### Shielded Power Inductors – SER1390

- Exceptionally high current carrying capability
- Low DC resistance
- AEC-200 Grade 3 qualified (–40°C to +85°C ambient)

**Core material**: Ferrite

**Core and winding loss**  See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations**: RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight**: 4.0 – 4.8 g

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

**Maximum part temperature**: +125°C (ambient + temp rise). Derating.

**Storage temperature**: Component: –40°C to +125°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**: 300 per 13″ reel; Plastic tape: 24 mm wide, 0.5 mm thick, 20 mm pocket spacing, 9.6 mm pocket depth

**PCB washing**: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](http://www.coilcraft.com/)

### Specifications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (±20% µH) typ</th>
<th>DCR (mOhm) typ</th>
<th>SRF (MHz) typ</th>
<th>10% drop</th>
<th>20% drop</th>
<th>30% drop</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>SER1390-103ML</td>
<td>10</td>
<td>13.7</td>
<td>15.0</td>
<td>26.9</td>
<td>11.32</td>
<td>12.56</td>
<td>13.16</td>
<td>6.4</td>
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<tr>
<td>SER1390-153ML</td>
<td>15</td>
<td>13.7</td>
<td>15.0</td>
<td>24.3</td>
<td>7.20</td>
<td>8.04</td>
<td>8.60</td>
<td>6.4</td>
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<tr>
<td>SER1390-223ML</td>
<td>22</td>
<td>21.0</td>
<td>23.1</td>
<td>20.3</td>
<td>6.08</td>
<td>6.80</td>
<td>7.36</td>
<td>5.7</td>
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<tr>
<td>SER1390-333ML</td>
<td>33</td>
<td>21.0</td>
<td>23.1</td>
<td>15.7</td>
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<td>4.40</td>
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<tr>
<td>SER1390-473ML</td>
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<td>21.0</td>
<td>23.1</td>
<td>13.2</td>
<td>2.60</td>
<td>3.00</td>
<td>3.20</td>
<td>5.7</td>
</tr>
</tbody>
</table>

1. When ordering, please specify termination and packaging codes:

   **TERMINATIONS**

   - L = RoHS compliant matte tin over nickel over phos bronze.
   - Special order: T = RoHS tin-silver-copper over copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

   **PACKAGING**

   - D = 13″ machine-ready reel. EIA-481 embossed plastic tape (300 parts 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 D instead.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A or equivalent.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using an Agilent/HP 4395A network analyzer and an Agilent/HP 16193A test fixture.

5. DC current at 25°C that causes the specified inductance drop from its value without current. Click for temperature derating information.

6. 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.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.
Shielded Power Inductors – SER1390 Series

L vs Current

L vs Frequency

Terminal 3 is for mounting stability only.

Recommended Land Pattern

Dimensions are in inches / mm

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