**Features**

- Shielded construction
- Inductance range: 0.68 to 330 µH
- Heating current up to 9.5A
- AEC-Q200 qualified
- RoHS compliant* and halogen free**

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**SRR1050A Series - Shielded Power Inductors**

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### Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Inductance @ 100 kHz/0.1V L (µH)</th>
<th>SRF (MHz) Typ.</th>
<th>DCR (Ω)</th>
<th>I rms (A)</th>
<th>I sat (A)</th>
<th><strong>K-Factor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SRR1050A-R68Y</td>
<td>0.68 ± 0.30</td>
<td>110</td>
<td>0.0045</td>
<td>0.0055</td>
<td>9.50</td>
<td>13.5</td>
</tr>
<tr>
<td>SRR1050A-1R2Y</td>
<td>1.2 ± 0.30</td>
<td>83</td>
<td>0.0058</td>
<td>0.007</td>
<td>8.30</td>
<td>10.5</td>
</tr>
<tr>
<td>SRR1050A-2R2Y</td>
<td>2.2 ± 0.30</td>
<td>53</td>
<td>0.0071</td>
<td>0.009</td>
<td>7.20</td>
<td>8.20</td>
</tr>
<tr>
<td>SRR1050A-3R3Y</td>
<td>3.3 ± 0.40</td>
<td>40</td>
<td>0.0086</td>
<td>0.011</td>
<td>6.50</td>
<td>7.80</td>
</tr>
<tr>
<td>SRR1050A-4R2Y</td>
<td>4.2 ± 0.29</td>
<td>29</td>
<td>0.0104</td>
<td>0.014</td>
<td>6.10</td>
<td>6.40</td>
</tr>
<tr>
<td>SRR1050A-6R8Y</td>
<td>6.8 ± 0.27</td>
<td>27</td>
<td>0.0151</td>
<td>0.019</td>
<td>5.40</td>
<td>5.40</td>
</tr>
<tr>
<td>SRR1050A-8R2Y</td>
<td>8.2 ± 0.21</td>
<td>21</td>
<td>0.0181</td>
<td>0.022</td>
<td>5.00</td>
<td>4.85</td>
</tr>
<tr>
<td>SRR1050A-100Y</td>
<td>10 ± 0.16</td>
<td>16.5</td>
<td>0.023</td>
<td>0.031</td>
<td>4.50</td>
<td>4.45</td>
</tr>
<tr>
<td>SRR1050A-120Y</td>
<td>12 ± 0.15</td>
<td>15</td>
<td>0.026</td>
<td>0.035</td>
<td>3.80</td>
<td>4.00</td>
</tr>
<tr>
<td>SRR1050A-150Y</td>
<td>15 ± 0.14</td>
<td>14</td>
<td>0.035</td>
<td>0.047</td>
<td>3.40</td>
<td>3.60</td>
</tr>
<tr>
<td>SRR1050A-180Y</td>
<td>18 ± 0.11</td>
<td>11</td>
<td>0.038</td>
<td>0.051</td>
<td>3.10</td>
<td>3.20</td>
</tr>
<tr>
<td>SRR1050A-220Y</td>
<td>22 ± 0.10</td>
<td>10.5</td>
<td>0.046</td>
<td>0.062</td>
<td>2.90</td>
<td>2.95</td>
</tr>
<tr>
<td>SRR1050A-270Y</td>
<td>27 ± 0.10</td>
<td>10</td>
<td>0.057</td>
<td>0.077</td>
<td>2.60</td>
<td>2.70</td>
</tr>
<tr>
<td>SRR1050A-330Y</td>
<td>33 ± 0.09</td>
<td>9</td>
<td>0.069</td>
<td>0.093</td>
<td>2.50</td>
<td>2.40</td>
</tr>
<tr>
<td>SRR1050A-390Y</td>
<td>39 ± 0.06</td>
<td>6.8</td>
<td>0.079</td>
<td>0.106</td>
<td>2.25</td>
<td>2.30</td>
</tr>
<tr>
<td>SRR1050A-470Y</td>
<td>47 ± 0.05</td>
<td>5.9</td>
<td>0.094</td>
<td>0.127</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>SRR1050A-560Y</td>
<td>56 ± 0.05</td>
<td>5.5</td>
<td>0.124</td>
<td>0.160</td>
<td>1.90</td>
<td>1.90</td>
</tr>
<tr>
<td>SRR1050A-680Y</td>
<td>68 ± 0.05</td>
<td>5</td>
<td>0.138</td>
<td>0.208</td>
<td>1.60</td>
<td>1.65</td>
</tr>
<tr>
<td>SRR1050A-820Y</td>
<td>82 ± 0.04</td>
<td>4.5</td>
<td>0.150</td>
<td>0.230</td>
<td>1.45</td>
<td>1.50</td>
</tr>
<tr>
<td>SRR1050A-101Y</td>
<td>100 ± 0.04</td>
<td>4.2</td>
<td>0.179</td>
<td>0.255</td>
<td>1.35</td>
<td>1.35</td>
</tr>
<tr>
<td>SRR1050A-121Y</td>
<td>120 ± 0.03</td>
<td>3.8</td>
<td>0.213</td>
<td>0.305</td>
<td>1.18</td>
<td>1.28</td>
</tr>
<tr>
<td>SRR1050A-151Y</td>
<td>150 ± 0.03</td>
<td>3.6</td>
<td>0.253</td>
<td>0.370</td>
<td>1.10</td>
<td>1.12</td>
</tr>
<tr>
<td>SRR1050A-181Y</td>
<td>180 ± 0.03</td>
<td>3.4</td>
<td>0.307</td>
<td>0.420</td>
<td>1.00</td>
<td>1.04</td>
</tr>
<tr>
<td>SRR1050A-221Y</td>
<td>220 ± 0.03</td>
<td>3</td>
<td>0.373</td>
<td>0.500</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>SRR1050A-271Y</td>
<td>270 ± 0.03</td>
<td>2.4</td>
<td>0.491</td>
<td>0.675</td>
<td>0.80</td>
<td>0.84</td>
</tr>
<tr>
<td>SRR1050A-331Y</td>
<td>330 ± 0.02</td>
<td>2</td>
<td>0.613</td>
<td>0.815</td>
<td>0.73</td>
<td>0.75</td>
</tr>
</tbody>
</table>

