Mini Air Core Inductors

- Small air core inductors feature high Q and tight tolerances
- Acrylic jacket provides a flat top for pick and place
- Soldered leads ensure reliable soldering

Terminations: RoHS compliant tin-silver over copper. Other terminations available at additional cost.

Ambient temperature: −40°C to +125°C with Irms current, +125°C to +140°C with derated current.

Storage temperature: Component: −40°C to +140°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.

Temperature Coefficient of Inductance (TCL): +5 to +70 ppm/°C.


Failures in Time (FIT) / Mean Time Between Failures (MTBF): One per billion hours / one billion hours, calculated per Telcordia SR-332.

Packaging: A0xT: 700/13” reel; 2500/13” reel. Plastic tape: 12 mm wide, 0.32 mm thick, 8 mm pocket spacing, 3.3 mm pocket depth.

BxxT: 500/13” reel; 2200/13” reel. Plastic tape: 16 mm wide, 0.28 mm thick, 8 mm pocket spacing, 3.4 mm pocket depth.

Recommended pick and place nozzle: OD: 0.1″; ID: 0.091″.


### Specifications

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Turns</th>
<th>L2 (mH)</th>
<th>Percent tol1</th>
<th>Q1 min</th>
<th>SRF min1 (GHz)</th>
<th>DCR max1 (mOhm)</th>
<th>Irms1 (A)</th>
<th>Weight (mg)</th>
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<tbody>
<tr>
<td>A01T_L</td>
<td>1</td>
<td>2.5</td>
<td>10</td>
<td>145</td>
<td>12.5</td>
<td>1.1</td>
<td>4</td>
<td>31</td>
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<tr>
<td>A02T_L</td>
<td>2</td>
<td>5.0</td>
<td>5,2,1</td>
<td>140</td>
<td>6.5</td>
<td>1.8</td>
<td>4</td>
<td>42</td>
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<tr>
<td>A03T_L</td>
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<td>8.0</td>
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<td>140</td>
<td>5.0</td>
<td>2.6</td>
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<td>12.5</td>
<td>5,2,1</td>
<td>137</td>
<td>3.3</td>
<td>3.4</td>
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<tr>
<td>A05T_L</td>
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<td>3.9</td>
<td>4</td>
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<tr>
<td>B06T_L</td>
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<td>17.5</td>
<td>5,2,1</td>
<td>100</td>
<td>2.2</td>
<td>4.5</td>
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<td>B10T_L</td>
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<td>1.2</td>
<td>7.9</td>
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<td>147</td>
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</tbody>
</table>

1. When ordering, please specify tolerance, termination and packaging codes:

**A02TGLC**

Tolerance: F = 1%; G = 2%; J = 5%; K = 10% (Table shows stock tolerances in bold.)

Termination: L = RoHS compliant tin-silver (96.5/3.5) 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, 700 (AxxT) or 500 (BxxT) parts per full reel.

B = Less than full reel. In tape, 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, 2500 (AxxT) or 2200 (BxxT) parts per full reel.

2. Inductance measured at 150 MHz with an Agilent/HP 4286 or equivalent, a Coilcraft SMD-A and correlation.

3. Percent tolerances are stocked for immediate shipment.

4. SRF measured at 150 MHz using an Agilent/HP 4291A with an Agilent/HP 16193A test fixture or equivalents.

5. DCR tested on the Cambridge Technology Model Micro-ohmmeter or equivalent.

6. Current that causes a 15°C temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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Mini Air Core Inductors

Typical L vs Frequency

![Graph showing typical inductance vs frequency for different inductor values.]

Typical Q vs Frequency

![Graph showing typical Q factor vs frequency for different inductor values.]

Typical Irms Derating

![Graph showing Irms derating vs ambient temperature for different inductor values.]

- **Designer's Kit C302** contains 12 each of all 5% values
- **Designer's Kit C302-2** contains 12 each of all 2% values