



High Frequency Ceramic SMT Chip Inductor SCL252018CS Series

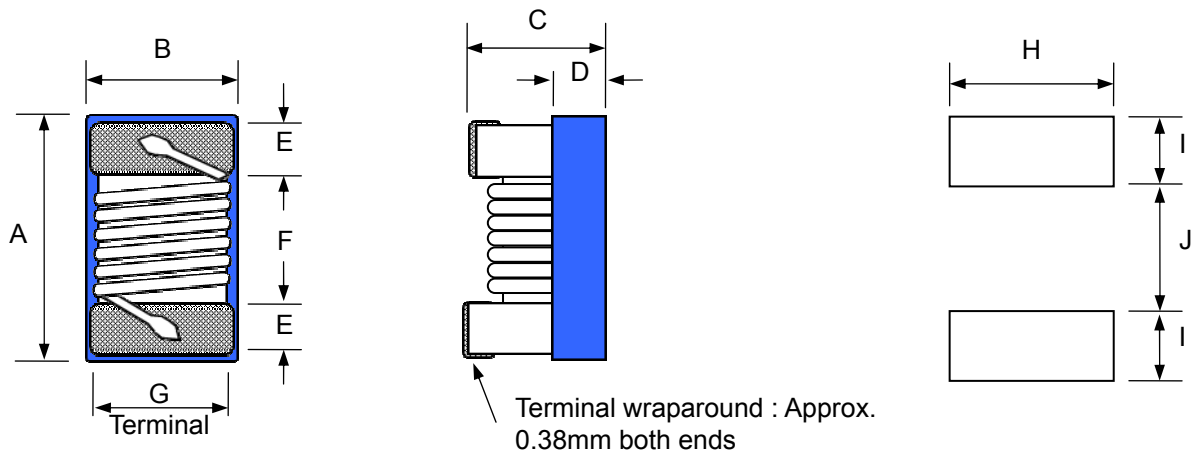
■ Feature

- 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.

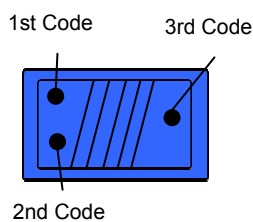
■ SHAPES AND DIMENSIONS



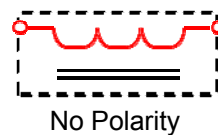
Recommend PAD Layout

Unit	A max	B max	C max	D ref	E	F	G	H	I	J
mm	2.90	2.54	2.03	1.30	0.45 ±0.1	1.60 ±0.1	2.0	2.54	1.02	1.27
inch	0.114	0.100	0.080	0.051	0.018 ±0.004	0.063 ±0.004	0.079	0.100	0.040	0.050

Marking : Color Coding



Equivalent circuit





■ PART NUMBER CODE

<u>SCL</u>	<u>252018</u>	<u>CS</u> - <u>10N</u>	<u>J</u>	<u>A</u>	
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°C rise above 25°C ambient.
 - 1.4. Operating temperature range -40°C to 125°C



