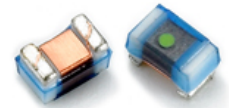




## High Frequency Ceramic SMT Chip Inductor SCL160808CS Series



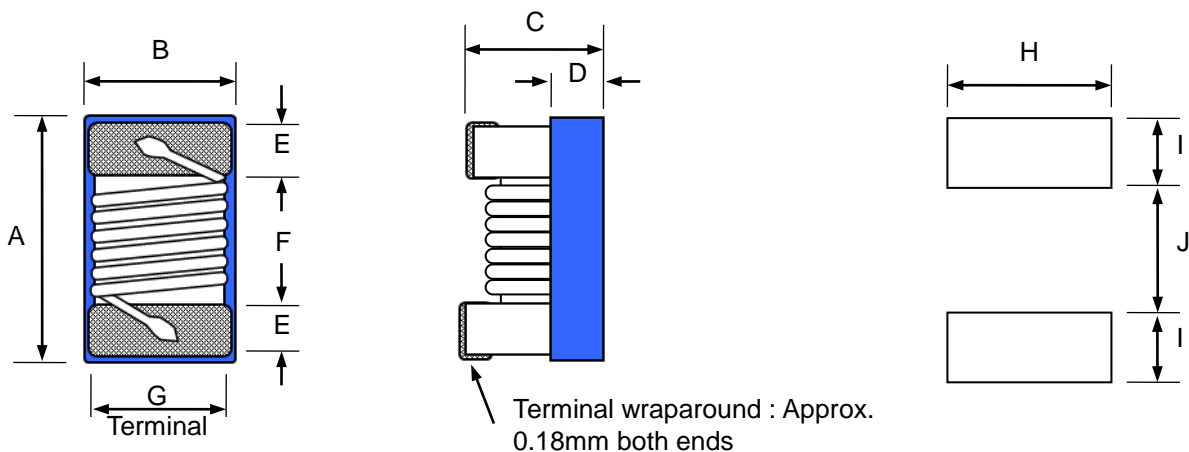
### ■ Feature

- 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

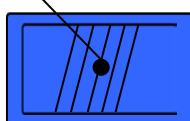


Recommend PAD Layout

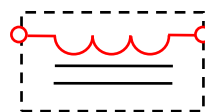
Unit	A max	B max	C max	D ref	E	F	G	H	I	J
mm	1.8	1.2	1.02	0.45	0.33 ±0.1	0.89 ±0.1	0.90	1.02	0.64	0.64
inch	0.071	0.047	0.040	0.018	0.013 ±0.004	0.035 ±0.004	0.035	0.040	0.025	0.025

