High Frequency Ceramic SMT Chip Inductor
SCL201212CS Series

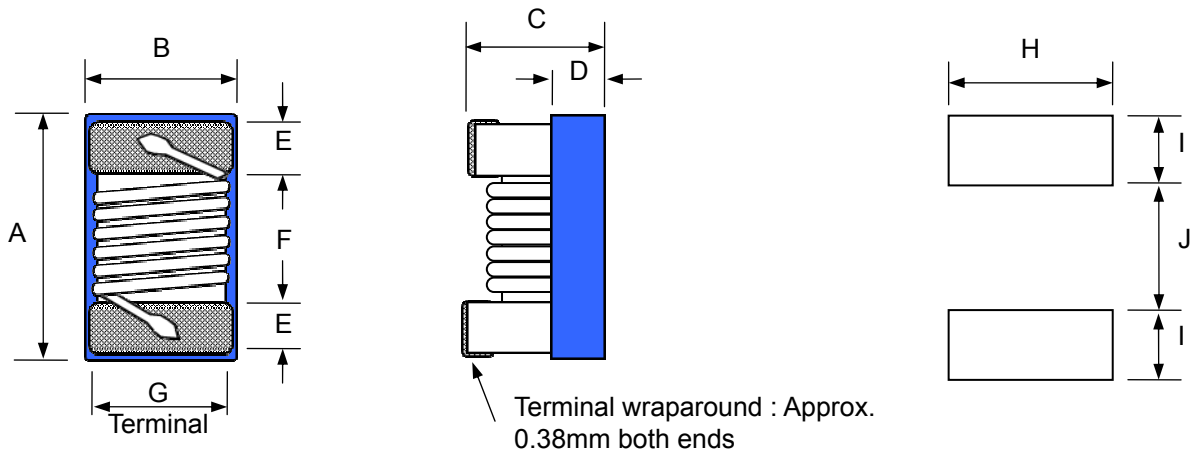
■ Feature

- Can be used for high frequency bands up to GHz and stable inductance at high frequency.
- The high self resonant frequency realizes high Q value.
- Resin-coated surface enables excellent mounting.
- Low DC resistance design is ideal for low loss, high output and low power consumption.

■ Application

- For high frequency applications including mobile phones, portable phone , such as PA, ANT, VCO, SAW, etc.
- Mobile phones such as GSM, CDMA, PDC, etc. Bluetooth, W-LAN.

■ SHAPES AND DIMENSIONS

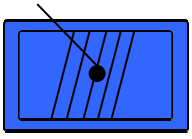


Recommend PAD Layout

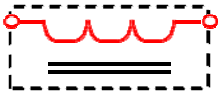
Unit	A max	B max	C max	D ref	E	F	G	H	I	J
mm	2.4	1.65	1.45	0.65	0.44 ±0.1	1.15 ±0.1	1.27	1.78	1.02	0.76
inch	0.094	0.065	0.057	0.026	0.017 ±0.004	0.045 ±0.004	0.050	0.070	0.040	0.030

Marking： Color Coding

1st Code



Equivalent circuit



No Polarity

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■ PART NUMBER CODE

SCL	201212	CS	10N	J	A
1	2	3	4	5	6

1. Series Name
2. Size Code
3. Type Code
4. Inductance (R=Decimal Point) Unit：nH

   3N9 = 3.9nH ; 10N = 10nH ; R10 = 100nH
5. Inductance tolerance：

   “G” ±2%; “J” ±5%; “K” ±10%.
6. Soldering：A=Lead free

■ ELECTRICAL CHARACTERISTICS

1. Test equipments

   1.1. L, Q, SRF: Agilent/HP E4991A+ Agilent/HP16197A or equivalent

   1.2. Rdc: Chroma 16502 Digital Milli-ohm Meter or equivalent

   1.3. Irms for a 15℃ rise above 25℃ ambient.

   1.4. Operating temperature range -40℃ to 125℃

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2. Part Number and Characteristics Table

