SRP0312 Series - Shielded Power Inductors

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

Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Inductance @ 100 kHz / 1 V</th>
<th>Q Typ.</th>
<th>Q Test Freq. (MHz)</th>
<th>SRF (MHz) Typ.</th>
<th>DCR (mΩ) Typ.</th>
<th>DCR (mΩ) Max.</th>
<th>Irms (A) Typ.</th>
<th>Isat (A) Typ.</th>
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<tbody>
<tr>
<td>SRP0312-R47K</td>
<td>0.47</td>
<td>18</td>
<td>25.2</td>
<td>91</td>
<td>15.3</td>
<td>17.8</td>
<td>6.6</td>
<td>8.0</td>
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<td>SRP0312-R68K</td>
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<td>14</td>
<td>25.2</td>
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<td>21.2</td>
<td>24.8</td>
<td>5.6</td>
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<td>SRP0312-1R0K</td>
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<td>23</td>
<td>7.96</td>
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<td>34.0</td>
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<td>SRP0312-1R5K</td>
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<td>3.6</td>
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<td>7.96</td>
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<td>7.96</td>
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<td>210.0</td>
<td>1.9</td>
<td>2.5</td>
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</table>

Product Dimensions

Recommended Layout

Electrical Schematic

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 Isat
- Temperature Rise: 40 °C at rated Irms
- 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
- Wire: Enamelled copper
- Terminal Finish: Sn
- Packaging: 4000 pcs. per 13-inch reel

Please consult Bourns® Model SRP-A Series Visual Inspection Guide for detailed construction, processing and testing information.

How to Order

SRP0312 - 4R7K

Model
Value Code (see table)

WARNING Cancer and Reproductive Harm www.P65Warnings.ca.gov

** 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.
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.

### Temperature Rising Area
- Max. Peak Temperature: 260 °C
- Temperature Area: 217 °C
- Time Area: 60–150 sec. max.
- Peak Temperature: 260 °C

### Preheat Area
- Temp. 150–200 °C
- Time 60–120 sec.

### Reflow Area
- Max. Temperature: 260 °C
- Temp. 217 °C
- Time 60 sec. max.

### Forced Cooling Area
- Temp. 60–150 °C
- Temp. 60–120 °C
- Max. Cooling Rate: (1.0–5.0) °C/sec. max.

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