



**THE DATASHEET OF  
SRP0510-6R8K**





## Features

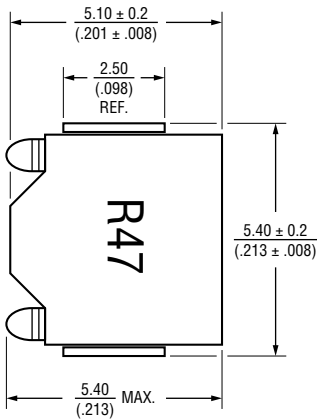
- Shielded construction
- Metal alloy powder core
- High saturation current
- Low buzz noise
- Flat wire
- RoHS compliant\* and halogen free\*\*

## SRP0510 Series - Shielded Power Inductors

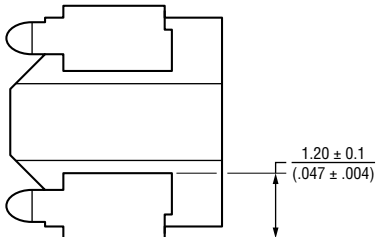
### Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance @ 100 kHz / 1 V |          | Q Typ. | Q Test Freq, (MHz) | SRF (MHz) Typ. | DCR (mΩ) Typ. | DCR (mΩ) Max. | I <sub>rms</sub> (A) Typ. | I <sub>sat</sub> (A) Typ. |
|--------------------|----------------------------|----------|--------|--------------------|----------------|---------------|---------------|---------------------------|---------------------------|
|                    | L (μH)                     | Tol. (%) |        |                    |                |               |               |                           |                           |
| SRP0510-R47K       | 0.47                       | 10       | 21     | 25.2               | 89             | 32.5          | 38.0          | 5.0                       | 10.5                      |
| SRP0510-R68K       | 0.68                       | 10       | 19     | 25.2               | 72             | 37.0          | 43.5          | 4.6                       | 8.5                       |
| SRP0510-1R0K       | 1.00                       | 10       | 41     | 7.96               | 51             | 48.0          | 57.0          | 4.0                       | 8.0                       |
| SRP0510-1R5K       | 1.50                       | 10       | 41     | 7.96               | 40             | 55.0          | 65.0          | 3.6                       | 6.5                       |
| SRP0510-2R2K       | 2.20                       | 10       | 39     | 7.96               | 27             | 63.0          | 75.0          | 3.4                       | 5.0                       |
| SRP0510-3R3K       | 3.30                       | 10       | 33     | 7.96               | 21             | 89.0          | 104.0         | 2.8                       | 4.6                       |
| SRP0510-4R7K       | 4.70                       | 10       | 25     | 7.96               | 21             | 128.0         | 151.0         | 2.4                       | 3.6                       |
| SRP0510-6R8K       | 6.80                       | 10       | 18     | 7.96               | 16             | 167.5         | 198.0         | 2.2                       | 3.0                       |
| SRP0510-100K       | 10.0                       | 10       | 24     | 2.52               | 15             | 290.0         | 335.0         | 1.6                       | 2.1                       |

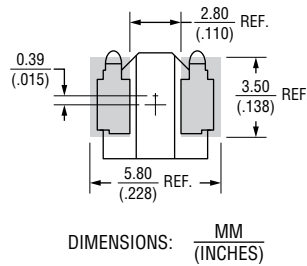
### Product Dimensions



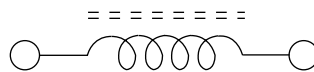
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$



### Recommended Layout



### Electrical Schematic



### Additional Information

Click these links for more information:



### General Specifications

Operating Temperature  
 .....-40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature (Component)  
 .....-40 °C to +125 °C  
 Rated Current  
 ..... Inductance drops 30 % at I<sub>sat</sub>  
 Temperature Rise ... 40 °C at rated I<sub>rms</sub>  
 Rated Voltage .....50 V  
 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 ..... Metal alloy powder  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Packaging ..... 4000 pcs. per 13-inch reel

