



## SMT Ferrite Chip Inductor SFI252018C Series



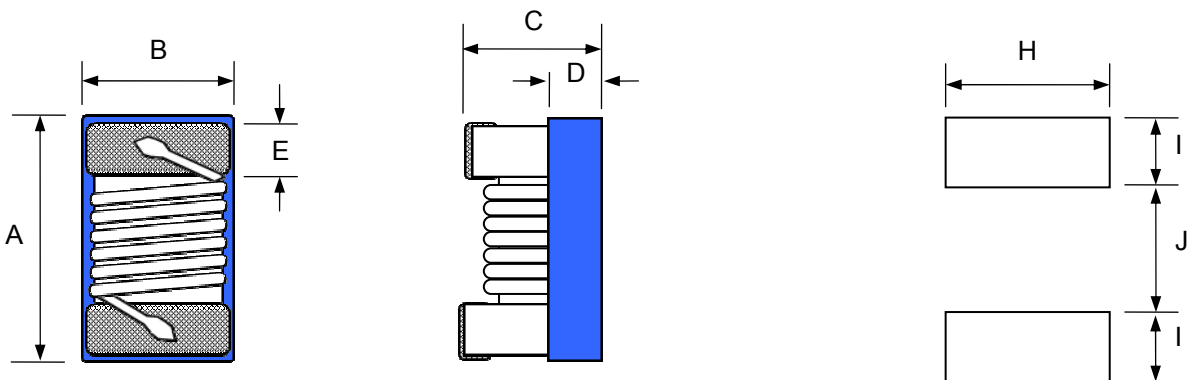
### Feature

- 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

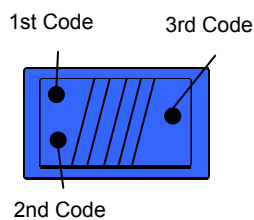


Recommend PAD Layout

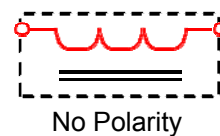
Unit	A max	B max	C max	D ref	E
mm	2.90	2.54	2.00	1.30	0.5 ±0.1
inch	0.114	0.100	0.079	0.051	0.02 ±0.004

H	I	J
2.54	1.02	1.27
0.100	0.040	0.050

### Marking : Color Coding



### Equivalent circuit





## ■ PART NUMBER CODE

<u>SFI</u>	<u>252018</u>	<u>C</u>	<u>100</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  
100 = 10uH
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. Operating temperature range -25°C to 105°C
  - 1.5. Irms for 40°C rise above 25°C ambient.



