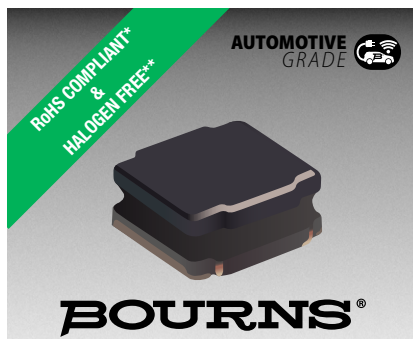




## Features

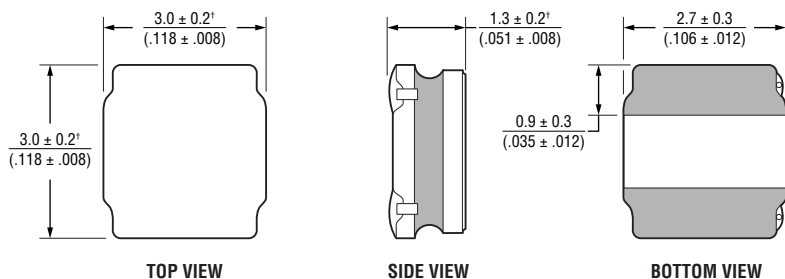
- Semi-shielded construction
- Enhanced product reliability with soldered lead-wire
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRN3015BTA Series – Semi-shielded Power Inductors

### Electrical Specifications @ 25 °C

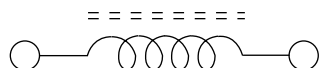
| Bourns Part No. | Inductance @ 100 kHz / 1 V |        | Q @ 1 MHz Min. | SRF (MHz) Typ. | DCR (mΩ) Typ. | DCR (mΩ) Max. | I <sub>rms</sub> (A) Typ. | I <sub>sat</sub> (A) Typ. |
|-----------------|----------------------------|--------|----------------|----------------|---------------|---------------|---------------------------|---------------------------|
|                 | L (μH)                     | Tol. % |                |                |               |               |                           |                           |
| SRN3015BTA-R24M | 0.24                       | ±20    | 3              | 360            | 13            | 16            | 5.0                       | 6.0                       |
| SRN3015BTA-R47M | 0.47                       | ±20    | 10             | 246            | 18            | 22            | 3.7                       | 4.3                       |
| SRN3015BTA-R68M | 0.68                       | ±20    | 10             | 190            | 23            | 28            | 3.5                       | 3.8                       |
| SRN3015BTA-1R0M | 1.0                        | ±20    | 10             | 155            | 30            | 36            | 3.0                       | 3.0                       |
| SRN3015BTA-1R5M | 1.5                        | ±20    | 10             | 120            | 36            | 43            | 2.7                       | 2.4                       |
| SRN3015BTA-2R2M | 2.2                        | ±20    | 10             | 96             | 60            | 72            | 2.5                       | 2.1                       |
| SRN3015BTA-3R3M | 3.3                        | ±20    | 10             | 75             | 80            | 96            | 2.2                       | 1.7                       |
| SRN3015BTA-4R7M | 4.7                        | ±20    | 10             | 62             | 112           | 134           | 1.9                       | 1.5                       |
| SRN3015BTA-5R6M | 5.6                        | ±20    | 10             | 54             | 135           | 162           | 1.8                       | 1.4                       |
| SRN3015BTA-6R8M | 6.8                        | ±20    | 10             | 50             | 172           | 206           | 1.7                       | 1.3                       |
| SRN3015BTA-100M | 10.0                       | ±20    | 10             | 45             | 220           | 264           | 1.5                       | 1.0                       |
| SRN3015BTA-150M | 15.0                       | ±20    | 15             | 30             | 310           | 372           | 1.2                       | 0.85                      |
| SRN3015BTA-180M | 18.0                       | ±20    | 15             | 29             | 380           | 456           | 1.1                       | 0.73                      |
| SRN3015BTA-220M | 22.0                       | ±20    | 15             | 26             | 450           | 540           | 1.00                      | 0.68                      |
| SRN3015BTA-330M | 33.0                       | ±20    | 15             | 21             | 780           | 940           | 0.85                      | 0.57                      |
| SRN3015BTA-470M | 47.0                       | ±20    | 15             | 18             | 1200          | 1440          | 0.7                       | 0.46                      |
| SRN3015BTA-101M | 100                        | ±20    | 15             | 13             | 3400          | 4080          | 0.4                       | 0.33                      |

### Product Dimensions



† Dimension does not include termination. For maximum overall dimensions with termination, add 0.1 mm (.004 in.).