Marking : Color Coding

1st Code



Equivalent circuit



No Polarity



## ■ PART NUMBER CODE

<u>SCL</u>	<u>160808</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	Tole.	Q/MHz	900MHz		1.7GHz		SRF	Rdc	Irms	Color Coding
	(nH)/MHz			Min.	L typ	Q typ	L typ	Q typ	(MHz)	(Ω)	
SCL160808CS-1N8□A	1.8/250	J, K	16/250	1.77	46.55	1.77	59.72	12500	0.045	700	Black
SCL160808CS-1N9□A	1.9/250	J, K	13/250	1.85	33.56	1.90	53.33	12500	0.060	700	Red
SCL160808CS-2N0□A	2.0/250	J, K	13/250	1.97	44.00	1.96	89.73	12500	0.080	700	Orange
SCL160808CS-2N2□A	2.2/250	J, K	13/250	2.14	26.03	2.13	34.11	12500	0.150	700	Yellow
SCL160808CS-3N3□A	3.3/250	J, K	30/250	3.42	73.45	3.46	95.36	5900	0.045	700	Blue
SCL160808CS-3N6□A	3.6/250	J, K	22/250	3.68	64.20	3.73	82.77	5900	0.063	700	Red
SCL160808CS-3N9□A	3.9/250	G, J, K	22/250	3.90	50.11	3.94	67.32	6900	0.080	700	Brown
SCL160808CS-4N1□A	4.1/250	J, K	22/250	4.18	66.30	4.38	80.63	6000	0.063	700	Red
SCL160808CS-4N3□A	4.3/250	J, K	22/250	4.44	67.50	4.59	81.57	5900	0.063	700	Orange
SCL160808CS-4N7□A	4.7/250	J, K	20/250	4.65	58.79	4.75	75.36	5800	0.085	700	Violet
SCL160808CS-5N1□A	5.1/250	J, K	20/250	5.07	54.50	5.21	70.06	5700	0.115	700	Green
SCL160808CS-5N6□A	5.6/250	J, K	20/250	5.48	43.67	5.66	55.16	5800	0.160	700	Black
SCL160808CS-6N0□A	6.0/250	J, K	20/250	6.08	64.00	6.40	108.0	5700	0.115	700	Brown
SCL160808CS-6N2□A	6.2/250	G, J, K	26/250	6.35	65.72	6.69	85.36	5700	0.115	700	Gray
SCL160808CS-6N3□A	6.3/250	J, K	26/250	6.54	68.68	6.71	88.51	5700	0.115	700	White
SCL160808CS-6N8□A	6.8/250	G, J, K	27/250	6.89	62.87	7.08	82.33	5800	0.125	700	Red
SCL160808CS-7N5□A	7.5/250	G, J, K	28/250	7.57	65.18	7.84	85.57	4800	0.115	700	Brown
SCL160808CS-8N2□A	8.2/250	J, K	30/250	8.13	65.01	8.47	82.23	4700	0.125	700	Orange
SCL160808CS-8N7□A	8.7/250	G, J, K	28/250	8.76	63.94	9.22	76.37	4600	0.109	700	Yellow
SCL160808CS-9N1□A	9.1/250	J, K	28/250	9.208	62.29	9.77	75.88	4600	0.120	700	Black
SCL160808CS-9N5□A	9.5/250	G, J, K	28/250	9.79	62.25	10.58	69.16	5400	0.145	700	Blue
SCL160808CS-10N□A	10/250	G, J, K	31/250	10.36	69.22	10.81	90.90	4800	0.145	700	Orange
SCL160808CS-11N□A	11/250	G, J, K	30/250	11.22	67.67	11.80	85.69	4000	0.145	700	Gray
SCL160808CS-12N□A	12/250	G, J, K	35/250	12.37	69.26	13.22	83.39	4000	0.130	700	Yellow
SCL160808CS-13N□A	13/250	G, J, K	30/250	13.06	71.34	13.27	82.32	4000	0.130	700	Red
SCL160808CS-15N□A	15/250	G, J, K	35/250	15.22	76.65	16.37	88.93	4000	0.170	700	Green
SCL160808CS-16N□A	16/250	G, J, K	34/250	16.60	79.11	18.38	79.94	3300	0.170	700	White
SCL160808CS-18N□A	18/250	G, J, K	35/250	18.44	76.19	20.05	80.07	3100	0.180	700	Blue
SCL160808CS-19N□A	19/250	G, J, K	35/250	19.71	73.77	23.35	62.78	3000	0.190	700	Brown
SCL160808CS-20N□A	20/250	G, J, K	38/250	20.50	79.78	23.27	86.77	3000	0.180	700	Red
SCL160808CS-22N□A	22/250	G, J, K	38/250	22.66	78.78	25.67	83.99	3000	0.190	700	Violet
SCL160808CS-23N□A	23/250	G, J, K	38/250	24.19	70.88	28.48	72.86	2850	0.205	700	Orange
SCL160808CS-24N□A	24/250	G, J, K	36/250	25.74	70.93	31.01	63.21	2650	0.205	700	Black
SCL160808CS-25N□A	25/250	G, J, K	38/250	25.93	84.76	29.73	89.52	2800	0.210	600	Yellow
SCL160808CS-27N□A	27/250	G, J, K	40/250 50/500	29.03	59.83	37.43	46.06	2800	0.220	600	Gray
SCL160808CS-30N□A	30/250	G, J, K	37/250	32.91	68.96	41.66	59.67	2250	0.220	600	Brown



