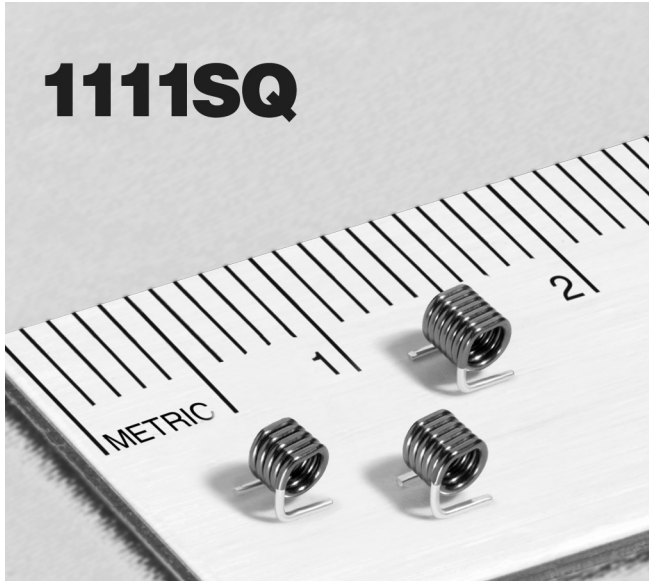


# Square Air Core Inductors – 1111SQ



- Excellent Q factors – 210 at 400 MHz!
- Inductance values from 27 to 47 nH
- Flat top and bottom for reliable pick and place and mechanical stability

**Terminations** RoHS compliant tin-silver over copper

**Environmental** RoHS compliant, halogen free

**Weight** 34 – 50 mg

**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)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

One per billion hours / one billion hours, calculated per Telcordia SR-332

**Packaging** 600/7" reel; 2500/13" reel; Plastic tape: 12 mm wide,

0.35 mm thick, 8 mm pocket spacing, 3.05 mm pocket depth

Recommended pick and place nozzle: OD: 0.054"; ID: 0.031"

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>(nH) | Percent tolerance | Q <sup>3</sup><br>typ | Test frequency<br>(MHz) | SRF min <sup>4</sup><br>(GHz) | DCR (mOhm) |      | Irms <sup>5</sup><br>(A) |
|--------------------------|---------------------------------|-------------------|-----------------------|-------------------------|-------------------------------|------------|------|--------------------------|
|                          |                                 |                   |                       |                         |                               | typ        | max  |                          |
| 1111SQ-27N_E_            | 27                              | <b>5,2</b>        | 200                   | 400                     | 2.60                          | 7.0        | 8.1  | 5.5                      |
| 1111SQ-30N_E_            | 30                              | <b>5,2</b>        | 200                   | 400                     | 2.40                          | 7.2        | 8.3  | 5.5                      |
| 1111SQ-33N_E_            | 33                              | <b>5,2</b>        | 200                   | 400                     | 2.30                          | 8.3        | 9.5  | 4.8                      |
| 1111SQ-36N_E_            | 36                              | <b>5,2</b>        | 200                   | 400                     | 2.30                          | 8.5        | 9.8  | 4.8                      |
| 1111SQ-39N_E_            | 39                              | <b>5,2</b>        | 200                   | 400                     | 2.20                          | 8.7        | 10.0 | 4.8                      |
| 1111SQ-43N_E_            | 43                              | <b>5,2</b>        | 200                   | 400                     | 2.20                          | 9.4        | 10.8 | 4.4                      |
| 1111SQ-47N_E_            | 47                              | <b>5,2</b>        | 200                   | 400                     | 2.20                          | 9.8        | 11.3 | 4.4                      |

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

1111SQ-47N**J**E**C**

**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 (95.5/4/0.5) over copper or S = non-RoHS tin-lead (63/37) over copper.

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel). 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 (2500 parts per full reel). 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.

2. Inductance measured at specified test frequency, 0.1 Vrms, 0 A using an Agilent/HP 4286A LCR meter or equivalent with a Coilcraft CCF1191C test fixture.

