



## Features

- Semi-shielded construction
- Inductance range: 1 to 22  $\mu\text{H}$
- Rated current up to 2 A
- AEC-Q200 qualified
- RoHS compliant\* and halogen free\*\*

## Applications

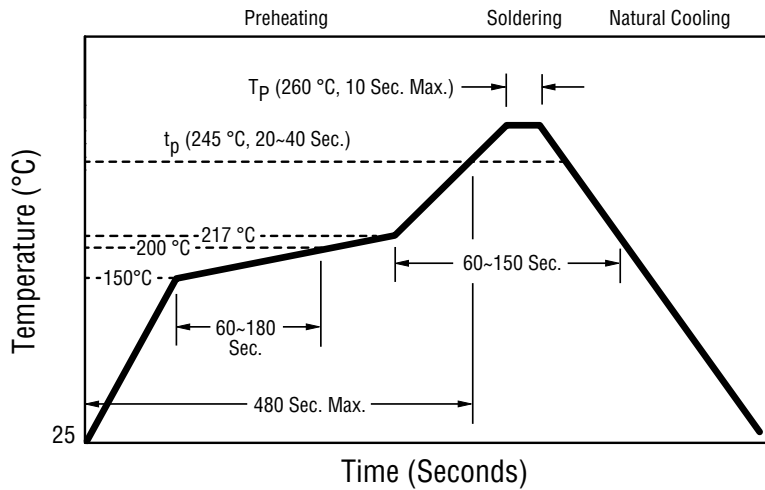
- Automotive systems:
  - Driver assistant
  - Information
  - Entertainment
  - Lighting
- DC/DC converters
- Power supplies
- Digital video cameras
- HDDs
- Smartphones
- Televisions, LCD displays

# SRN3012TA Series - Semi-shielded Power Inductors

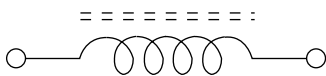
### Electrical Specifications @ 25 °C

| Bourns Part No. | Inductance @ 1 MHz / 0.1 V |          | Q (Min.) @ 1 MHz | SRF (MHz) Typ. | DCR ( $\Omega$ ) $\pm 20\%$ | I <sub>rms</sub> (A) | I <sub>sat</sub> (A) |
|-----------------|----------------------------|----------|------------------|----------------|-----------------------------|----------------------|----------------------|
|                 | L ( $\mu\text{H}$ )        | Tol. %   |                  |                |                             |                      |                      |
| SRN3012TA-1R0Y  | 1.0                        | $\pm 30$ | 10               | 150            | 0.042                       | 2.00                 | 2.15                 |
| SRN3012TA-1R5Y  | 1.5                        | $\pm 30$ | 15               | 130            | 0.056                       | 1.85                 | 1.7                  |
| SRN3012TA-2R2M  | 2.2                        | $\pm 20$ | 15               | 90             | 0.08                        | 1.7                  | 1.5                  |
| SRN3012TA-3R3M  | 3.3                        | $\pm 20$ | 15               | 70             | 0.1                         | 1.55                 | 1.2                  |
| SRN3012TA-4R7M  | 4.7                        | $\pm 20$ | 18               | 55             | 0.13                        | 1.3                  | 1.05                 |
| SRN3012TA-6R8M  | 6.8                        | $\pm 20$ | 20               | 45             | 0.18                        | 1.05                 | 0.9                  |
| SRN3012TA-100M  | 10                         | $\pm 20$ | 20               | 40             | 0.245                       | 0.89                 | 0.76                 |
| SRN3012TA-150M  | 15                         | $\pm 20$ | 20               | 35             | 0.386                       | 0.74                 | 0.62                 |
| SRN3012TA-220M  | 22                         | $\pm 20$ | 22               | 25             | 0.58                        | 0.61                 | 0.49                 |

