

繞線貼片電感

SWCI02 (0402) 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

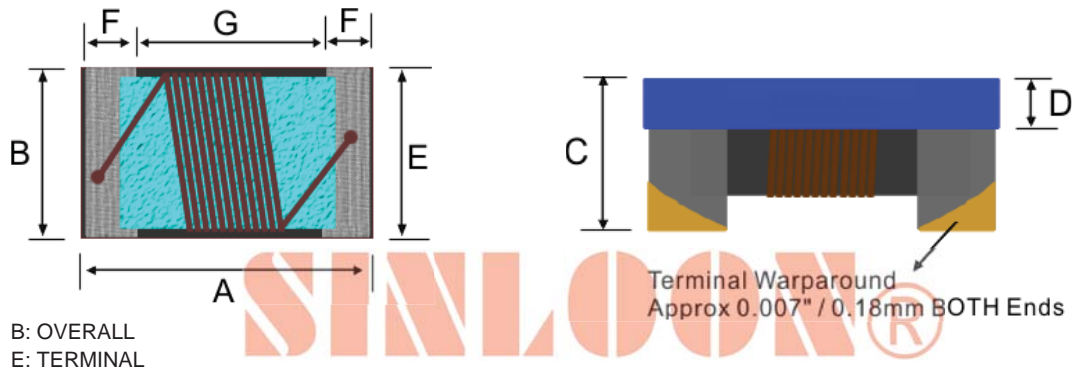
Example: SWCI02G10NT

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



B: OVERALL
E: TERMINAL

Remark Design:

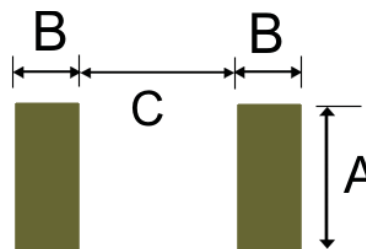
S = Standard.
L = Low Profile Inductor.
H = High Current and High Q

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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



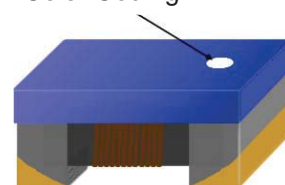
Color Coding

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
2 Resistance to		Solder Temperature: $260 \pm 5^\circ\text{C}$ Immersion Time: $10 \pm 2\text{sec}$
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



