Shielded SMT Power Inductor
SPRI3D15P Series

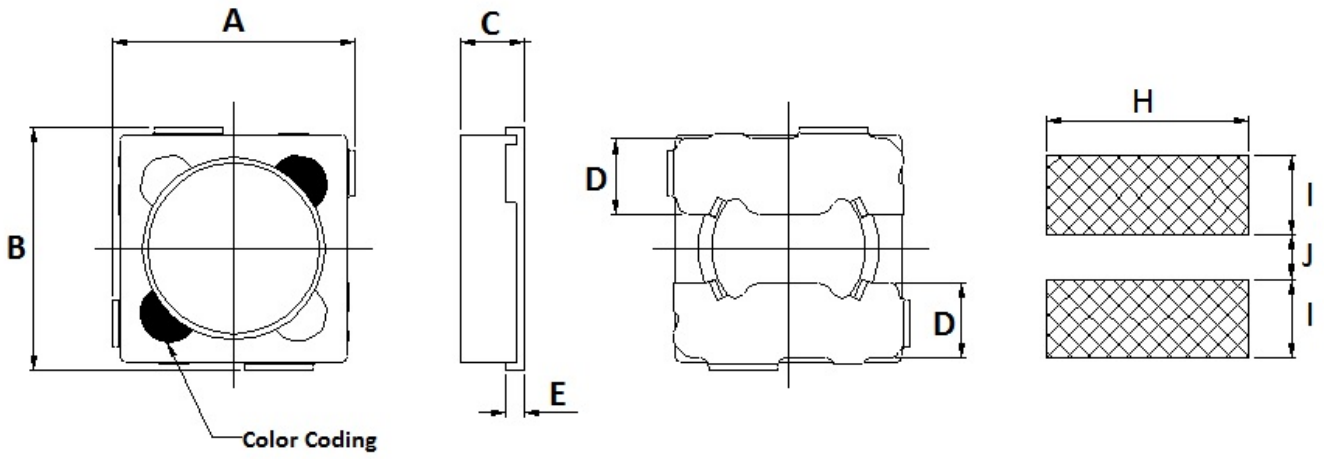
■ Feature

- Low profile, low Rdc, and high current handling capacities.
- Magnetically shielded structure that ensures the high-density mounting configuration.
- Flat bottom surface ensures secure, reliable mounting.

■ Application

- Low profile/ large current specifically suitable for Portable telephones, hard disk drives, PDA, DSC and other electronic equipments.

■ SHAPES AND DIMENSIONS



Unit	A	B	C max	D	E
mm	4.2 ±0.2	4.2 ±0.2	1.60	1.30	0.3
inch	0.165 ±0.008	0.165 ±0.008	0.063	0.051	0.012

H	I	J
4.60	1.60	1.40
0.181	0.063	0.055

Marking： Color Coding

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■ PART NUMBER CODE

SPRI	3D15	P	6R8	M	A
1	2	3	4	5	6

1. Series Name
2. Size Code
3. Type Code
4. Inductance (R=Decimal Point) Unit：uH

   6R8 = 6.8uH
5. Inductance tolerance：

   “M” ±20%; “N” ±30%.
6. Soldering：A=Lead free

■ ELECTRICAL CHARACTERISTICS

1. Test equipments

1.1. L, Idc : Agilent/HP 4284A Precision LCR Meter , 1KHz with 1V.

1.2. Rdc: Chroma Milli-ohm meter 16502 or equivalent. (Typ: ±30% tolerance)

1.3. Idc for Inductance drop 10% or 35% from its value without current.

1.4. Irms for a 25℃ rise above 25℃ ambient.

1.5. Operating temperature range from -40℃ to 105℃

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2. Part Number and Characteristics Table

Part Number	Inductance	Inductance	Rdc(Ω)	Idc Typ (mA)		Irms Typ (mA)	Color Coding
	(uH)/KHz	Tolerance	Typ	L ↓ 10%	L ↓ 35%	T ↑ 25℃	
SPRI3D15P-R50□A	0.5/1	N	0.035	3100	3900	2500	Black
SPRI3D15P-1R0□A	1.0/1	M, N	0.040	2300	3000	2400	Black
SPRI3D15P-1R2□A	1.2/1	M, N	0.043	2200	2800	2340	Brown
SPRI3D15P-1R5□A	1.5/1	M, N	0.050	2000	2600	2300	Red
SPRI3D15P-1R8□A	1.8/1	M, N	0.055	1660	2300	2100	Orange
SPRI3D15P-2R2□A	2.2/1	M, N	0.071	1600	2200	2000	Yellow
SPRI3D15P-2R7□A	2.7/1	M, N	0.078	1400	2000	1600	Green
SPRI3D15P-3R3□A	3.3/1	M, N	0.087	1340	2000	1600	Blue
SPRI3D15P-3R9□A	3.9/1	M, N	0.100	1200	1800	1500	Violet
SPRI3D15P-4R7□A	4.7/1	M, N	0.137	1140	1600	1400	Gray
SPRI3D15P-5R6□A	5.6/1	M, N	0.147	1060	1460	1200	White
SPRI3D15P-6R8□A	6.8/1	M, N	0.170	1000	1400	1150	Black
SPRI3D15P-8R2□A	8.2/1	M, N	0.195	940	1280	1100	Brown
SPRI3D15P-100□A	10.0/1	M	0.228	900	1160	1020	Red
SPRI3D15P-120□A	12.0/1	M	0.275	880	1080	900	Orange
SPRI3D15P-150□A	15.0/1	M	0.340	640	860	720	Yellow
SPRI3D15P-180□A	18.0/1	M	0.380	600	820	680	Green
SPRI3D15P-220□A	22.0/1	M	0.495	540	740	650	Blue
SPRI3D15P-270□A	27.0/1	M	0.735	500	700	550	Violet
SPRI3D15P-330□A	33.0/1	M	0.890	460	580	480	Gray
SPRI3D15P-390□A	39.0/1	M	1.000	400	560	420	White
SPRI3D15P-470□A	47.0/1	M	1.150	340	520	350	Black
SPRI3D15P-102□A	1000/1	M	25.00	80	90	100	Black

