Flat Wire Power Inductor

For Maxim MAX5051 Controller IC

Designed for Maxim’s MAX5051 Power Supply Controller, the A9860-B offers exceptional electrical performance. Flat wire windings offers extremely low DC resistance and high saturation current ratings. The flat core provides excellent heat dissipation.

**Core material** Ferrite

**Terminations** Tin-silver over copper

**Weight** 11.4 g

**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: −40°C to +125°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** 200/13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 32 mm pocket spacing, 9.6 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number</th>
<th>L @ 0 A² ±20% (µH)</th>
<th>L @ 15.0 A² ±20% (µH)</th>
<th>DCR max (mOhm)</th>
<th>SRF typ³ (MHz)</th>
<th>Isat⁴ (A)</th>
<th>Irms⁵ (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A9860-B_</td>
<td>2.70</td>
<td>2.70</td>
<td>3.0</td>
<td>63.0</td>
<td>20.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

1. Please specify termination and packaging codes:

   **A9860-BD**

   **Packaging:**
   - D = 13" machine-ready reel EIA-481 embossed plastic tape (200 per full reel).
   - B = Less than full reel In tape, but not machine-ready. To have a leader and trailer added ($25 charge), use code letter D instead.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 A dc using a Coilcraft SMD-D fixture in an Agilent/HP 4284A impedance analyzer.

3. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.

4. DC current at which the inductance drops 10% (typ) from its value without current. Click for temperature derating information.

5. Current that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.


<table>
<thead>
<tr>
<th>A max</th>
<th>B max</th>
<th>C max</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.91</td>
<td>0.85</td>
<td>0.39</td>
<td>0.08</td>
<td>0.30</td>
<td>0.10</td>
<td>0.57</td>
</tr>
<tr>
<td>23.0</td>
<td>21.5</td>
<td>10.0</td>
<td>2.0</td>
<td>7.5</td>
<td>2.5</td>
<td>14.5</td>
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</table>

<table>
<thead>
<tr>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.098</td>
<td>0.08</td>
<td>0.129</td>
<td>0.25</td>
<td>0.486</td>
<td>0.168</td>
<td>0.039</td>
<td>0.216</td>
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<tr>
<td>2.5</td>
<td>2.0</td>
<td>3.27</td>
<td>6.23</td>
<td>12.35</td>
<td>4.27</td>
<td>0.98</td>
<td>5.48</td>
</tr>
</tbody>
</table>

Terminal 3 is for mounting stability only. Do not connect to ground or other circuits.

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Flat Wire Power Inductor for Maxim MAX5051

Typical L vs Frequency

Typical L vs Current

2.7 μH

Inductance (μH)

Frequency (MHz)

Inductance (μH)

Current (A)