High Temperature Shielded Power Inductors – XAL60xx

- High current; very low DCR; soft saturation
- AEC-200 Grade 1 qualified (~40°C to +125°C ambient)

Designer’s Kit C442 contains 3 each of all values.
Core material: Composite
Environmental: RoHS compliant, halogen free
Terminations: RoHS compliant tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.
Ambient temperature: ~40°C to +125°C with Irms current, +125°C to +165°C with derated current.
Storage temperature: Component: ~40°C to +165°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
XAL6030: 400/7” reel; 1500/13” reel
Plastic tape: 16 mm wide, 0.3 mm thick; 12 mm pocket spacing; 3.12 mm pocket depth
XAL6060: 250/7” reel; 750/13” reel
Plastic tape: 16 mm wide, 0.3 mm thick; 8 mm pocket spacing; 6.23 mm pocket depth

PCB washing:
Only pure water or alcohol recommended

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>DCR (mOhms)</th>
<th>SRF (MHz)</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
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<tbody>
<tr>
<td>XAL6030-181ME</td>
<td>0.18</td>
<td>1.59</td>
<td>1.75</td>
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</table>

1. When ordering, please specify termination and packaging codes:
   XAL6060-223ME
   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.
   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.

2. Inductance tested at 100 kHz, 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 which the inductance drops 30% (typ) from its value without current.
6. Current that causes the specified temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Shielded Power Inductors – XAL60xx

L vs Current

![Graphs showing the relationship between inductance (µH) and current (A) for different inductor values.](image_url)
Shielded Power Inductors – XAL60xx

L vs Current

- 4.7 µH
- 5.6 µH
- 6.8 µH
- 8.2 µH
- 10 µH
- 15 µH
- 22 µH

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check out web site for latest information.
High Temperature

Shielded Power Inductors – XAL60xx

Typical L vs Frequency

Irms Derating

Maximum height Weight
XAL6030 0.122 / 3,1 0.60 – 0.70 g
XAL6060 0.240 / 6,1 1.2 – 1.3 g

Dimensions are in inches / mm.