2. Part Number and Characteristics Table

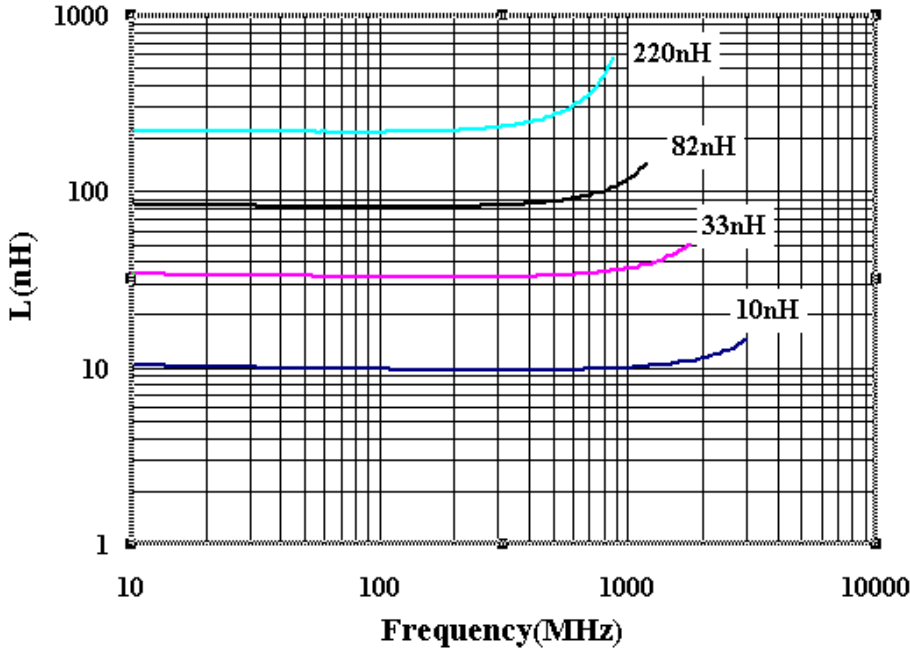
Part Number	Inductance	Inductance	Q/MHz	SRF	RDC	Irms	Color Coding		
	(nH)/MHz	Tolerance	Min.	(MHz)	(Ω)	(mA)	1st	2nd	3rd
SCL252018CS-4N7□A	4.7/50	J, K	28/500	7500	0.15	600	Yellow	Violet	Black
SCL252018CS-10N□A	10/50	G, J, K	50/500	4100	0.08	1000	Brown	Black	Black
SCL252018CS-12N□A	12/50	G, J, K	50/500	3300	0.09	1000	Brown	Red	Black
SCL252018CS-15N□A	15/50	G, J, K	45/500	2500	0.10	1000	Brown	Green	Black
SCL252018CS-18N□A	18/50	G, J, K	50/350	2500	0.11	1000	Brown	Gray	Black
SCL252018CS-22N□A	22/50	G, J, K	55/350	2400	0.12	1000	Red	Red	Black
SCL252018CS-27N□A	27/50	G, J, K	55/350	1600	0.13	1000	Red	Violet	Black
SCL252018CS-33N□A	33/50	G, J, K	60/350	1600	0.14	1000	Orange	Orange	Black
SCL252018CS-39N□A	39/50	G, J, K	60/350	1500	0.15	1000	Orange	White	Black
SCL252018CS-47N□A	47/50	G, J, K	65/350	1500	0.16	1000	Yellow	Violet	Black
SCL252018CS-56N□A	56/50	G, J, K	65/350	1300	0.18	1000	Green	Blue	Black
SCL252018CS-68N□A	68/50	G, J, K	65/350	1300	0.20	1000	Blue	Gray	Black
SCL252018CS-82N□A	82/50	G, J, K	60/350	1000	0.22	1000	Gray	Red	Black
SCL252018CS-R10□A	100/25	G, J, K	60/350	1000	0.56	650	Brown	Black	Brown
SCL252018CS-R12□A	120/25	G, J, K	60/350	950	0.63	650	Brown	Red	Brown
SCL252018CS-R15□A	150/25	G, J, K	45/100	850	0.70	580	Brown	Green	Brown
SCL252018CS-R18□A	180/25	G, J, K	45/100	750	0.77	620	Brown	Gray	Brown
SCL252018CS-R22□A	220/25	G, J, K	45/100	700	0.84	500	Red	Red	Brown
SCL252018CS-R27□A	270/25	G, J, K	45/100	600	0.91	500	Red	Violet	Brown
SCL252018CS-R33□A	330/25	G, J, K	45/100	570	1.05	450	Orange	Orange	Brown
SCL252018CS-R39□A	390/25	G, J, K	45/100	500	1.12	470	Orange	White	Brown
SCL252018CS-R47□A	470/25	G, J, K	45/100	450	1.19	470	Yellow	Violet	Brown
SCL252018CS-R56□A	560/25	G, J, K	45/100	415	1.33	400	Green	Blue	Brown
SCL252018CS-R62□A	620/25	G, J, K	45/100	375	1.40	300	Blue	Red	Brown
SCL252018CS-R68□A	680/25	G, J, K	45/100	375	1.47	400	Blue	Gray	Brown
SCL252018CS-R75□A	750/25	G, J, K	45/100	360	1.54	360	Violet	Green	Brown
SCL252018CS-R82□A	820/25	G, J, K	45/100	350	1.61	400	Gray	Red	Brown
SCL252018CS-R91□A	910/25	G, J, K	35/50	320	1.68	380	White	Brown	Brown
SCL252018CS-1R0□A	1000/25	G, J, K	35/50	290	1.75	370	Brown	Black	Red
SCL252018CS-1R2□A	1200/7.9	G, J, K	35/50	250	2.00	310	Brown	Red	Red
SCL252018CS-1R5□A	1500/7.9	G, J, K	28/50	200	2.30	330	Brown	Green	Red
SCL252018CS-1R8□A	1800/7.9	G, J, K	28/50	160	2.60	300	Brown	Gray	Red
SCL252018CS-2R2□A	2200/7.9	G, J, K	28/50	160	2.80	280	Red	Red	Red
SCL252018CS-2R7□A	2700/7.9	G, J, K	22/25	135	3.20	290	Red	Violet	Red
SCL252018CS-3R3□A	3300/7.9	G, J, K	22/25	110	3.40	290	Orange	Orange	Red
SCL252018CS-3R9□A	3900/7.9	G, J, K	20/25	100	3.60	260	Orange	White	Red
SCL252018CS-4R7□A	4700/7.9	G, J, K	20/25	90	4.00	260	Yellow	Violet	Red
SCL252018CS-5R6□A	5600/7.9	G, J, K	18/7.9	40	4.20	240	Green	Blue	Red
SCL252018CS-6R8□A	6800/7.9	G, J, K	18/7.9	40	4.90	200	Blue	Gray	Red
SCL252018CS-8R2□A	8200/7.9	G, J, K	18/7.9	25	6.00	170	Gray	Red	Red
SCL252018CS-100□A	10000/2.5	G, J, K	18/7.9	25	8.00	150	Brown	Black	Orange

