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**

SRP5020C Series – Shielded Power Inductors

Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Inductance @ 100 kHz / 1 V Q</th>
<th>Q Min. @ 100 kHz</th>
<th>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>
</tr>
</thead>
<tbody>
<tr>
<td>SRP5020C-R10Y</td>
<td>0.10 ± 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 ± 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 ± 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 ± 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 ± 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 ± 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-R10M</td>
<td>1.0 ± 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-R15M</td>
<td>1.5 ± 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-R22M</td>
<td>2.2 ± 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-R33M</td>
<td>3.3 ± 20 %</td>
<td>20</td>
<td>30</td>
<td>66</td>
<td>74</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>SRP5020C-R47M</td>
<td>4.7 ± 20 %</td>
<td>20</td>
<td>27</td>
<td>95</td>
<td>109</td>
<td>3.2</td>
<td>6</td>
</tr>
<tr>
<td>SRP5020C-R68M</td>
<td>6.8 ± 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-R82M</td>
<td>8.2 ± 20 %</td>
<td>20</td>
<td>15</td>
<td>150</td>
<td>171</td>
<td>2.6</td>
<td>4</td>
</tr>
<tr>
<td>SRP5020C-100M</td>
<td>10 ± 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>

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

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.

Materials

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

How to Order

SRP5020C - 100M

Value Code (see table)

Schematic

Recommended Layout

**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.

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

RoHS COMPLIANT*
& HALOGEN FREE**
Soldering Profile

PRE-HEATING

SOLDERING

T_p (245 °C / 20–40 seconds)

NATURAL COOLING

60 – 180 seconds

480 seconds max.

REFLOW TIMES: 3 MAX.

L vs. I Charts

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L vs. I Charts (Continued)

SRP5020C Series - Shielded Power Inductors

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### Packaging Specifications

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.4 ±0.0</td>
<td>(.488 ±0.00)</td>
</tr>
<tr>
<td>13.5 ±0.5</td>
<td>(.531 ±0.00)</td>
</tr>
<tr>
<td>100 x 2</td>
<td>(.394 x 0.08)</td>
</tr>
<tr>
<td>330</td>
<td>(12.99)</td>
</tr>
<tr>
<td>330</td>
<td>(12.99)</td>
</tr>
<tr>
<td>2.0 ±0.5</td>
<td>(.079 ±0.02)</td>
</tr>
<tr>
<td>13.5 ±0.5</td>
<td>(.531 ±0.00)</td>
</tr>
<tr>
<td>4.0</td>
<td>(.157)</td>
</tr>
<tr>
<td>5.5 ±0.1</td>
<td>(.217 ±.004)</td>
</tr>
<tr>
<td>8.0 ±0.1</td>
<td>(.315 ±.004)</td>
</tr>
<tr>
<td>1.5 ±0.1</td>
<td>(.059 ±.004)</td>
</tr>
<tr>
<td>0.35 ±0.1</td>
<td>(.014 ±.004)</td>
</tr>
<tr>
<td>2.3 ±0.1</td>
<td>(.091 ±.004)</td>
</tr>
<tr>
<td>6.2 ±0.1</td>
<td>(.244 ±.004)</td>
</tr>
</tbody>
</table>

**DIMENSIONS:**
- **MM**: Millimeters
- **INCHES**: Inches

**QTY:** 3000 PCS PER REEL

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**BOURNS®**

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**02/20**

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