## 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.	Min.	Max.	Max.	Typ.	1st	2nd	3rd
SFI252018C-78N□A	0.078/7.9	J, K	19/7.9	1000	0.042	3200	2700	Black	Violet	Gray
SFI252018C-R10□A	0.10/25	J, K	35/25	1500	0.05	3200	2700	Brown	Red	Brown
SFI252018C-R22□A	0.22/25	J, K	35/25	800	0.15	2900	2400	Red	Red	Brown
SFI252018C-R39□A	0.39/25	J, K	35/25	460	0.20	2100	1800	Orange	White	Brown
SFI252018C-R47□A	0.47/25	K	35/25	460	0.20	2100	1800	Yellow	Violet	Brown
SFI252018C-R56□A	0.56/25	J, K	35/25	360	0.26	1800	1500	Green	Blue	Brown
SFI252018C-R68□A	0.68/25	J, K	35/25	400	0.30	1700	1500	Blue	Gray	Brown
SFI252018C-R82□A	0.82/25	J, K	35/25	360	0.35	1400	1200	Gray	Red	Brown
SFI252018C-1R0□A	1.0/7.9	K	32/7.9	340	0.34	1700	1200	Brown	Black	Red
SFI252018C-1R1□A	1.1/7.9	K	25/7.9	300	0.34	1500	1100	Brown	Brown	Red
SFI252018C-1R2□A	1.2/7.9	J, K	25/7.9	300	0.25	1600	1100	Brown	Red	Red
SFI252018C-1R5□A	1.5/7.9	J, K	32/7.9	230	0.42	1200	1000	Brown	Green	Red
SFI252018C-1R8□A	1.8/7.9	J, K	27/7.9	180	0.45	1100	800	Brown	Gray	Red
SFI252018C-2R2□A	2.2/7.9	J, K	27/7.9	140	0.50	1100	900	Red	Red	Red
SFI252018C-2R7□A	2.7/7.9	J, K	27/7.9	130	0.55	1000	900	Red	Violet	Red
SFI252018C-3R3□A	3.3/7.9	J, K	27/7.9	125	0.60	1000	900	Orange	Orange	Red
SFI252018C-3R9□A	3.9/7.9	J, K	27/7.9	100	0.80	990	800	Orange	White	Red
SFI252018C-4R7□A	4.7/7.9	J, K	30/7.9	90	0.90	880	720	Yellow	Violet	Red
SFI252018C-5R6□A	5.6/7.9	J, K	27/7.9	60	1.00	850	720	Green	Blue	Red
SFI252018C-6R8□A	6.8/7.9	J, K	27/7.9	60	1.05	840	670	Blue	Gray	Red
SFI252018C-8R2□A	8.2/7.9	J, K	25/7.9	55	1.20	810	640	Gray	Red	Red
SFI252018C-100□A	10/2.5	J, K	23/2.5	55	1.55	700	540	Brown	Black	Orange
SFI252018C-120□A	12/2.5	J, K	23/2.5	36	2.10	580	460	Brown	Red	Orange
SFI252018C-150□A	15/2.5	J, K	23/2.5	36	2.38	580	460	Brown	Green	Orange
SFI252018C-180□A	18/2.5	J, K	23/2.5	32	2.50	520	410	Brown	Gray	Orange
SFI252018C-220□A	22/2.5	J, K	23/2.5	29	2.92	500	400	Red	Red	Orange
SFI252018C-270□A	27/2.5	K	23/2.5	22	3.70	450	300	Red	Violet	Orange
SFI252018C-330□A	33/2.5	J, K	23/2.5	21	4.10	420	300	Orange	Orange	Orange
SFI252018C-390□A	39/2.5	J, K	18/2.5	15	5.50	340	270	Orange	White	Orange
SFI252018C-470□A	47/2.5	J, K	23/2.5	17	7.80	310	220	Yellow	Violet	Orange
SFI252018C-680□A	68/2.5	J, K	20/2.5	9	11.50	220	180	Blue	Gray	Orange