### How to Order

**SRP0510 - 4R7K**

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



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

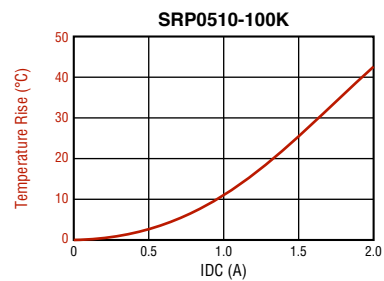
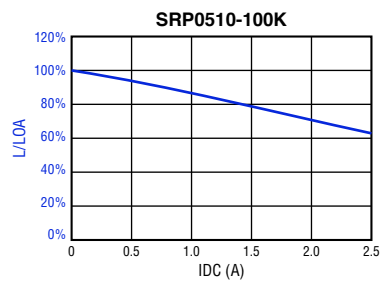
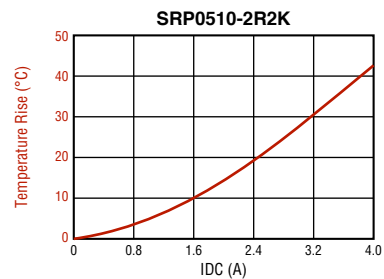
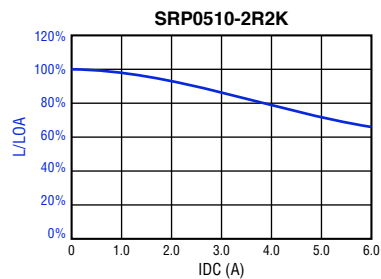
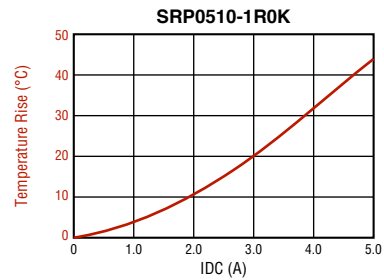
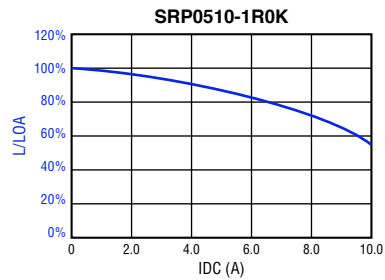
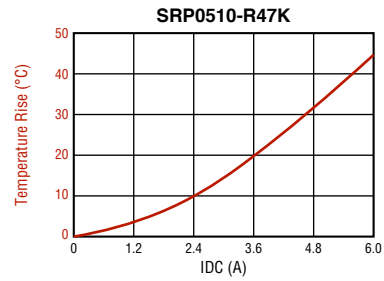
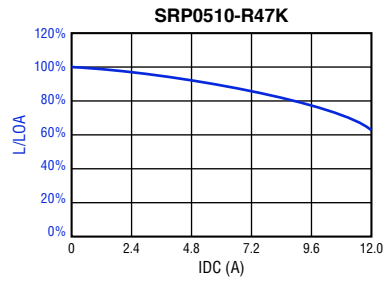
\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* 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. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

# SRP0510 Series - Shielded Power Inductors

**BOURNS®**

## L vs. I Charts



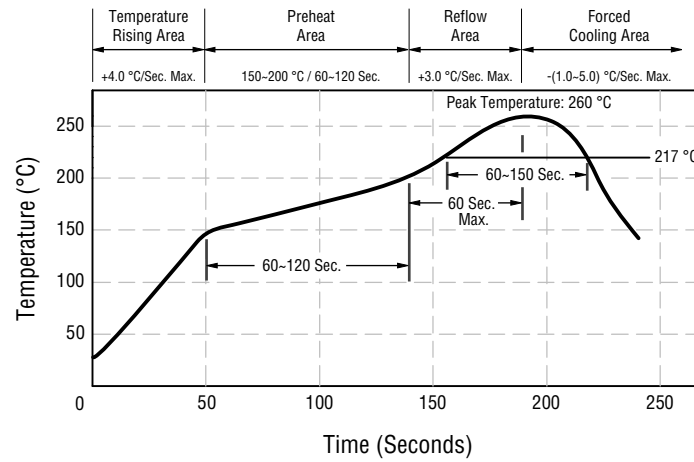
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Soldering Profile

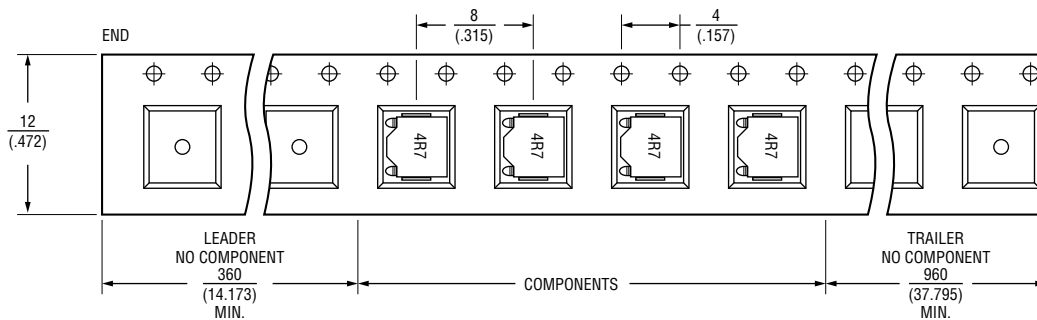
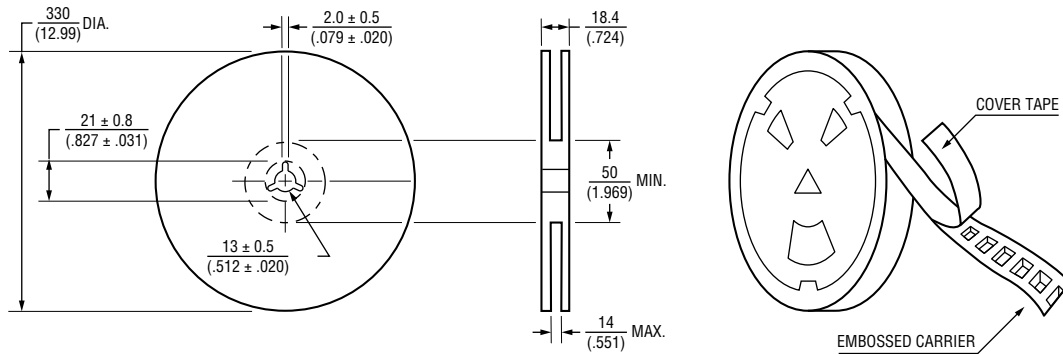
Peak Temperature: 260 °C max.  
 Max. Peak Temperature -5 °C: 30 sec. max.  
 Max. Time Above 217 °C: 60~150 sec. max.



# SRP0510 Series - Shielded Power Inductors

**BOURNS®**

## Packaging Specifications



USER DIRECTION OF FEED →

QTY: 4,000 PCS PER REEL

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

**BOURNS®**

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REV. 04/21

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