Shielded Power Inductors XEL4030

- Extremely low DCR and ultra low AC losses for high switching frequencies (2 to 5 MHz)
- AEC-Q200 Grade 1 (−40°C to +125°C)
- Superior current handling with soft saturation characteristics
- Can withstand high current spikes
- Designed for high temperature applications

Core material: Composite
Environment: RoHS compliant, halogen free
Terminations: RoHS compliant, tin-silver over copper.
Weight: 0.28 g
Operating voltage: 0 – 80 V
Ambient temperature: −40°C to +125°C with (40°C) Irms current.
Maximum part temperature: +165°C (ambient + temp rise).
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)

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance²a (µH)</th>
<th>DCR (mOhms)³</th>
<th>SRF ⁴</th>
<th>Isat⁵</th>
<th>Irms (A)⁶</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>XEL4030-101ME</td>
<td>0.10</td>
<td>1.50</td>
<td>1.80</td>
<td>240</td>
<td>30.0</td>
<td>20.4</td>
<td>25.8</td>
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<tr>
<td>XEL4030-201ME</td>
<td>0.20</td>
<td>2.15</td>
<td>2.40</td>
<td>155</td>
<td>22.0</td>
<td>17.0</td>
<td>21.6</td>
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<td>0.30</td>
<td>2.80</td>
<td>3.10</td>
<td>115</td>
<td>19.0</td>
<td>14.9</td>
<td>18.9</td>
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<td>4.60</td>
<td>95</td>
<td>15.5</td>
<td>12.3</td>
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<td>80</td>
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<td>8.00</td>
<td>8.80</td>
<td>68</td>
<td>10.0</td>
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<td>11.2</td>
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</table>

1. When ordering, please specify packaging code: XEL4030-682ME

Packaging: C = 7” machine-ready reel. EIA-481 embossed plastic tape (500 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 (2000 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.
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 × 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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L vs Current

VER Y LOW AC AND DC LOSSES

[- Diagram of L vs Current for different Inductance values (0.10 μH, 0.20 μH, 0.30 μH, 0.47 μH, 0.64 μH, 0.90 μH, 1.0 μH, 1.2 μH, 1.4 μH, 1.6 μH, 2.0 μH, 2.2 μH)]
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L vs Current

Typical L vs Frequency

Packaging 500/7” reel; 2000/13” reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 3.25 mm pocket depth