



## Features

- Shielded construction
- Low profile
- Metal alloy powder core
- High saturation current
- Low DCR
- Low buzz noise
- RoHS compliant\* and halogen free\*\*

## Applications

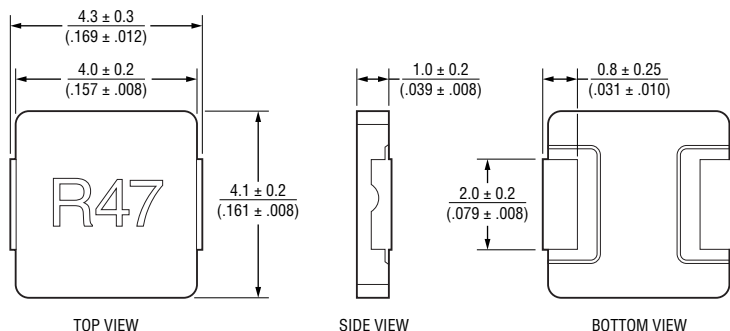
- DC-DC converters
- Power supplies in consumer, industrial and telecom electronics

## SRP0412F Series - Shielded Power Inductors

### Electrical Specifications

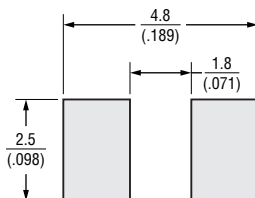
Bourns Part No.	Inductance @ 100 kHz / 1.0 V		Q @ 100 kHz Min.	SRF (MHz) Typ.	DCR (mΩ)		Irms (A) Typ.	Isat (A) Typ.
	L (μH)	Tol. %			Typ.	Max.		
SRP0412F-R47M	0.47	±20	10	88	12.5	15	8.5	11.5
SRP0412F-R68M	0.68			82	17.5	21	7.3	10.0
SRP0412F-1R0M	1.0			60	22.5	27	6.6	8.2
SRP0412F-1R5M	1.5			45	31.5	37.8	5.5	6.2
SRP0412F-2R0M	2.0			40	39	46.8	5.0	5.7
SRP0412F-2R2M	2.2			40	48	57.6	4.2	5.5
SRP0412F-3R3M	3.3			35	76	91.2	3.6	4.2
SRP0412F-4R7M	4.7			27	103	124	3.0	3.7
SRP0412F-6R8M	6.8			21	133	160	2.6	3.0
SRP0412F-8R2M	8.2			17	195	234	2.2	2.6
SRP0412F-100M	10.0			16	217	260	1.9	2.3

### Product Dimensions



DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

### Recommended Layout



DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$



**WARNING**  
Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Specifications are subject to change without notice.

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### Additional Information

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### General Specifications

Operating Temperature

..... -40 °C to +125 °C  
(Temperature rise included)

Storage Temperature (Component)

..... -40 °C to +125 °C

Temperature Rise

..... 40 °C typ. at rated Irms<sup>1</sup> (25 °C)

