



SMT Ferrite Chip Inductor SFI160808C Series

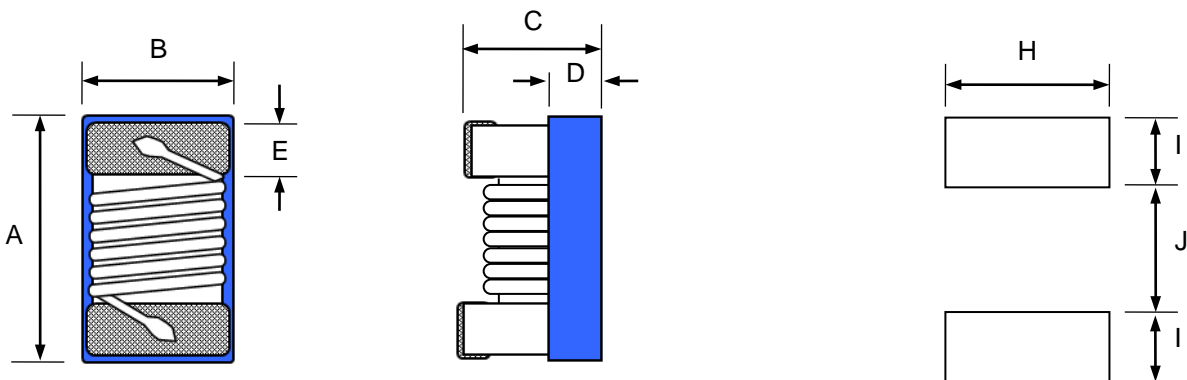
■ Feature

- Utilizing a miniaturized winding structure.
- These products provide low DC resistance and high current.
- Precision inductance tolerance is available.

■ Application

- Personal computers, Hard disk drives.
- xDSL modem and Cable modem.
- Digital camera and other electronic equipment

■ SHAPES AND DIMENSIONS



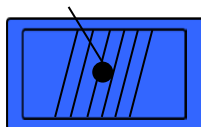
Recommend PAD Layout

Unit	A max	B max	C max	D ref	E
mm	1.8	1.2	1.1	0.45	0.33 ±0.1
inch	0.071	0.047	0.043	0.018	0.013 ±0.004

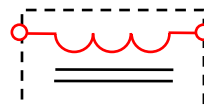
H	I	J
1.02	0.64	0.64
0.040	0.025	0.025

Marking : Color Coding

1st Code



Equivalent circuit



No Polarity



■ PART NUMBER CODE

SFI 160808 C R82 J A
1 2 3 4 5 6

1. Series Name
2. Size Code
3. Type Code
4. Inductance (R=Decimal Point) Unit : uH
R82 = 0.82uH
5. Inductance tolerance :
“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. Isat for Inductance drop 35% from its value without current.
 - 1.4. Irms for 40°C rise above 25°C ambient.
 - 1.5. Operating temperature range -25°C to 105°C



