**SRP1238A Series - Shielded Power Inductors**

### Features
- Shielded construction
- Carbonyl powder core
- High saturation current
- Inductance range: 0.10 to 10 µH
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

### Specifications

#### Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Inductance @ 100 KHz / 1 V (µH)</th>
<th>Q (Min.) @100 KHz / 1 V</th>
<th>SRF (MHz) Typ.</th>
<th>DCR (mΩ) Typ.</th>
<th>DCR (mΩ) Max.</th>
<th>Irms (A)</th>
<th>Isat (A)</th>
<th>Terminal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRP1238A-R10Y</td>
<td>0.10 ± 30</td>
<td>10</td>
<td>175</td>
<td>0.36</td>
<td>0.43</td>
<td>43</td>
<td>84</td>
<td>Non-Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R15Y</td>
<td>0.15 ± 30</td>
<td>10</td>
<td>140</td>
<td>0.4</td>
<td>0.48</td>
<td>41</td>
<td>75</td>
<td>Non-Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R22M</td>
<td>0.22 ± 20</td>
<td>10</td>
<td>125</td>
<td>0.7</td>
<td>0.81</td>
<td>38.5</td>
<td>65</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R33M</td>
<td>0.33 ± 20</td>
<td>10</td>
<td>85</td>
<td>0.85</td>
<td>1.0</td>
<td>36.5</td>
<td>62</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R47M</td>
<td>0.47 ± 20</td>
<td>10</td>
<td>80</td>
<td>1.2</td>
<td>1.8</td>
<td>32</td>
<td>55</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R60M</td>
<td>0.60 ± 20</td>
<td>15</td>
<td>53</td>
<td>1.5</td>
<td>2.2</td>
<td>29</td>
<td>51</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R68M</td>
<td>0.68 ± 20</td>
<td>15</td>
<td>50</td>
<td>1.9</td>
<td>2.5</td>
<td>28</td>
<td>49</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-R82M</td>
<td>0.82 ± 20</td>
<td>15</td>
<td>45</td>
<td>2.2</td>
<td>3.0</td>
<td>25</td>
<td>44</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-1R0M</td>
<td>1.0 ± 30</td>
<td>15</td>
<td>40</td>
<td>2.7</td>
<td>3.5</td>
<td>24</td>
<td>40</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-1R2M</td>
<td>1.2 ± 20</td>
<td>20</td>
<td>35</td>
<td>4</td>
<td>4.0</td>
<td>21</td>
<td>37</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-1R5M</td>
<td>1.5 ± 20</td>
<td>20</td>
<td>30</td>
<td>4.8</td>
<td>5.5</td>
<td>19</td>
<td>35</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-2R2M</td>
<td>2.2 ± 20</td>
<td>20</td>
<td>27</td>
<td>5.2</td>
<td>7.0</td>
<td>17</td>
<td>30</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-3R3M</td>
<td>3.3 ± 20</td>
<td>20</td>
<td>20</td>
<td>11</td>
<td>13.5</td>
<td>12</td>
<td>27</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-4R7M</td>
<td>4.7 ± 20</td>
<td>20</td>
<td>15</td>
<td>15.3</td>
<td>18.5</td>
<td>10</td>
<td>24</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-5R6M</td>
<td>5.6 ± 20</td>
<td>20</td>
<td>15</td>
<td>18</td>
<td>22.0</td>
<td>9.5</td>
<td>19</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-6R8M</td>
<td>6.8 ± 20</td>
<td>20</td>
<td>13</td>
<td>20</td>
<td>24.0</td>
<td>9</td>
<td>18</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-8R2M</td>
<td>8.2 ± 20</td>
<td>20</td>
<td>12</td>
<td>23</td>
<td>28.0</td>
<td>8.5</td>
<td>16</td>
<td>Lead Frame</td>
</tr>
<tr>
<td>SRP1238A-100M</td>
<td>10 ± 20</td>
<td>20</td>
<td>11</td>
<td>29</td>
<td>34.0</td>
<td>7</td>
<td>14</td>
<td>Lead Frame</td>
</tr>
</tbody>
</table>

#### General Specifications

- Test Voltage: ..................................... 1.0 V
- Test Frequency: ............................. 100 KHz
- Operating Temperature: ............................. -55 °C to +150 °C
- (Temperature rise included)
- Storage Temperature: ............................. -55 °C to +150 °C
- Rated Current: ..................................
- Inductance drops 20% at Isat
- Temperature Rise: ................................. 40 °C at rated Irms
- Moisture Sensitivity Level: ........................ 1
- ESD Classification (HBM): ........................ N/A

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

#### Materials

- Core: ............... Carbonyl powder
- Wire: ............... Enameled copper
- Terminal Finish: .......... Sn
- Packaging: ......... 500 pcs. per 13-inch reel

#### How to Order

Model: SRP1238A - 100M

#### Recommended Layout

Please consult Bourns® Model SRP-A Series Visual Inspection Guide for detailed construction, processing and testing information.

**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. Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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L vs. I Charts (Continued)

<table>
<thead>
<tr>
<th>Inductance (μH)</th>
<th>DC Current (A)</th>
<th>Temperature Rise (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRP1238A-5R6M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SRP1238A-6R8M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SRP1238A-8R2M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SRP1238A-100M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Soldering Profile

PRE-HEATING

SOLDERING

T_p (260 °C / 10 seconds max.)

NATURAL COOLING

60 - 150 seconds

60 - 180 seconds

480 seconds max.

REFLOW TIMES: 3 MAX.

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SRP1238A Series - Shielded Power Inductors

Packaging Specifications

Dimensions: MM (INCHES)

USER DIRECTION OF FEED
QTY: 500 PCS. PER REEL

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