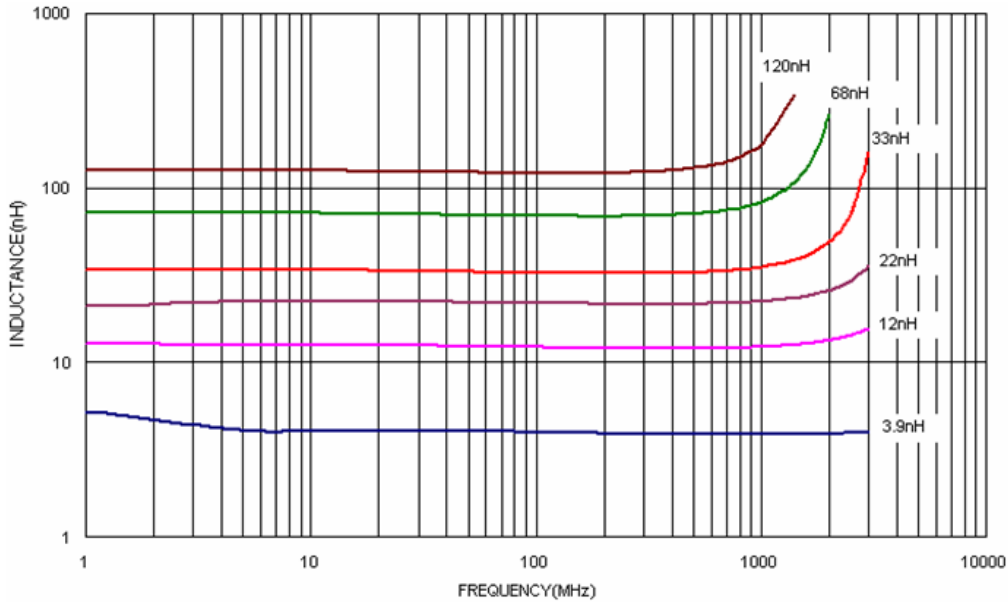
Part Number	Inductance	Tol.	Q/MHz	900MHz		1.7GHz		SRF	Rdc	Irms	Color Coding
	(nH)/MHz			Min.	L typ	Q typ	L typ	Q typ	(MHz)	(Ω)	
SCL160808CS-33N□A	33/250	G, J, K	40/250	35.72	61.57	47.39	50.44	2300	0.220	600	White
SCL160808CS-36N□A	36/250	G, J, K	37/250	39.45	64.02	50.92	59.84	2080	0.250	600	Red
SCL160808CS-39N□A	39/250	G, J, K	40/250	42.71	61.22	58.42	47.55	2200	0.260	600	Black
SCL160808CS-43N□A	43/250	G, J, K	38/250	47.21	62.53	64.17	53.05	2000	0.280	600	Orange
SCL160808CS-47N□A	47/200	G, J, K	38/200	51.82	52.98	77.03	39.17	2000	0.280	600	Brown
SCL160808CS-51N□A	51/200	G, J, K	38/250	59.27	50.95	103.8	23.61	2130	0.300	600	Violet
SCL160808CS-56N□A	56/200	G, J, K	38/200	64.38	51.47	108.1	28.82	1900	0.310	600	Red
SCL160808CS-62N□A	62/200	G, J, K	37/200	73.30	42.68	156.5	16.15	1800	0.330	600	Gray
SCL160808CS-68N□A	68/200	G, J, K	37/200	80.23	44.33	174.0	18.31	1700	0.340	600	Orange
SCL160808CS-72N□A	72/150	G, J, K	34/150	86.67	41.11	212.9	15.59	1700	0.490	400	Yellow
SCL160808CS-75N□A	75/150	G, J, K	34/150	—	—	—	—	1700	0.430	1000	Blue
SCL160808CS-79N□A	79/150	G, J, K	34/150	87.02	44.18	—	—	1700	0.500	400	White
SCL160808CS-82N□A	82/150	G, J, K	34/150	101.2	37.88	300.6	11.78	1700	0.540	400	Green
SCL160808CS-85N□A	85/150	G, J, K	34/150	92.40	98.00	—	—	1600	0.550	400	Blue
SCL160808CS-91N□A	91/150	G, J, K	34/150	111.8	49.36	—	—	1500	0.560	400	Brown
SCL160808CS-R10□A	100/150	G, J, K	34/150	126.9	36.13	—	—	1400	0.580	400	Blue
SCL160808CS-R11□A	110/150	G, J, K	32/150	146.8	34.58	—	—	1350	0.610	300	Violet
SCL160808CS-R12□A	120/150	G, J, K	32/150	166.8	28.57	—	—	1300	0.650	300	Gray
SCL160808CS-R13□A	130/150	G, J, K	32/150	180.1	36.93	—	—	1200	0.750	280	Orange
SCL160808CS-R14□A	140/150	G, J, K	30/150	—	—	—	—	1000	0.900	280	Yellow
SCL160808CS-R15□A	150/150	G, J, K	28/150	234.9	21.92	—	—	990	0.920	280	White
SCL160808CS-R16□A	160/150	G, J, K	28/150	247.5	13.58	—	—	990	1.050	260	Red
SCL160808CS-R17□A	170/100	G, J, K	25/100	228.4	34.96	—	—	990	1.150	240	Yellow
SCL160808CS-R18□A	180/100	G, J, K	25/100	289.1	19.93	—	—	990	1.250	240	Black
SCL160808CS-R19□A	190/100	G, J, K	25/100	279.1	30.83	—	—	990	1.350	200	Green
SCL160808CS-R20□A	200/100	G, J, K	25/100	—	—	—	—	990	1.500	200	Orange
SCL160808CS-R22□A	220/100	G, J, K	25/100	—	—	—	—	900	1.600	250	Brown
SCL160808CS-R24□A	240/100	G, J, K	25/100	—	—	—	—	900	1.900	200	Violet
SCL160808CS-R25□A	250/100	G, J, K	25/100	—	—	—	—	900	2.340	250	Green
SCL160808CS-R27□A	270/100	G, J, K	24/100	—	—	—	—	900	2.000	170	Red
SCL160808CS-R30□A	300/100	G, J, K	25/100	—	—	—	—	900	2.700	150	Green
SCL160808CS-R33□A	330/100	G, J, K	25/100	—	—	—	—	900	2.750	100	Blue
SCL160808CS-R34□A	340/100	G, J, K	25/100	—	—	—	—	900	2.900	100	Gray
SCL160808CS-R36□A	360/100	G, J, K	25/100	—	—	—	—	900	3.070	100	Red
SCL160808CS-R37□A	370/100	G, J, K	25/100	—	—	—	—	900	3.100	100	Orange
SCL160808CS-R39□A	390/100	G, J, K	25/100	—	—	—	—	900	3.150	100	Yellow
SCL160808CS-R47□A	470/100	G, J, K	25/100	—	—	—	—	750	4.000	80	Green