Part Number	Inductance (nH)/MHz	Inductance Tolerance	Q/MHz min	SRF MHz min	Rdc (Ω) max	Irms (mA) max	Color Coding
SCL201212CS-2N2□A	2.2/250	K	50/1000	7900	0.05	800	Violet
SCL201212CS-2N7□A	2.7/250	J, K	50/1500	7900	0.058	800	Blue
SCL201212CS-2N8□A	2.8/250	J, K	55/1500	7900	0.06	800	Gray
SCL201212CS-3N0□A	3.0/250	J, K	55/1500	7900	0.08	800	White
SCL201212CS-3N3□A	3.3/250	J, K	45/1500	7900	0.12	600	Black
SCL201212CS-5N1□A	5.1/250	J, K	60/1000	5800	0.06	600	Yellow
SCL201212CS-5N6□A	5.6/250	J, K	65/1000	5500	0.08	600	Orange
SCL201212CS-6N2□A	6.2/250	J, K	50/1000	5500	0.11	800	Violet
SCL201212CS-6N8□A	6.8/250	J, K	50/1000	5500	0.11	600	Brown
SCL201212CS-7N5□A	7.5/250	J, K	50/1000	4500	0.14	600	Green
SCL201212CS-8N2□A	8.2/250	J, K	50/1000	4700	0.16	600	Red
SCL201212CS-8N7□A	8.7/250	J, K	50/1000	4700	0.23	600	Violet
SCL201212CS-10N□A	10/250	G, J, K	60/500	4200	0.10	600	Blue
SCL201212CS-12N□A	12/250	G, J, K	50/500	4000	0.15	600	Orange
SCL201212CS-14N□A	14/250	G, J, K	50/500	3400	0.17	600	Yellow
SCL201212CS-15N□A	15/250	G, J, K	50/500	3400	0.17	700	Yellow
SCL201212CS-16N□A	16/250	G, J, K	50/500	3300	0.19	600	Green
SCL201212CS-18N□A	18/250	G, J, K	50/500	3300	0.20	600	Green
SCL201212CS-22N□A	22/250	G, J, K	55/500	2600	0.22	500	Blue
SCL201212CS-24N□A	24/250	G, J, K	50/500	2000	0.22	500	Gray
SCL201212CS-27N□A	27/250	G, J, K	55/500	2500	0.25	500	Violet
SCL201212CS-33N□A	33/250	G, J, K	60/500	2050	0.27	500	Gray
SCL201212CS-36N□A	36/250	G, J, K	55/500	1700	0.27	500	Orange
SCL201212CS-39N□A	39/250	G, J, K	60/500	2000	0.29	500	White
SCL201212CS-43N□A	43/200	G, J, K	60/500	1650	0.34	500	Yellow
SCL201212CS-47N□A	47/200	G, J, K	60/500	1650	0.31	700	Black
SCL201212CS-50N□A	50/200	G, J, K	60/500	1650	0.34	500	Green
SCL201212CS-56N□A	56/200	G, J, K	60/500	1550	0.34	500	Brown
SCL201212CS-68N□A	68/200	G, J, K	60/500	1450	0.38	500	Red
SCL201212CS-72N□A	72/200	G, J, K	60/500	1400	0.40	400	Orange
SCL201212CS-75N□A	75/200	G, J, K	60/500	1400	0.40	400	Violet
SCL201212CS-82N□A	82/150	G, J, K	65/500	1300	0.42	400	Orange
SCL201212CS-91N□A	91/150	G, J, K	65/500	1200	0.48	400	Black
SCL201212CS-R10□A	100/150	G, J, K	65/500	1200	0.46	400	Yellow
SCL201212CS-R11□A	110/150	G, J, K	50/250	1000	0.48	400	Brown
SCL201212CS-R12□A	120/150	G, J, K	50/250	1100	0.51	400	Green

