## SMT Power Inductors - LPO2506

- On-board style – 1.65 mm high
- InBoard® style – only 1.19 high

**Designer’s Kit C332** contains 3 of all InBoard® styles

**Designer’s Kit C333** contains 3 of all On-board styles

- Core material: Ferrite
- Core and winding loss: See www.coilcraft.com/coreloss
- Terminations: RoHS compliant silver-palladium-platinum-glass frit.
- Other terminations available at additional cost.
- Weight: 240 – 260 mg
- Ambient temperature: -40°C to +85°C with Irms current
- Maximum part temperature: +125°C (ambient + temp 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

### Specifications

<table>
<thead>
<tr>
<th>InBoard style part number</th>
<th>On-board style part number</th>
<th>L ±20%^2 (µH)</th>
<th>DCR max (Ohms)</th>
<th>SRF typ (MHz)</th>
<th>Isat^3 (A)</th>
<th>Irms^4 (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPO2506I-472L_</td>
<td>LPO2506O-472L_</td>
<td>4.7</td>
<td>0.145</td>
<td>90</td>
<td>1.6</td>
<td>1.9</td>
</tr>
<tr>
<td>LPO2506I-682L_</td>
<td>LPO2506O-682L_</td>
<td>6.8</td>
<td>0.165</td>
<td>75</td>
<td>1.3</td>
<td>1.7</td>
</tr>
<tr>
<td>LPO2506I-822L_</td>
<td>LPO2506O-822L_</td>
<td>8.2</td>
<td>0.200</td>
<td>65</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>LPO2506I-103L_</td>
<td>LPO2506O-103L_</td>
<td>10</td>
<td>0.240</td>
<td>60</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>LPO2506I-153L_</td>
<td>LPO2506O-153L_</td>
<td>15</td>
<td>0.300</td>
<td>45</td>
<td>0.90</td>
<td>1.3</td>
</tr>
<tr>
<td>LPO2506I-223L_</td>
<td>LPO2506O-223L_</td>
<td>22</td>
<td>0.420</td>
<td>35</td>
<td>0.70</td>
<td>1.0</td>
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<tr>
<td>LPO2506I-333L_</td>
<td>LPO2506O-333L_</td>
<td>33</td>
<td>0.550</td>
<td>30</td>
<td>0.60</td>
<td>0.90</td>
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<tr>
<td>LPO2506I-473L_</td>
<td>LPO2506O-473L_</td>
<td>47</td>
<td>0.765</td>
<td>22</td>
<td>0.50</td>
<td>0.70</td>
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<tr>
<td>LPO2506I-683L_</td>
<td>LPO2506O-683L_</td>
<td>68</td>
<td>1.10</td>
<td>20</td>
<td>0.40</td>
<td>0.60</td>
</tr>
<tr>
<td>LPO2506I-104L_</td>
<td>LPO2506O-104L_</td>
<td>100</td>
<td>1.60</td>
<td>15</td>
<td>0.30</td>
<td>0.50</td>
</tr>
<tr>
<td>LPO2506I-154L_</td>
<td>LPO2506O-154L_</td>
<td>150</td>
<td>2.50</td>
<td>12</td>
<td>0.25</td>
<td>0.40</td>
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<tr>
<td>LPO2506I-224L_</td>
<td>LPO2506O-224L_</td>
<td>220</td>
<td>3.65</td>
<td>10</td>
<td>0.22</td>
<td>0.32</td>
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<tr>
<td>LPO2506I-334L_</td>
<td>LPO2506O-334L_</td>
<td>330</td>
<td>4.65</td>
<td>8.0</td>
<td>0.18</td>
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<td>LPO2506I-474L_</td>
<td>LPO2506O-474L_</td>
<td>470</td>
<td>6.75</td>
<td>6.5</td>
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<td>0.24</td>
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<tr>
<td>LPO2506I-684L_</td>
<td>LPO2506O-684L_</td>
<td>680</td>
<td>9.15</td>
<td>5.5</td>
<td>0.12</td>
<td>0.20</td>
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<tr>
<td>LPO2506I-105L_</td>
<td>LPO2506O-105L_</td>
<td>1000</td>
<td>14.20</td>
<td>4.5</td>
<td>0.10</td>
<td>0.16</td>
</tr>
</tbody>
</table>

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

   LPO2506O-105L
   - **Termination:** L = RoHS compliant silver-palladium-platinum-glass frit
     - Special order: T = RoHS tin-silver-copper (95.5/0.5), S = non-RoHS tin-lead (63/37).
   - **Packaging:** D = 13” machine-ready reel. EIA-481 embossed plastic tape (1000 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 D instead.

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

3. DC current at which the inductance drops 10% (typ) from its value without current.

4. Current that causes a 40°C temperature rise from 25°C ambient.

5. Electrical specifications at 25°C.

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

### Designer’s Kits

- **C332** contains 3 of all InBoard® styles
- **C333** contains 3 of all On-board styles

### Core material

- Ferrite

### Core and winding loss

- See www.coilcraft.com/coreloss

### Terminations

- RoHS compliant silver-palladium-platinum-glass frit.
- Other terminations available at additional cost.

### Weight

- 240 – 260 mg

### Ambient temperature

- -40°C to +85°C with Irms current

### Maximum part temperature

- +125°C (ambient + temp 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

### Packaging

- Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.37 mm pocket depth

### PCB washing

- Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc 787 _PCB_Washing_.pdf

### Sample & buy

- Webs page
- Sample & buy
- Tools & software
- Support & FAQ

### Contact information

- US: +1-847-639-6400 sales@coilcraft.com
- UK: +44-1236-730595 sales@coilcraft-europe.com
- Taiwan: +886-2-2264 3646 sales@coilcraft.com.tw
- China: +86-21-6218 8074 sales@coilcraft.com.cn
- Singapore: +65-6484 8412 sales@coilcraft.com.sg

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This product may not be used in medical or high risk applications without prior Coilcraft approval.

Specifications subject to change without notice.

Please check web site for latest information.
SMT Power Inductors - LPO2506 Series

Typical L vs Frequency

Typical L vs Current

On-board Style

InBoard Style

Recommended Land Pattern

Note: Parts manufactured prior to March, 2011 were marked only with the dash number.

Mounting plane: through board

Recommended Land Pattern

Note: Parts manufactured prior to March, 2011 were marked only with the dash number.