Rated Current

..... Inductance drops 30 % at Isat

Moisture Sensitivity Level..... 1

ESD Classification (HBM)..... N/A

<sup>1</sup>Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

### Materials

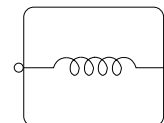
Core Material..... Metal alloy powder

Wire..... Enameled copper

Terminal..... Cu/Ni/Sn

Packaging..... 4000 pcs. per 13-inch reel

### Electrical Schematic



### How to Order

**SRP0412F - R47 M**

Model \_\_\_\_\_

Inductance Value Code \_\_\_\_\_

R47 = 0.47 μH

R68 = 0.68 μH

1R0 = 1.0 μH

1R5 = 1.5 μH

2R0 = 2.0 μH

2R2 = 2.2 μH

3R3 = 3.3 μH

4R7 = 4.7 μH

6R8 = 6.8 μH

8R2 = 8.2 μH

100 = 10.0 μH

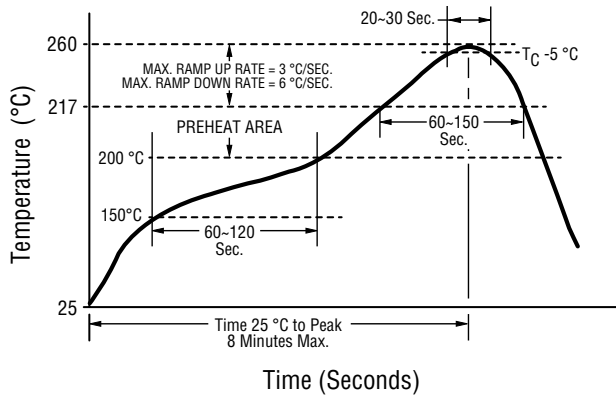
Tolerance Code \_\_\_\_\_

M = ±20 %

# SRP0412F Series – Shielded Power Inductors

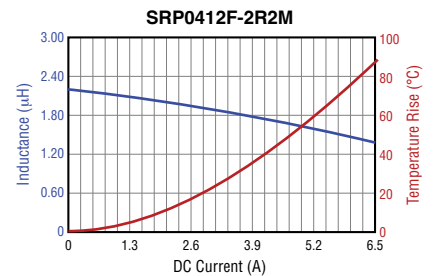
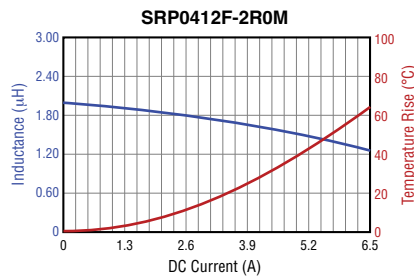
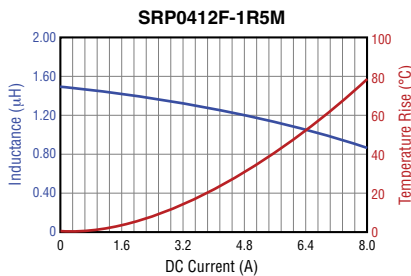
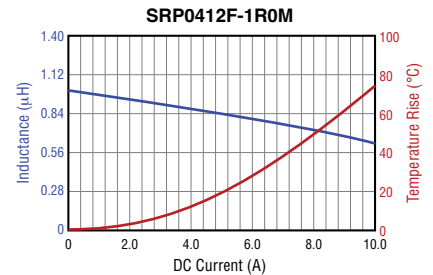
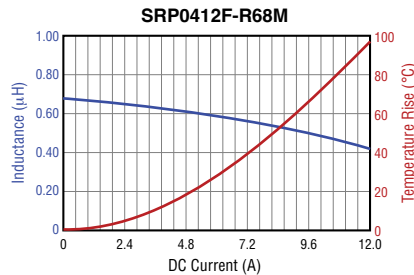
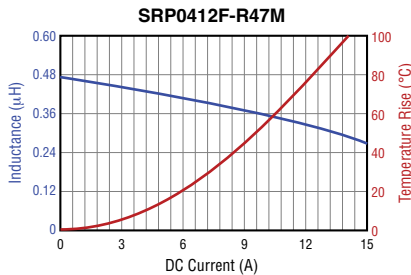
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## Soldering Profile



Profile Feature	Pb Free Assembly
Preheat	
- Temperature Min. ( $T_{smin}$ )	150 °C
- Temperature Max. ( $T_{smax}$ )	200 °C
- Time( $t_s$ ) from $T_{smin}$ to $T_{smax}$	60-120 seconds
Ramp-up Rate ( $T_L$ to $T_P$ )	3 °C/second max.
Liquidous temperature ( $T_L$ )	217 °C
Time ( $t_L$ ) maintained above $T_L$	60-150 seconds
Peak package body temperature ( $T_P$ )	260 °C
Time within 5 °C of Actual Peak Temperature ( $t_p$ )	<30 seconds
Ramp-Down Rate ( $T_P$ to $T_L$ )	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