2. Part Number and Characteristics Table

Part Number	Inductance	Inductance	Q/MHz	SRF	Rdc	Isat	Irms	Color Coding
	(uH)/MHz	Tolerance	Min.	Min.	Max.	Max.	Typ.	
SFI160808C-47N□A	0.047/7.9	J, K	12/7.9	2000	0.075	1800	1600	White
SFI160808C-51N□A	0.051/7.9	J, K	12/7.9	1500	0.075	1800	1500	Violet
SFI160808C-56N□A	0.056/7.9	J, K	7/7.9	1500	0.095	2200	1600	Blue
SFI160808C-68N□A	0.068/7.9	K	10/7.9	1500	0.12	2200	1700	Gray
SFI160808C-72N□A	0.072/7.9	K	12/7.9	1500	0.12	2200	1600	Brown
SFI160808C-R10□A	0.10/7.9	J, K	12/7.9	1150	0.13	2200	1300	Black
SFI160808C-R12□A	0.12/7.9	J, K	12/7.9	1100	0.15	1900	1300	Orange
SFI160808C-R15□A	0.15/7.9	J, K	15/7.9	1050	0.15	1800	1100	Brown
SFI160808C-R18□A	0.18/7.9	J, K	15/7.9	950	0.15	1800	1100	Green
SFI160808C-R22□A	0.22/7.9	J, K	15/7.9	900	0.30	1300	990	Red
SFI160808C-R24□A	0.24/7.9	J, K	15/7.9	850	0.16	1700	1100	Green
SFI160808C-R27□A	0.27/7.9	J, K	15/7.9	835	0.30	1400	1000	Yellow
SFI160808C-R33□A	0.33/7.9	J, K	15/7.9	725	0.40	1300	1000	Orange
SFI160808C-R36□A	0.36/7.9	J, K	15/7.9	720	0.41	1300	990	Green
SFI160808C-R39□A	0.39/7.9	J, K	15/7.9	680	0.41	1200	990	Blue
SFI160808C-R47□A	0.47/7.9	J, K	15/7.9	640	0.43	1200	860	Black
SFI160808C-R56□A	0.56/7.9	J, K	15/7.9	630	0.44	1200	860	Brown
SFI160808C-R60□A	0.60/7.9	J, K	15/7.9	510	0.50	1000	840	Green
SFI160808C-R65□A	0.65/7.9	J, K	15/7.9	510	0.52	1000	810	Blue
SFI160808C-R68□A	0.68/7.9	J, K	15/7.9	510	0.52	1000	780	Red
SFI160808C-R78□A	0.78/7.9	J, K	15/7.9	465	0.63	990	780	Orange
SFI160808C-R82□A	0.82/7.9	J, K	15/7.9	460	0.69	990	760	Yellow
SFI160808C-R90□A	0.90/7.9	J, K	15/7.9	350	0.81	950	700	Black
SFI160808C-1R0□A	1.0/7.9	J, K	15/7.9	320	0.81	850	700	Green
SFI160808C-1R2□A	1.2/7.9	J, K	15/7.9	270	0.87	850	590	Blue
SFI160808C-1R5□A	1.5/7.9	J, K	15/7.9	230	0.96	830	570	Violet
SFI160808C-1R8□A	1.8/7.9	J, K	15/7.9	210	1.10	820	540	Gray
SFI160808C-2R2□A	2.2/7.9	J, K	15/7.9	115	1.20	720	540	White
SFI160808C-2R7□A	2.7/7.9	J, K	15/7.9	100	1.38	700	460	Black
SFI160808C-3R0□A	3.0/7.9	J, K	15/7.9	90	1.45	680	430	Black
SFI160808C-3R3□A	3.3/7.9	J, K	15/7.9	84	1.50	640	480	Brown
SFI160808C-3R9□A	3.9/7.9	J, K	15/7.9	75	1.50	630	480	Red
SFI160808C-4R7□A	4.7/7.9	J, K	15/7.9	67	2.10	530	380	Orange
SFI160808C-5R6□A	5.6/7.9	J, K	15/7.9	55	2.37	510	360	Yellow
SFI160808C-6R8□A	6.8/7.9	J, K	15/7.9	48	3.10	490	350	Green
SFI160808C-7R8□A	7.8/7.9	J, K	15/7.9	40	3.35	420	320	Blue
SFI160808C-8R2□A	8.2/7.9	J, K	15/7.9	38	3.50	450	320	Violet

