Shielded Power Inductors – EPL3012

• Low profile shielded power inductors; 3 x 3 x 1.3 mm max.
• Very low DCR, high SRF ratings, Isat ratings up to 2.0 A

Designer’s Kit C437 contains 5 each of all values

Core material Ferrite
Core and winding loss See www.coilcraft.com/coreloss
Environmental RoHS compliant, halogen free
Terminations RoHS compliant tin-silver-copper (96.5/3/0.5) over tin over nickel over silver-platinum. Other terminations available at additional cost.
Weight 36 – 42 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 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)

Packaging 2000/7” reel; 7500/13” reel Plastic tape: 8 mm wide, 0.2 mm thick, 4 mm pocket spacing, 1.55 mm pocket depth

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

<table>
<thead>
<tr>
<th>Part number¹</th>
<th>Inductance² (µH)</th>
<th>DCR (Ohms)³</th>
<th>SRF typ⁴ (MHz)</th>
<th>Isat (A)⁵</th>
<th>Irms (A)⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±20%</td>
<td>nom</td>
<td>max</td>
<td>10% drop</td>
<td>20% drop</td>
</tr>
<tr>
<td>EPL3012-102ML</td>
<td>1.0</td>
<td>0.060</td>
<td>0.066</td>
<td>110</td>
<td>0.85</td>
</tr>
<tr>
<td>EPL3012-152ML</td>
<td>1.5</td>
<td>0.069</td>
<td>0.075</td>
<td>103</td>
<td>0.70</td>
</tr>
<tr>
<td>EPL3012-182ML</td>
<td>1.8</td>
<td>0.076</td>
<td>0.084</td>
<td>92</td>
<td>0.65</td>
</tr>
<tr>
<td>EPL3012-222ML</td>
<td>2.2</td>
<td>0.097</td>
<td>0.106</td>
<td>76</td>
<td>0.55</td>
</tr>
<tr>
<td>EPL3012-332ML</td>
<td>3.3</td>
<td>0.136</td>
<td>0.150</td>
<td>62</td>
<td>0.50</td>
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<tr>
<td>EPL3012-472ML</td>
<td>4.7</td>
<td>0.165</td>
<td>0.181</td>
<td>52</td>
<td>0.47</td>
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<tr>
<td>EPL3012-103ML</td>
<td>10</td>
<td>0.316</td>
<td>0.348</td>
<td>32</td>
<td>0.34</td>
</tr>
<tr>
<td>EPL3012-223ML</td>
<td>22</td>
<td>0.718</td>
<td>0.790</td>
<td>18</td>
<td>0.17</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:
   EPL3012-223MLC

Packaging:

- **C** = 7” machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (7500 parts per full reel).
- **B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

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 – EPL3012 Series

L vs Current

L vs Frequency

Part Marking

Part number | Value | 1st digit | 2nd digit | Multiplier
---|---|---|---|---
EPL3012-102 | 1.0 µH | Brown | Black | Red
EPL3012-152 | 1.5 µH | Brown | Green | Red
EPL3012-182 | 1.8 µH | Brown | Gray | Red
EPL3012-222 | 2.2 µH | Red | Red | Red
EPL3012-332 | 3.3 µH | Orange | Orange | Red
EPL3012-472 | 4.7 µH | Yellow | Violet | Red
EPL3012-103 | 10 µH | Brown | Black | Orange
EPL3012-223 | 22 µH | Red | Red | Orange

Note: All marked parts have three dots. Black dot, used only on the -102 and -103 as 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.

Dimensions are in inches/mm