### Soldering Profile



### Electrical Schematic



### How to Order

**SRN3012TA - 100M**

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

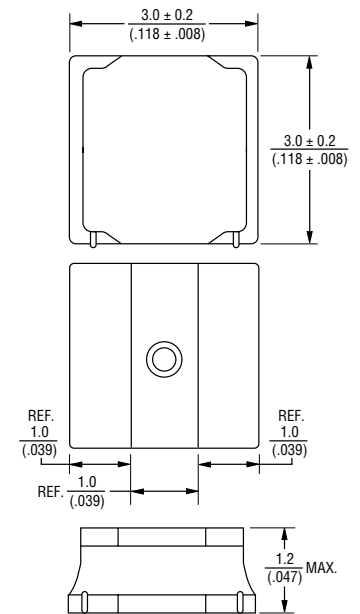
### General Specifications

Operating Temperature ..... -40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature .. -40 °C to +125 °C  
 Temperature Rise ..... 40 °C at rated I<sub>rms</sub>  
 Rated Current  
 ..... Inductance drops 30 % at I<sub>sat</sub>  
 Failure In Time (FIT) ..... 24.7/10<sup>9</sup> hours  
 Mean Time Between Failures (MTBF)  
 ..... 40.4 x 10<sup>6</sup> hours

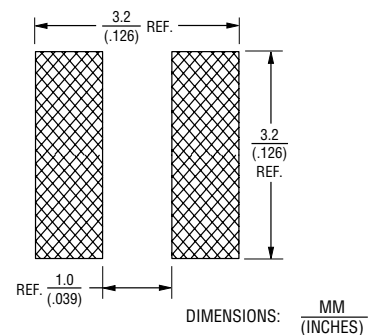
### Materials

Core ..... Ferrite  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Coating ..... Magnetic epoxy resin  
 Packaging ..... 2000 pcs. per 7-inch reel

### Product Dimensions



### Recommended Layout



\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

\*\*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.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

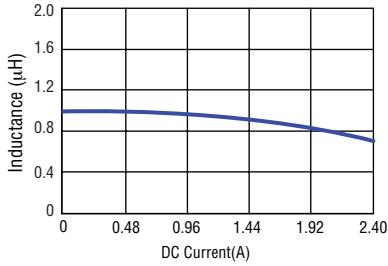
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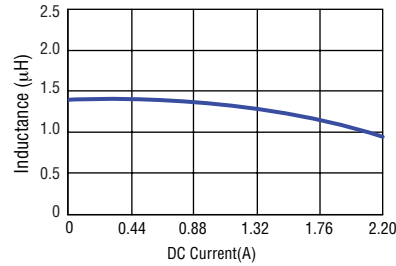
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## Inductance vs. Current

