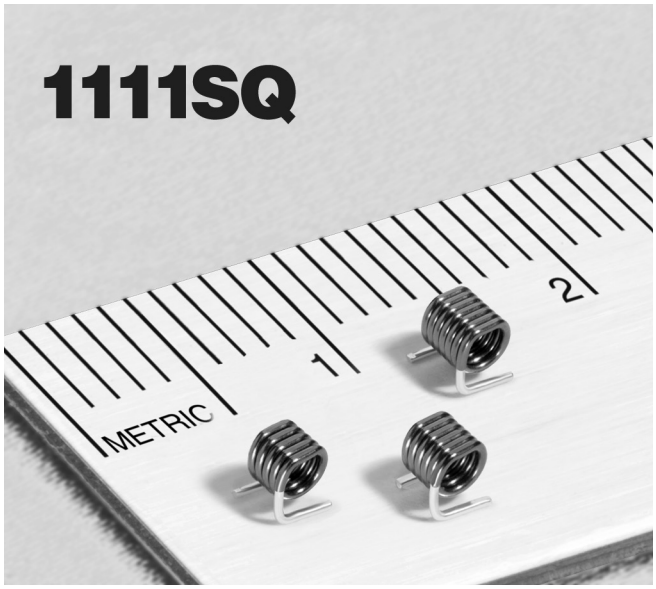
Square Air Core Inductors – 1111SQ



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

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

1111SQ-47NJEC

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).
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 (2500 parts per full reel). Factory order only, not stocked.

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 CCF1143 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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Document 990-1 Revised 10/12/15

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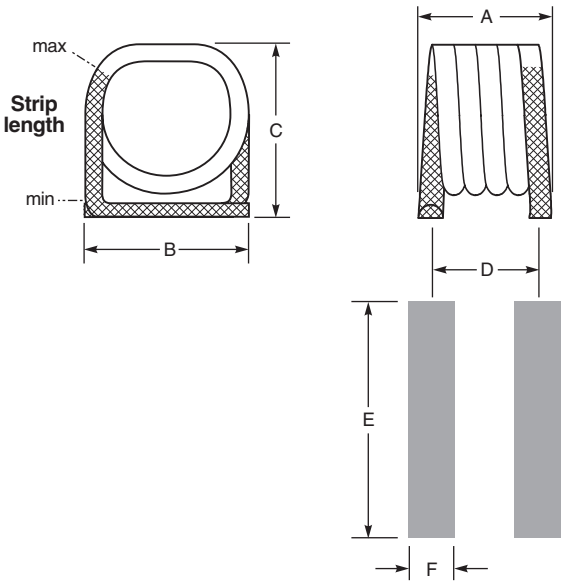
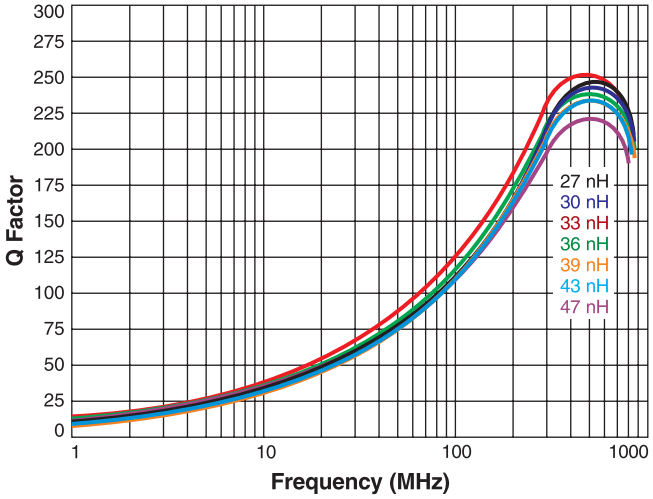


Recommended Land Pattern

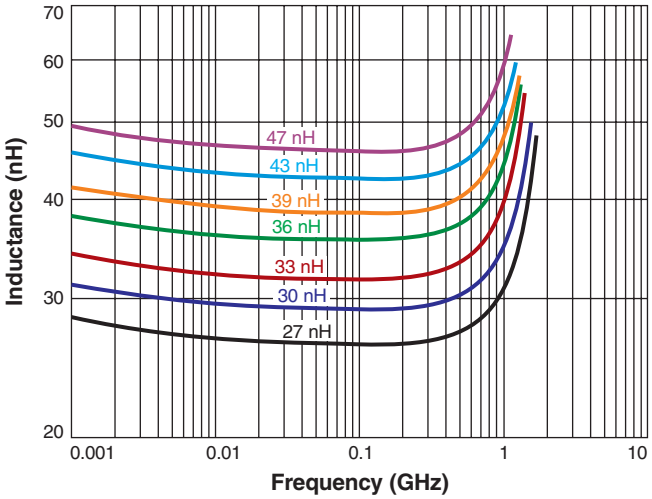
Part number	A	B	C	D	E	F
1111SQ-27N	0.105±0.010 2,67 ±0,254	0.105 ±0.015 2,67 ±0,381	0.110 ±0.005 2,79 ±0,127	0.090 2,29	0.120 3,05	0.040 1,02
1111SQ-30N	0.105 ±0.010 2,67 ±0,254	0.105 ±0.015 2,67 ±0,381	0.110 ±0.005 2,79 ±0,127	0.090 2,29	0.120 3,05	0.040 1,02
1111SQ-33N	0.115 ±0.010 2,92 ±0,254	0.105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

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

Typical Q vs Frequency



Typical L vs Frequency



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