# Maxi Spring™ Air Core Inductors

Air core inductors feature higher Q, L and current ratings.

- Rigid package provides a flat surface for pick and place
- Leads are locked in position for precise terminal spacing

**Weight**
- 0.42 – 0.59 g

**Terminations**
- RoHS compliant tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.

**Ambient temperature**
- –40°C to +125°C with Irms current

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

**Storage temperature**
- Component: –40°C to +140°C.
- Tape and reel packaging: –40°C to +80°C

**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

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

## Specifications

<table>
<thead>
<tr>
<th>Part number¹</th>
<th>Turns</th>
<th>Inductance² (nH)</th>
<th>Percent tolerance³</th>
<th>Q² typ</th>
<th>Q² min</th>
<th>Test freq. (MHz)</th>
<th>SRF min⁴ (GHz)</th>
<th>DCR max⁵ (mOhm)</th>
<th>Irms⁶ (A)</th>
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<tbody>
<tr>
<td>132-09SM_L_</td>
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<td>0.490</td>
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</tbody>
</table>

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

   - **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).
   - **Tolerance:** G = 2% J = 5%
   - **Packaging:** D = 13” machine-ready reel. EIA-481 embossed plastic tape (800 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 D instead.

2. Inductance and Q tested at 50 MHz on an Agilent/HP 4291A with a 16193 fixture and correlation.

3. Tolerances in bold are stocked for immediate shipment.

4. SRF tested on the Agilent/HP 8753D and a Coilcraft CCF1248 test fixture.

5. DCR tested on the Cambridge Technology Model 510 Micro Ohmmeter.

6. 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.

7. Electrical specifications at 25°C. Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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### S-Parameter files
- **On our web site**

### SPICE models
- **On our web site**

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**Document Information**

- **Document 185-1**
- **Revised 10/13/15**

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This product may not be used in medical or high risk applications without prior Coilcraft approval.

Specification subject to change without notice.

Please check web site for latest information.
Maxi Spring™ Air Core Inductors

Typical L vs Frequency

![Graph showing typical inductance vs frequency]

Typical Q vs Frequency

![Graph showing typical Q factor vs frequency]

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Inductance (nH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90 nH</td>
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<tr>
<td>10</td>
<td>246 nH</td>
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<tr>
<td>100</td>
<td>422 nH</td>
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<tr>
<td>900</td>
<td>169 nH</td>
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<tr>
<td>1000</td>
<td>90 nH</td>
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</table>

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Q factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>250</td>
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</tbody>
</table>

Recommended Land Pattern

- Strip Length
  - A max: 0.415 in (10.55 mm)
  - B max: 0.260 in (6.60 mm)
  - C max: 0.235 in (5.97 mm)
  - D: 0.240 ±0.015 in (6.10 ±0.38 mm)
  - E: 0.314 ±0.020 in (7.98 ±0.51 mm)

Dimensions are in inches (mm)