SMT Ferrite Chip Inductor
SFI252018S Series

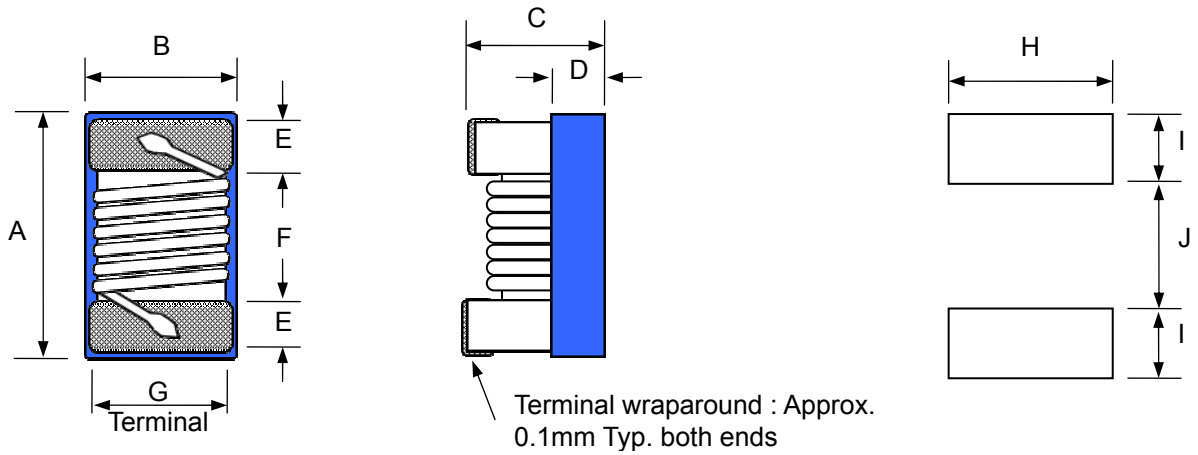
■ Feature

- Utilizing a miniaturized winding structure.
- These products provide high Q characteristics.
- Resin-coated surface enables excellent mounting.
- Low DC resistance design is ideal for low loss.
- Precision inductance tolerance is available.

■ Application

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

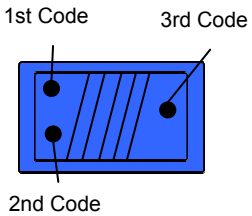
■ SHAPES AND DIMENSIONS



Recommend PAD Layout

Unit	A max	B max	C max	D ref	E	F	G	H	I	J
mm	2.90	2.54	2.03	1.30	0.5 ±0.1	1.52 ±0.1	2.0	2.54	1.02	1.27
inch	0.114	0.100	0.080	0.051	0.02 ±0.004	0.06 ±0.004	0.079	0.100	0.040	0.050

Marking： Color Coding



Equivalent circuit

RoHS

■ PART NUMBER CODE

SFI	252018S	100	J	A
1	2	3	4	5

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. Idc for Inductance drop 10% from its value without current.