### Electrical Schematic



### How to Order

SRN3015BTA - R24M

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

### Additional Information

Click these links for more information:



### General Specifications

Operating Temperature ..... -55 °C to +125 °C  
(Temperature rise included)

Storage Temperature  
(Component on board) ..... -55 °C to +125 °C  
(In tape and reel package) ..... -10 °C to +40 °C, 50-60 % RH

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

Note 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 ..... Ferrite

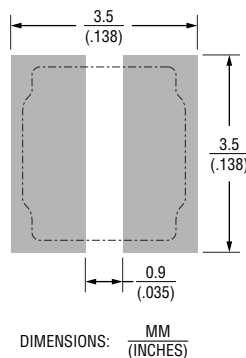
Wire ..... Enameled copper

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

Coating ..... Magnetic resin

Packaging ..... 2000 pcs. per 7-inch reel

### Recommended Layout



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

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

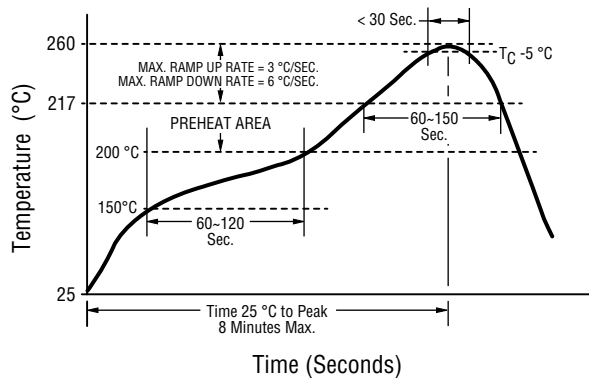
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SRN3015BTA Series – Semi-shielded Power Inductors

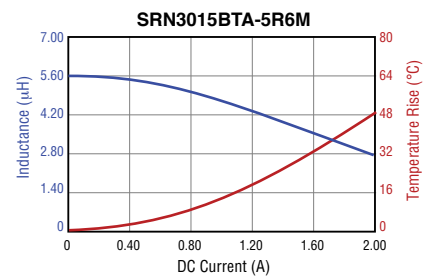
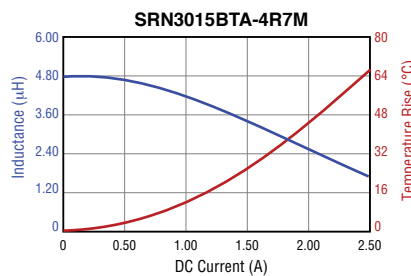
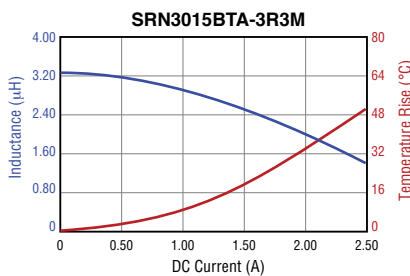
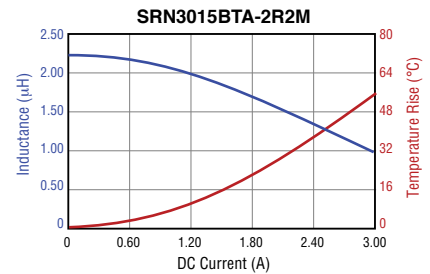
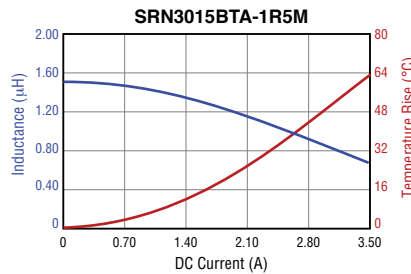
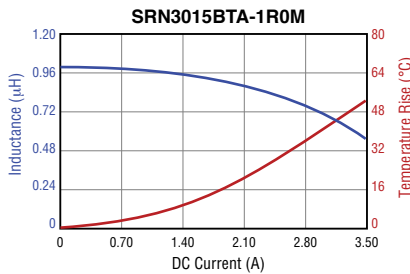
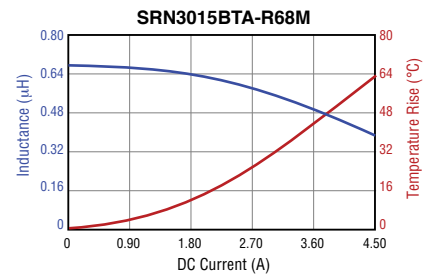
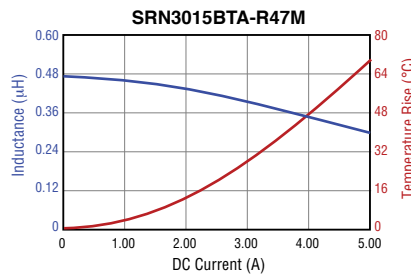
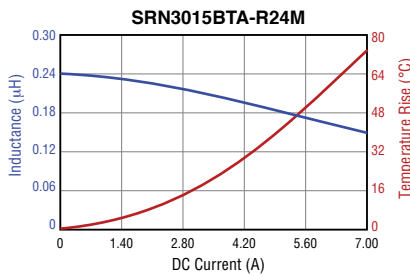
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## Soldering Profile



