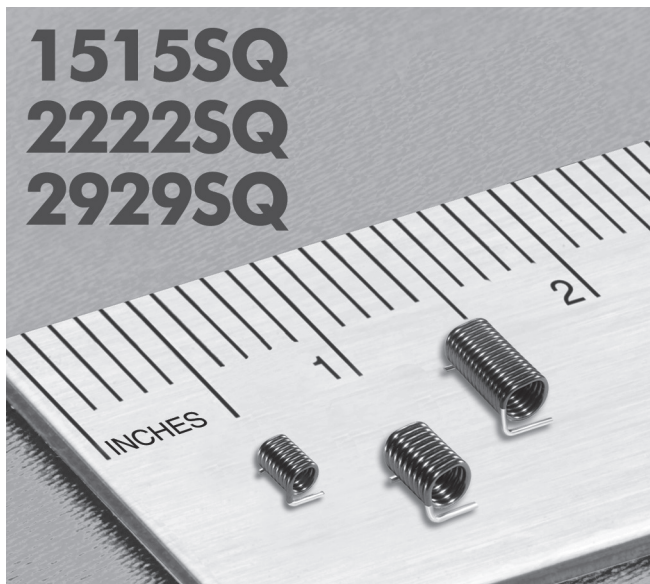


**NEW!**

# 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, +125°C to +145°C with derated current

**Storage temperature** Component: –40°C to +145°C.  
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** Only pure water or alcohol recommended

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	Q <sup>4</sup> typ	Test frequency (MHz)	SRF min <sup>5</sup> (GHz)	DCR max (mOhm)	Irms <sup>6</sup> (A)
1515SQ-47N_E_	47	<b>5,2</b>	230	400	1.87	6.35	4.9
1515SQ-68N_E_	68	<b>5,2</b>	230	400	2.13	8.60	5.5
1515SQ-82N_E_	82	<b>5,2</b>	230	400	1.79	9.40	5.6
2222SQ-90N_E_	90	<b>5,2</b>	140	50	1.15	5.50	5.0
2222SQ-161_E_	160	<b>5,2</b>	140	50	1.00	8.25	5.7
2222SQ-301_E_	300	<b>5,2</b>	150	50	0.720	13.8	3.7
2929SQ-501_E_	500	<b>5,2</b>	150	50	0.485	16.5	4.3

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

1515SQ-82N**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.

**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.

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

2. Inductance measured at specified test frequency, 0.1 Vrms, 0 A using an Agilent/HP 4287A LCR meter with the following Coilcraft test fixtures: CCF1191C for 1515SQ; CCF1197A for 2222SQ and 2929SQ.

3. Tolerances in bold are stocked for immediate shipment.

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

5. SRF measured using an Agilent/HP 8753 network analyzer and the following Coilcraft test fixtures: CCF1143 for 1515SQ; CCF1199 for 2222SQ-90N and 2222SQ-161; CCF1200 for 2222SQ-301 and 2929SQ-501.

6. Current that causes a 20°C temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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

**S-Parameter files**  
ON OUR WEB SITE

**SPICE models**  
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www.coilcraft.com

**US** +1-847-639-6400 sales@coilcraft.com

**UK** +44-1236-730595 sales@coilcraft-europe.com

**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw

**China** +86-21-6218 8074 sales@coilcraft.com.cn

**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

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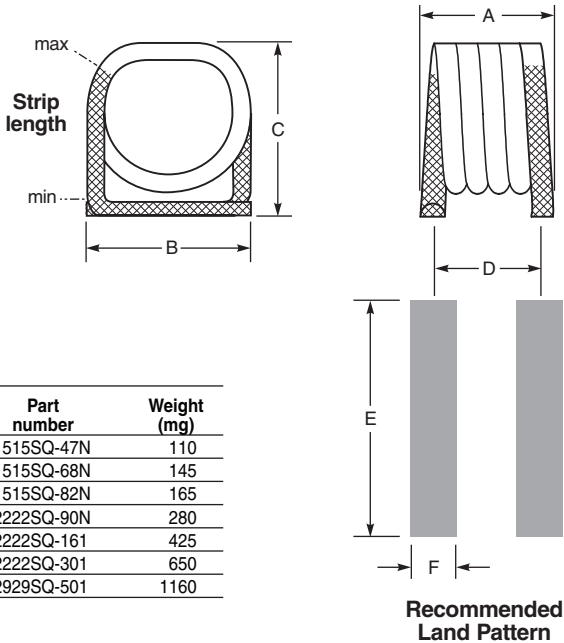
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**NEW!**

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



Part number	Weight (mg)
1515SQ-47N	110
1515SQ-68N	145
1515SQ-82N	165
2222SQ-90N	280
2222SQ-161	425
2222SQ-301	650
2929SQ-501	1160

