



## Features

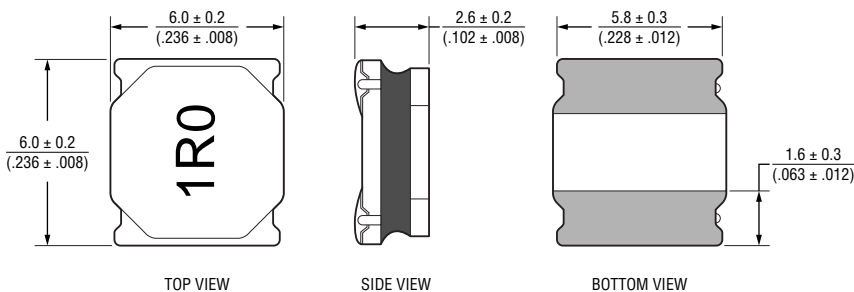
- Semi-shielded construction
- Inductance range: 0.9 to 120  $\mu$ H
- Rated current up to 7.8 A
- RoHS compliant\*
- Halogen free\*\*

## SRN6028C Series – Semi-shielded Power Inductors

### Electrical Specifications @ 25 °C

| Bourns Part No. | Inductance @ 100 kHz / 1 V |        | Q @ 100 kHz / 1 V Typ. | SRF (MHz) Typ. | DCR (m $\Omega$ ) $\pm$ 20 % | I <sub>rms</sub> (A) Typ. | I <sub>sat</sub> (A) Typ. |
|-----------------|----------------------------|--------|------------------------|----------------|------------------------------|---------------------------|---------------------------|
|                 | L ( $\mu$ H)               | Tol. % |                        |                |                              |                           |                           |
| SRN6028C-R90Y   | 0.9                        | 30     | 20                     | 120            | 8.2                          | 7.8                       | 8.0                       |
| SRN6028C-1R0Y   | 1.0                        | 30     | 15                     | 110            | 10                           | 5.2                       | 5.75                      |
| SRN6028C-1R5Y   | 1.5                        | 30     | 15                     | 98             | 14                           | 4.95                      | 5.3                       |
| SRN6028C-2R2M   | 2.2                        | 20     | 15                     | 60             | 18                           | 4.50                      | 5.0                       |
| SRN6028C-3R0Y   | 3.0                        | 30     | 15                     | 57             | 22.5                         | 3.9                       | 4.5                       |
| SRN6028C-3R3M   | 3.3                        | 20     | 15                     | 56             | 24                           | 3.6                       | 4.3                       |
| SRN6028C-3R9M   | 3.9                        | 20     | 15                     | 54             | 28                           | 3.3                       | 3.9                       |
| SRN6028C-4R7M   | 4.7                        | 20     | 15                     | 50             | 30                           | 3.1                       | 3.2                       |
| SRN6028C-6R0M   | 6.0                        | 20     | 15                     | 45             | 42                           | 2.8                       | 3                         |
| SRN6028C-6R2M   | 6.2                        | 20     | 15                     | 45             | 42                           | 2.8                       | 3                         |
| SRN6028C-6R8M   | 6.8                        | 20     | 15                     | 40             | 47                           | 2.5                       | 2.85                      |
| SRN6028C-100M   | 10                         | 20     | 15                     | 30             | 65                           | 2                         | 2.1                       |
| SRN6028C-150M   | 15                         | 20     | 15                     | 25             | 98                           | 1.8                       | 2                         |
| SRN6028C-220M   | 22                         | 20     | 15                     | 22             | 138                          | 1.5                       | 1.6                       |
| SRN6028C-330M   | 33                         | 20     | 15                     | 16             | 200                          | 1.3                       | 1.4                       |
| SRN6028C-470M   | 47                         | 20     | 15                     | 13             | 280                          | 1.06                      | 1.15                      |
| SRN6028C-680M   | 68                         | 20     | 15                     | 10             | 420                          | 0.81                      | 1                         |
| SRN6028C-101M   | 100                        | 20     | 15                     | 8              | 605                          | 0.72                      | 0.8                       |
| SRN6028C-121M   | 120                        | 20     | 20                     | 7              | 750                          | 0.68                      | 0.72                      |

### Product Dimensions



Note: Top and side view dimensions do not include termination.  
For maximum overall dimensions including termination, add 0.1 mm.

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.