| 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.                   |
| Liquidus 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.                     |

## L vs. I Charts



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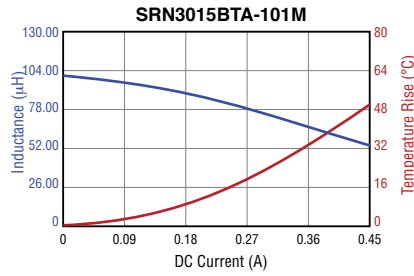
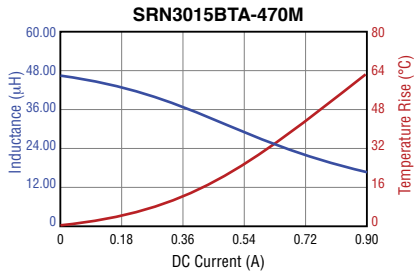
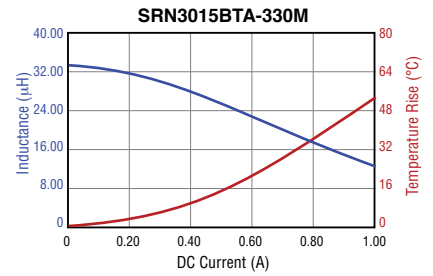
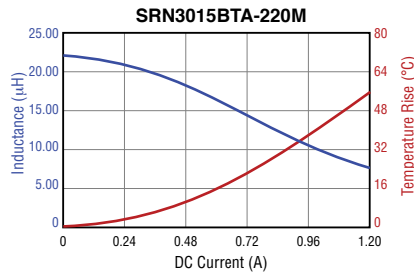
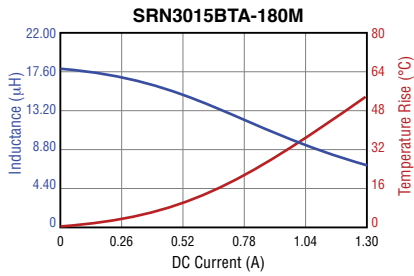
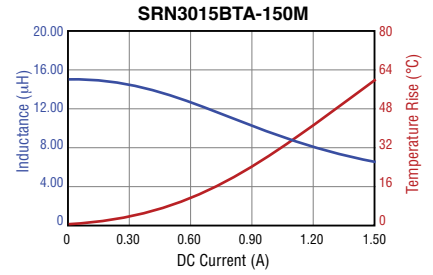
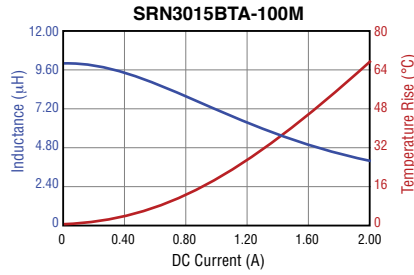
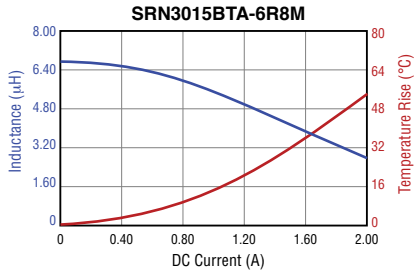
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## SRN3015BTA Series – Semi-shielded Power Inductors

