# Shielded Power Inductors – XFL2005

- Lowest profile, ultra-miniature, magnetically shielded power inductor; only 0.5 mm high, 2 mm × 2 mm footprint
- Soft saturation

**Designer’s Kit C479** contains 5 each of all values

**Core material** Composite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://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.

**Weight** 8.4 – 9.3 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: –55°C to +125°C. Tape and reel packaging: –55°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**
- **2000/7″ reel; 7500/13″ reel** Plastic tape: 8 mm wide, 0.28 mm thick, 4 mm pocket spacing, 0.76 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](http://Doc787_PCB_Washing.pdf).

## Specifications

<table>
<thead>
<tr>
<th>Part number&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Inductance&lt;sup&gt;2&lt;/sup&gt; ±20% (µH)</th>
<th>DCR (Ohms)&lt;sup&gt;3&lt;/sup&gt;</th>
<th>SRF typ&lt;sup&gt;4&lt;/sup&gt; (MHz)</th>
<th>Isat (A)&lt;sup&gt;5&lt;/sup&gt;</th>
<th>Irms (A)&lt;sup&gt;6&lt;/sup&gt;</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>XFL2005-151ME</td>
<td>0.15</td>
<td>0.085</td>
<td>0.098</td>
<td>590</td>
<td>1.05</td>
<td>1.55</td>
<td>1.90</td>
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<tr>
<td>XFL2005-221ME</td>
<td>0.22</td>
<td>0.111</td>
<td>0.128</td>
<td>480</td>
<td>0.72</td>
<td>1.20</td>
<td>1.50</td>
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<tr>
<td>XFL2005-331ME</td>
<td>0.33</td>
<td>0.144</td>
<td>0.166</td>
<td>380</td>
<td>0.65</td>
<td>1.05</td>
<td>1.30</td>
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<tr>
<td>XFL2005-471ME</td>
<td>0.47</td>
<td>0.177</td>
<td>0.204</td>
<td>275</td>
<td>0.60</td>
<td>0.97</td>
<td>1.20</td>
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<tr>
<td>XFL2005-681ME</td>
<td>0.68</td>
<td>0.215</td>
<td>0.247</td>
<td>220</td>
<td>0.50</td>
<td>0.75</td>
<td>0.95</td>
</tr>
<tr>
<td>XFL2005-102ME</td>
<td>1.00</td>
<td>0.377</td>
<td>0.430</td>
<td>160</td>
<td>0.33</td>
<td>0.58</td>
<td>0.76</td>
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<tr>
<td>XFL2005-152ME</td>
<td>1.50</td>
<td>0.483</td>
<td>0.555</td>
<td>130</td>
<td>0.30</td>
<td>0.52</td>
<td>0.70</td>
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<tr>
<td>XFL2005-222ME</td>
<td>2.20</td>
<td>0.674</td>
<td>0.775</td>
<td>110</td>
<td>0.25</td>
<td>0.42</td>
<td>0.56</td>
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<tr>
<td>XFL2005-332ME</td>
<td>3.30</td>
<td>0.922</td>
<td>1.06</td>
<td>85</td>
<td>0.24</td>
<td>0.38</td>
<td>0.50</td>
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<tr>
<td>XFL2005-472ME</td>
<td>4.70</td>
<td>1.46</td>
<td>1.69</td>
<td>70</td>
<td>0.20</td>
<td>0.31</td>
<td>0.40</td>
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<tr>
<td>XFL2005-562ME</td>
<td>5.60</td>
<td>1.72</td>
<td>1.98</td>
<td>65</td>
<td>0.155</td>
<td>0.255</td>
<td>0.33</td>
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<tr>
<td>XFL2005-682ME</td>
<td>6.80</td>
<td>1.92</td>
<td>2.21</td>
<td>60</td>
<td>0.150</td>
<td>0.250</td>
<td>0.32</td>
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<td>XFL2005-822ME</td>
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<td>2.46</td>
<td>2.80</td>
<td>50</td>
<td>0.120</td>
<td>0.195</td>
<td>0.25</td>
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<td>XFL2005-103ME</td>
<td>10.00</td>
<td>2.78</td>
<td>3.10</td>
<td>48</td>
<td>0.130</td>
<td>0.190</td>
<td>0.24</td>
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</tbody>
</table>

1. When ordering, please specify termination and packaging codes:
   - **T** = RoHS compliant tin-silver-copper (96.5/3/0.5) over tin over nickel over silver-platinum.
   - **S** = non-RoHS tin-lead (63/37).
   - **B** = Less than full reel. In tape, but not machine ready.
   - **C** = 7″ machine-ready reel. EIA-481 embossed plastic tape 2000 parts per full reel).
   - **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 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.

*Link to the “Soldering Surface Mount Components” document before soldering.*

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[www.coilcraft.com](http://www.coilcraft.com)

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Please check web site for latest information.
Shielded Power Inductor – XFL2005

L vs Current

AEC Q200 125°C+
Halogen
Free

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Shielded Power Inductor – XFL2005

L vs Current

L vs Frequency

- 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

Tape and reel orientation

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