## Features
- Shielded construction
- Metal alloy powder core
- High saturation current
- Low buzz noise
- Inductance range 0.1 to 10 µH
- RoHS compliant* and halogen free**

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### SRP5020C Series – Shielded Power Inductors

#### 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

#### MSL
- 1

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

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### Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Inductance @ 100 kHz / 1 V L (µH)</th>
<th>Tol. %</th>
<th>Q Min. @ 100 kHz SRF (MHz) Typ.</th>
<th>DCR (mΩ) Typ.</th>
<th>DCR (mΩ) Max.</th>
<th>I rms (A) Typ.</th>
<th>I sat (A) Typ.</th>
<th>I sat (A) Typ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRP5020C-R10Y</td>
<td>0.10</td>
<td>± 30 %</td>
<td>5</td>
<td>200</td>
<td>2.7</td>
<td>3</td>
<td>20</td>
<td>36</td>
</tr>
<tr>
<td>SRP5020C-R15Y</td>
<td>0.15</td>
<td>± 30 %</td>
<td>5</td>
<td>180</td>
<td>3.6</td>
<td>4</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>SRP5020C-R22M</td>
<td>0.22</td>
<td>± 20 %</td>
<td>5</td>
<td>125</td>
<td>4.1</td>
<td>4.6</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td>SRP5020C-R33M</td>
<td>0.33</td>
<td>± 20 %</td>
<td>5</td>
<td>86</td>
<td>5.5</td>
<td>6.1</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>SRP5020C-R47M</td>
<td>0.47</td>
<td>± 20 %</td>
<td>10</td>
<td>80</td>
<td>6.8</td>
<td>7.6</td>
<td>11.5</td>
<td>16</td>
</tr>
<tr>
<td>SRP5020C-R68M</td>
<td>0.68</td>
<td>± 20 %</td>
<td>10</td>
<td>58</td>
<td>10.6</td>
<td>11.7</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>SRP5020C-1R0M</td>
<td>1.0</td>
<td>± 20 %</td>
<td>20</td>
<td>55</td>
<td>13.8</td>
<td>15.2</td>
<td>9</td>
<td>10.5</td>
</tr>
<tr>
<td>SRP5020C-1R5M</td>
<td>1.5</td>
<td>± 20 %</td>
<td>20</td>
<td>42</td>
<td>25.6</td>
<td>28.7</td>
<td>7</td>
<td>9.6</td>
</tr>
<tr>
<td>SRP5020C-2R2M</td>
<td>2.2</td>
<td>± 20 %</td>
<td>20</td>
<td>40</td>
<td>36</td>
<td>41</td>
<td>5.5</td>
<td>8.8</td>
</tr>
<tr>
<td>SRP5020C-3R3M</td>
<td>3.3</td>
<td>± 20 %</td>
<td>20</td>
<td>30</td>
<td>66</td>
<td>74</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>SRP5020C-4R7M</td>
<td>4.7</td>
<td>± 20 %</td>
<td>20</td>
<td>27</td>
<td>95</td>
<td>109</td>
<td>3.2</td>
<td>6</td>
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<tr>
<td>SRP5020C-6R8M</td>
<td>6.8</td>
<td>± 20 %</td>
<td>20</td>
<td>25</td>
<td>130</td>
<td>150</td>
<td>2.8</td>
<td>5</td>
</tr>
<tr>
<td>SRP5020C-8R2M</td>
<td>8.2</td>
<td>± 20 %</td>
<td>20</td>
<td>15</td>
<td>150</td>
<td>171</td>
<td>2.6</td>
<td>4</td>
</tr>
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<td>10</td>
<td>± 20 %</td>
<td>20</td>
<td>10</td>
<td>180</td>
<td>190</td>
<td>2.5</td>
<td>3.6</td>
</tr>
</tbody>
</table>

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### Product Dimensions

**DIMENSIONS: MM (INCHES)**

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>5.7</td>
</tr>
<tr>
<td>Height</td>
<td>11.1</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.3</td>
</tr>
</tbody>
</table>

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### Typical Part Marking

- **INDUCTANCE CODE**
- **MATERIAL CODE**
- **DATE CODE:** Y = LAST DIGIT OF YEAR
- **WW = WEEK NUMBER**

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### 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

- **MSL**
  - 1

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

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**Note 1:** Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all can affect the part temperature. Part temperature should be verified in the end application.

**Note 2:** Core ......................Metal alloy powder Wire ......................Enameled copper Terminal Finish ......................Sn Packaging .... 3000 pcs. per 13-inch reel

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### How to Order

**Model**

**Value Code (see table)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Value Code</th>
<th>Inductance</th>
<th>Date Code</th>
<th>Material Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRP5020C - 100M</td>
<td>1R0936H</td>
<td>933H</td>
<td>YWWH</td>
<td>1R0</td>
</tr>
</tbody>
</table>

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### Recommended Layout

**DIMENSIONS: MM (INCHES)**

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>6.0</td>
</tr>
<tr>
<td>Height</td>
<td>2.5</td>
</tr>
</tbody>
</table>

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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. Specifications are subject to change without notice.

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**WARNING**

Cancer and Reproductive Harm

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)
SRP5020C Series – Shielded Power Inductors

Soldering Profile

PRE-HEATING

SOLDERING

NATURAL COOLING

Temperature (°C)

Time (Seconds)

REFLOW TIMES: 3 MAX.

L vs. I Charts

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SRP5020C Series – Shielded Power Inductors

L vs. I Charts (Continued)

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