



SMT Ferrite Chip Inductor SFI201212C Series

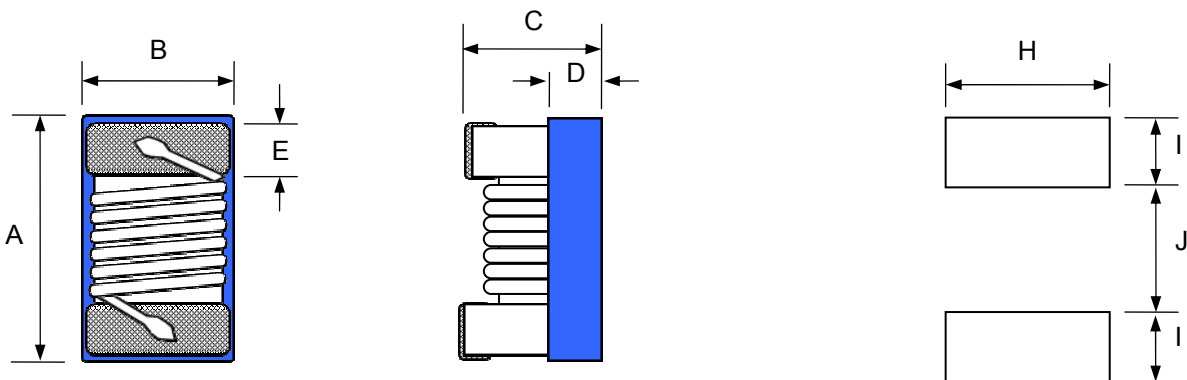
■ Feature

- 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



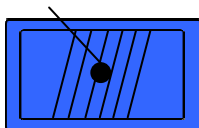
Recommend PAD Layout

Unit	A max	B max	C max	D ref	E
mm	2.4	1.65	1.25	0.65	0.44 ±0.1
inch	0.094	0.065	0.049	0.026	0.017 ±0.004

H	I	J
1.78	1.02	0.96
0.070	0.040	0.038

Marking : Color Coding

1st Code



Equivalent circuit



No Polarity



■ PART NUMBER CODE

<u>SFI</u>	<u>201212</u>	<u>C</u>	<u>220</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 : uH
220 = 22uH
5. Inductance tolerance :
“J” ±5%; “K” ±10%; “M” ±20%.
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 10% from its value without current.
 - 1.4. Irms for 25°C rise above 25°C ambient.
 - 1.5. Operating temperature range -40°C to 125°C



2. Part Number and Characteristics Table

Part Number	Inductance	Inductance	Q/MHz	SRF (MHz)	Rdc (Ω)	Isat (mA)	Irms (mA)	Color Coding
	(uH)/MHz	Tolerance	Typ.	Typ.	±30%	Typ.	Typ.	
SFI201212C-R47□A	0.47/7.9	K, M	14/7.9	850	0.12	1400	1500	Blue
SFI201212C-R68□A	0.68/7.9	K, M	14/7.9	765	0.15	1200	1300	Gray
SFI201212C-1R0□A	1.0/7.9	K, M	14/7.9	208	0.13	1100	1300	Black
SFI201212C-1R2□A	1.2/7.9	K	14/7.9	159	0.16	960	1270	Red
SFI201212C-1R5□T	1.5/7.9	K, M	14/7.9	159	0.17	920	1260	Brown
SFI201212C-1R8□A	1.8/7.9	K, M	14/7.9	112	0.20	860	1080	Orange
SFI201212C-2R2□A	2.2/7.9	K, M	13/7.9	87	0.22	740	1040	Red
SFI201212C-2R7□A	2.7/7.9	K, M	13/7.9	72	0.25	680	1040	Yellow
SFI201212C-3R3□A	3.3/7.9	K, M	12/7.9	70	0.28	620	1020	Orange
SFI201212C-3R9□A	3.9/7.9	K, M	14/7.9	61	0.38	580	960	Green
SFI201212C-4R7□A	4.7/7.9	K, M	14/7.9	51	0.43	520	840	Yellow
SFI201212C-5R6□A	5.6/7.9	K, M	12/7.9	47	0.50	480	800	Blue
SFI201212C-6R8□A	6.8/7.9	K, M	14/7.9	46	0.68	420	700	Green
SFI201212C-8R2□A	8.2/7.9	K, M	13/7.9	33	0.73	400	680	Violet
SFI201212C-100□A	10/2.5	J, K, M	14/2.5	31	0.85	360	560	Blue
SFI201212C-120□A	12/2.5	J, K, M	14/2.5	30	0.90	340	460	Gray
SFI201212C-150□A	15/2.5	J, K, M	15/2.5	28	1.40	300	380	Violet
SFI201212C-180□A	18/2.5	J, K, M	15/2.5	27	1.55	280	360	White
SFI201212C-220□A	22/2.5	J, K, M	15/2.5	20	1.76	240	340	Gray
SFI201212C-270□A	27/2.5	J, K, M	15/2.5	17	2.00	220	300	Black
SFI201212C-330□A	33/2.5	J, K, M	15/2.5	17	2.35	200	300	White
SFI201212C-470□A	47/2.5	J, K, M	14/2.5	15	3.40	160	280	Black
SFI201212C-560□A	56/2.5	J, K, M	14/2.5	10	4.42	150	240	Yellow
SFI201212C-680□A	68/2.5	J, K, M	14/2.5	10	4.45	140	240	Brown
SFI201212C-820□A	82/2.5	J, K, M	14/2.5	10	7.50	100	180	Orange
SFI201212C-101□A	100/1.0	J, K, M	10/1.0	9	7.50	100	180	Red