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### General Specifications

Operating Temperature

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

Storage Temperature

(Component on board)

..... -40 °C to +125 °C

Temperature Rise ... 40 °C at rated I<sub>rms</sub><sup>1</sup>

Rated Current

..... Inductance drops 30 % at I<sub>sat</sub>

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. Users should verify part temperature in their end applications.

### Materials

Core..... Ferrite

Wire ..... Enameled copper

Terminal Finish ..... Ag/Ni/Sn

Coating ..... Magnetic resin

Packaging..... 1500 pcs. per 13-inch reel

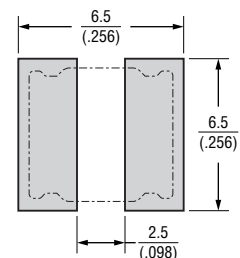
### How to Order

**SRN6028C - R90Y**

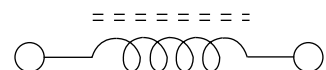
Model \_\_\_\_\_

Value Code (see table) \_\_\_\_\_

### Recommended Layout



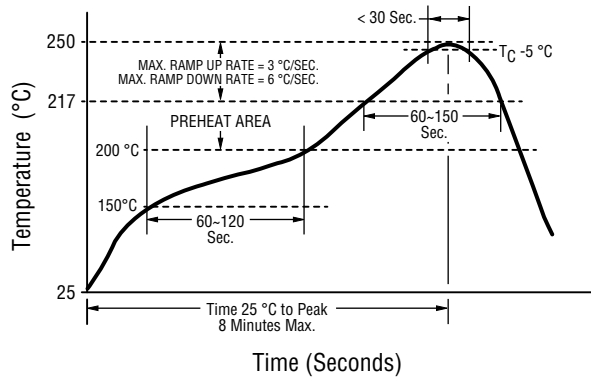
### Electrical Schematic



# SRN6028C Series – Semi-shielded Power Inductors



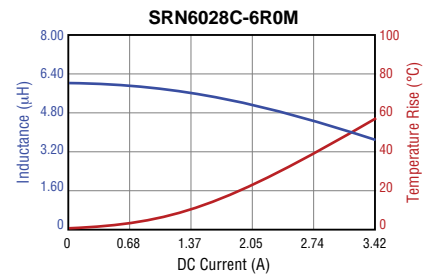
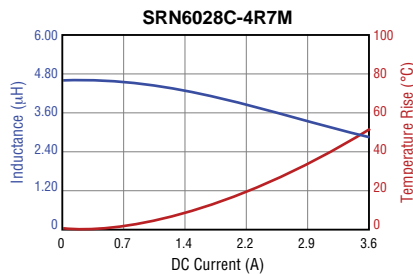
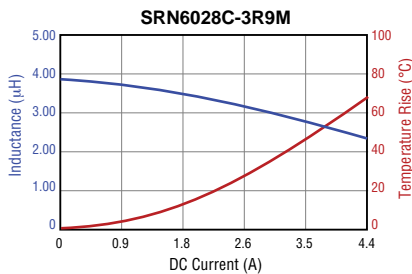
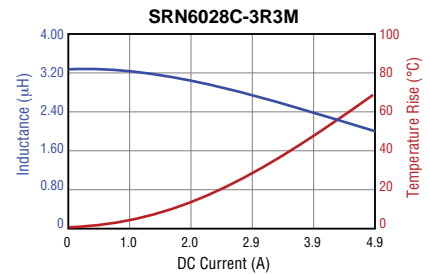
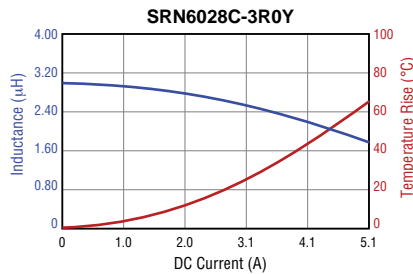
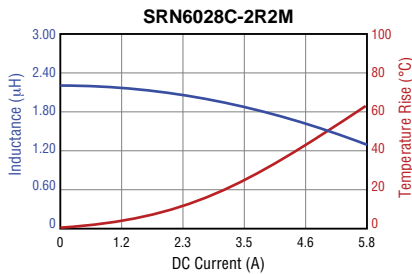
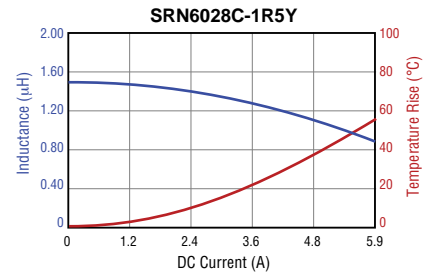
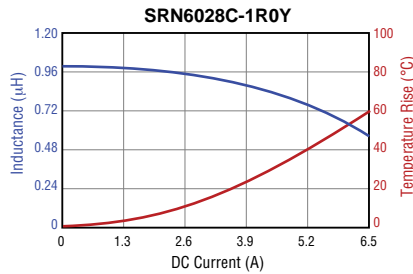
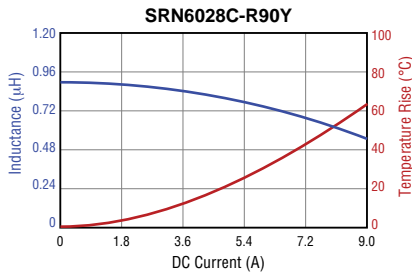
## Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

