

## Features

- SPI0420/SPI0430/SPI0524/SPI0530/SPI0620/SPI0624 Series High Current Shielded Power Inductors
- Extremely low DCR and ultra low AC losses for high switching frequencies (up to 5MHz)
- Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI)
- Soft saturation characteristic to withstand high current spikes
- No thermal aging – perfect for high temperature applications
- Composite construction minimizes audible buzzing
- Halogen Free & ROHS compliant

## Applications

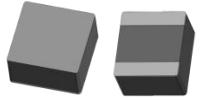
- Computing, Mobile, Networking
- IoT, Gaming, Audio Devices
- Industrial PC, Storage Devices
- Various DC-DC conversion power modules

## Product Description

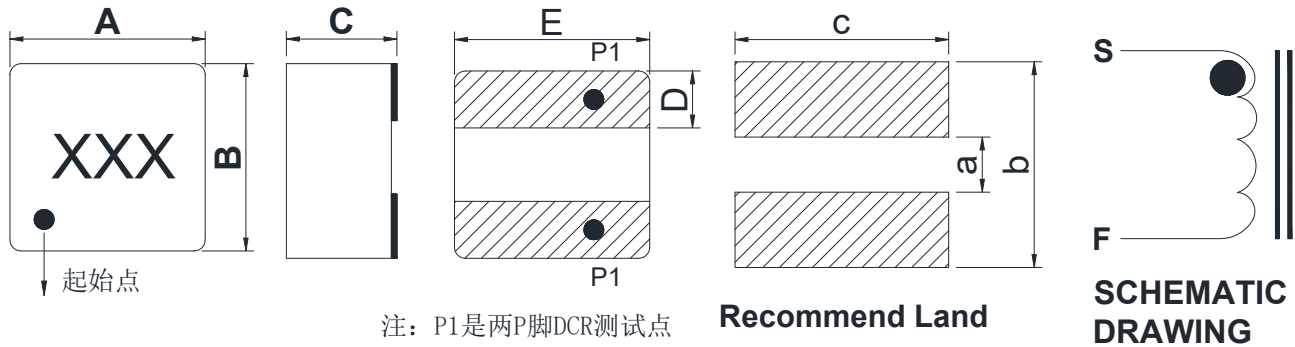
**SPI   0420   -   R15   M   -   XX**

①            ②                    ③            ④            ⑤

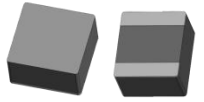
- ① Series name: Molded SMD Power Inductors
- ② Dimensions(LxWxH) (Unit: mm):4.0x4.0x2.1mm
- ③ Inductance Value: 1R0=1.0uH
- ④ Inductance Tolerance: M=  $\pm 20\%$  N: $\pm 30\%$
- ⑤ Internal Code



## Dimensions (unit:mm)



series	A	B	C	D	E	a (typ)	b (typ)	c (typ)
SPI0420	4.10±0.20	4.10±0.20	2.00 MAX	1.20±0.20	4.10±0.20	1.50	4.50	4.50
SPI0430	4.10±0.20	4.10±0.20	3.00 MAX	1.20±0.20	4.10±0.20	1.50	4.50	4.50
SPI0524	5.30±0.20	5.10±0.20	2.40MAX	1.60±0.30	5.30±0.20	1.70	5.50	5.7
SPI0530	5.30±0.20	5.10±0.20	3.00 MAX	1.60±0.30	5.30±0.20	1.70	5.50	5.7
SPI0620	6.60±0.20	6.40±0.20	2.00 MAX	2.10±0.30	6.60±0.20	1.90	6.50	6.80
SPI0624	6.60±0.20	6.40±0.20	2.40 MAX	2.10±0.30	6.60±0.20	1.90	6.50	6.80



## Marking

- The inductor is marked with a 3-digit code

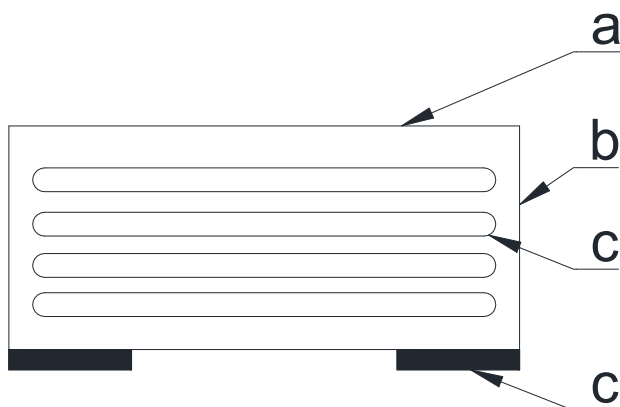
Nominal	Inductance
Example	Nominal Value
R15	0.15 $\mu$ H
1R0	1.00 $\mu$ H

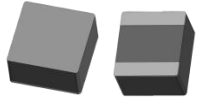


Note: Using Ink for marking

## Structure and Components

Symbol	Components	Material
a	MARKING	Ink(black)
b	CORE	Carbonyl powder
c	WIRE	Polyurethane copper wire
d	Terminal	Copper plated with Sn





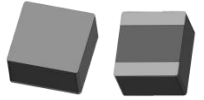
## Electrical characteristics

- SPI04 SERIES:

Part No.	Inductance	DC Resistance	Saturation Current		Heating Rating Current	
	L0 (μH)±20 %	DCR (mΩ)	Isat (A)		Irms (A)	
	@1MHz, 1.0V	MAX.(TYP.)	MAX.	TYP.	MAX.	TYP.
SPI0420-R15M	0.15	2.20(1.80)	24.0	28.0	25.5	28.5
SPI0430-R22M	0.22	2.40(2.00)	-	25.0	-	24.70

- SPI05 SERIES:

Part No.	Inductance	DC Resistance	Saturation Current		Heating Rating Current	
	L0 (μH)±20 %	DCR (mΩ)	Isat (A)		Irms (A)	
	@1MHz, 1.0V	MAX.(TYP.)	MAX.	TYP.	MAX.	TYP.
SPI0524-R15M	0.15	1.10(0.90)	36.0	42.0	30.0	32.0
SPI0530-R15M	0.15	0.96(0.85)	41.0	45.0	35.0	38.0
SPI0530-R22M	0.22	1.55(1.30)	34.0	38.0	30.0	33.0
SPI0530-1R0M	1.00	6.00(5.00)	15.5	18.0	15.5	17.0



● SPI06 SERIES:

Part No.	Inductance	DC Resistance	Saturation Current		Heating Rating Current	
	L0 (μH)±20 %	DCR (mΩ)	Isat (A)		Irms (A)	
	@1MHz, 1.0V	MAX.(TYP.)	MAX.	TYP.	MAX.	TYP.
SPI0620-R12M	0.12	1.30(1.10)	48.0	50.0	35.0	37.0
SPI0620-R15M	0.15	1.40(1.10)	42.0	48.0	34.0	38.0
SPI0624-R15M	0.15	1.05(0.85)	46.0	53.0	38.0	42.0

● Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Irms (A):DC current (A) that will cause an SPI proximate ΔT of 40 °C(reference ambient temperature is 25 °C)
4. Isat(A):DC current (A) that will cause L0 to drop SPI proximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions.  
Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end SPI plication.
6. Absolute maximum voltage 30VDC