## Inductance vs. IDC



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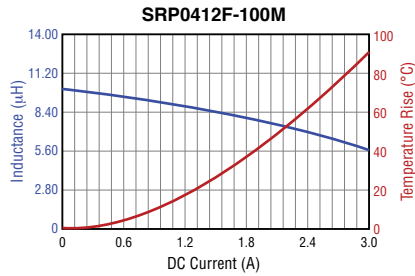
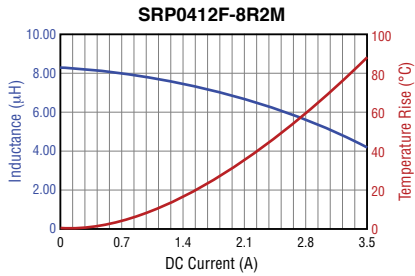
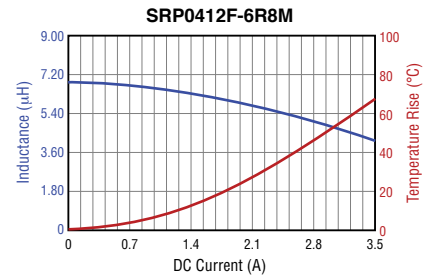
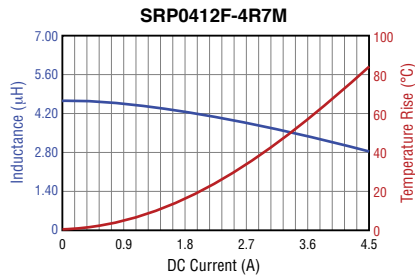
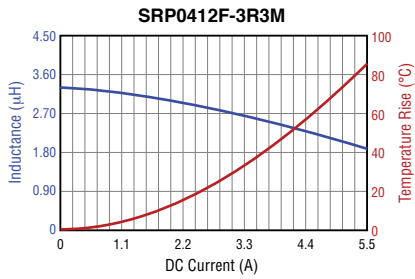
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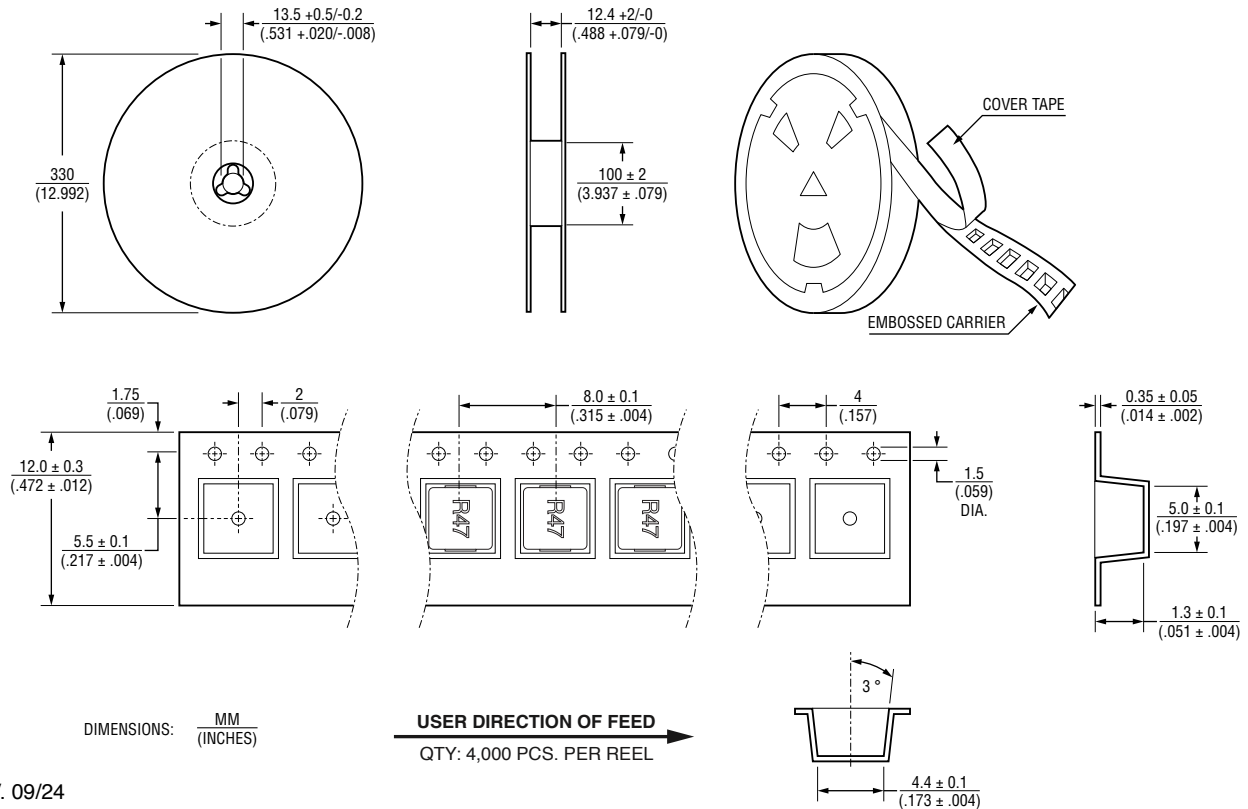
# SRP0412F Series – Shielded Power Inductors

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## Inductance vs. IDC (continued)



## Packaging Specifications



REV. 09/24

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