**NEW!**

**SMT Power Inductors – SD54 Series**

- Rugged, cost-effective power inductors
- Excellent current handling; low DCR
- Values greater than 47 µH are 10% tolerance

**Core material**: Ferrite

**Terminations**: RoHS compliant tin-silver over tin over nickel over silver.

**Weight**: 0.35 – 0.43 g

**Ambient temperature**: −40°C to +85°C with I rms current, +85°C to +125°C with derated current

**Storage temperature**: Component: −40°C to +85°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**: 400/7” reel; 1500/13” reel; Plastic tape: 12 mm wide, 0.4 mm thick, 8 mm pocket spacing, 4.7 mm pocket depth

**PCB washing**: Tested with pure water or alcohol only. For other solvents, see Doc 787_PCB_Washing.pdf

### Specifications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance</th>
<th>DCR (mOhm)</th>
<th>SRF typ</th>
<th>Isat</th>
<th>Irms</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD54-103ML</td>
<td>10 ±20%</td>
<td>71.5</td>
<td>28</td>
<td>2.0</td>
<td>1.7</td>
</tr>
<tr>
<td>SD54-123ML</td>
<td>12 ±20%</td>
<td>80.2</td>
<td>26</td>
<td>1.8</td>
<td>1.6</td>
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<tr>
<td>SD54-153ML</td>
<td>15 ±20%</td>
<td>94.0</td>
<td>23</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>SD54-183ML</td>
<td>18 ±20%</td>
<td>103</td>
<td>21</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>SD54-223ML</td>
<td>22 ±20%</td>
<td>119</td>
<td>19</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>SD54-273ML</td>
<td>27 ±20%</td>
<td>134</td>
<td>18</td>
<td>1.2</td>
<td>1.2</td>
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<tr>
<td>SD54-333ML</td>
<td>33 ±20%</td>
<td>150</td>
<td>16</td>
<td>1.1</td>
<td>1.1</td>
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<tr>
<td>SD54-393ML</td>
<td>39 ±20%</td>
<td>195</td>
<td>13</td>
<td>1.0</td>
<td>1.0</td>
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<tr>
<td>SD54-473ML</td>
<td>47 ±20%</td>
<td>222</td>
<td>12</td>
<td>0.92</td>
<td>0.97</td>
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<tr>
<td>SD54-563KL</td>
<td>56 ±10%</td>
<td>251</td>
<td>11</td>
<td>0.83</td>
<td>0.92</td>
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<tr>
<td>SD54-683KL</td>
<td>68 ±10%</td>
<td>335</td>
<td>9.3</td>
<td>0.76</td>
<td>0.80</td>
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<tr>
<td>SD54-823KL</td>
<td>82 ±10%</td>
<td>379</td>
<td>8.4</td>
<td>0.69</td>
<td>0.74</td>
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<tr>
<td>SD54-104KL</td>
<td>100 ±10%</td>
<td>503</td>
<td>7.4</td>
<td>0.62</td>
<td>0.64</td>
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<td>SD54-124KL</td>
<td>120 ±10%</td>
<td>579</td>
<td>7.0</td>
<td>0.56</td>
<td>0.58</td>
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<td>SD54-154KL</td>
<td>150 ±10%</td>
<td>654</td>
<td>6.3</td>
<td>0.51</td>
<td>0.57</td>
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<tr>
<td>SD54-184KL</td>
<td>180 ±10%</td>
<td>874</td>
<td>5.5</td>
<td>0.46</td>
<td>0.49</td>
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<tr>
<td>SD54-224KL</td>
<td>220 ±10%</td>
<td>996</td>
<td>5.0</td>
<td>0.43</td>
<td>0.47</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

   - **SD54-224KLC**
     - **Packaging**: C = 7” machine-ready reel. EIA-481 embossed plastic tape (400 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 (1500 parts per full reel).

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

3. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.

4. DC current at which the inductance drops the specified amount from its value without current.

5. Current that causes the specified rise from 25°C ambient.

6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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Typical L vs Current

Typical L vs Frequency

Irms Derating

Dimensions are in inches/mm

Recommended Land Pattern