SRP2010TMA Series - Shielded Power Inductors

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

**Electrical Specifications @ 25 °C**

<table>
<thead>
<tr>
<th>Bourns Part No.</th>
<th>Inductance @ 1 MHz / 1 V L (µH) Tol. %</th>
<th>Q 1 MHz Typ.</th>
<th>SRF (MHz) Typ.</th>
<th>DCR (mΩ) Typ.</th>
<th>DCR (mΩ) Max.</th>
<th>Irms (A) Typ.</th>
<th>Isat (A) Typ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRP2010TMA-R24M</td>
<td>0.24</td>
<td>20</td>
<td>15</td>
<td>130</td>
<td>18</td>
<td>20.5</td>
<td>6.5</td>
</tr>
<tr>
<td>SRP2010TMA-R33M</td>
<td>0.33</td>
<td>20</td>
<td>15</td>
<td>112</td>
<td>21</td>
<td>26</td>
<td>5.7</td>
</tr>
<tr>
<td>SRP2010TMA-R47M</td>
<td>0.47</td>
<td>20</td>
<td>15</td>
<td>82</td>
<td>28</td>
<td>32</td>
<td>5.3</td>
</tr>
<tr>
<td>SRP2010TMA-R56M</td>
<td>0.56</td>
<td>20</td>
<td>15</td>
<td>80</td>
<td>31</td>
<td>37.2</td>
<td>4.6</td>
</tr>
<tr>
<td>SRP2010TMA-R68M</td>
<td>0.68</td>
<td>20</td>
<td>15</td>
<td>78</td>
<td>44</td>
<td>50</td>
<td>4.0</td>
</tr>
<tr>
<td>SRP2010TMA-1R0M</td>
<td>1.00</td>
<td>20</td>
<td>15</td>
<td>60</td>
<td>49</td>
<td>59</td>
<td>3.6</td>
</tr>
<tr>
<td>SRP2010TMA-1R5M</td>
<td>1.50</td>
<td>20</td>
<td>15</td>
<td>52</td>
<td>80</td>
<td>96</td>
<td>2.6</td>
</tr>
<tr>
<td>SRP2010TMA-2R2M</td>
<td>2.20</td>
<td>20</td>
<td>15</td>
<td>42</td>
<td>130</td>
<td>150</td>
<td>2.3</td>
</tr>
</tbody>
</table>

**Product Dimensions**

<table>
<thead>
<tr>
<th>SIDE VIEW</th>
<th>SIDE VIEW</th>
<th>BOTTOM VIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 ± 0.3 (0.079 ± 0.012)</td>
<td>1.6 ± 0.3 (0.063 ± 0.012)</td>
<td>0.7 ± 0.3 (0.028 ± 0.012)</td>
</tr>
</tbody>
</table>

**Recommended Layout**

**Electrical Schematic**

**Soldering Profile**

**Profile Feature**
- Preheat
  - Temperature Min. (T_smin)
  - Temperature Max. (T_max)
- Time (t) from T_smin to T_max
- Ramp-up Rate (T_p to T_p)
- Liquidus temperature (T_L)
- Time (t_L) maintained above T_L
- Peak package body temperature (T_P)
- Time within 5 °C of Actual Peak Temperature (t_p)
- Ramp-Down Rate (T_P to T_L)
- Time 25 °C to Peak Temperature

**Pb Free Assembly**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Pb Free Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preheat</td>
<td>150 °C 200 °C</td>
</tr>
<tr>
<td>Liquidus temperature</td>
<td>217 °C 60-150 °C</td>
</tr>
<tr>
<td>Peak package body temperature</td>
<td>260 °C</td>
</tr>
<tr>
<td>Time within 5 °C</td>
<td>&lt; 30 seconds</td>
</tr>
<tr>
<td>Ramp-Down Rate</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>

**Specifications**

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**Additional Information**

Click these links for more information:
- PRODUCT SELECTOR
- TECHNICAL LIBRARY
- INVENTORY
- SAMPLES
- CONTACT

**General Specifications**

- Operating Temperature: -55 °C to +150 °C (Temperature rise included)
- Storage Temperature (Component): -55 °C to +150 °C
- Temperature Rise: 40 °C at rated Irms'
- Rated Current: Inductance drops 30 % at Isat
- Moisture Sensitivity Level: 1
- ESD Classification (HBM): N/A

**Materials**

Core: Metal alloy powder
Wire: Enamelled copper
Terminal Finish: Ni/Sn
Packaging: 2000 pcs. per 7-inch reel

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**How to Order**

SRP2010TMA - 1R0M

Model Value Code (see table)

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**WARNING**

Cancer and Reproductive Harm

www.P65Warnings.ca.gov

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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.
SRP2010TMA Series - Shielded Power Inductors

L vs. I Charts

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Packaging Specifications

Dimensions:

- **DIA.**: 8.0 ± 0.1 (0.315 ± 0.004)
- **DIA.**: 3.5 ± 0.1 (0.138 ± 0.004)
- **DIA.**: 2.5 ± 0.1 (0.098 ± 0.004)
- **DIA.**: 8.4 ± 1.5/-0 (0.331 ± 0.059/-0)
- **DIA.**: 1.75 ± 0.1 (0.069 ± 0.004)
- **DIA.**: 4.0 ± 0.1 (0.157 ± 0.004)
- **DIA.**: 4.0 ± 0.1 (0.157 ± 0.004)
- **DIA.**: 2.0 ± 0.1 (0.079 ± 0.004)
- **DIA.**: 1.5 ± 0.1/-0 (0.059 ± 0.004/-0)
- **DIA.**: 2.5 ± 0.1 (0.098 ± 0.004)
- **DIA.**: 1.0 ± 0.1 (0.039 ± 0.004)
- **DIA.**: 1.2 ± 0.1 (0.047 ± 0.004)
- **DIA.**: 0.23 ± 0.05 (0.009 ± 0.002)
- **DIA.**: 1.0 ± 0.1 (0.039 ± 0.004)
- **DIA.**: 2.0 ± 0.1 (0.079 ± 0.004)

User Direction of Feed

- QTY: 2000 PCS. PER REEL

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