**Shielded Power Inductors – MSS6122**

- 6.1 x 6.1 mm footprint; 2.2 mm high shielded inductors
- Low DCR and excellent current handling

**Designer’s Kit C363** contains 3 of each value

**Core material** Ferrite

**Terminations** RoHS compliant matte tin over nickel over phos bronze (current production) or gold over nickel over phos bronze (prior production). Other terminations available at additional cost.

**Weight** 0.19 – 0.23 g

**Ambient temperature** –40°C to +85°C with (40°C rise) 1Rms current.

**Storage temperature** Component: –40°C to +125°C. Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)** 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging**

- 500/7″ reel, 1500/13″ reel; Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 2.1 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

**Designers Kit C363** contains 3 of each value

**Core material** Ferrite

**Core and winding loss** See www.coilcraft.com/coreloss

**Termination**
- R = RoHS compliant matte tin over nickel over phos bronze (current production) or gold over nickel over phos bronze (prior production)
- T = RoHS tin-silver-copper (95.5/4/0.5) over gold over nickel over phos bronze or
- S = non-RoHS tin-lead (63/37) over gold over nickel over phos bronze.

**Packaging**
- C = 7″ machine-ready reel EIA-481 embossed plastic tape (500 per full reel).
- B = Less than full reel In tape, but not machine-ready. To have a leader and trailer added ($25 charge), use code letter C instead.
- D = 13″ machine-ready reel EIA-481 embossed plastic tape. Factory order only, not stocked (1500 per reel per full reel).

**Inductance**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance±20% (µH)</th>
<th>DCR max (Ohms)</th>
<th>SRF typ3 (MHz)</th>
<th>Isat (A)4</th>
<th>Irms (A)5</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSS6122-47ML</td>
<td>4.7</td>
<td>0.065</td>
<td>65.0</td>
<td>1.44</td>
<td>1.66</td>
<td>1.82</td>
<td>1.60</td>
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<tr>
<td>MSS6122-56ML</td>
<td>5.6</td>
<td>0.083</td>
<td>60.0</td>
<td>1.22</td>
<td>1.46</td>
<td>1.60</td>
<td>1.50</td>
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<tr>
<td>MSS6122-68ML</td>
<td>6.8</td>
<td>0.100</td>
<td>48.0</td>
<td>1.18</td>
<td>1.36</td>
<td>1.50</td>
<td>1.40</td>
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<tr>
<td>MSS6122-82ML</td>
<td>8.2</td>
<td>0.120</td>
<td>44.0</td>
<td>1.12</td>
<td>1.24</td>
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<td>1.30</td>
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<tr>
<td>MSS6122-103ML</td>
<td>10</td>
<td>0.150</td>
<td>42.0</td>
<td>0.98</td>
<td>1.10</td>
<td>1.20</td>
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<td>MSS6122-123ML</td>
<td>12</td>
<td>0.176</td>
<td>40.0</td>
<td>0.97</td>
<td>1.06</td>
<td>1.14</td>
<td>1.13</td>
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<td>MSS6122-153ML</td>
<td>15</td>
<td>0.210</td>
<td>38.0</td>
<td>0.85</td>
<td>0.97</td>
<td>1.04</td>
<td>1.06</td>
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<tr>
<td>MSS6122-183ML</td>
<td>18</td>
<td>0.280</td>
<td>35.0</td>
<td>0.78</td>
<td>0.89</td>
<td>0.97</td>
<td>0.99</td>
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<tr>
<td>MSS6122-223ML</td>
<td>22</td>
<td>0.310</td>
<td>32.0</td>
<td>0.64</td>
<td>0.75</td>
<td>0.82</td>
<td>0.92</td>
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<tr>
<td>MSS6122-273ML</td>
<td>27</td>
<td>0.350</td>
<td>26.0</td>
<td>0.62</td>
<td>0.71</td>
<td>0.77</td>
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<tr>
<td>MSS6122-333ML</td>
<td>33</td>
<td>0.460</td>
<td>22.0</td>
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<td>0.69</td>
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<tr>
<td>MSS6122-393ML</td>
<td>39</td>
<td>0.540</td>
<td>19.0</td>
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<td>0.59</td>
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<td>MSS6122-473ML</td>
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<td>0.680</td>
<td>18.0</td>
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<tr>
<td>MSS6122-563ML</td>
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<td>0.740</td>
<td>17.0</td>
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<td>MSS6122-683ML</td>
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<td>1.000</td>
<td>16.0</td>
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<tr>
<td>MSS6122-823ML</td>
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<td>1.200</td>
<td>15.0</td>
<td>0.37</td>
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<td>0.46</td>
<td>0.42</td>
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<td>MSS6122-104ML</td>
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<td>1.370</td>
<td>12.5</td>
<td>0.32</td>
<td>0.37</td>
<td>0.40</td>
<td>0.35</td>
</tr>
</tbody>
</table>

1. Please specify termination and packaging codes:

Termination: L = RoHS compliant matte tin over nickel over phos bronze (current production) or gold over nickel over phos bronze (prior production)

Special order:

- T = RoHS tin-silver-copper (95.5/4/0.5) over gold over nickel over phos bronze or
- S = non-RoHS tin-lead (63/37) over gold over nickel over phos bronze.

Packaging:

- C = 7″ machine-ready reel EIA-481 embossed plastic tape (500 per full reel).
- B = Less than full reel In tape, but not machine-ready. To have a leader and trailer added ($25 charge), use code letter C instead.
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2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

3. SRF measured using an Agilent/HP 4191A or equivalent.

4. DC current at 25°C that causes the specified inductance drop from its value without current.

5. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.

Shielded Power Inductors – MSS6122

Typical L vs Current

Typical L vs Frequency

*Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.016 in / 0.4 mm.

Recommended Land Pattern

Dimensions are in inches / mm