When ordering, please specify tolerance and packaging codes. Ex: SCL252018CS-R39JA ;
Tolerance : G = ±2% , J = ±5% , K = ±10% ; Packaging: Clear tape and reel { standard }.

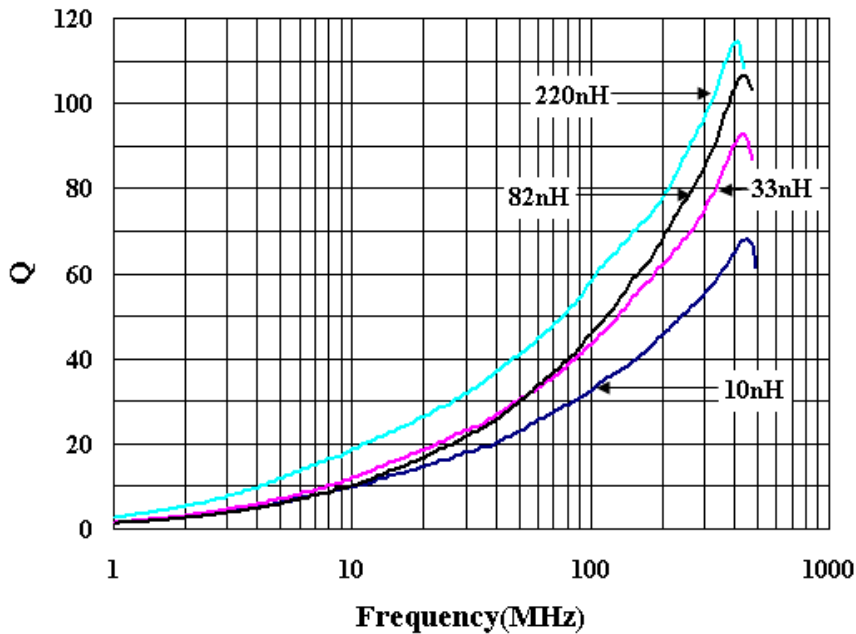


■ TYPICAL CHARACTERISTICS CURVE

1. L VS. FREQUENCY CHARACTERISTICS

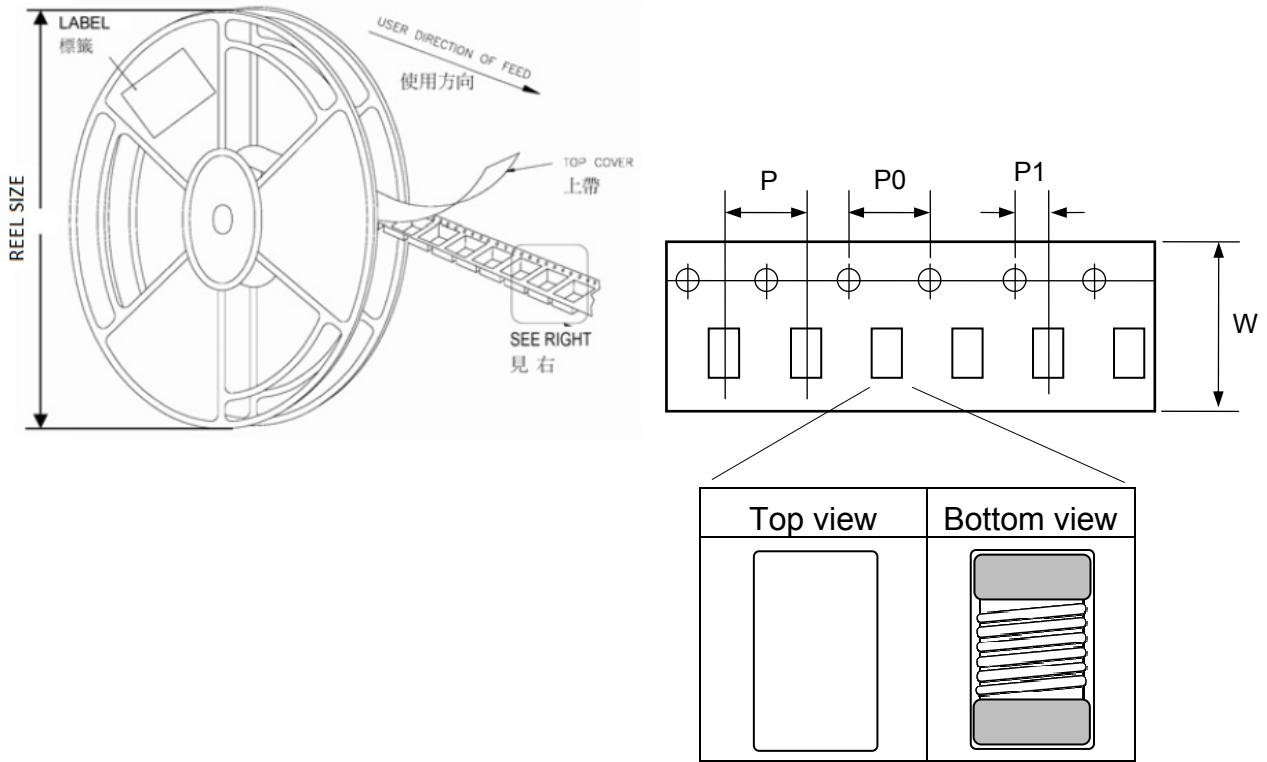


2. Q VS. FREQUENCY CHARACTERISTICS





REEL DIMENSIONS AND PACKAGING QUANTITY

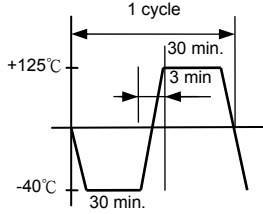


Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SCL252018CS	8	4	4	2	180 mm (7")	2000



