SRP3212A Series - Shielded Power Inductors

**Features**
- Compact size
- Shielded construction for low radiation
- Metal alloy powder core for high saturation current
- Flat wire
- Low DCR
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

### Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part No.</th>
<th>Inductance</th>
<th>L (H)</th>
<th>@ 100 kHz</th>
<th>Q Typ.</th>
<th>To, @ 100 kHz</th>
<th>Q Typ.</th>
<th>To, @ 100 kHz</th>
<th>SRF (MHz)</th>
<th>Typ.</th>
<th>DC.</th>
<th>DCR (mΩ)</th>
<th>Max.</th>
<th>DCR (mΩ)</th>
<th>Max.</th>
<th>Irms (A)</th>
<th>@ 100 kHz</th>
<th>Isat (A)</th>
<th>Typ.</th>
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<td>SRP3212A-R33M</td>
<td>0.33</td>
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<td>3</td>
<td>132</td>
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<td>13</td>
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<td>5</td>
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<td>7.3</td>
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<td>5</td>
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<td>101</td>
<td>3.1</td>
<td>3.4</td>
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<td>SRP3212A-4R7M</td>
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<td>5</td>
<td>25</td>
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<td>146</td>
<td>2.2</td>
<td>2.8</td>
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</tr>
</tbody>
</table>

### Additional Information

Click these links for more information:
- **Product Selector**
- **Technical Library**
- **Inventories**
- **Samples**
- **Contact**

#### General Specifications

**Operating Temperature**
- -40 °C to +150 °C (Temperature rise included)

**Storage Temperature (Component)**
- -40 °C to +150 °C

**Temperature Rise**
- 40 °C at rated Irms¹

**Rated Current**
- Inductance drops 30 % at Isat

**Moisture Sensitivity Level**
- 1

**ESD Classification (HBM)**
- N/A

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: Ag/Ni/Sn
- Packaging: 2000 pcs. per 7-inch reel

### Soldering Profile

**Profile Feature**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Pb Free Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preheat</td>
<td></td>
</tr>
<tr>
<td>- Temperature Min. (T&lt;sub&gt;smin&lt;/sub&gt;)</td>
<td>150 °C</td>
</tr>
<tr>
<td>- Temperature Max. (T&lt;sub&gt;smax&lt;/sub&gt;)</td>
<td>200 °C</td>
</tr>
<tr>
<td>- Time(t&lt;sub&gt;s&lt;/sub&gt;) from T&lt;sub&gt;smin&lt;/sub&gt; to T&lt;sub&gt;smax&lt;/sub&gt;</td>
<td>60-120 seconds</td>
</tr>
<tr>
<td>Ramp-up Rate (T&lt;sub&gt;L&lt;/sub&gt; to T&lt;sub&gt;p&lt;/sub&gt;)</td>
<td>3 °C/second max.</td>
</tr>
<tr>
<td>Liquidus temperature (T&lt;sub&gt;L&lt;/sub&gt;)</td>
<td>217 °C</td>
</tr>
<tr>
<td>Time (t&lt;sub&gt;L&lt;/sub&gt;) maintained above T&lt;sub&gt;L&lt;/sub&gt;</td>
<td>60-150 seconds</td>
</tr>
<tr>
<td>Peak package body temperature (T&lt;sub&gt;p&lt;/sub&gt;)</td>
<td>260 °C</td>
</tr>
<tr>
<td>Time within 5 °C of Actual Peak Temperature (t&lt;sub&gt;q&lt;/sub&gt;)</td>
<td>&lt; 30 seconds</td>
</tr>
<tr>
<td>Ramp-Down Rate (T&lt;sub&gt;p&lt;/sub&gt; to T&lt;sub&gt;L&lt;/sub&gt;)</td>
<td>6 °C/second max.</td>
</tr>
<tr>
<td>Time 25 °C to Peak Temperature</td>
<td>8 minutes max.</td>
</tr>
</tbody>
</table>

**T<sub>C</sub> - 5 °C**

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** 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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**WARNING** Cancer and Reproductive Harm

www.P65Warnings.ca.gov

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Product Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom View</td>
<td>3.2 ± 0.3 mm (0.126 ± .012)</td>
<td></td>
</tr>
<tr>
<td>Side View 1</td>
<td>1.0 ± 0.2 mm (0.039 ± .008)</td>
<td></td>
</tr>
<tr>
<td>Side View 2</td>
<td>1.1 ± 0.3 mm (0.043 ± .012)</td>
<td></td>
</tr>
<tr>
<td>Side View 3</td>
<td>2.5 ± 0.3 mm (0.098 ± .012)</td>
<td></td>
</tr>
</tbody>
</table>

Recommended Layout

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom View</td>
<td>3.7 mm (148)</td>
<td></td>
</tr>
<tr>
<td>Side View 1</td>
<td>2.8 mm (110)</td>
<td></td>
</tr>
<tr>
<td>Side View 2</td>
<td>0.7 ± 1.7 mm (0.028 ~ .067)</td>
<td></td>
</tr>
</tbody>
</table>

L vs. I Charts

SRP3212A-R33M

SRP3212A-R47M

SRP3212A-R68M

SRP3212A-1R0M

SRP3212A-1R5M

SRP3212A-2R2M

SRP3212A-3R3M

SRP3212A-4R7M

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Packaging Specifications

Dimensions: MM (INCHES)

QTY: 2000 PCS. PER REEL

USER DIRECTION OF FEED

Area Dimensions:
8.4 ± 1.5/0
(0.331 ± 0.059/0)
178 ± 2.0
(7 ± 0.079)
50
(1.969)
MIN.

8.0 ± 0.1
(.315 ± .004)
3.6 ± 0.1
(.142 ± .004)
2.9 ± 0.1
(.114 ± .004)
1.4 ± 0.1
(.055 ± .004)
1.5 ± 0.1
(.059 ± .004)
4.0 ± 0.1
(.157 ± .004)
4.0 ± 0.1
(.157 ± .004)
2.0 ± 0.1
(.079 ± .004)
1.0 ± 0.1
(.039 ± .004)

USER DIRECTION OF FEED

DIMENSIONS:

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The Americas: Tel: +1-951 781-5500 • Email: Americus@bourns.com
www.bourns.com

05/22
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