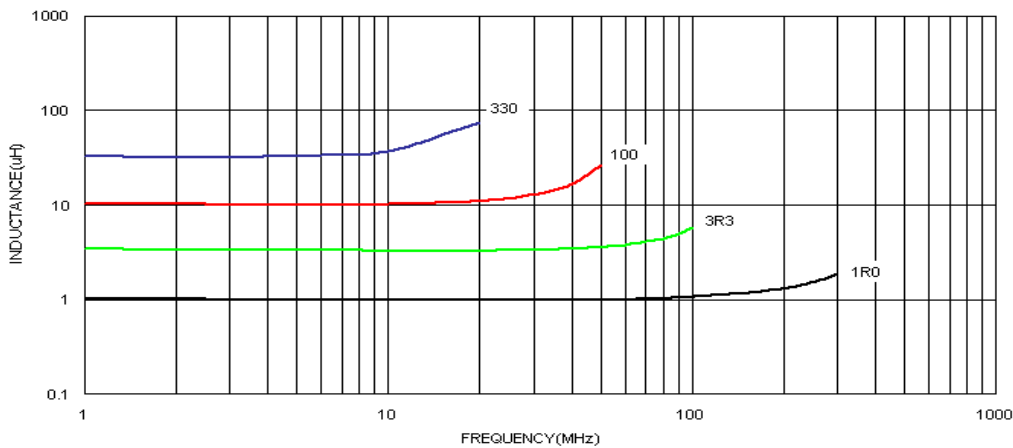


Part Number	Inductance	Inductance	Q/MHz	SRF	Rdc	Isat	Irms	Color Coding		
	(uH)/MHz	Tolerance	Typ.	Min.	Max.	Max.	Typ.	1st	2nd	3rd
SFI252018C-101□A	100/1	J, K	13/1	4	13.20	210	170	Brown	Black	Yellow
SFI252018C-151□A	150/1	J, K	13/1	3	22.50	170	160	Brown	Green	Yellow
SFI252018C-221□A	220/1	J, K	13/1	3	26.50	160	100	Red	Red	Yellow
SFI252018C-271□A	270/1	J, K	13/1	2	32.00	135	95	Red	Violet	Yellow
SFI252018C-331□A	330/1	J, K	13/1	2	32.50	130	90	Orange	Orange	Yellow

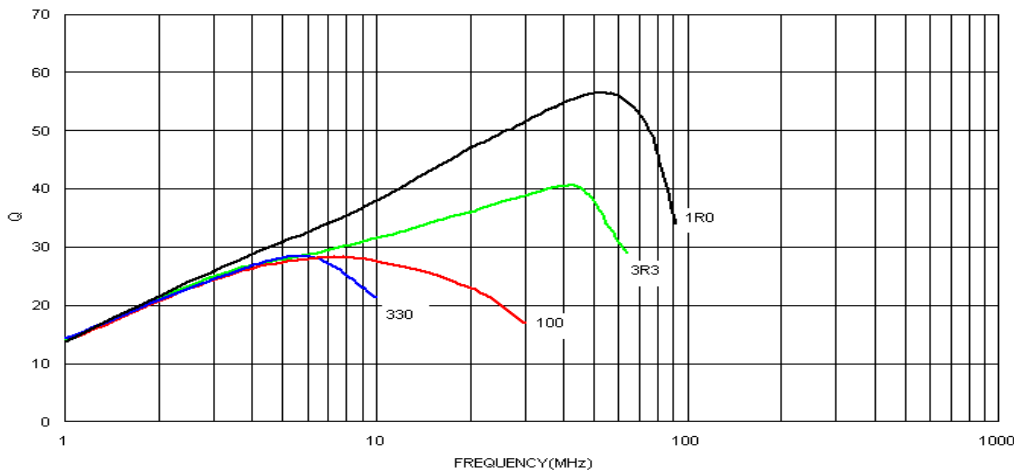
When ordering, please specify tolerance and packaging codes. Ex: SFI252018C-4R7KA ;  
Tolerance : J = ±5% , K = ±10% ; Packaging: Clear tape and reel { standard }.