   1.4. Operating temperature range -25℃ to 105℃

RoHS

2. Part Number and Characteristics Table

Part Number	Inductance	Inductance	Q/MHz	SRF (MHz)	Rdc (Ω)	Idc (mA)	Color Coding		
	(uH)/MHz	Tolerance	Min.	Min.	Max.	Max.	1st	2nd	3rd
SFI252018S-R10□A	0.10/25	K	25/25	930	0.20	1300	Brown	Black	Brown
SFI252018S-R12□A	0.12/25	J, K	26/25	930	0.30	1000	Brown	Red	Brown
SFI252018S-R15□A	0.15/25	J, K	26/25	930	0.30	1000	Brown	Green	Brown
SFI252018S-R18□A	0.18/25	J, K	30/25	930	0.30	960	Brown	Gray	Brown
SFI252018S-R20□A	0.20/25	J, K	30/25	735	0.30	960	Red	Black	Brown
SFI252018S-R22□A	0.22/25	J, K	27/25	750	0.40	880	Red	Red	Brown
SFI252018S-R27□A	0.27/25	J, K	29/25	700	0.42	900	Red	Violet	Brown
SFI252018S-R33□A	0.33/25	J, K	30/25	600	0.42	900	Orange	Orange	Brown
SFI252018S-R39□A	0.39/25	J, K	30/25	480	0.45	920	Orange	White	Brown
SFI252018S-R47□A	0.47/25	J, K	30/25	470	0.50	920	Yellow	Violet	Brown
SFI252018S-R56□A	0.56/25	J, K	30/25	460	0.55	900	Green	Blue	Brown
SFI252018S-R62□A	0.62/25	J, K	30/25	460	0.55	900	Blue	Red	Brown
SFI252018S-R68□A	0.68/25	J, K	30/25	420	0.55	880	Blue	Gray	Brown
SFI252018S-R75□A	0.75/25	J, K	30/25	420	0.65	880	Violet	Green	Brown
SFI252018S-R82□A	0.82/25	J, K	30/25	380	0.65	840	Gray	Red	Brown
SFI252018S-R91□A	0.91/25	J, K	30/25	400	0.65	840	White	Brown	Brown
SFI252018S-1R0□A	1.0/7.9	J, K	25/7.9	300	0.60	800	Brown	Black	Red
SFI252018S-1R2□A	1.2/7.9	J, K	25/7.9	280	0.74	800	Brown	Red	Red
SFI252018S-1R5□A	1.5/7.9	J, K	25/7.9	245	0.85	780	Brown	Green	Red
SFI252018S-1R8□A	1.8/7.9	J, K	25/7.9	240	0.92	780	Brown	Gray	Red
SFI252018S-2R2□A	2.2/7.9	J, K	25/7.9	205	1.10	760	Red	Red	Red
SFI252018S-2R7□A	2.7/7.9	J, K	25/7.9	187	1.22	760	Red	Violet	Red
SFI252018S-3R3□A	3.3/7.9	J, K	25/7.9	165	1.37	740	Orange	Orange	Red
SFI252018S-3R9□A	3.9/7.9	J, K	25/7.9	144	1.66	700	Orange	White	Red
SFI252018S-4R7□A	4.7/7.9	J, K	25/7.9	110	1.68	660	Yellow	Violet	Red
SFI252018S-5R6□A	5.6/7.9	J, K	25/7.9	88	1.75	640	Green	Blue	Red
SFI252018S-6R8□A	6.8/7.9	J, K	25/7.9	70	1.85	640	Blue	Gray	Red
SFI252018S-8R2□A	8.2/7.9	J, K	25/7.9	57	2.00	600	Gray	Red	Red
SFI252018S-100□A	10/7.9	J, K	25/7.9	55	2.32	600	Brown	Black	Orange
SFI252018S-120□A	12/2.5	J, K	15/2.5	52	2.99	560	Brown	Red	Orange
SFI252018S-150□A	15/2.5	J, K	15/2.5	49	3.42	480	Brown	Green	Orange
SFI252018S-180□A	18/2.5	J, K	15/2.5	48	4.65	420	Brown	Gray	Orange
SFI252018S-220□A	22/2.5	J, K	15/2.5	25	5.12	420	Red	Red	Orange
SFI252018S-270□A	27/2.5	J, K	15/2.5	23	5.76	420	Red	Violet	Orange

