### Features
- Semi-shielded construction
- Inductance range: 1 to 47 µH
- Rated current up to 4.1 A
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

### Applications
- DC/DC converters
- Power supplies

### SRN5020TA Series - Semi-shielded Power Inductors

**WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://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.

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**Electrical Specifications @ 25 °C**

<table>
<thead>
<tr>
<th>Bourns Part No.</th>
<th>Inductance @ 100 kHz / 1 V</th>
<th>Q @ 100 kHz Min.</th>
<th>SRF (MHz) Typ.</th>
<th>DCR (Ω) ±20 %</th>
<th>Irms (A) Typ.</th>
<th>Isat (A) Typ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRN5020TA-1R0Y</td>
<td>1.0 ±30</td>
<td>15</td>
<td>143</td>
<td>0.02</td>
<td>4.10</td>
<td>5.00</td>
</tr>
<tr>
<td>SRN5020TA-1R2Y</td>
<td>1.2 ±30</td>
<td>15</td>
<td>132</td>
<td>0.02</td>
<td>3.80</td>
<td>4.80</td>
</tr>
<tr>
<td>SRN5020TA-1R5Y</td>
<td>1.5 ±30</td>
<td>15</td>
<td>112</td>
<td>0.02</td>
<td>3.50</td>
<td>4.50</td>
</tr>
<tr>
<td>SRN5020TA-2R2M</td>
<td>2.2 ±20</td>
<td>15</td>
<td>86</td>
<td>0.032</td>
<td>3.30</td>
<td>4.10</td>
</tr>
<tr>
<td>SRN5020TA-3R3M</td>
<td>3.3 ±20</td>
<td>15</td>
<td>75</td>
<td>0.043</td>
<td>2.80</td>
<td>3.50</td>
</tr>
<tr>
<td>SRN5020TA-4R7M</td>
<td>4.7 ±20</td>
<td>15</td>
<td>58</td>
<td>0.06</td>
<td>2.40</td>
<td>2.70</td>
</tr>
<tr>
<td>SRN5020TA-5R6M</td>
<td>5.6 ±20</td>
<td>15</td>
<td>50</td>
<td>0.069</td>
<td>2.10</td>
<td>2.40</td>
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<tr>
<td>SRN5020TA-6R8M</td>
<td>6.8 ±20</td>
<td>15</td>
<td>46</td>
<td>0.09</td>
<td>1.90</td>
<td>2.10</td>
</tr>
<tr>
<td>SRN5020TA-8R2M</td>
<td>8.2 ±20</td>
<td>15</td>
<td>43</td>
<td>0.098</td>
<td>1.75</td>
<td>1.90</td>
</tr>
<tr>
<td>SRN5020TA-100M</td>
<td>10 ±20</td>
<td>15</td>
<td>41</td>
<td>0.11</td>
<td>1.60</td>
<td>1.70</td>
</tr>
<tr>
<td>SRN5020TA-120M</td>
<td>12 ±20</td>
<td>15</td>
<td>36</td>
<td>0.135</td>
<td>1.40</td>
<td>1.40</td>
</tr>
<tr>
<td>SRN5020TA-150M</td>
<td>15 ±20</td>
<td>15</td>
<td>32</td>
<td>0.165</td>
<td>1.25</td>
<td>1.30</td>
</tr>
<tr>
<td>SRN5020TA-180M</td>
<td>18 ±20</td>
<td>15</td>
<td>28</td>
<td>0.19</td>
<td>1.17</td>
<td>1.20</td>
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<tr>
<td>SRN5020TA-220M</td>
<td>22 ±20</td>
<td>15</td>
<td>25</td>
<td>0.225</td>
<td>1.10</td>
<td>1.10</td>
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<tr>
<td>SRN5020TA-330M</td>
<td>33 ±20</td>
<td>15</td>
<td>20</td>
<td>0.335</td>
<td>0.80</td>
<td>0.80</td>
</tr>
<tr>
<td>SRN5020TA-470M</td>
<td>47 ±20</td>
<td>15</td>
<td>16</td>
<td>0.46</td>
<td>0.70</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**Operating Temperature**
-55 °C to +125 °C (Temperature rise included)

**Storage Temperature (Component)**
-55 °C to +125 °C

**Temperature Rise**
40 °C at rated Irms

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

**Moisture Sensitivity Level**
1

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

**General Specifications**

**Core**
Ferrite

**Wire**
Enameled copper

**Terminal Finish**
Sn Coating

**Magnetic epoxy resin**

**Packaging**
2500 pcs. per 13-inch reel

**Materials**
Core: Enamelled copper.
Wire: Enameled.
Terminal Finish: Sn.
Coating: Magnetic epoxy resin.
Packaging: 2500 pcs. per 13-inch reel.

**Recommended Layout**

**Electrical Schematic**

**How to Order**

Model: SRN5020TA - 2R2M

Value Code (see table)

**Product Dimensions**

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Inductance vs. Current

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Inductance vs. Current (Continued)

Soldering Profile

<table>
<thead>
<tr>
<th>Preheating</th>
<th>Soldering</th>
<th>Natural Cooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T_p$ (260 °C, 10 Sec. Max.)</td>
<td>$T_p$ (245 °C, 20–40 Sec.)</td>
<td>60–150 Sec.</td>
</tr>
<tr>
<td>25°C</td>
<td>217°C</td>
<td>150°C</td>
</tr>
<tr>
<td>60–180 Sec.</td>
<td>480 Sec. Max.</td>
<td></td>
</tr>
</tbody>
</table>

Reflow 3 times max.

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Packaging Specifications

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