


## 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

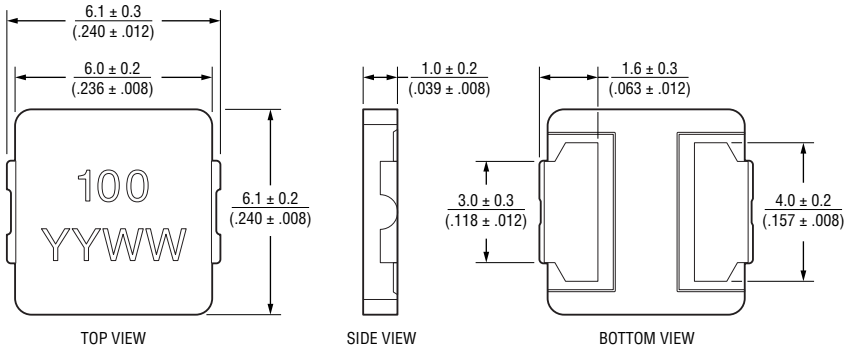
BOURNS®

# SRP0612F Series - Shielded Power Inductors

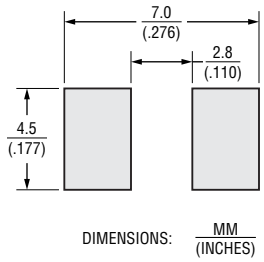
## Electrical Specifications

| 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. | | |
| SRP0612F-R47M | 0.47 | ±20 | 10 | 100 | 14.3 | 16.5 | 8.5 | 16.0 |
| SRP0612F-R68M | 0.68 | | | 77 | 19.5 | 22 | 7.2 | 15.0 |
| SRP0612F-1R0M | 1.0 | | | 60 | 23 | 26.5 | 6.5 | 12.0 |
| SRP0612F-1R5M | 1.5 | | | 35 | 28.5 | 32.8 | 6.1 | 9.0 |
| SRP0612F-2R2M | 2.2 | | | 32 | 33.2 | 38.8 | 5.6 | 8.0 |
| SRP0612F-3R3M | 3.3 | | 15 | 27 | 50 | 60 | 5.0 | 7.5 |
| SRP0612F-4R7M | 4.7 | | | 20 | 70 | 82 | 4.2 | 6.3 |
| SRP0612F-6R8M | 6.8 | | | 16 | 115 | 138 | 3.5 | 4.6 |
| SRP0612F-100M | 10.0 | | | 11 | 150 | 180 | 2.8 | 4.0 |

## Product Dimensions




## Recommended Layout




**WARNING**
**Cancer and Reproductive Harm**
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.
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## Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

## General Specifications

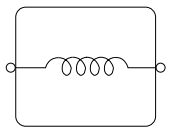
Operating Temperature
..... -40 °C to +125 °C
(Temperature rise included)
Storage Temperature (Component)
..... -40 °C to +125 °C
Temperature Rise
.....40 °C typ. at rated Irms[1] (25 °C)
Rated Current
..... Inductance drops 30 % at Isat
Moisture Sensitivity Level.....1
ESD Classification (HBM).....N/A

[1]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..... 3000 pcs. per 13-inch reel

## Electrical Schematic



## How to Order

**SRP0612F - R47 M**

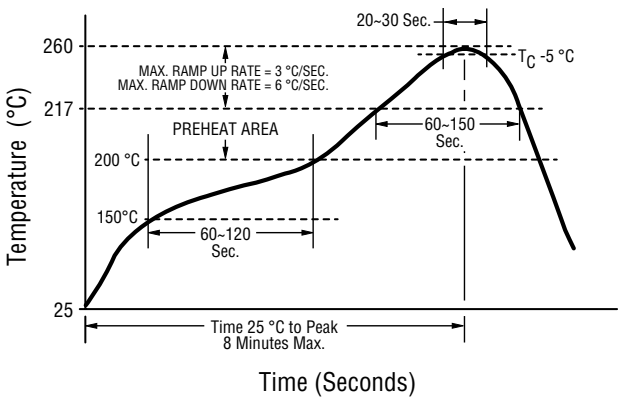
Model

Inductance Value Code
- R47 = 0.47 µH
- R68 = 0.68 µH
- 1R0 = 1.0 µH
- 1R5 = 1.5 µH
- 2R2 = 2.2 µH
- 3R3 = 3.3 µH
- 4R7 = 4.7 µH
- 6R8 = 6.8 µH
- 100 = 10.0 µH

