Shielded Power Inductors – SER80xx

- Two different DCR / Isat versions to match the requirements of a wide variety of applications
- Low DCR; excellent current handling

**Core material** Ferrite

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

**Terminations** RoHS tin-silver 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** 0.86 – 1.0 g

**Ambient temperature** −40°C to +85°C with (40°C rise) I rms 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 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**

250/7″ reel, 1000/13″ reel; Plastic tape: 16 mm wide, 0.4 mm thick, 12 mm pocket spacing, 5.2 mm pocket depth

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

**Low DCR version for high average current applications**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance</th>
<th>DCR (mOhm)</th>
<th>SRF typ</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SER8050-501ME_</td>
<td>±20% (µH)</td>
<td>typ</td>
<td>max</td>
<td>10% drop</td>
<td>20% drop</td>
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<tr>
<td>SER8050-112ME_</td>
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<td>19.40</td>
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<td>3.19</td>
<td>3.50</td>
<td>109</td>
<td>12.22</td>
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<td>5.88</td>
<td>74</td>
<td>7.94</td>
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<td>7.20</td>
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<td>6.58</td>
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<tr>
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<td>9.50</td>
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<td>8.64</td>
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<td>3.44</td>
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<td>SER8052-103ME_</td>
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<td>13.03</td>
<td>14.33</td>
<td>43</td>
<td>2.90</td>
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</table>

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

**SER8052-103MED**

**Termination:** E = RoHS tin-silver 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 (250 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(1000 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 8753D 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.
### SER80xx Shielded Power Inductors

High Isat version for high peak current applications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance(^a) (\pm20%) (µH)</th>
<th>DCR (mOhm)(^b)</th>
<th>SRF typ(^d) (MHz)</th>
<th>Isat (A)(^e)</th>
<th>Irms (A)(^f)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>typ</td>
<td>max</td>
<td>10% drop</td>
<td>20% drop</td>
<td>30% drop</td>
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<td>9.50</td>
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<td>10.36</td>
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<tr>
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<td>13.03</td>
<td>14.33</td>
<td>66</td>
<td>7.04</td>
</tr>
</tbody>
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     - **Termination:** E = RoHS tin-silver over tin over nickel over phos bronze (pins 1 and 2); Matte tin over nickel over phos bronze (pin 3).
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   - **Packaging:**
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### Typical L vs Current

#### Low DCR version

#### High Isat version
SER80xx Shielded Power Inductors

Typical L vs Frequency

![Graph showing typical inductance vs frequency for SER80xx inductors.]

Typical Temperature Rise vs Current

![Graph showing temperature rise vs current for SER80xx inductors.]

Terminal 3 is for mounting stability only.

Dimensions are in inches/mm:
- Height (max): 0.335/8.50, 0.187/4.75, 0.169/4.30, 0.079/2.00
- Width (max): 0.346/8.80, 0.187/4.75

Recommended Land Pattern:
- Recommended lands are shown with dimensions for different terminals.

Height max (in/mm):
- SER8050: 0.197/5.0
- SER8052: 0.205/5.2

RoHS/REACH compliant.
Halogen free.