| Profile Feature  | Pb Free Assembly                   |
|--|------------------------------------|
| Preheat <ul style="list-style-type: none"> <li>- Temperature Min. (<math>T_{smin}</math>)</li> <li>- Temperature Max. (<math>T_{smax}</math>)</li> <li>- Time(<math>t_s</math>) from <math>T_{smin}</math> to <math>T_{smax}</math></li> </ul> | 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 ( $T_P$ )  | 250 °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.                     |

## L vs. I Charts



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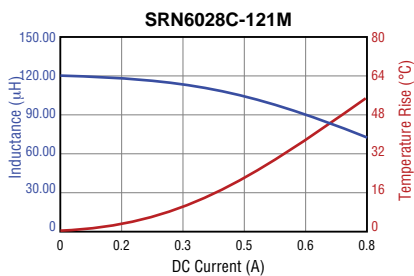
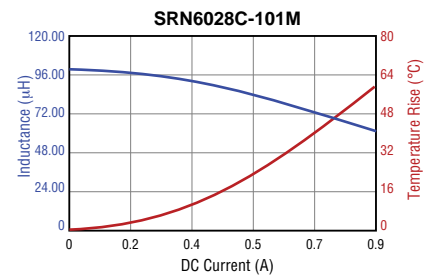
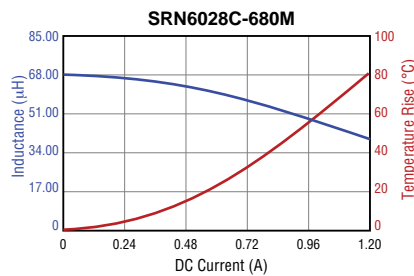
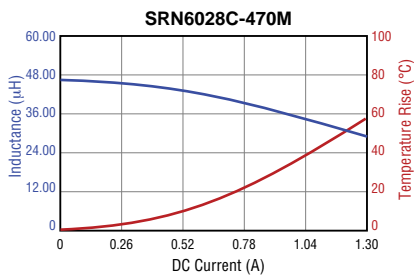
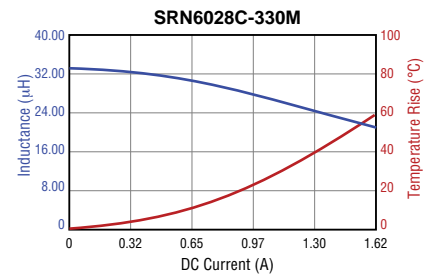
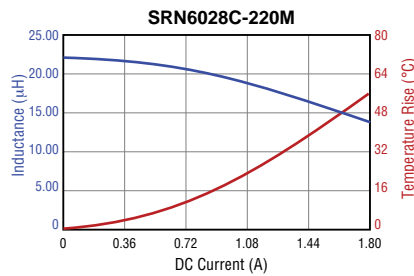
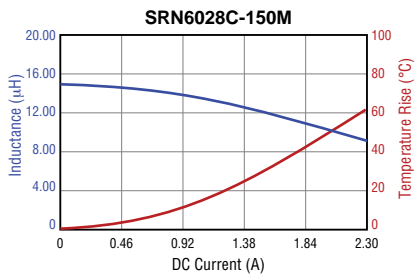
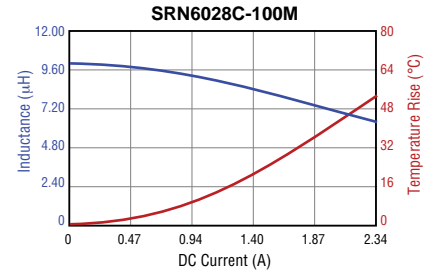
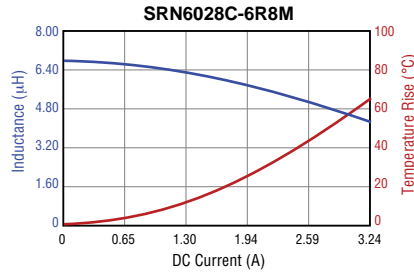
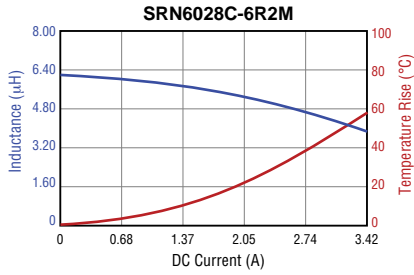
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# SRN6028C Series – Semi-shielded Power Inductors