Tolerance Code
- M = ±20 %

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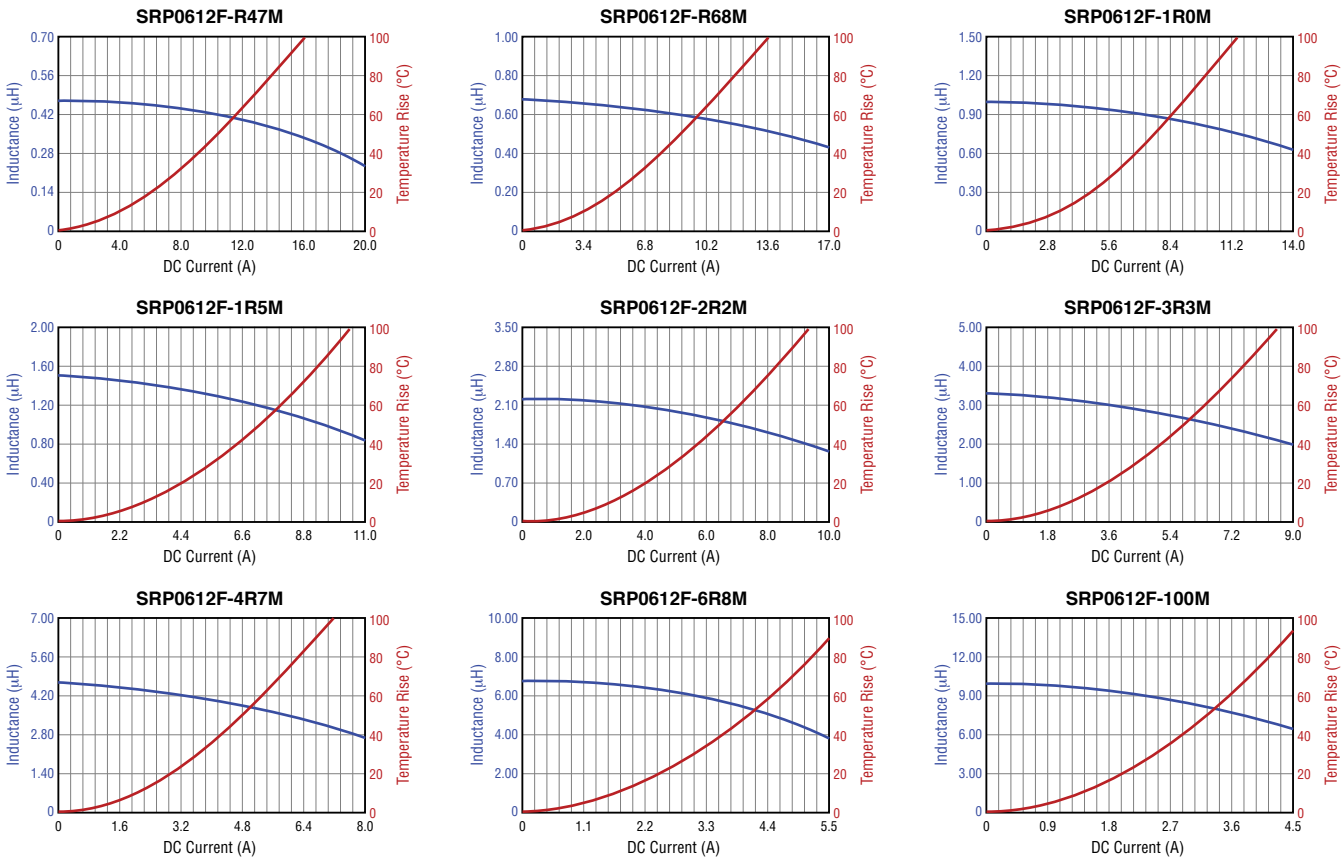
## Soldering Profile




REFLOW TIMES: 3 TIMES MAX.

