Mini Air Core Inductors

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

Specifications:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Turns</th>
<th>L^2 (nH)</th>
<th>Percent Tolerance</th>
<th>Q^* min</th>
<th>SRF min (GHz)</th>
<th>DCR max (mOhm)</th>
<th>Irm^s (A)</th>
<th>Weight (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01TKL</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>
</tr>
<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>
</tr>
<tr>
<td>A03T_L</td>
<td>3</td>
<td>8.0</td>
<td>5,2,1</td>
<td>140</td>
<td>5.0</td>
<td>2.6</td>
<td>4</td>
<td>52</td>
</tr>
<tr>
<td>A04T_L</td>
<td>4</td>
<td>12.5</td>
<td>5,2,1</td>
<td>137</td>
<td>3.3</td>
<td>3.4</td>
<td>4</td>
<td>65</td>
</tr>
<tr>
<td>A05T_L</td>
<td>5</td>
<td>15.8</td>
<td>5,2,1</td>
<td>132</td>
<td>2.5</td>
<td>3.9</td>
<td>4</td>
<td>78</td>
</tr>
<tr>
<td>B06T_L</td>
<td>6</td>
<td>17.5</td>
<td>5,2,1</td>
<td>100</td>
<td>2.2</td>
<td>4.5</td>
<td>4</td>
<td>100</td>
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<tr>
<td>B07T_L</td>
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<td>2.1</td>
<td>5.2</td>
<td>4</td>
<td>110</td>
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<tr>
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<td>6.0</td>
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<tr>
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<td>133</td>
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<td>B10T_L</td>
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<td>5,2,1</td>
<td>106</td>
<td>1.2</td>
<td>7.9</td>
<td>4</td>
<td>147</td>
</tr>
</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 (63/37/0.3)
   Packaging: C = 7” machine-ready reel. EIA-481 embossed plastic tape, 700 (AxxT) or 500 (BxxT) parts per full reel. Quantities less than full reel available: tape (not machine ready) or with leader and trailer (S25 charge)
   D = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked, 2500 (AxxT) or 2200 (BxxT) parts per full reel.
   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.

2. Inductance measured at 150 MHz with an Agilent/HP 4286 analyzer or equivalent, a Coilcraft SMD-A and correlation.
3. Tolerances in bold are stocked for immediate shipment.
4. Q measured at 150 MHz using an Agilent/HP 4291A with an Agilent/HP 16193A test fixture or equivalents.
5. SRF tested on an Agilent/HP 8720D analyzer and a Coilcraft SMD-D fixture.
6. DCR tested on the Cambridge Technology Model Micro-ohmmeter or equivalent.
7. Current that causes a 15°C temperature rise from 25°C ambient.
8. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before 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

Moisture Sensitivity Level (MSL)
1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging
A0xT: 700/"7 reel; 2500/13" reel Plastic tape: 16 mm wide, 0.32 mm thick, 5 mm pocket spacing, 3.3 mm pocket depth
BxxT: 500/"7 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: 0.110"; ID: 0.091"

PCB washing
Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.
Mini Air Core Inductors

Typical L vs Frequency

Typical Q vs Frequency

Typical Irms Derating

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