SRP2012TMA 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)</th>
<th>Q</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>SRP2012TMA-R22M</td>
<td>0.22</td>
<td>20</td>
<td>5</td>
<td>170</td>
<td>10</td>
<td>13</td>
<td>7.0</td>
</tr>
<tr>
<td>SRP2012TMA-R33M</td>
<td>0.33</td>
<td>20</td>
<td>5</td>
<td>125</td>
<td>15</td>
<td>18</td>
<td>5.9</td>
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<tr>
<td>SRP2012TMA-R47M</td>
<td>0.47</td>
<td>20</td>
<td>5</td>
<td>102</td>
<td>20</td>
<td>26</td>
<td>5.4</td>
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<tr>
<td>SRP2012TMA-R68M</td>
<td>0.68</td>
<td>20</td>
<td>10</td>
<td>80</td>
<td>30</td>
<td>36</td>
<td>4.2</td>
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<tr>
<td>SRP2012TMA-1R0M</td>
<td>1.0</td>
<td>20</td>
<td>10</td>
<td>70</td>
<td>40</td>
<td>48</td>
<td>3.7</td>
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<tr>
<td>SRP2012TMA-1R5M</td>
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<td>20</td>
<td>10</td>
<td>52</td>
<td>70</td>
<td>84</td>
<td>2.9</td>
</tr>
<tr>
<td>SRP2012TMA-2R2M</td>
<td>2.2</td>
<td>20</td>
<td>15</td>
<td>40</td>
<td>105</td>
<td>126</td>
<td>2.5</td>
</tr>
</tbody>
</table>

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
- 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

How to Order

SRP2012TMA - [Model] [Value Code (see table)]

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

**Profile Feature**

<table>
<thead>
<tr>
<th>Pb Free Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preheat</strong></td>
</tr>
</tbody>
</table>
| - Temperature Min. ($T_{S\text{min}}$) | 150 °C  
| - Temperature Max. ($T_{S\text{max}}$) | 200 °C  
| - Time ($t_s$) from $T_{S\text{min}}$ to $T_{S\text{max}}$ | 60-120 seconds  
| **Ramp-up Rate ($T_{L}$ to $T_{P}$)** | 3 °C/second max.  
| **Liquidous temperature ($T_L$)** | 217 °C  
| **Time ($t_L$) maintained above $T_L$** | 60-150 seconds  
| **Peak package body temperature ($T_P$)** | 260 °C  
| **Time within 5 °C of Actual Peak Temperature ($T_P$)** | < 30 seconds  
| **Ramp-Down Rate ($T_P$ to $T_L$)** | 6 °C/second max.  
| **Time 25 °C to Peak Temperature** | 8 minutes max.  

**L vs. I Charts**

**SRP2012TMA-R22M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

**SRP2012TMA-R33M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

**SRP2012TMA-R47M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

**SRP2012TMA-R68M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

**SRP2012TMA-1R0M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

**SRP2012TMA-1R5M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

**SRP2012TMA-2R2M**

- **Inductance ($\mu$H)** vs. **DC Current (A)**

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Packaging Specifications

DIMENSIONS:

MM
(INCHES)

0.23 ± 0.05
(.009 ± .002)

2.5 ± 0.1
 (.098 ± .004)

1.35 ± 0.1
(.053 ± .004)

1.0 ± 0.1
(.039 ± .004)

1.5 ± 0.1/0
(.059 ± .004/0)

2.0 ± 0.1
(.079 ± .004)

4.0 ± 0.1
(.157 ± .004)

4.0 ± 0.1
(.157 ± .004)

2.0 ± 0.1
(.079 ± .004)

1.75 ± 0.1
(.069 ± .004)

8.0 ± 0.1
(.315 ± .004)

3.5 ± 0.1
(.138 ± .004)

USER DIRECTION OF FEED

QTY: 2000 PCS. PER REEL

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Users should verify actual device performance in their specific applications.
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