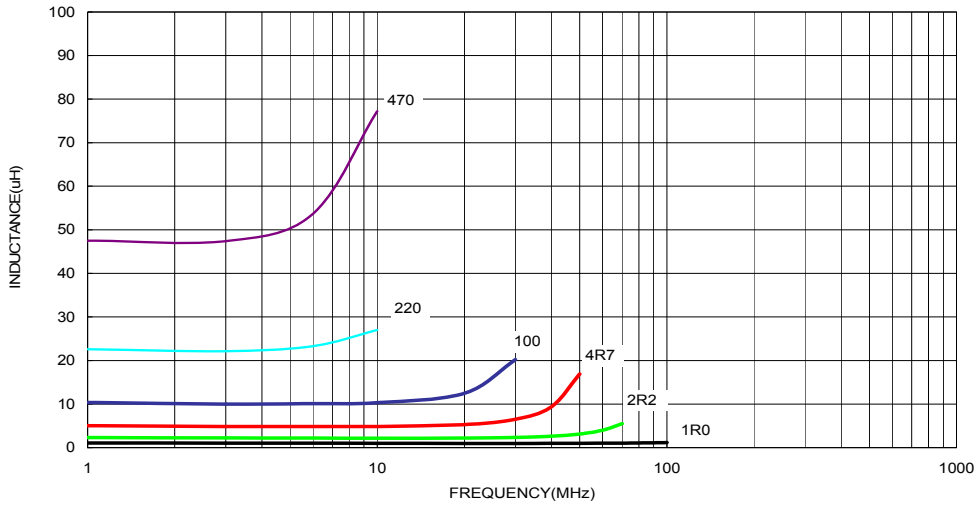
When ordering, please specify tolerance and packaging codes. Ex: SFI201212C-100JA ;

Tolerance : J = ±5% , K = ±10% , M = ±20% ; Packaging: Clear tape and reel { standard }.

