Shielded Power Inductors – XAL7070

- High current and very low DCR
- AEC-200 Grade 1 (–40°C to +125°C)
- Soft saturation makes them ideal for VRM/VRD applications.

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.
Weight: 1.9 – 2.1 g
Operating voltage: 0 – 60 V
Ambient temperature: –40°C to +125°C with (40°C rise) Irms current.
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
Packaging: 150/7” reel, 500/13” reel. Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 7.44 mm pocket depth

**Part number**

<table>
<thead>
<tr>
<th>Inductance &lt;20% (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>XAL7070-161ME</td>
<td>0.16</td>
<td>0.75</td>
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<td>58.0</td>
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<td>XAL7070-473ME</td>
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<td>84.41</td>
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</table>

1. When ordering, please specify termination and packaging code: XAL7070-473MEC

Termination: E = Halogen free component. RoHS compliant tin-silver over copper terminations. 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 (150 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
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.
D = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (750 parts per full reel).

2. Inductance tested at 1 MHz, 0.1 Vrms, 0 Adc.
3. DCR measured using 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.

**Irms Testing**

Irms testing was performed on 0.75 inch wide × 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.

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Shielded Power Inductors – XAL7070

L vs Current

- **HIGH TEMPERATURE**
- **AEC Q200 125°C+**
- **Halogen Free**

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Shielded Power Inductors – XAL7070

L vs Current

Typical L vs Frequency

Recommended Land Pattern

* 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): 0.236 / 0.60, 0.256 / 0.65, 0.076 / 1.92, 0.190 / 4.82, 0.0236 / 0.60, 0.0157 / 0.40, 0.0236 / 0.60, 0.0236 / 0.60, 0.0236 / 0.60, 0.0236 / 0.60, 0.0047 / 0.12, 0.0039 / 0.10.

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