When ordering, please specify tolerance and packaging codes. Ex: SPRI3D15P-100MA ;
Tolerance : M = ±20% , N = ±30% ; Packaging: Clear tape and reel { standard }.

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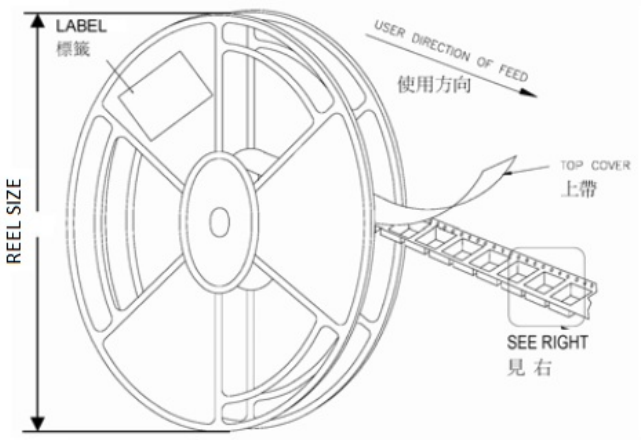
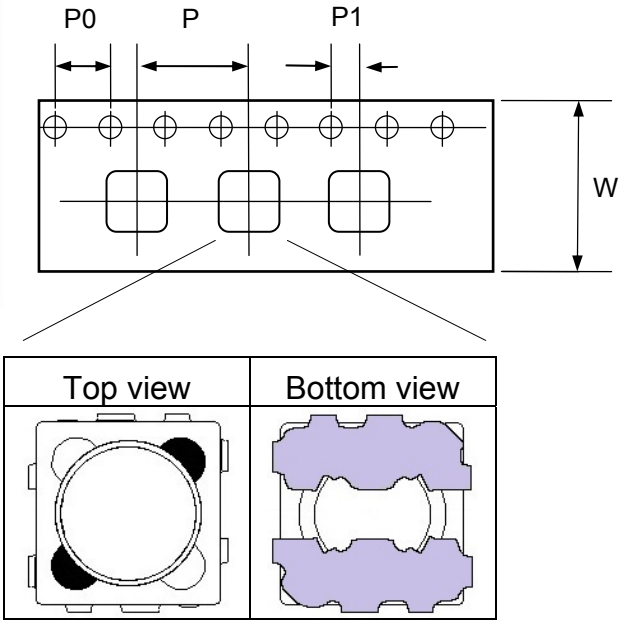
■ REEL DIMENSIONS AND PACKAGING QUANTITY

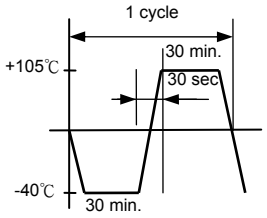




Unit: mm

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SPRI3D15P	12	8	4	2	180 mm (7”)	1000

■ 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
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 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℃ 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 0.5Kg	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℃ 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 10 cycles to the following temperature cycle:  Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.

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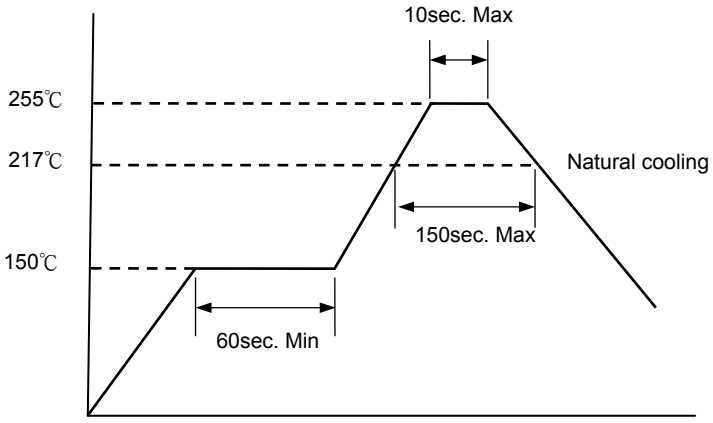
■ RECOMMENDED SOLDERING CONDITIONS

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 :-40~+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.

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