Shielded Power Inductors – SLR1050

- Tight DCR tolerance for inductor-DCR-based current sensing circuits
- Three versions for optimal efficiency and accuracy
- Excellent current handling
- 10.2 x 7.0 x 4.95 mm surface mount package
- Designed for use in multi-phase VRM/VRD/EVRD regulators

Designer’s Kit C467 contains 3 each of select values.
Core material Ferrite
Weight 1.2 – 1.4 g

Environmental RoHS compliant, halogen free
Terminations RoHS compliant matte tin over nickel over copper.
Ambient temperature –40°C to +85°C with 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 refows 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

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

Recommended Land Pattern

Dimensions are in
inches
mm

Packaging 250/7” reel; 1000/13” reel; Plastic tape: 24 mm wide, 0.4 mm thick, 12 mm pocket spacing, 5.03 mm pocket depth

Typical Temperature Rise (from 25°C)
### SLR1050 Shielded Power Inductors

1. **Version and Packaging Codes:**
   - **Version:**
     - A = Lowest DCR
     - B = Balanced DCR/DCR tol
     - C = Tightest DCR tolerance
   - **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 at 100 kHz, 0.1 Vrms, 0 Adc.**
3. **DCR is measured on a micro-ohmmeter at points indicated in the diagram.**

4. **DC current at 25°C that causes an inductance drop of 20% (typ) from its value without current. Click for temperature derating information.**
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.**
6. **Electrical specifications at 25°C. Refer to Doc 362 “Soldering Surface Mount Components” before soldering.**

#### Specification Table

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance</th>
<th>DCR</th>
<th>SRF typ</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±10% (nH)</td>
<td>(mOhms)</td>
<td>(MHz)</td>
<td>at 25°C</td>
<td>at 100°C</td>
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<tr>
<td><strong>Lowest DCR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SLR1050A-850KE_</td>
<td>85</td>
<td>0.39 ±7.7%</td>
<td>210</td>
<td>86</td>
<td>68.0</td>
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<tr>
<td>SLR1050A-101KE_</td>
<td>100</td>
<td>0.39 ±7.7%</td>
<td>200</td>
<td>78</td>
<td>61.5</td>
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<td>SLR1050A-121KE_</td>
<td>120</td>
<td>0.39 ±7.7%</td>
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<td><strong>Balanced DCR/tolerance</strong></td>
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<td><strong>Tightest DCR tolerance</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>SLR1050C-850KE_</td>
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<td>0.55 ±5.4%</td>
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**Irms Testing**

Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air. Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.
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L vs Current

L vs Frequency

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L vs Frequency