteristic spec.	HP4291B
2. Q		HP4291B
3. SRF		HP8753D
4. DC Resistance RDC		Micro-Ohm meter (Gom-801G)
5. Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value
6. Over 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 ± 2 °C Relative Humidity: 90~95% Time: 96hrs ± 2 hrs Measured after exposure in the room condition for 2hrs															
2 Humidity Resistance		Temperature: -40 ± 2 °C Time: 96 ± 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± 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															
5 High Temperature Storage Test	Temperature: 125 ± 2 °C Time: 96 ± 2 hrs Measured after exposure in the room condition for 1hr																
6 High Temperature Load Life Test	Temperature: 85 ± 2 °C Time: 1000 ± 12 hrs Load: Allowed DC current																
7 Humidity Load Life	Temperature: 40 ± 2 °C Relative Humidity: 90~95% Time: 1000 ± 12 hrs Load: Allowed DC current																

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



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Standard Electrical Specifications
SWCI08 Wire Wound Chip Inductors (Standard)

Part Number	Inductance nH	Tolerance (%)	Quality Factor /min.	Self Resonant Frequency /min. (GHz)	Resistance DC/Max (Ohm)	Current DC/Max (mA)	Color Code
* WCI08 □5N6T	5.6 @ 50MHz	10,5	50 @ 1500MHz	4.000	0.15	1000	Black
* WCI08 □10NT	10 @ 50MHz	10,5,2	50 @ 500MHz	4.100	0.08	1000	Brown
* WCI08 □12NT	12 @ 50MHz	10,5,2	50 @ 500MHz	3.300	0.09	1000	Red
* WCI08 □15NT	15 @ 50MHz	10,5,2	50 @ 500MHz	2.500	0.11	1000	Orange
* WCI08 □18NT	18 @ 50MHz	10,5,2	50 @ 350MHz	2.400	0.12	1000	Yellow
* WCI08 □22NT	22 @ 50MHz	10,5,2	55 @ 350MHz	2.400	0.12	1000	Green
* WCI08 □24NT	24 @ 50MHz	10,5,2	55 @ 350MHz	1.900	0.12	1000	Blue
* WCI08 □27NT	27 @ 50MHz	10,5,2	55 @ 350MHz	1.600	0.13	1000	Violet
* WCI08 □33NT	33 @ 50MHz	10,5,2	60 @ 350MHz	1.600	0.14	1000	Gray
* WCI08 □36NT	36 @ 50MHz	10,5,2	60 @ 350MHz	1.600	0.15	1000	Orange
* WCI08 □39NT	39 @ 50MHz	10,5,2	60 @ 350MHz	1.500	0.15	1000	White
* WCI08 □47NT	47 @ 50MHz	10,5,2	65 @ 350MHz	1.500	0.16	1000	Black
* WCI08 □56NT	56 @ 50MHz	10,5,2	65 @ 350MHz	1.300	0.18	1000	Brown
* WCI08 □62NT	62 @ 50MHz	10,5,2	65 @ 350MHz	1.250	0.20	1000	Blue
* WCI08 □68NT	68 @ 50MHz	10,5,2	65 @ 350MHz	1.300	0.20	1000	Red
* WCI08 □75NT	75 @ 50MHz	10,5,2	60 @ 350MHz	1.100	0.21	1000	White
* WCI08 □82NT	82 @ 50MHz	10,5,2	60 @ 350MHz	1.000	0.22	1000	Orange