| Profile Feature | Pb Free Assembly |
|---|---|
| Preheat<br>- Temperature Min. ($T_{smin}$)<br>- Temperature Max. ($T_{smax}$)<br>- Time($t_s$) from $T_{smin}$ to $T_{smax}$ | <br>150 °C<br>200 °C<br>60-120 seconds |
| Ramp-up Rate ($T_L$ to $T_p$) | 3 °C/second max. |
| Liquidous temperature ($T_L$)<br>Time ($t_L$) maintained above $T_L$ | 217 °C<br>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. |

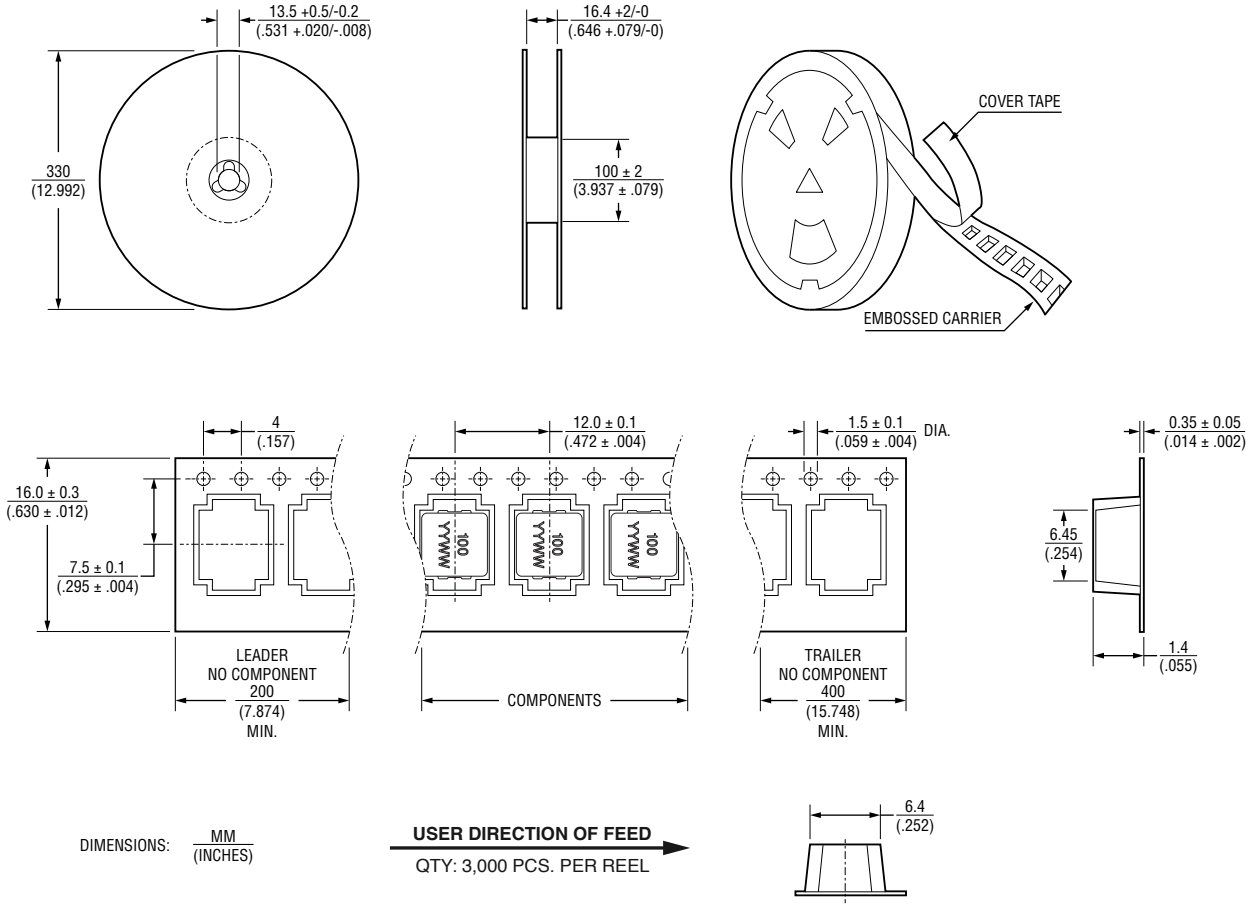
## Inductance vs. IDC




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## Packaging Specifications




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