Shielded Power Inductors—MLC75xx

- Soft saturation makes them ideal for VRD/VRM applications
- Special materials eliminate all thermal aging issues.
- AEC-Q200 Grade 3 (−40°C to +85°C)
- Saturation current up to 59 Amps

Core material: Iron

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

Weight: 0.60 – 0.80 g

Environmental: RoHS compliant, halogen free

Terminations: RoHS tin-silver over copper. Other terminations available at additional cost.

Ambient temperature: −40°C to +85°C with Irms current

Maximum part temperature: +125°C (ambient + temperature rise)

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


Inductance

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Inductance2 (µH) typ</th>
<th>DC R (mOhm) typ</th>
<th>SRF typ3 (MHz)</th>
<th>Isat (A)4</th>
<th>Irms (A)5</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLC7532-101NE</td>
<td>0.10±30%</td>
<td>1.20</td>
<td>140</td>
<td>21.0</td>
<td>24.9</td>
</tr>
<tr>
<td>MLC7532-221ME</td>
<td>0.22±20%</td>
<td>2.50</td>
<td>128</td>
<td>22.9</td>
<td>20.2</td>
</tr>
<tr>
<td>MLC7542-311ME</td>
<td>0.31±20%</td>
<td>2.30</td>
<td>114</td>
<td>12.2</td>
<td>20.0</td>
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<tr>
<td>MLC7542-601ME</td>
<td>0.60±20%</td>
<td>2.95</td>
<td>96</td>
<td>9.9</td>
<td>16.7</td>
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<tr>
<td>MLC7540-102ME</td>
<td>1.00±20%</td>
<td>4.42</td>
<td>81</td>
<td>7.4</td>
<td>13.8</td>
</tr>
<tr>
<td>MLC7540-142ME</td>
<td>1.40±20%</td>
<td>7.10</td>
<td>76</td>
<td>6.3</td>
<td>10.6</td>
</tr>
<tr>
<td>MLC7540-222ME</td>
<td>2.17±20%</td>
<td>11.7</td>
<td>65</td>
<td>5.3</td>
<td>8.5</td>
</tr>
</tbody>
</table>

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

MLC7540-222ME__

Termination: E = RoHS tin-silver over copper
Special order: T = RoHS tin-silver-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.
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.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4284A LCR meter.
3. SRF measured using an Agilent/HP4291A impedance analyzer and a Coilcraft 16193 fixture.
4. DC current at 25°C that causes the specified inductance drop 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.
Shielded Power Inductors – MLC75xx

L vs Current

L vs Frequency

ESR vs Frequency

Temperature Rise vs Current

Packaging
MLC7532 350/7” reel; 1500/13” reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 3.3 mm pocket depth
MLC7540 250/7” reel; 1200/13” reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 4.2 mm pocket depth
MLC7542 250/7” reel; 1200/13” reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 4.2 mm pocket depth

Dimensions are in inches mm

Recommended Land Pattern

Body size  Height max
MLC7532   0.126  3.2
MLC7540   0.157  4.0
MLC7542   0.165  4.2