When ordering, please specify tolerance and packaging codes. Ex: SCL160808CS-R39JA ;  
Tolerance : G = ±2% , J = ±5% , K = ±10% ; Packaging: Clear tape and reel { standard }.

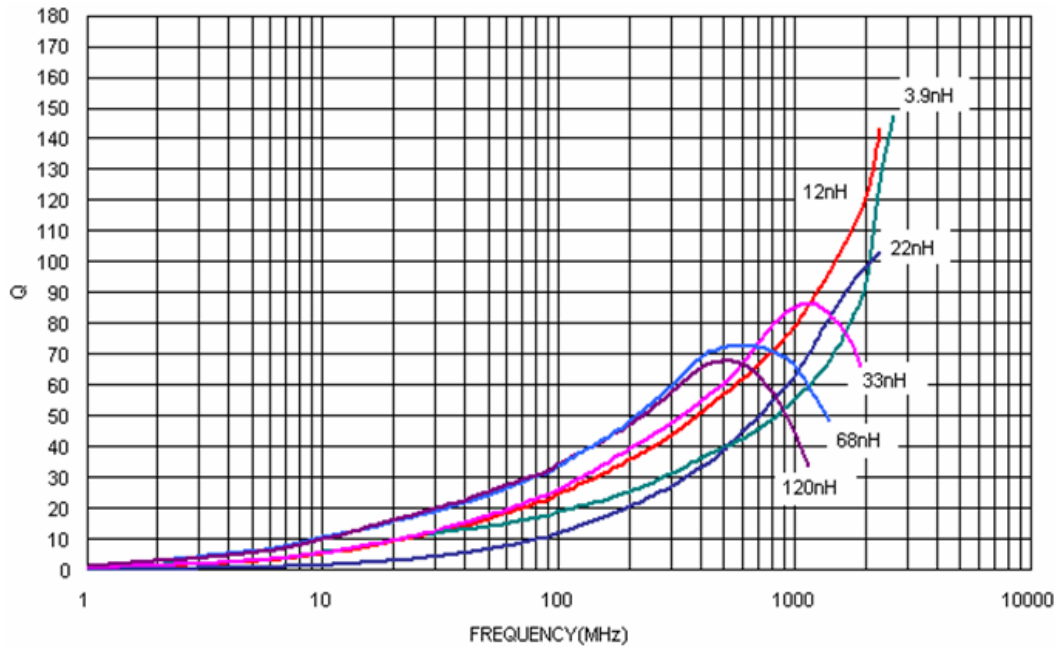


## ■ TYPICAL CHARACTERISTICS CURVE

### 1. L VS. FREQUENCY CHARACTERISTICS

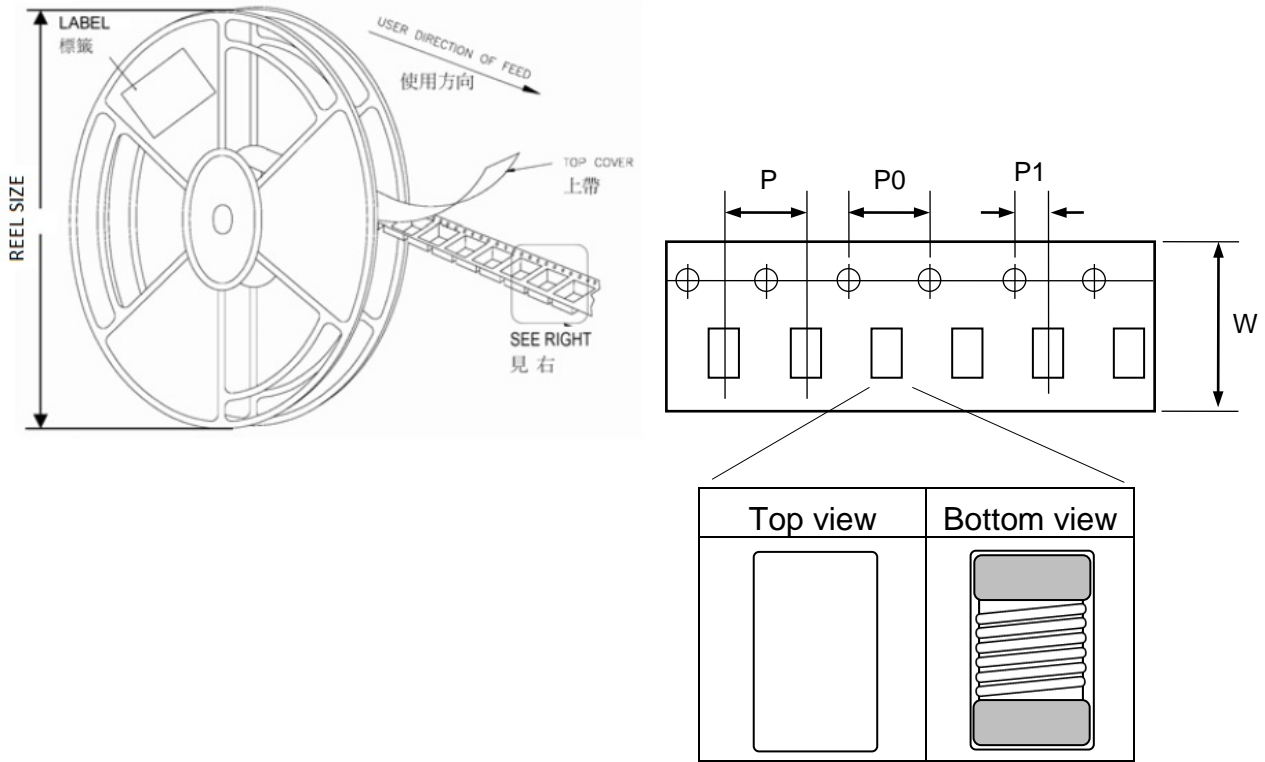


### 2. Q VS. FREQUENCY CHARACTERISTICS





## ■ REEL DIMENSIONS AND PACKAGING QUANTITY

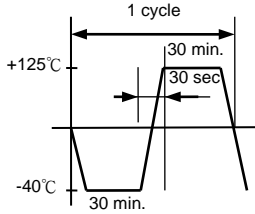


Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SCL160808CS	8	4	4	2	180 mm (7")	4000



## ■ 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.
Component adhesion (push test)	Inductors shall be subjected to 0.9Kg	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.
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.
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.

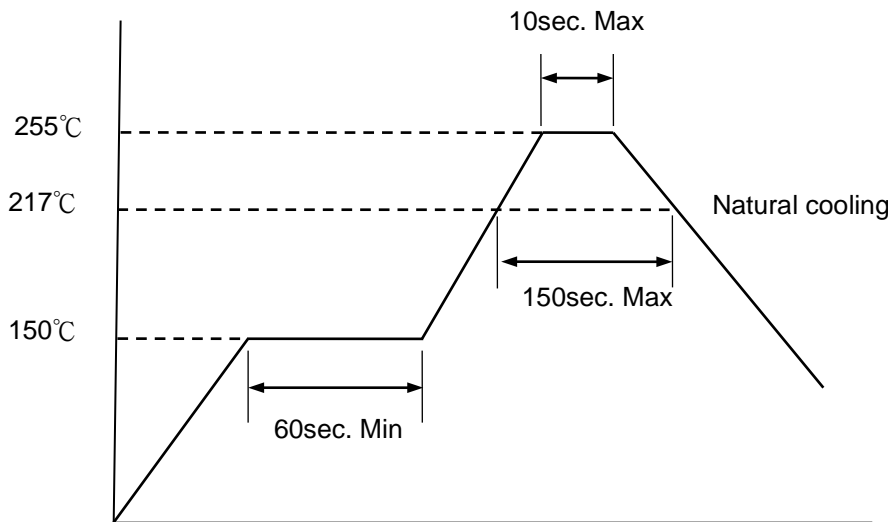


## ■ RECOMMENDED SOLDERING CONDITIONS

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.