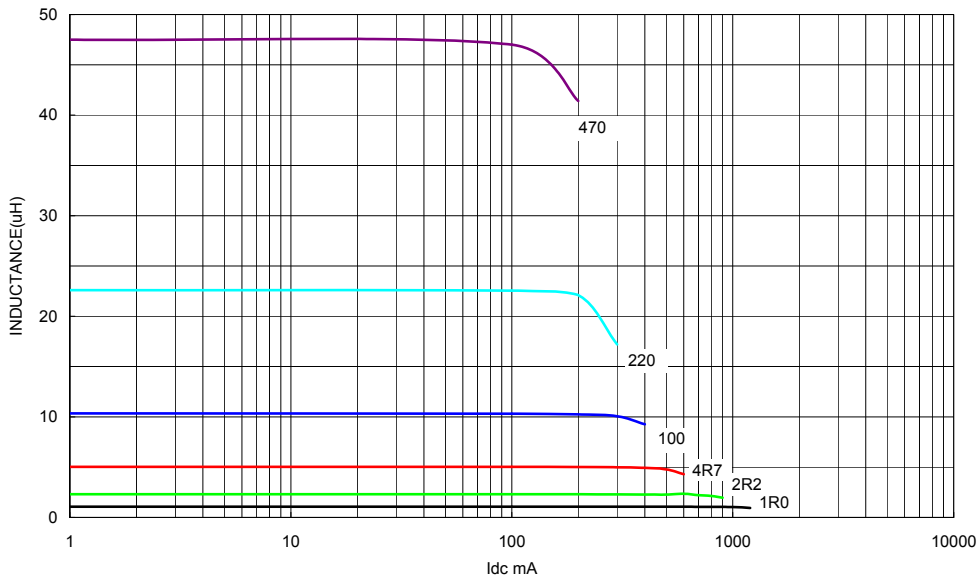


■ TYPICAL CHARACTERISTICS CURVE

1. L VS. FREQUENCY CHARACTERISTICS

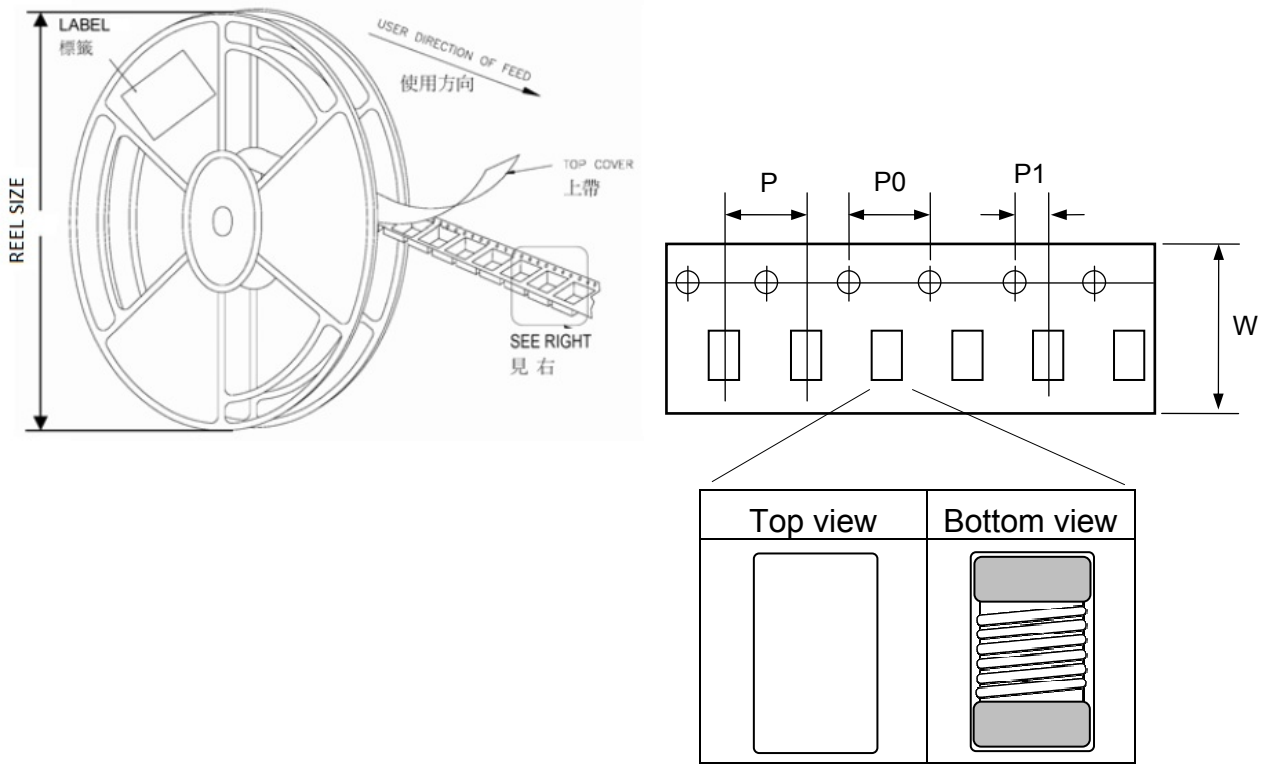


2. Q VS. FREQUENCY CHARACTERISTICS





REEL DIMENSIONS AND PACKAGING QUANTITY

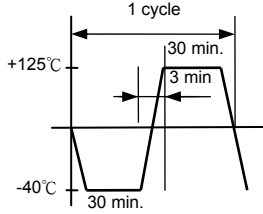


Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SFI201212C	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 50±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 0.9Kg	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.
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 48 ±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 5 cycles to the following temperature cycle:  Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.

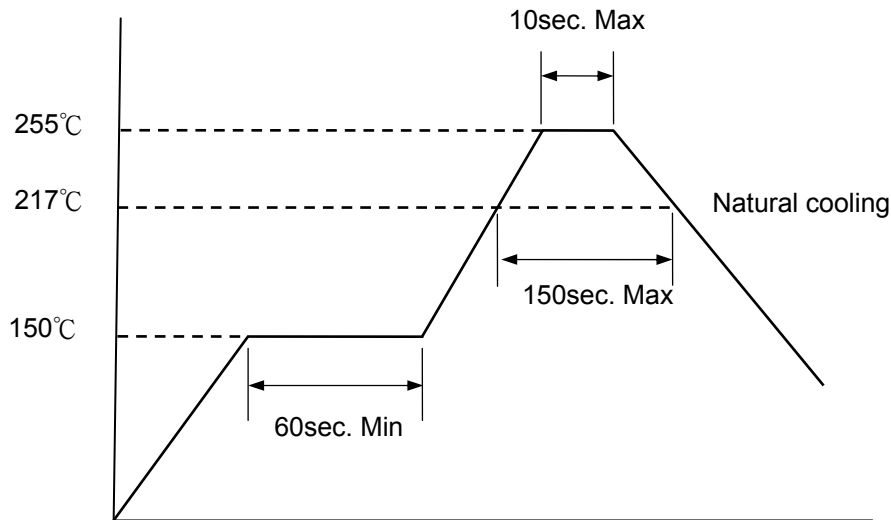


■ RECOMMENDED SOLDERING CONDITIONS

Please use this product by reflow soldering

1. Recommended Reflow Pattern

Reflow at 260°C/3 Cycles



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 : -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.