**Micro Spring™ 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

**Terminations**  
RoHS compliant tin-silver over copper. Other terminations available at additional costs.

**Weight**  
0906: 10–12 mg; 1606: 18 – 27 mg

**Ambient temperature**  
-40°C to +125°C with I rms current

**Maximum part temperature**  
+140°C (ambient + temp rise)

**Storage temperature**  
Component: -40°C to +125°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)

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

**Packaging**  
0906: 500 per 7” reel Plastic tape: 8 mm wide, 0.3 mm thick, 1.5 mm pocket depth 1606: 500 per 7” reel Plastic tape: 12 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.6 mm pocket depth

- Recommended pick and place nozzle: OD: 0.059”; ID: 0.035”

**Part number**

<table>
<thead>
<tr>
<th></th>
<th>Turns</th>
<th>Inductance (nH)</th>
<th>Percent tolerance</th>
<th>Q min</th>
<th>SRF min (GHz)</th>
<th>DCR max (mOhm)</th>
<th>I rms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0906-2_L_</td>
<td>2</td>
<td>1.65</td>
<td><strong>10,5,2</strong></td>
<td>100</td>
<td>10.0</td>
<td>4.0</td>
<td>1.6</td>
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<td>3</td>
<td>2.55</td>
<td><strong>5,2,1</strong></td>
<td>100</td>
<td>8.2</td>
<td>5.0</td>
<td>1.6</td>
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<tr>
<td>0906-4_L_</td>
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<td>3.85</td>
<td><strong>5,2,1</strong></td>
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<td>7.5</td>
<td>6.0</td>
<td>1.6</td>
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<td>8.0</td>
<td>1.6</td>
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<td>1606-6_L_</td>
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<td>5.60</td>
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<td>6.5</td>
<td>9.0</td>
<td>1.6</td>
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<td>7.15</td>
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<td>10</td>
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<td>1.6</td>
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<td>9.85</td>
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<td><strong>5,2,1</strong></td>
<td>100</td>
<td>4.6</td>
<td>14</td>
<td>1.6</td>
</tr>
</tbody>
</table>

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

   **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, 500 parts 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 C instead.
   P = 7” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3000 parts per full reel).

2. Inductance measured at 800 MHz using Agilent/HP 4286 or equivalent with a Coilcraft SMD-A fixture and correlation.

3. Tolerances in bold are stocked for immediate shipment.

4. Q measured at 800 MHz using an Agilent/HP 4291A with an Agilent/HP 16193A test fixture or equivalents.

5. SRF measured using an Agilent/HP 8720D or equivalent with a Coilcraft SMD-D fixture.

6. DCR tested on the Cambridge Technology Model 510 Micro-ohmmeter or equivalent.

7. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

8. Electrical specifications at 25°C. Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
**Micro Spring™ Air Core Inductors**

**Typical L vs Frequency – 0906 Series**

![Graph showing inductance vs frequency for 0906 series with typical values labeled: 5.40 nH, 3.85 nH, 2.55 nH, 1.65 nH.]

**Typical L vs Frequency – 1606 Series**

![Graph showing inductance vs frequency for 1606 series with typical values labeled: 12.55 nH, 9.85 nH, 8.60 nH, 7.15 nH, 5.60 nH.]

**Typical Q vs Frequency – 0906 Series**

![Graph showing Q factor vs frequency for 0906 series with typical values labeled: 2.55 nH, 1.65 nH, 3.85 nH, 5.40 nH.]

**Typical Q vs Frequency – 1606 Series**

![Graph showing Q factor vs frequency for 1606 series with typical values labeled: 7.15 nH, 5.60 nH, 8.60 nH, 9.85 nH.]

**Designer’s Kit C308 contains 12 each of all values.**

**Designer’s Kit C308-2 contains 12 each of all 2% values.**

**Recommended Land Patterns**

![Diagram showing recommended land patterns for 0906 and 1606 sizes with dimensions labeled.]

**Size A max B max C max D E F max**

<table>
<thead>
<tr>
<th>Size</th>
<th>A max</th>
<th>B max</th>
<th>C max</th>
<th>D</th>
<th>E</th>
<th>F max</th>
</tr>
</thead>
<tbody>
<tr>
<td>0906</td>
<td>0.095</td>
<td>0.135</td>
<td>0.060</td>
<td>0.055 ±0.010</td>
<td>0.072 ±0.010</td>
<td>0.020</td>
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<tr>
<td></td>
<td>2.41</td>
<td>3.43</td>
<td>1.52</td>
<td>1.40 ±0.25</td>
<td>1.83 ±0.25</td>
<td>0.51</td>
</tr>
<tr>
<td>1606</td>
<td>0.165</td>
<td>0.135</td>
<td>0.062</td>
<td>0.055 ±0.010</td>
<td>0.144 ±0.012</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>4.19</td>
<td>3.43</td>
<td>1.58</td>
<td>1.40 ±0.25</td>
<td>3.66 ±0.30</td>
<td>0.51</td>
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</tbody>
</table>

Dimensions are in inches. Strip Length: 135° max, 0° min.