## Shielded Power Inductors – XFL501x

- High current and very low DCR
- Soft saturation

**Environmental**  RoHS compliant, halogen free  
**Terminations**  RoHS compliant tin-silver over copper. Other terminations available at additional cost.  
**Core material**  Composite  
**Core and winding loss**  See www.coilcraft.com/coreloss  
**Weight**  0.185 – 0.200 g  
**Operating voltage**  0 – 20 V  
**Ambient temperature**  –40°C to +125°C with (40°C rise)  
**Maximum part temperature**  +165°C (ambient + temp rise). Derating.  
**Storage temperature**  Component: –55°C to +165°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)**  0.48 per billion hours / 2.08E+09 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.

### Specifications

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Inductance2 ±20% (µH)</th>
<th>DCR (mOhms)3 typ max</th>
<th>SRF typi (MHz)</th>
<th>Isat (A)5</th>
<th>Irms (A)7</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>XFL5015-221ME</td>
<td>0.22</td>
<td>4.20 4.83</td>
<td>155</td>
<td>9.3 12.3</td>
<td>13.3</td>
<td>11.6</td>
<td>16.2</td>
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<tr>
<td>XFL5015-421ME</td>
<td>0.42</td>
<td>6.25 7.19</td>
<td>92</td>
<td>6.3 9.3 10.1</td>
<td>9.8 12.7</td>
<td>8.3 11.3</td>
<td>6.4 9.2</td>
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<tr>
<td>XFL5015-681ME</td>
<td>0.68</td>
<td>8.25 9.40</td>
<td>70</td>
<td>4.6 7.7 8.5</td>
<td>8.3 11.3</td>
<td>6.4 9.2</td>
<td>5.8 8.0</td>
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<tr>
<td>XFL5015-122ME</td>
<td>1.2</td>
<td>15.1 16.6</td>
<td>51</td>
<td>3.7 4.9 6.1</td>
<td>6.4 9.2</td>
<td>5.8 8.0</td>
<td>6.5 9.2</td>
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<tr>
<td>XFL5015-152ME</td>
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<td>18.3 20.1</td>
<td>48</td>
<td>3.1 4.8 5.8</td>
<td>5.8 8.0</td>
<td>6.5 9.2</td>
<td>5.8 8.0</td>
</tr>
<tr>
<td>XFL5018-222ME</td>
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<td>21.3 24.5</td>
<td>48</td>
<td>2.6 4.0 4.5</td>
<td>6.5 9.2</td>
<td>6.0 8.0</td>
<td>6.5 9.2</td>
</tr>
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<td>XFL5018-332ME</td>
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<td>32.0 37.0</td>
<td>32</td>
<td>2.1 3.1 3.4</td>
<td>6.5 9.2</td>
<td>6.0 8.0</td>
<td>6.0 8.0</td>
</tr>
</tbody>
</table>

1. When ordering, please specify **termination** and **packaging** codes:  
   - **Termination:**  E = RoHS compliant 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 (1000 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 (XFL5015: 4000 parts per full reel, XFL5018: 3500 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 an inductance drop of 30% (typ) from its value without current.  
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.

**Irms Testing**  
Irms testing was performed on 0.75 inch wide x 0.25 inch thick copper traces in still air.  
**Temperature rise** is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.
Shielded Power Inductors – XFL5015, XFL5018

L vs Current

![Graph](image-url1)

![Graph](image-url2)

![Graph](image-url3)

![Graph](image-url4)
Shielded Power Inductors – XFL5015, XFL5018

L vs Frequency

![Graph showing L vs Frequency](image)

Packaging
XFL5015: 1000/7” reel; 4000/13” reel  Plastic tape: 12 mm wide, 0.20 mm thick, 8 mm pocket spacing, 1.65 mm pocket depth
XFL5018: 1000/7” reel; 3500/13” reel  Plastic tape: 12 mm wide, 0.20 mm thick, 8 mm pocket spacing, 2.16 mm pocket depth

*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.