Standard Electrical Specifications
SWCI02 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)	900MHz		1.7GHz	
							L	Q	L	Q
WCI02 □1N0T	1.0 @ 250MHz	10	16	12.70	0.04	1360	1.02	77	1.02	69
WCI02 □1N9T	1.9 @ 250MHz	10,5	16	11.30	0.07	1040	1.72	68	1.74	82
WCI02 □2N0T	2.0 @ 250MHz	10,5	16	11.10	0.07	1040	1.93	54	1.93	75
WCI02 □2N2T	2.2 @ 250MHz	10,5	19	10.80	0.07	960	2.19	59	2.23	100
WCI02 □2N4T	2.4 @ 250MHz	10,5	15	10.50	0.07	790	2.24	51	2.27	68
WCI02 □2N7T	2.7 @ 250MHz	10,5	16	10.40	0.12	640	2.23	42	2.25	61
WCI02 □3N3T	3.3 @ 250MHz	10,5,2	19	7.00	0.06	840	3.10	65	3.12	87
WCI02 □3N6T	3.6 @ 250MHz	10,5,2	19	6.80	0.06	840	3.56	45	3.62	71
WCI02 □3N9T	3.9 @ 250MHz	10,5,2	19	5.80	0.06	840	3.89	50	4.00	75
WCI02 □4N3T	4.3 @ 250MHz	10,5,2	18	6.00	0.09	700	4.19	47	4.30	71
WCI02 □4N7T	4.7 @ 250MHz	10,5,2	15	4.70	0.13	640	4.55	48	4.68	68
WCI02 □5N1T	5.1 @ 250MHz	10,5,2	20	4.80	0.08	800	5.15	56	5.25	82
WCI02 □5N6T	5.6 @ 250MHz	10,5,2	20	4.80	0.08	760	5.16	54	5.28	81
WCI02 □6N2T	6.2 @ 250MHz	10,5,2	20	4.80	0.08	760	6.16	52	6.37	76
WCI02 □6N8T	6.8 @ 250MHz	10,5,2	20	4.80	0.08	680	6.56	63	6.93	78
WCI02 □7N5T	7.5 @ 250MHz	10,5,2	22	4.80	0.10	680	7.91	60	8.22	88
WCI02 □8N2T	8.2 @ 250MHz	10,5,2	22	4.40	0.10	680	8.50	57	8.85	84
WCI02 □8N7T	8.7 @ 250MHz	10,5,2	18	4.10	0.20	480	8.78	54	9.21	73
WCI02 □9N0T	9.0 @ 250MHz	10,5,2	22	4.16	0.10	680	9.07	62	9.53	78
WCI02 □9N5T	9.5 @ 250MHz	10,5,2	18	4.00	0.20	480	9.42	54	9.98	69
WCI02 □10NT	10 @ 250MHz	10,5,2	21	3.90	0.19	480	9.80	50	10.10	67
WCI02 □11NT	11 @ 250MHz	10,5,2	24	3.68	0.12	640	10.70	52	11.20	78
WCI02 □12NT	12 @ 250MHz	10,5,2	24	3.60	0.12	640	11.90	53	12.70	71
WCI02 □13NT	13 @ 250MHz	10,5,2	24	3.45	0.21	440	13.40	51	14.60	57
WCI02 □15NT	15 @ 250MHz	10,5,2	24	3.28	0.17	560	14.60	55	15.50	77
WCI02 □16NT	16 @ 250MHz	10,5,2	24	3.10	0.22	560	16.60	46	18.80	47
WCI02 □18NT	18 @ 250MHz	10,5,2	24	3.10	0.23	420	18.30	57	20.28	62
WCI02 □19N T	19 @ 250MHz	10,5,2	24	3.04	0.20	480	19.10	50	21.10	67
WCI02 □20N T	20 @ 250MHz	10,5,2	25	3.00	0.25	420	20.70	52	23.66	53
WCI02 □22NT	22 @ 250MHz	10,5,2	25	2.80	0.30	400	23.20	53	26.75	53
WCI02 □23NT	23 @ 250MHz	10,5,2	22	2.72	0.30	400	23.80	49	26.90	64
WCI02 □24NT	24 @ 250MHz	10,5,2	25	2.70	0.30	400	25.10	51	29.50	50
WCI02 □27NT	27 @ 250MHz	10,5,2	24	2.48	0.30	400	28.70	49	33.50	63
WCI02 □30NT	30 @ 250MHz	10,5,2	25	2.35	0.35	400	31.10	46	38.50	39
WCI02 □33NT	33 @ 250MHz	10,5,2	24	2.35	0.35	400	34.90	31	41.74	32
WCI02 □36NT	36 @ 250MHz	10,5,2	24	2.32	0.44	320	39.50	44	48.40	53
WCI02 □39NT	39 @ 250MHz	10,5,2	25	2.10	0.55	200	41.70	47	50.23	45
WCI02 □40NT	40 @ 250MHz	10,5,2	24	2.24	0.44	320	39.00	44	47.40	33
WCI02 □43NT	43 @ 250MHz	10,5,2	25	2.03	0.81	100	45.80	46	61.55	34
WCI02 □47NT	47 @ 250MHz	10,5,2	20	2.10	0.83	150	50.00	38	-	-
WCI02 □51NT	51 @250MHZ	10,5,2	25	1.75	0.82	100	-	-	-	-
WCI02 □56NT	56 @250MHZ	10,5,2	22	1.76	0.97	100	-	-	-	-
WCI02 □68NT	68 @250MHZ	10,5,2	22	1.62	1.12	100	-	-	-	-