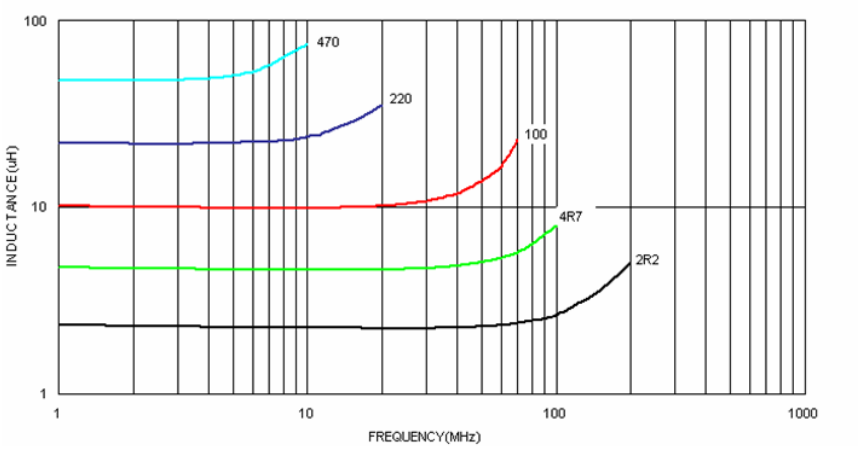
RoHS

Part Number	Inductance	Inductance	Q/MHz	SRF (MHz)	Rdc (Ω)	Idc (mA)	Color Coding		
	(uH)/MHz	Tolerance	Min.	Min.	Max.	Max.	1st	2nd	3rd
SFI252018S-330□A	33/2.5	J, K	15/2.5	17	6.44	400	Orange	Orange	Orange
SFI252018S-390□A	39/2.5	J, K	15/2.5	15	6.85	380	Orange	White	Orange
SFI252018S-470□A	47/2.5	J, K	14/2.5	13	9.94	260	Yellow	Violet	Orange
SFI252018S-560□A	56/2.5	J, K	14/2.5	10	10.70	280	Green	Blue	Orange
SFI252018S-680□A	68/2.5	J, K	14/2.5	8	12.80	260	Blue	Gray	Orange
SFI252018S-820□A	82/2.5	J, K	14/2.5	8	18.30	240	Gray	Red	Orange
SFI252018S-101□A	100/1.0	J, K	8/1.0	7	19.60	200	Brown	Black	Yellow

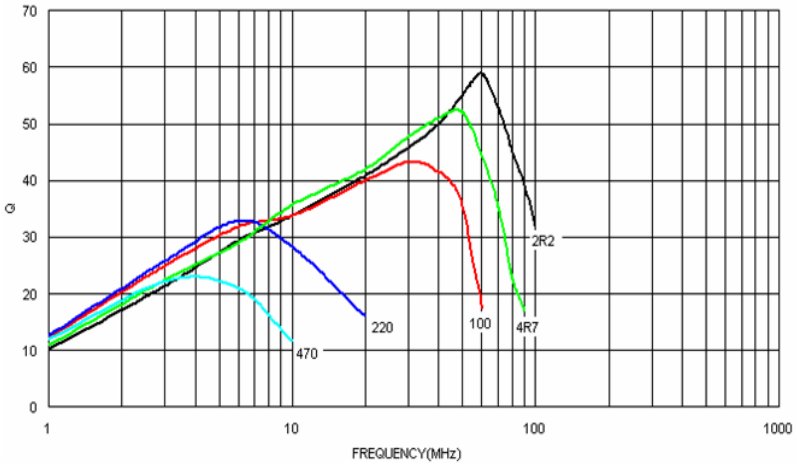
When ordering, please specify tolerance and packaging codes. Ex: SFI252018S-100JA ;
Tolerance : J = ±5% , K = ±10% ; Packaging: Clear tape and reel { standard }.