**K-Factor**: To calculate core flux density, Bp-p (gauss) = k x L(µH) x ΔI (peak-to-peak ripple current, A), determine core loss from Core Loss vs. Flux Density plot.

### Core Loss vs. Flux Density

![Core Loss vs. Flux Density graph]

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**General Specifications**

- **Operating Temperature**: -40 °C to +125 °C (Temperature rise included)
- **Storage Temperature**: -40 °C to +125 °C
- **Temperature Rise**: -40 °C typ. at rated Irms
- **Rated Current**: Inductance drops 35% at Isat
- **Failure In Time (FIT)**: 24,710/hr Mean Time Between Failures (MTBF): 40.4 x 10⁶ hours

**Materials**

- Core: Ferrite
- Wire: Enameled copper
- Terminal Finish: Sn

**Packaging**: 700 pcs. per 13-inch reel

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

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Users should verify actual device performance in their specific applications.

*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.
Applications
- Automotive systems
- DC/DC converters
- Power supplies

**SRR1050A Series - Shielded Power Inductors**

**Recommended Layout**

**Electrical Schematic**

**How to Order**

SRR1050A - 101Y

Model: [ ]

Value Code (see table)

**Inductance vs. IDC**

- SRR1050A-2R2Y
- SRR1050A-100Y
- SRR1050A-270Y
- SRR1050A-221Y

**Temperature vs. IDC**

- SRR1050A-2R2Y
- SRR1050A-100Y
- SRR1050A-270Y
- SRR1050A-221Y

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Soldering Profile

Temperature Rising Area  Preheat Area  Reflow Area  Forced Cooling Area
+4.0 °C / sec. max.  150-200 °C / 60-120 sec.  +3.0 °C / sec. max.  <1.0-5.0 °C / sec. max.

Time (Seconds)

Temperature (°C)

0 50 100 150 200 250

Peak Temperature: 245 °C max.
Time Above 245 °C: 30 sec. max.
Time Above 217 °C: 60 - 150 sec. max.

Packaging Specifications

DIMENSIONS:

<table>
<thead>
<tr>
<th>Component</th>
<th>DIA. (mm)</th>
<th>LEADER (mm)</th>
<th>TRAILER (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components</td>
<td>330 ± 0.5</td>
<td>2.0 ± 0.5</td>
<td>310 ± 0.8</td>
</tr>
<tr>
<td>Leader no component</td>
<td>200 m/m min.</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>330</td>
<td>330</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>Trailer no component</td>
<td>400 m/m min.</td>
<td>330</td>
<td>330</td>
</tr>
</tbody>
</table>

THICKNESS
0.10 (0.004) MAX.

USER DIRECTION OF FEED

QTY: 700 PCS. PER REEL

REV. 06/23

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