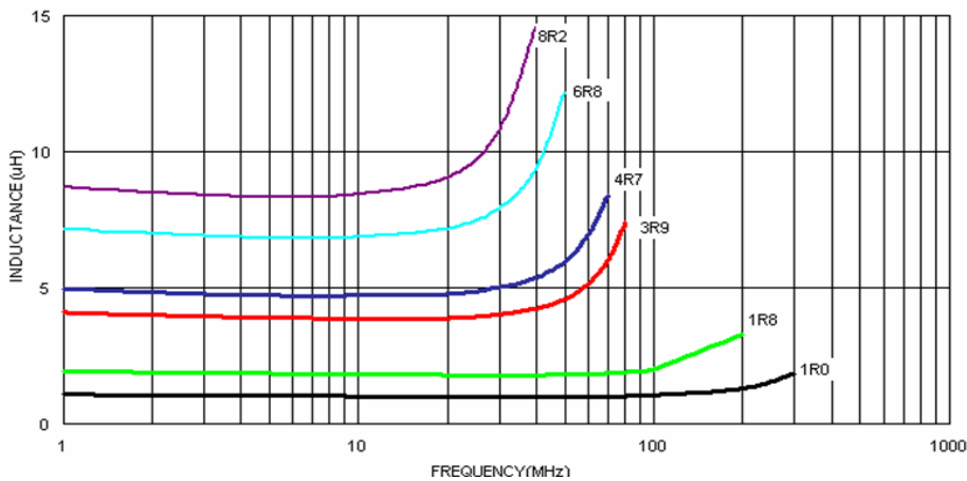


Part Number	Inductance	Inductance	Q/MHz	SRF	Rdc	Isat	Irms	Color Coding
	(uH)/MHz	Tolerance	Min.	Min.	Max.	Max.	Typ.	
SFI160808C-100□A	10/7.9	J, K	15/7.9	32	4.46	370	280	Gray
SFI160808C-150□A	15/7.9	J, K	14/7.9	25	9.50	240	170	White

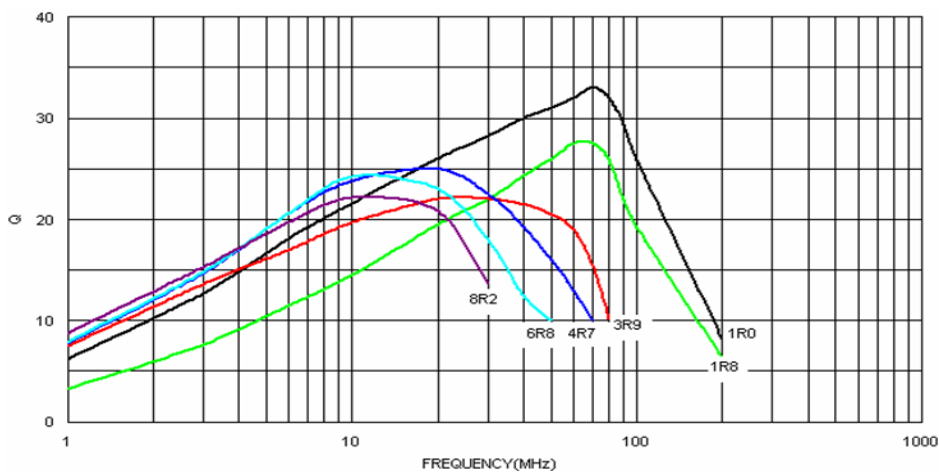
When ordering, please specify tolerance and packaging codes. Ex: SFI160808C-1R0JA ;
Tolerance : J = ±5% , K = ±10% ; Packaging: Clear tape and reel { standard }.