■ TYPICAL CHARACTERISTICS CURVE

1. L VS. FREQUENCY CHARACTERISTICS

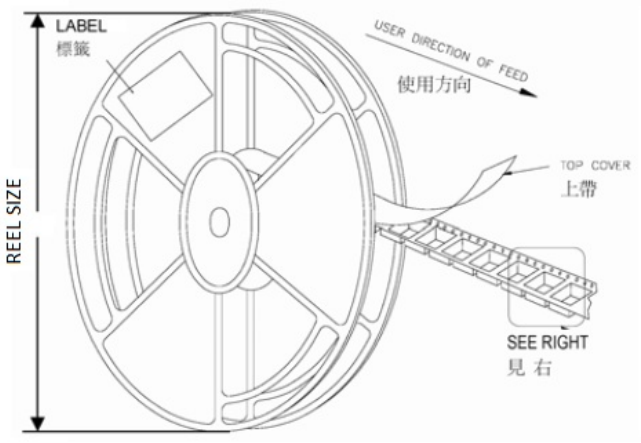


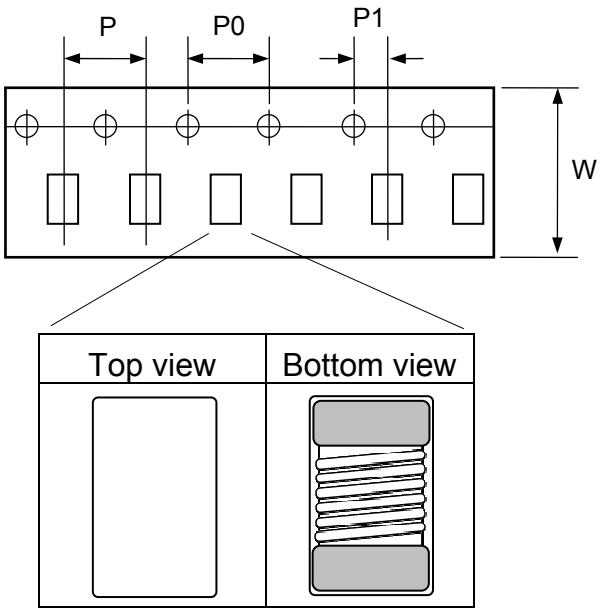
2. Q VS. FREQUENCY CHARACTERISTICS



RoHS

■ REEL DIMENSIONS AND PACKAGING QUANTITY

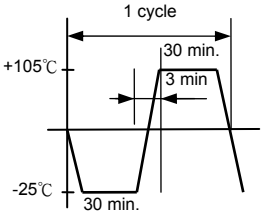




Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SFI252018S	8	4	4	2	180 mm (7”)	2000

■ RELIABILITY AND TEST CONDITION

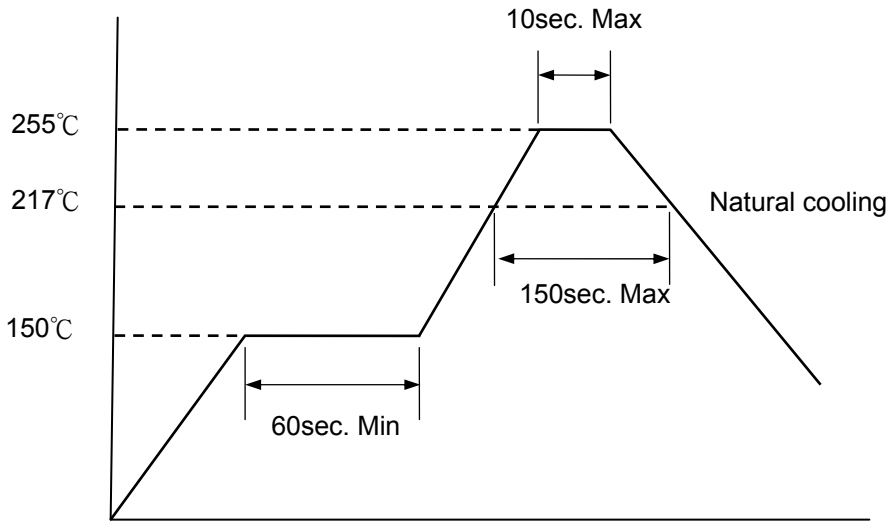
Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
Solderability	The metalized area must have 90% minimum solder coverage.	Dip pads in flux and dip in solder pot (96.5 Sn/3.5 Ag solder) at 255°C ±5°C.
Resistance to soldering heat	There must be no case deformation or change in dimensions. 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℃ 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℃ 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℃ 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℃.

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℃
Storage condition : Temperature 20˚~25℃, Relative Humidity 40%~60%
Recommended wire wound inductors should be used within 6 months from the time of delivery.

RoHS