* WCI08 □101NT	100 @ 25MHz	10,5,2	60 @ 350MHz	1.000	0.56	650	Yellow
* WCI08 □121NT	120 @ 25MHz	10,5,2	60 @ 350MHz	0.950	0.63	650	Green
* WCI08 □151NT	150 @ 25MHz	10,5,2	45 @ 100MHz	0.850	0.70	580	Blue
* WCI08 □181NT	180 @ 25MHz	10,5,2	45 @ 100MHz	0.750	0.77	620	Violet
* WCI08 □221NT	220 @ 25MHz	10,5,2	45 @ 100MHz	0.700	0.84	500	Gray
* WCI08 □241NT	240 @ 25MHz	10,5,2	45 @ 100MHz	0.650	0.88	500	White
* WCI08 □271NT	270 @ 25MHz	10,5,2	45 @ 100MHz	0.600	0.91	500	Black
* WCI08 □301NT	300 @ 25MHz	10,5,2	45 @ 100MHz	0.585	1.00	450	Brown
* WCI08 □331NT	330 @ 25MHz	10,5,2	45 @ 100MHz	0.570	1.05	450	Red
* WCI08 □361NT	360 @ 25MHz	10,5,2	45 @ 100MHz	0.530	1.10	470	Orange
* WCI08 □391NT	390 @ 25MHz	10,5,2	45 @ 100MHz	0.500	1.12	470	Yellow
* WCI08 □431NT	430 @ 25MHz	10,5,2	45 @ 100MHz	0.480	1.15	470	Green
* WCI08 □471NT	470 @ 25MHz	10,5,2	45 @ 100MHz	0.450	1.19	470	Blue
* WCI08 □561NT	560 @ 25MHz	10,5,2	45 @ 100MHz	0.415	1.33	400	Violet
* WCI08 □621NT	620 @ 25MHz	10,5,2	45 @ 100MHz	0.375	1.40	300	Gray
* WCI08 □681NT	680 @ 25MHz	10,5,2	45 @ 100MHz	0.375	1.47	400	White
* WCI08 □751NT	750 @ 25MHz	10,5,2	45 @ 100MHz	0.360	1.54	360	Black
* WCI08 □821NT	820 @ 25MHz	10,5,2	45 @ 100MHz	0.350	1.61	400	Brown
* WCI08 □911NT	910 @ 25MHz	10,5,2	35 @ 50MHz	0.320	1.68	380	Red
* WCI08 □102NT	1000 @ 25MHz	10,5,2	35 @ 50MHz	0.290	1.75	370	Orange
* WCI08 □122NT	1200 @ 7.9MHz	10,5,2	35 @ 50MHz	0.250	2.00	310	Yellow
* WCI08 □152NT	1500 @ 7.9MHz	10,5,2	28 @ 50MHz	0.200	2.30	330	Green
* WCI08 □182NT	1800 @ 7.9MHz	10,5,2	28 @ 50MHz	0.160	2.60	300	Blue
* WCI08 □222NT	2200 @ 7.9MHz	10,5,2	28 @ 50MHz	0.160	2.80	280	Violet
* WCI08 □272NT	2700 @ 7.9MHz	10,5,2	22 @ 25MHz	0.140	3.20	290	Gray
* WCI08 □332NT	3300 @ 7.9MHz	10,5,2	22 @ 25MHz	0.110	3.40	290	White
* WCI08 □392NT	3900 @ 7.9MHz	10,5,2	20 @ 25MHz	0.100	3.60	260	Black
* WCI08 □472NT	4700 @ 7.9MHz	10,5,2	18 @ 25MHz	0.090	4.00	260	Brown
WCI08 □562NT	5600 @ 7.9MHz	10,5,2	16 @ 7.96MHz	0.020	4.00	240	Red
WCI08 □682NT	6800 @ 7.9MHz	10,5,2	15 @ 7.96MHz	0.040	4.90	200	Orange
WCI08 □822NT	8200 @ 7.9MHz	10,5,2	15 @ 7.96MHz	0.025	6.00	170	Yellow
WCI08 □103NT	10000 @ 2.52MHz	10,5,2	15 @ 7.96MHz	0.020	9.00	150	Green
WCI08 □123NT	12000 @ 2.52MHz	10,5,2	15 @ 7.96MHz	0.018	10.5	130	Blue
WCI08 □153NT	15000 @ 2.52MHz	10,5,2	15 @ 7.96MHz	0.015	11.5	120	Violet

* Test Methods / Instrument : Network / Spectrum Analyzer.