Shielded Power Inductors – EPL2010

- Smallest shielded power inductors: 2.0 × 2.0 × 1 mm high
- Extremely low DCR and very high SRF ratings
- AEC-Q200 Grade 3 qualified (−40°C to +85°C ambient)
- Isat ratings as high as 2.9 A

Designer’s Kit C412 contains 5 each of all values

Core material Ferrite

Environmental RoHS compliant, halogen free

Terminations Since August, 2008: RoHS compliant tin-silver-copper (96.5/3/0.5) over tin over nickel over silver-platinum. Prior to August, 2008: RoHS compliant tin-silver-copper over gold over nickel over silver-platinum.

Weight 13 – 18 mg

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 reflosts 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.

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

EPL2010-103MLC

Termination: L = RoHS compliant tin-silver-copper over tin over nickel Special order, added cost: S = non-RoHS tin-lead (63/37).

Packaging: C = 7” machine-ready reel. EIA-481 embossed plastic tape (2000 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 (7500 parts per full reel).

2. Inductance tested at 1 MHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 4395A network analyzer or equivalent.

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 – EPL2010 Series

Typical L vs Frequency

Typical L vs Current

Part Marking (Parts manufactured prior to Oct. 20, 2009 may not be marked.)

<table>
<thead>
<tr>
<th>Part number</th>
<th>Value</th>
<th>1st digit</th>
<th>2nd digit</th>
<th>Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPL2010-181</td>
<td>0.18 µH</td>
<td>Brown</td>
<td>Gray</td>
<td>Brown</td>
</tr>
<tr>
<td>EPL2010-271</td>
<td>0.27 µH</td>
<td>Red</td>
<td>Violet</td>
<td>Brown</td>
</tr>
<tr>
<td>EPL2010-421</td>
<td>0.42 µH</td>
<td>Yellow</td>
<td>Red</td>
<td>Brown</td>
</tr>
<tr>
<td>EPL2010-881</td>
<td>0.88 µH</td>
<td>Blue</td>
<td>Gray</td>
<td>Brown</td>
</tr>
<tr>
<td>EPL2010-821</td>
<td>0.82 µH</td>
<td>Gray</td>
<td>Red</td>
<td>Brown</td>
</tr>
<tr>
<td>EPL2010-102</td>
<td>1.0 µH</td>
<td>Brown</td>
<td>Black</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-152</td>
<td>1.5 µH</td>
<td>Brown</td>
<td>Green</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-222</td>
<td>2.2 µH</td>
<td>Red</td>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-332</td>
<td>3.3 µH</td>
<td>Orange</td>
<td>Orange</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-472</td>
<td>4.7 µH</td>
<td>Yellow</td>
<td>Violet</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-682</td>
<td>6.8 µH</td>
<td>Blue</td>
<td>Gray</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-822</td>
<td>8.2 µH</td>
<td>Gray</td>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>EPL2010-103</td>
<td>10 µH</td>
<td>Brown</td>
<td>Black</td>
<td>Orange</td>
</tr>
<tr>
<td>EPL2010-123</td>
<td>12 µH</td>
<td>Brown</td>
<td>Red</td>
<td>Orange</td>
</tr>
</tbody>
</table>

Note: All marked parts have three dots. Black dot, used only on -102 and -103 as the second significant digit, may be very difficult to see.

Small surface blemishes are not unusual and do not adversely affect performance. Wire may be visible inside the voids.

Acceptable void sizes:
- Top: 0.01 in / 0.254 mm × 0.01 in / 0.254 mm
- Sides: 0.02 in / 0.5 mm × 0.047 in / 1.2 mm

For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0.13 mm.

Packaging: 2000/7” reel; 7500/13” reel. Plastic tape: 8 mm wide, 0.28 mm thick, 4 mm pocket spacing, 1.3 mm pocket depth.