3. Q measured at specified test frequency, using an Agilent/HP 4291A impedance analyzer or equivalent.

4. SRF measured using an Agilent/HP 8753 network analyzer or equivalent with a Coilcraft CCF1248 test fixture.

5. Current that causes a 20°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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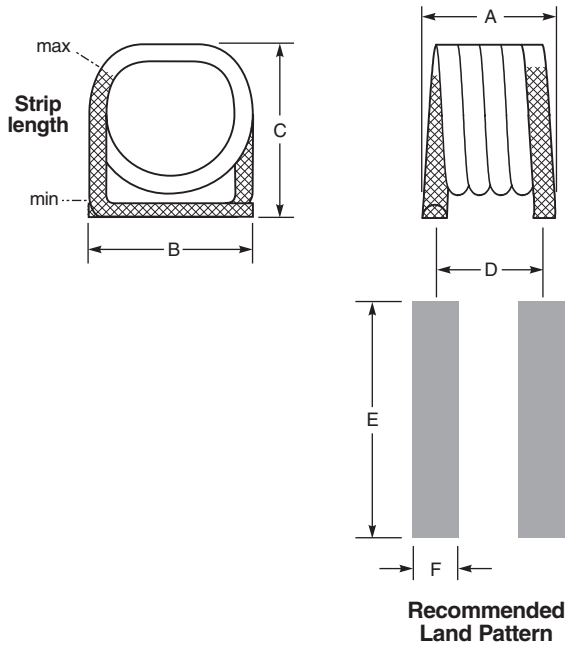
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.



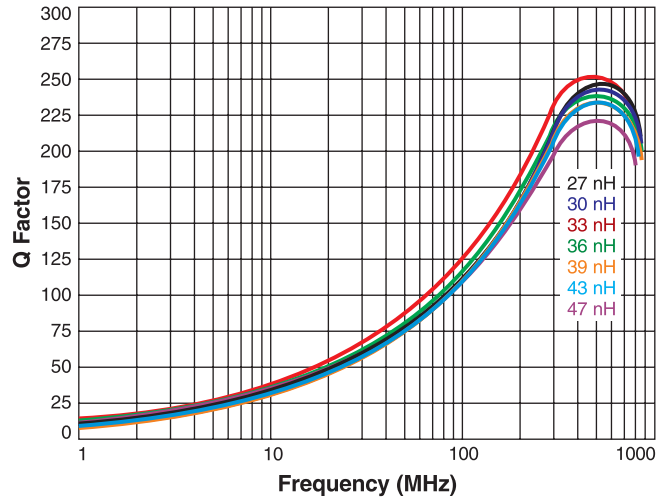
# Square Air Core Inductors – 1111SQ



| Part number | A                           | B                           | C                           | D             | E             | F             |
|-------------|-----------------------------|-----------------------------|-----------------------------|---------------|---------------|---------------|
| 1111SQ-27N  | 0.105±0.010<br>2,67 ±0,254  | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.090<br>2,29 | 0.120<br>3,05 | 0.040<br>1,02 |
| 1111SQ-30N  | 0.105 ±0.010<br>2,67 ±0,254 | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.090<br>2,29 | 0.120<br>3,05 | 0.040<br>1,02 |
| 1111SQ-33N  | 0.115 ±0.010<br>2,92 ±0,254 | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.100<br>2,54 | 0.120<br>3,05 | 0.040<br>1,02 |
| 1111SQ-36N  | 0.115 ±0.010<br>2,92 ±0,254 | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.100<br>2,54 | 0.120<br>3,05 | 0.040<br>1,02 |
| 1111SQ-39N  | 0.115 ±0.010<br>2,92 ±0,254 | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.100<br>2,54 | 0.120<br>3,05 | 0.040<br>1,02 |
| 1111SQ-43N  | 0.130 ±0.010<br>3,30 ±0,254 | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.110<br>2,79 | 0.120<br>3,05 | 0.040<br>1,02 |
| 1111SQ-47N  | 0.130 ±0.010<br>3,30 ±0,254 | 0.105 ±0.015<br>2,67 ±0,381 | 0.110 ±0.005<br>2,79 ±0,127 | 0.110<br>2,79 | 0.120<br>3,05 | 0.040<br>1,02 |

All dimensions are in  $\frac{\text{inches}}{\text{mm}}$ .

## Typical Q vs Frequency



## Typical L vs Frequency