■ 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°C 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°C 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°C 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.

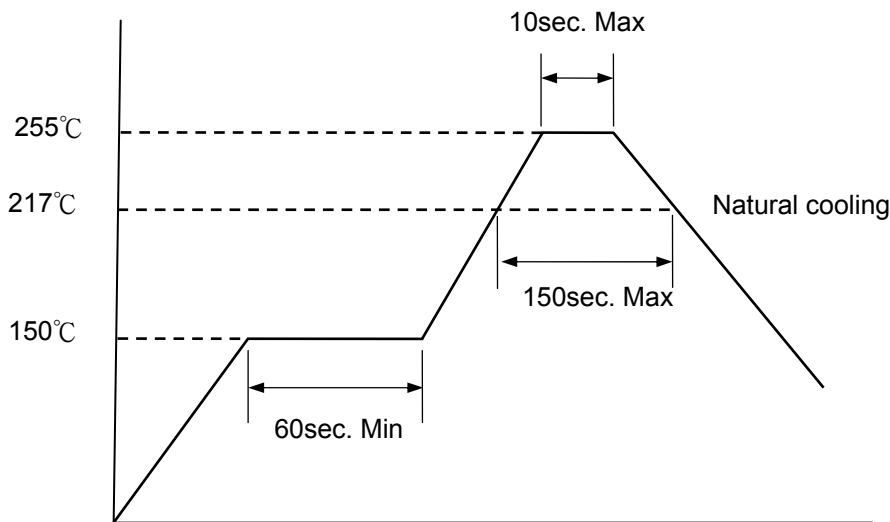


■ RECOMMENDED SOLDERING CONDITIONS

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°C.

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°C

Storage condition : Temperature 20°~25°C, Relative Humidity 40%~60%

Recommended wire wound inductors should be used within 6 months from the time of delivery.