Shielded Power Inductors – SER1052

- High current, low DCR shielded power inductors
- 10.2 × 11 mm base; only 5.2 mm tall

**Designers’ Kit C421** contains 3 of each value

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

**Core material** Ferite

**Terminations**: RoHS compliant tin-silver-copper over tin over nickel over phos-bronze (pins 1 and 2); matte tin over nickel over phos bronze (pin 3). Other terminations available at additional cost.

**Weight**: 1.6 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.

**Tape and reel packaging**: –40°C to +80°C.

**Resistance to soldering heat**: Max three 40 second reflo ws 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 / 26,515,789 hours, calculated per Telcordia SR-332

**Packaging**: 200/7” reel; 700/13” reel  Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 5.45 mm pocket depth

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

### Inductance

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>DCR max (mOhm)</th>
<th>SRF (MHz)</th>
<th>Isat (A)</th>
<th>Irms(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10% drop</td>
<td>20% drop</td>
<td>30% drop</td>
<td>20°C rise</td>
<td>40°C rise</td>
</tr>
<tr>
<td>SER1052-801ML</td>
<td>0.80</td>
<td>4.0</td>
<td>100</td>
<td>24.9</td>
<td>25.2</td>
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<tr>
<td>SER1052-102ML</td>
<td>1.0</td>
<td>4.0</td>
<td>95</td>
<td>16.5</td>
<td>17.0</td>
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<tr>
<td>SER1052-122ML</td>
<td>1.2</td>
<td>6.0</td>
<td>91</td>
<td>20.5</td>
<td>21.0</td>
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<tr>
<td>SER1052-132ML</td>
<td>1.3</td>
<td>4.0</td>
<td>81</td>
<td>12.9</td>
<td>16.8</td>
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<tr>
<td>SER1052-152ML</td>
<td>1.5</td>
<td>4.0</td>
<td>75</td>
<td>13.5</td>
<td>14.0</td>
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<tr>
<td>SER1052-182ML</td>
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<td>6.0</td>
<td>70</td>
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<tr>
<td>SER1052-202ML</td>
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<td>9.0</td>
<td>65</td>
<td>15.3</td>
<td>15.8</td>
</tr>
<tr>
<td>SER1052-222ML</td>
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<td>58</td>
<td>8.9</td>
<td>9.6</td>
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<tr>
<td>SER1052-252ML</td>
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<td>7.5</td>
<td>55</td>
<td>11.4</td>
<td>11.8</td>
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<tr>
<td>SER1052-322ML</td>
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<td>6.0</td>
<td>53</td>
<td>7.3</td>
<td>7.8</td>
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<tr>
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<td>47</td>
<td>8.3</td>
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<tr>
<td>SER1052-432ML</td>
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<td>7.5</td>
<td>44</td>
<td>6.4</td>
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<tr>
<td>SER1052-572ML</td>
<td>5.7</td>
<td>9.0</td>
<td>35</td>
<td>5.4</td>
<td>5.8</td>
</tr>
</tbody>
</table>

1. Please specify **termination** and **packaging** codes:

- **SER1052-572MLD**
  - Termination: L = RoHS compliant tin-silver-copper over tin over nickel over phos-bronze (pins 1 and 2); matte tin over nickel over phos bronze (pin 3).
  - Special order: T = RoHS tin-silver-copper over copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).
  - Packaging: C = 7” machine-ready reel. EIA-481 embossed plastic tape (200 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 C instead.
  - D = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (700 parts per full reel).

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 - SER1052 Series

Typical L vs Frequency

Typical L vs Current

Prior to 2012, parts may have been marked differently

Terminal 3 is for mounting stability only.

Recommended Land Pattern

Dimensions are in inches

Dimensions are in mm

RoHS/REACH

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