Part Number	Inductance (nH)/MHz	Inductance Tolerance	Q/MHz min	SRF MHz min	Rdc (Ω) max	Irms (mA) max	Color Coding
SCL201212CS-R13□A	130/150	G, J, K	50/250	1000	0.55	400	Orange
SCL201212CS-R15□A	150/100	G, J, K	50/250	920	0.56	400	Blue
SCL201212CS-R16□A	160/100	G, J, K	50/250	900	0.60	400	Gray
SCL201212CS-R18□A	180/100	G, J, K	50/250	870	0.64	400	Violet
SCL201212CS-R20□A	200/100	G, J, K	50/250	865	0.68	400	Red
SCL201212CS-R22□A	220/100	G, J, K	50/250	850	0.70	400	Gray
SCL201212CS-R24□A	240/100	G, J, K	44/250	690	1.00	350	Red
SCL201212CS-R25□A	250/100	G, J, K	48/250	680	1.00	350	Yellow
SCL201212CS-R27□A	270/100	G, J, K	48/250	650	1.00	350	White
SCL201212CS-R30□A	300/100	G, J, K	48/250	790	1.40	350	Green
SCL201212CS-R33□A	330/100	G, J, K	48/250	750	1.40	310	Black
SCL201212CS-R36□A	360/100	G, J, K	48/250	650	1.45	300	Orange
SCL201212CS-R39□A	390/100	G, J, K	48/250	560	1.50	290	Brown
SCL201212CS-R43□A	430/50	G, J, K	33/100	430	1.70	270	Blue
SCL201212CS-R47□A	470/50	G, J, K	30/100	375	1.76	250	Violet
SCL201212CS-R56□A	560/25	G, J, K	23/50	340	1.90	230	Orange
SCL201212CS-R62□A	620/25	G, J, K	23/50	220	2.20	210	White
SCL201212CS-R68□A	680/25	G, J, K	23/50	188	2.20	190	Green
SCL201212CS-R75□A	750/25	G, J, K	23/50	200	2.30	180	Violet
SCL201212CS-R82□A	820/25	G, J, K	23/50	215	2.35	180	Blue
SCL201212CS-R88□A	880/25	G, J, K	22/50	212	2.38	180	Green
SCL201212CS-R91□A	910/25	J, K	22/50	210	2.40	180	Yellow
SCL201212CS-R93□A	930/25	J, K	22/50	200	2.45	180	Green
SCL201212CS-1R0□A	1000/25	G, J, K	22/50	200	2.45	180	Violet
SCL201212CS-1R2□A	1200/7.9	G, J, K	16/7.9	160	2.45	170	Green
SCL201212CS-1R5□A	1500/7.9	G, J, K	16/7.9	120	2.50	170	Black
SCL201212CS-1R8□A	1800/7.9	G, J, K	16/7.9	80	2.50	170	Brown
SCL201212CS-2R2□A	2200/7.9	G, J, K	16/7.9	60	2.70	160	Red
SCL201212CS-2R7□A	2700/7.9	G, J, K	16/7.9	50	4.00	160	Orange
SCL201212CS-4R7□A	4700/7.9	J, K	10/7.9	40	15	130	Yellow

When ordering, please specify tolerance and packaging codes. Ex: SCL201212CS-R39JA ;
Tolerance : G = ±2% , J = ±5% , K = ±10% ; Packaging: Clear tape and reel { standard }.