## ■ TYPICAL CHARACTERISTICS CURVE

### 1. L VS. FREQUENCY CHARACTERISTICS

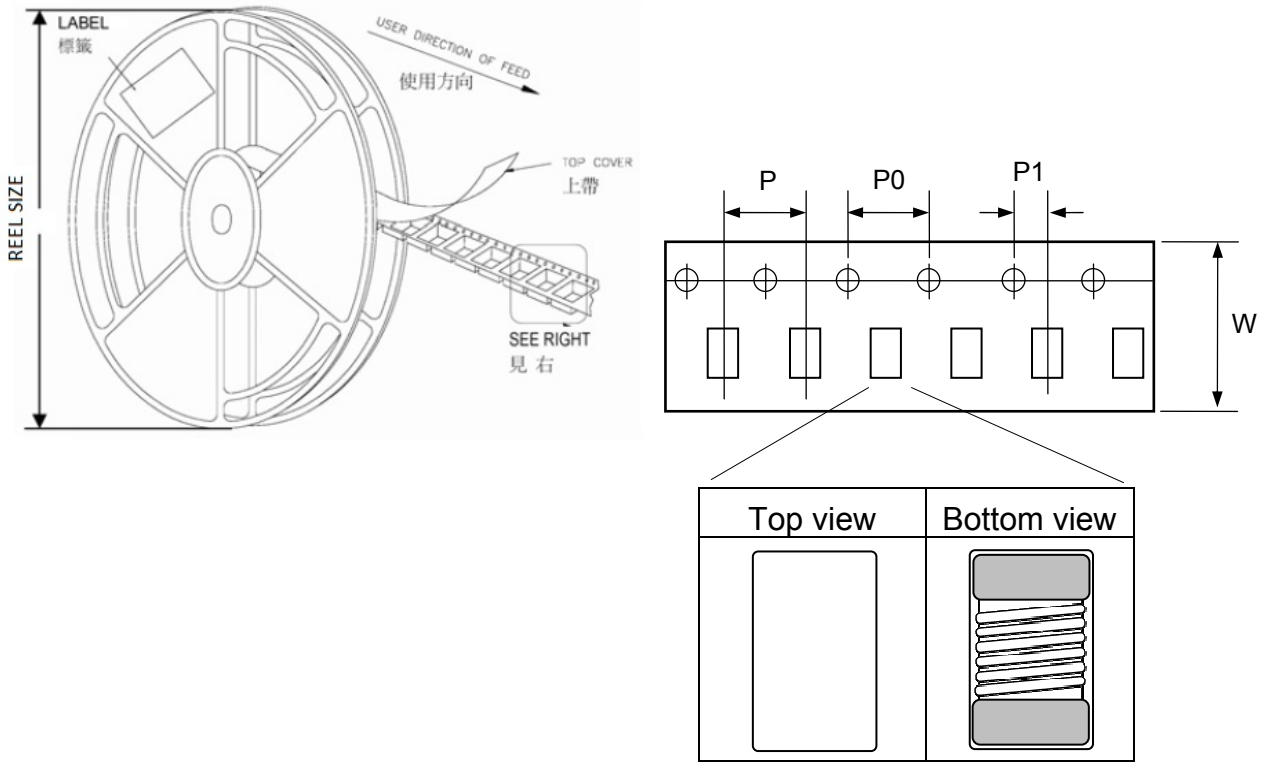


### 2. Q VS. FREQUENCY CHARACTERISTICS





## REEL DIMENSIONS AND PACKAGING QUANTITY

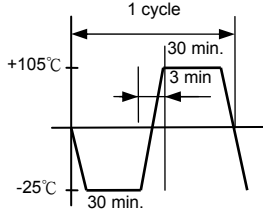


Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SFI252018C	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 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 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 -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.

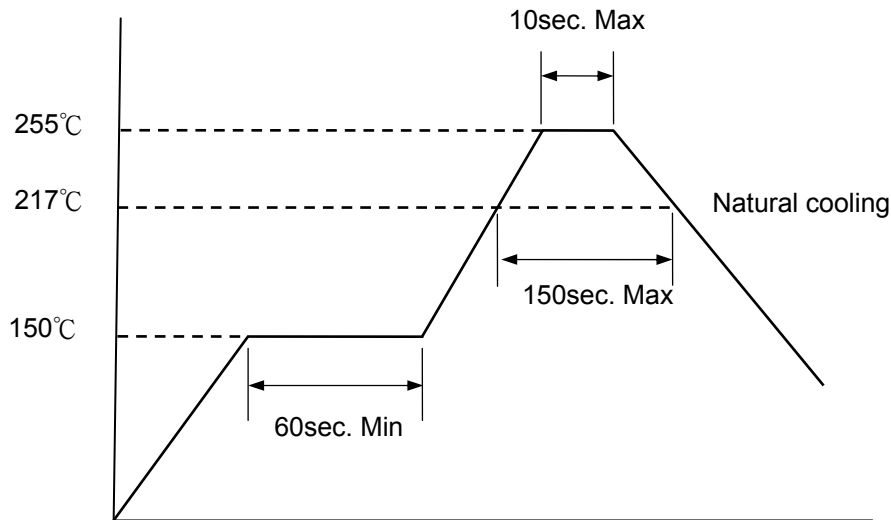


## ■ RECOMMENDED SOLDERING CONDITIONS

Please use this product by reflow soldering

### 1. Recommended Reflow Pattern

Reflow 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 condensens

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.