■ TYPICAL CHARACTERISTICS CURVE

1. L VS. FREQUENCY CHARACTERISTICS

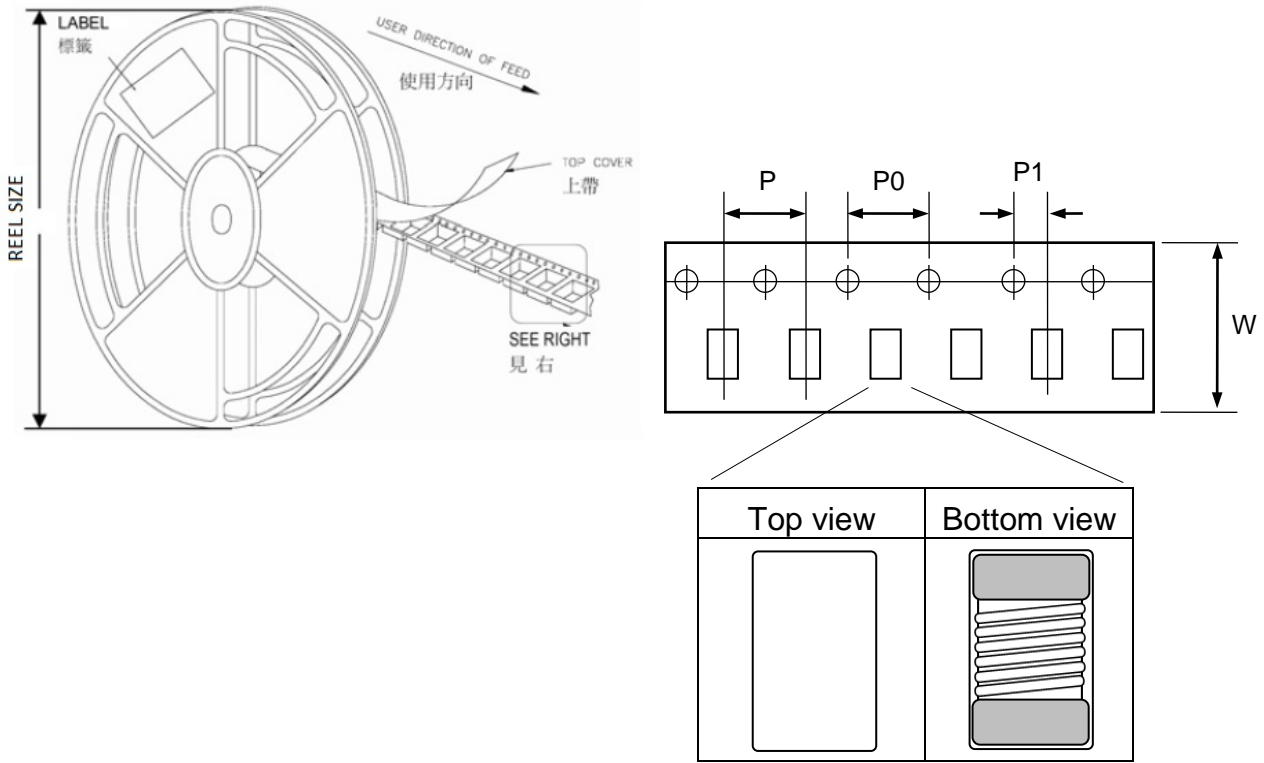


2. Q VS. FREQUENCY CHARACTERISTICS





REEL DIMENSIONS AND PACKAGING QUANTITY



Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SFI160808C	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 105±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 0.45Kg	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 -25±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.

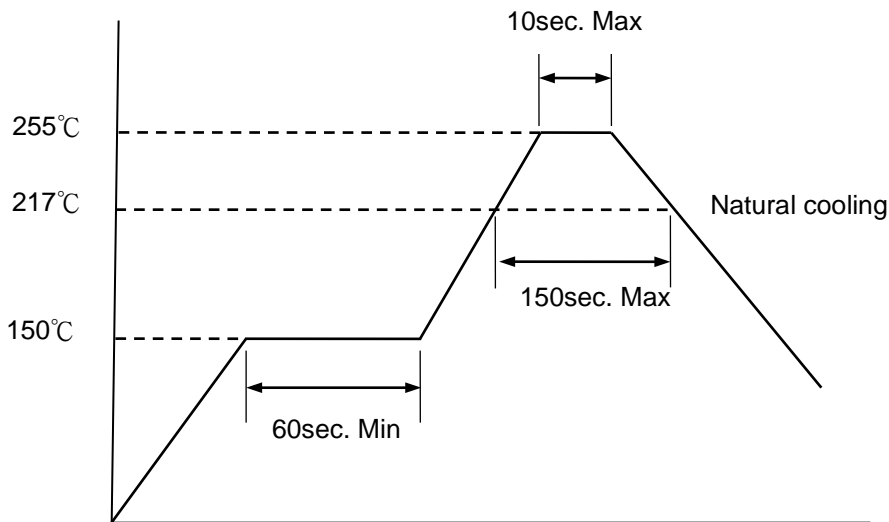


■ RECOMMENDED SOLDERING CONDITIONS

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 : Ferrite Series :-25~+105°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.