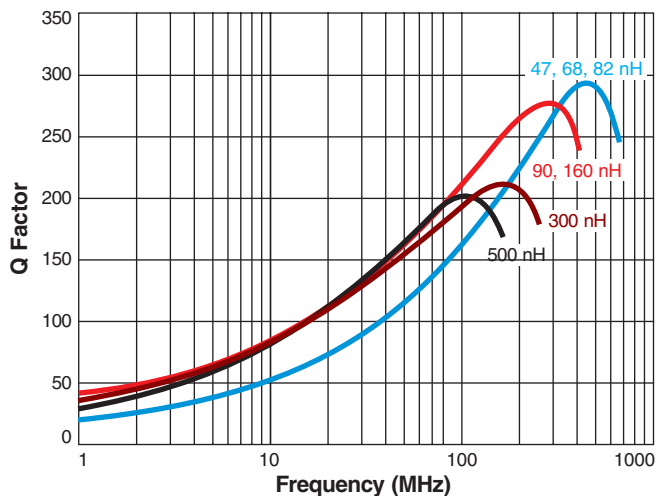
Part number	A	B	C	D	E	F
1515SQ-47N	0.160 ± 0.010 4.06 ± 0.254	0.140 ± 0.007 3.56 ± 0.178	0.147 ± 0.007 3.73 ± 0.178	0.140 3.56	0.175 4.45	0.070 1.78
1515SQ-68N	0.210 ± 0.010 5.33 ± 0.254	0.140 ± 0.007 3.56 ± 0.178	0.147 ± 0.007 3.73 ± 0.178	0.190 4.83	0.175 4.45	0.070 1.78
1515SQ-82N	0.230 ± 0.010 5.84 ± 0.254	0.140 ± 0.007 3.56 ± 0.178	0.147 ± 0.007 3.73 ± 0.178	0.210 5.33	0.175 4.45	0.070 1.78
2222SQ-90N	0.205 ± 0.015 5.21 ± 0.381	0.215 ± 0.010 5.46 ± 0.254	0.224 ± 0.010 5.69 ± 0.254	0.175 4.45	0.255 6.48	0.085 2.16
2222SQ-161	0.290 ± 0.015 7.37 ± 0.381	0.225 ± 0.010 5.72 ± 0.254	0.224 ± 0.010 5.69 ± 0.254	0.260 6.60	0.265 6.73	0.085 2.16
2222SQ-301	0.470 ± 0.015 11.94 ± 0.381	0.225 ± 0.010 5.72 ± 0.254	0.224 ± 0.010 5.69 ± 0.254	0.440 11.18	0.265 6.73	0.085 2.16
2929SQ-501	0.550 ± 0.015 14.10 ± 0.381	0.295 ± 0.010 7.49 ± 0.254	0.285 ± 0.010 7.24 ± 0.254	0.520 13.21	0.325 8.26	0.09 2.29

All dimensions are in inches/mm.

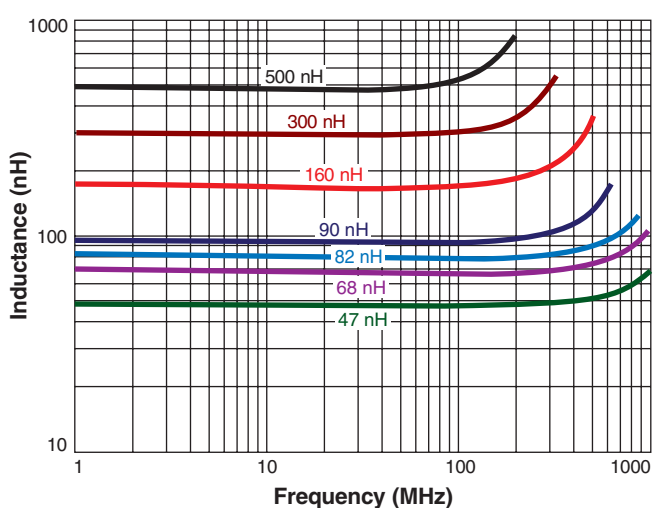
**Packaging:**

- 1515SQ-47N** 500/7" reel; 2000/13" reel Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 4.06 mm pocket depth
- 1515SQ-68N** 500/7" reel; 2000/13" reel Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 4.06 mm pocket depth
- 1515SQ-82N** 500/7" reel; 2000/13" reel Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 4.06 mm pocket depth
- 2222SQ-90N** 250/7" reel; 750/13" reel Plastic tape: 16 mm wide, 0.32 mm thick, 12 mm pocket spacing, 5.97 mm pocket depth
- 2222SQ-161** 250/7" reel; 750/13" reel Plastic tape: 16 mm wide, 0.33 mm thick, 12 mm pocket spacing, 5.97 mm pocket depth
- 2222SQ-301** 250/7" reel; 750/13" reel Plastic tape: 24 mm wide, 0.33 mm thick, 12 mm pocket spacing, 5.97 mm pocket depth
- 2929SQ-501** 150/7" reel; 600/13" reel Plastic tape: 24 mm wide, 0.33 mm thick, 12 mm pocket spacing, 7.49 mm pocket depth

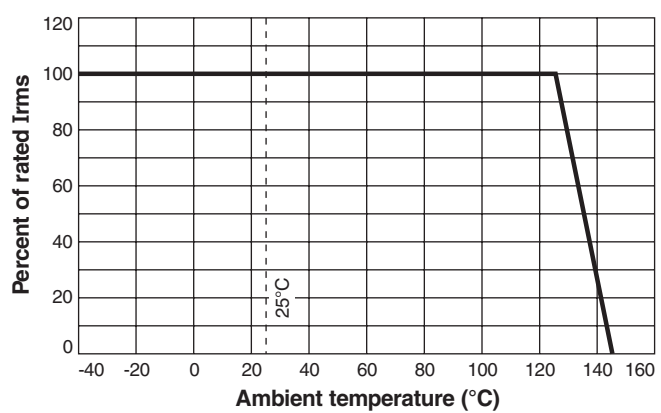
**Typical Q vs Frequency**



**Typical L vs Frequency**



**Irms Derating**



**US** +1-847-639-6400 sales@coilcraft.com  
**UK** +44-1236-730595 sales@coilcraft-europe.com  
**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw  
**China** +86-21-6218 8074 sales@coilcraft.com.cn  
**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

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