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### L vs. I Charts (continued)



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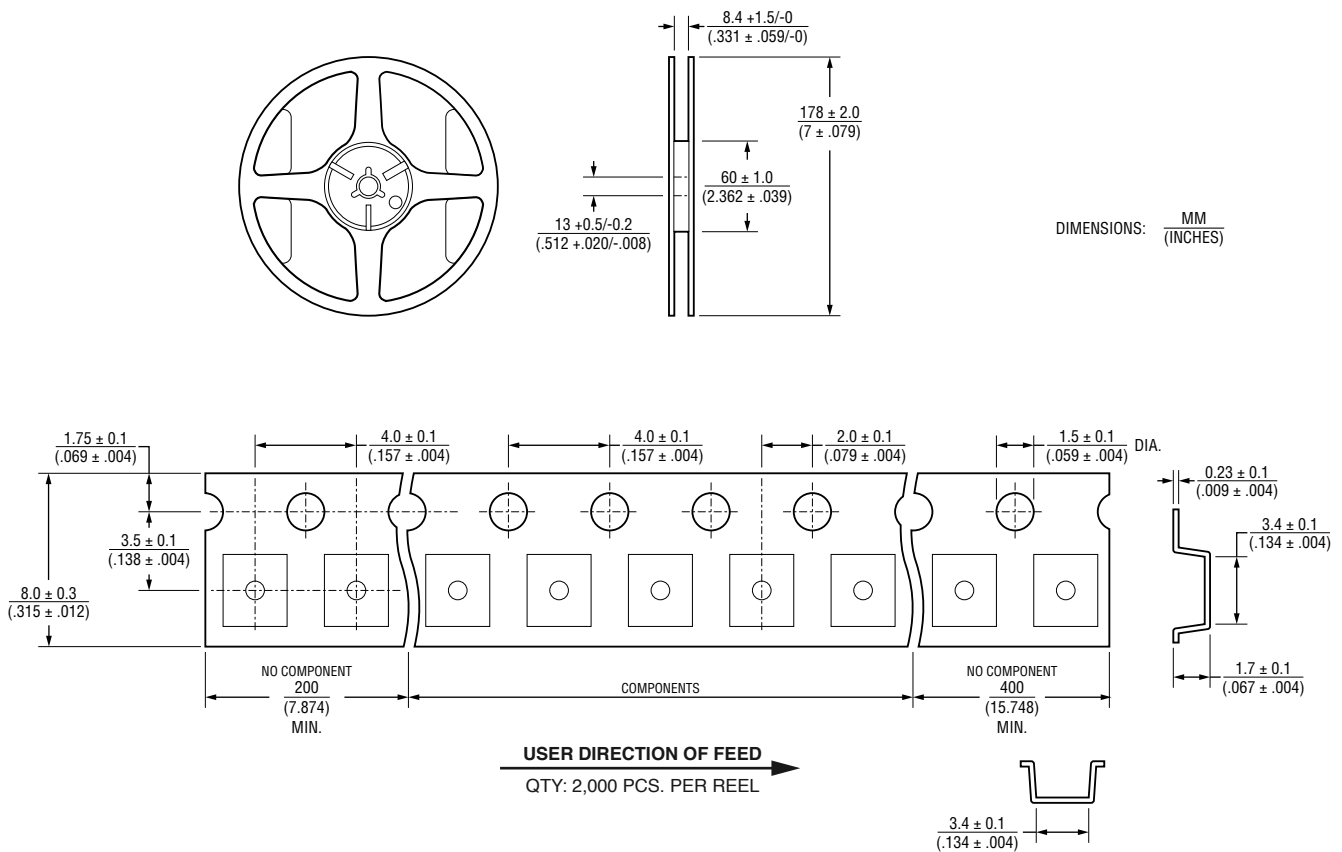
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# SRN3015BTA Series – Semi-shielded Power Inductors

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