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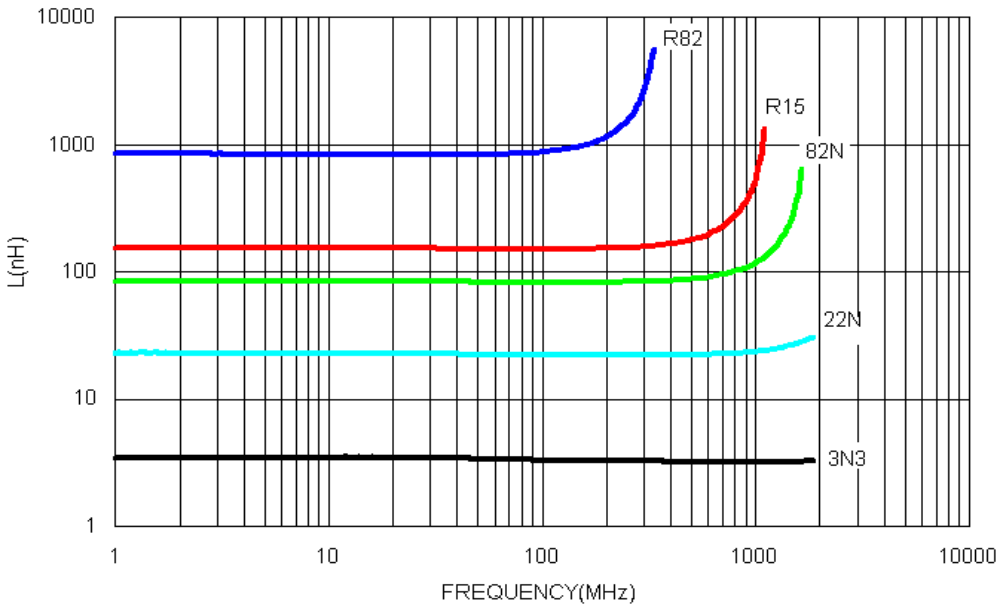
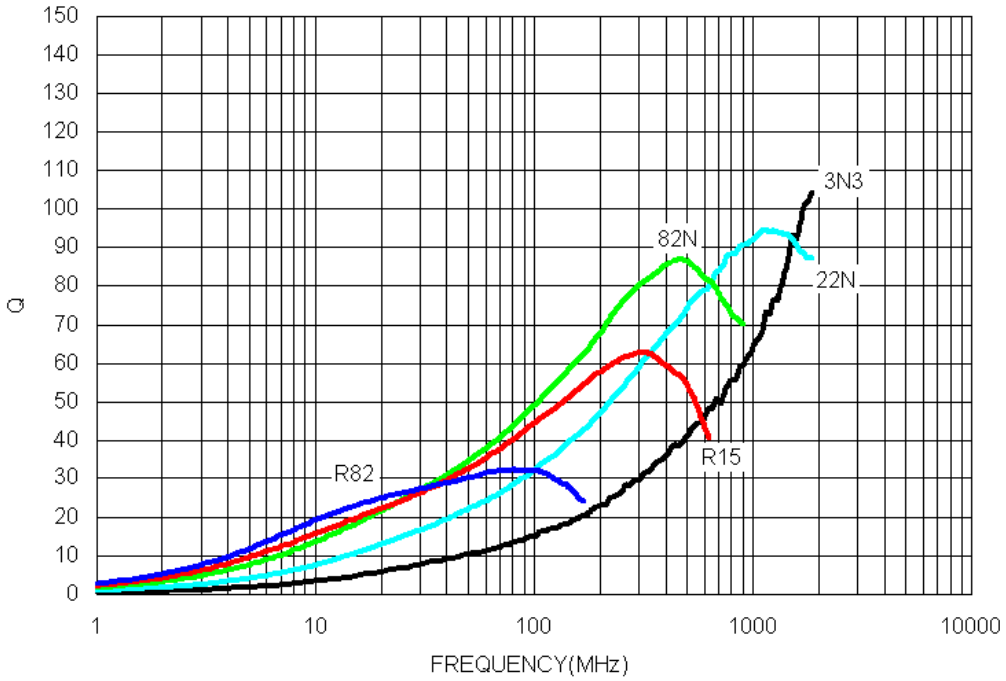
■ TYPICAL CHARACTERISTICS CURVE

1. L VS. FREQUENCY CHARACTERISTICS



2. Q VS. FREQUENCY CHARACTERISTICS



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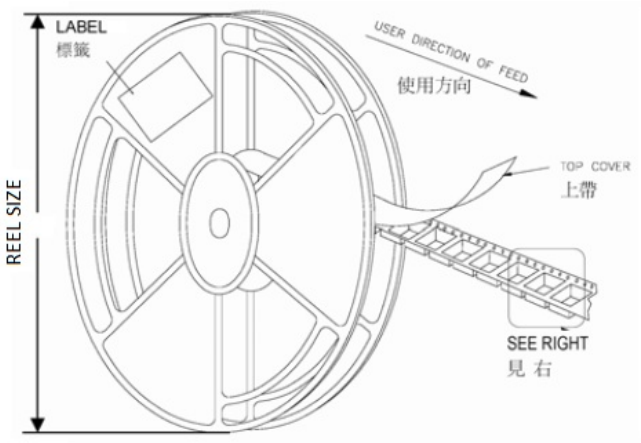
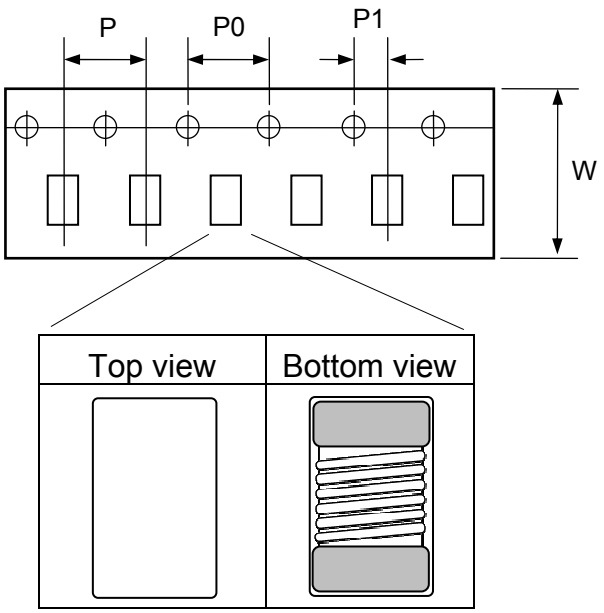
■ REEL DIMENSIONS AND PACKAGING QUANTITY





Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SCL201212CS	8	4	4	2	180 mm (7”)	2000

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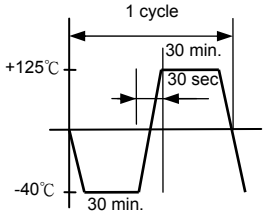
■ RELIABILITY AND TEST CONDITION

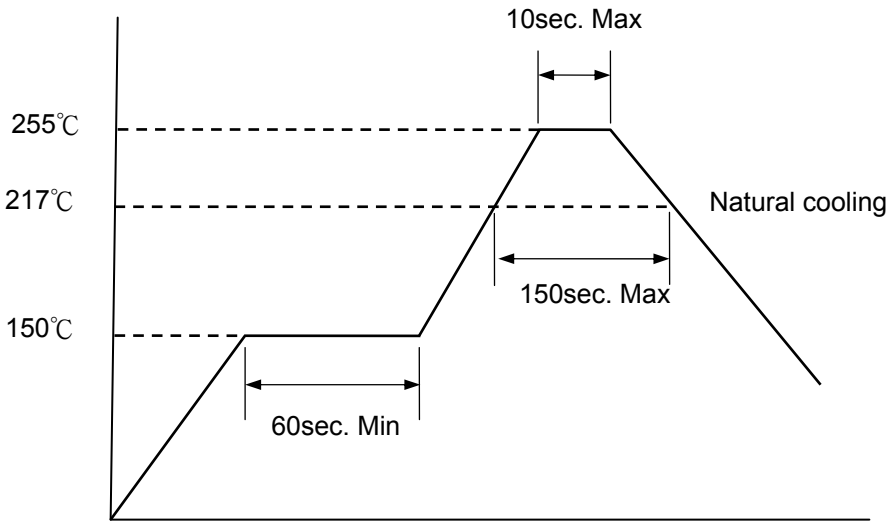
Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
Solderability	The metalized area must have 90% minimum solder coverage.	Dip pads in flux and dip in solder pot (96.5 Sn/3.5 Ag solder) at 255°C ±5°C.
Resistance to soldering heat	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be reflowed onto a PC board using 96.5 Sn/3.5 Ag solder paste. Solder process shall be at a maximum temperature of 260°C. For 96.5 Sn/3.5 Ag solder paste:>217°C for 90 seconds
Vibration	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Solder specimen inductor on the test printed circuit board. Apply vibrations in each of the x, y and z directions for 2 house for a total of 6 hours. Frequency : 10~50 Hz Amplitude : 1.5mm
High temperature resistance	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature 125±2℃ for 500±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Static Humidity	Inductors must not have a shorted or open winding.	Inductors shall be subjected to temperature 85±2℃ and 90 to 95%RH for ten 24hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Component adhesion (push test)	Inductors shall be subjected to 1.8Kg	Inductors shall be reflow soldered (255°C ±5°C for 10 seconds) to a tinned copper substrate. A force gauge shall be applied to the side of the component. The device must withstand the stated force without a failure of the termination.
Low temperature storage	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature -40±2℃ for 500±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 1 to 2 hours.
Resistance to solvent	There must be no case deformation, change in dimensions, or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.
Thermal shock	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to 10 cycles to the following temperature cycle:  Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.

■ RECOMMENDED SOLDERING CONDITIONS

Please use this product by reflow soldering

1. Recommended Reflow Pattern

Reflow: until two times



2. Iron Soldering

Use a solder iron of less than 30W when soldering, do not allow the soldering iron tip directly touch the Ceramic body outside of terminal electrode.
5 seconds max. at 260℃.

3. Attention in Case of Using

In case of using product, please avoid following matters:

Splashing water or salt water
Dew condenses
Toxic gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
Vibrations or shocks which exceed the specified condition

Please be careful for the stress to this product by board flexure or something after the mounting.

4. Other

Operating temperature range : Ceramic Series :-40~+125℃
Storage condition : Temperature 20˚~25℃, Relative Humidity 40%~60%
Recommended wire wound inductors should be used within 6 months from the time of delivery.

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