**Square Air Core Inductors**

- **1515SQ**
- **2222SQ**
- **2929SQ**

- Excellent Q factors – up to 230 at 400 MHz!
- Current handling as high as 5.7 Amps
- Inductance values from 47 to 500 nH
- Flat top and bottom for reliable pick and place and mechanical stability

**Designer’s Kit C438** contains 10 each of all 5% parts

- **Terminations**  RoHS compliant tin-silver over copper
- **Ambient temperature**  –40°C to +125°C with Irms current
- **Maximum part temperature**  +145°C (ambient + temp rise).
- **Storage temperature**  Component: –40°C to +145°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)

**Mean Time Between Failures (MTBF)** 1 billion hours

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

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**Part number**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH)</th>
<th>Percent tolerance</th>
<th>Q typ</th>
<th>Test frequency (MHz)</th>
<th>SRF min (GHz)</th>
<th>DCR max (mOhm)</th>
<th>Irms (A)</th>
</tr>
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<tbody>
<tr>
<td>1515SQ-47N_E</td>
<td>47</td>
<td>5.2</td>
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</table>

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

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH)</th>
<th>Percent tolerance</th>
<th>Q typ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1515SQ-82NJE</td>
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<td>5.2</td>
<td>140</td>
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<td>2222SQ-131</td>
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<td>2222SQ-181</td>
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<td>2222SQ-221</td>
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<td>5.2</td>
<td>140</td>
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<tr>
<td>2222SQ-271</td>
<td>270</td>
<td>5.2</td>
<td>140</td>
</tr>
<tr>
<td>2222SQ-301</td>
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<td>5.2</td>
<td>150</td>
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<td>2929SQ-331</td>
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<td>180</td>
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<td>2929SQ-361</td>
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<td>180</td>
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<td>2929SQ-391</td>
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<td>5.2</td>
<td>180</td>
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<tr>
<td>2929SQ-431</td>
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<td>2929SQ-501</td>
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<td>180</td>
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</table>

1. **Tolerance**:  G = 2%  J = 5%

   | (Table shows stock tolerances in bold.)
   | **Termination**:  E = RoHS compliant tin-silver (96.5/3.5) over copper.

   | **Special order, added cost:**  T = RoHS tin-silver-copper (95.5/4.5) over copper
   | **or S = non-RoHS tin-lead (63/37) over copper.**

   | **Packaging**:  C = 7” machine-ready reel. EIA-481 embossed plastic tape,

   | **Quantities less than full reel available in tape (not machine ready) or with leader and trailer ($25 charge).**

   | **D = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked.**

   | **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.**

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**Square Air Core Inductors – 1515SQ, 2222SQ, 2929SQ**

**Recommended pick and place nozzles**

<table>
<thead>
<tr>
<th>Part number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Weight (mg)</th>
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</thead>
<tbody>
<tr>
<td>1515SQ-7N</td>
<td>0.160 ± 0.010</td>
<td>0.140 ± 0.007</td>
<td>0.147 ± 0.007</td>
<td>0.140 ± 0.175</td>
<td>0.175 ± 0.070</td>
<td>0.140 ± 0.007</td>
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</tr>
<tr>
<td>1515SQ-68N</td>
<td>0.210 ± 0.010</td>
<td>0.140 ± 0.007</td>
<td>0.147 ± 0.007</td>
<td>0.190 ± 0.175</td>
<td>0.175 ± 0.070</td>
<td>0.140 ± 0.007</td>
<td>145</td>
</tr>
<tr>
<td>1515SQ-82N</td>
<td>0.230 ± 0.010</td>
<td>0.140 ± 0.007</td>
<td>0.147 ± 0.007</td>
<td>0.210 ± 0.175</td>
<td>0.070 ± 0.015</td>
<td>0.140 ± 0.007</td>
<td>165</td>
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</tbody>
</table>

**Packaging:**

- **1515SQ-47N** 500/7" reel; 200/13" reel Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 4.06 mm pocket depth
- **1515SQ-68N** 500/7" reel; 200/13" reel Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 4.06 mm pocket depth
- **1515SQ-82N** 500/7" reel; 200/13" reel Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 4.06 mm pocket depth

**Recommended Land Pattern**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Strip length</th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>B</th>
<th>F</th>
<th>Weight (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2222SQ-90N</td>
<td>0.205 ± 0.015</td>
<td>0.215 ± 0.010</td>
<td>0.224 ± 0.010</td>
<td>0.175 ± 0.265</td>
<td>0.085 ± 0.085</td>
<td>0.280</td>
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</tr>
<tr>
<td>2222SQ-111</td>
<td>0.250 ± 0.015</td>
<td>0.220 ± 0.010</td>
<td>0.224 ± 0.010</td>
<td>0.230 ± 0.265</td>
<td>0.085 ± 0.085</td>
<td>0.330</td>
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<tr>
<td>2222SQ-131</td>
<td>0.285 ± 0.015</td>
<td>0.220 ± 0.010</td>
<td>0.224 ± 0.010</td>
<td>0.245 ± 0.265</td>
<td>0.085 ± 0.085</td>
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<tr>
<td>2222SQ-161</td>
<td>0.290 ± 0.015</td>
<td>0.220 ± 0.010</td>
<td>0.224 ± 0.010</td>
<td>0.260 ± 0.265</td>
<td>0.085 ± 0.085</td>
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<tr>
<td>2222SQ-221</td>
<td>0.390 ± 0.015</td>
<td>0.220 ± 0.010</td>
<td>0.224 ± 0.010</td>
<td>0.360 ± 0.265</td>
<td>0.350 ± 0.085</td>
<td>0.550</td>
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<tr>
<td>2222SQ-271</td>
<td>0.460 ± 0.015</td>
<td>0.220 ± 0.010</td>
<td>0.224 ± 0.010</td>
<td>0.420 ± 0.265</td>
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<td>2222SQ-301</td>
<td>0.470 ± 0.015</td>
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<td>0.224 ± 0.010</td>
<td>0.440 ± 0.265</td>
<td>0.085 ± 0.085</td>
<td>0.650</td>
<td></td>
</tr>
</tbody>
</table>

All dimensions are in mm.
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Typical Q vs Frequency

Typical L vs Frequency