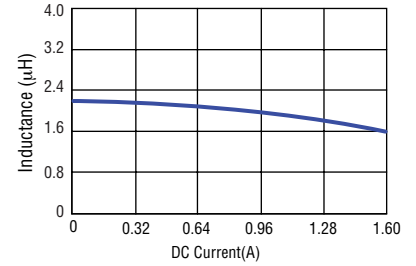
**SRN3012TA-1R0Y**



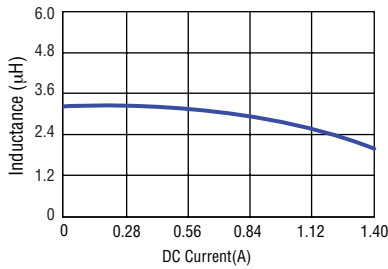
**SRN3012TA-1R5Y**



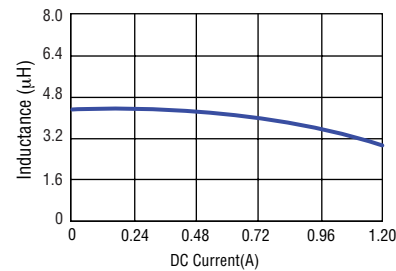
**SRN3012TA-2R2M**



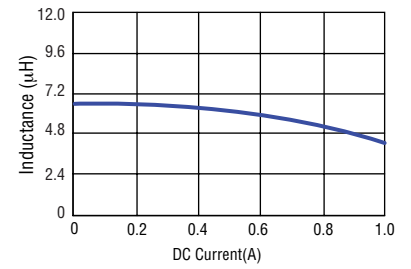
**SRN3012TA-3R3M**



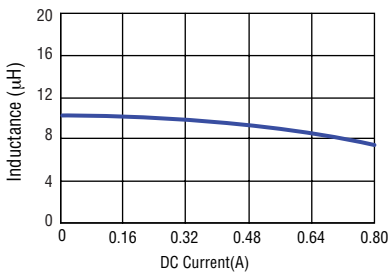
**SRN3012TA-4R7M**



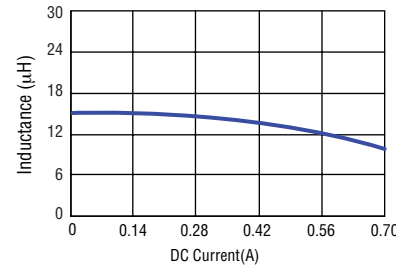
**SRN3012TA-6R8M**



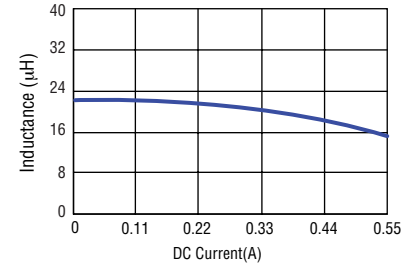
**SRN3012TA-100M**



**SRN3012TA-150M**



**SRN3012TA-220M**

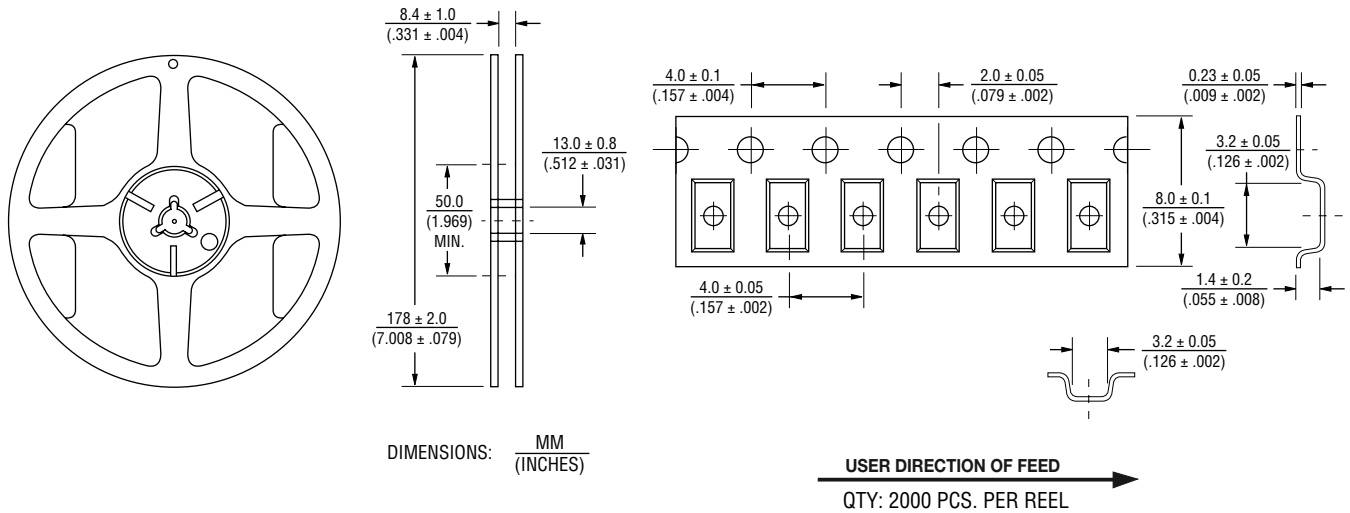


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## Packaging Specifications



07/16

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