## L vs. I Charts (continued)



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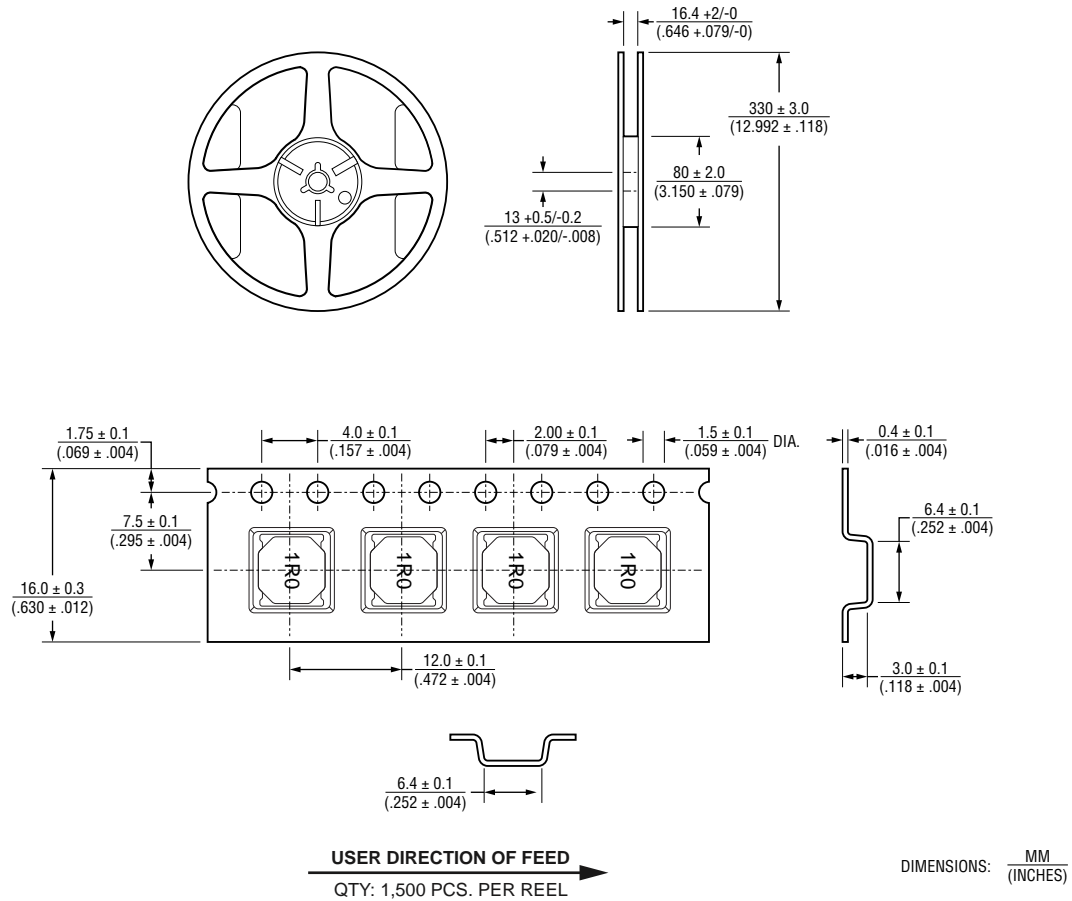
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# SRN6028C Series – Semi-shielded Power Inductors

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