



Square Air Core Inductors



- Excellent Q factors – up to 130; current ratings up to 4.4 Amps!
- 20 values from 5.5 to 27 nH, at 5% and 2% tolerance
- Flat top and bottom for reliable pick and place and mechanical stability

Designer's Kit C424 contains 10 each of all 5% values;
Designer's Kit C424-2 contains 10 each of all 2% values

Environmental RoHS compliant, halogen free

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 +125°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)

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) | % tol ³ | Q ⁴ typ | SRF typ ⁵ (GHz) | DCR max (mOhm) | Irms ⁶ (A) |
|--------------------------|---------------------------------|-----------------------|-----------------------|----------------------------------|----------------------|--------------------------|
| 0806SQ-5N5_L_ | 5.5 | 5,2 | 60 | 4.9 | 3.4 | 2.9 |
| 0806SQ-6N0_L_ | 6.0 | 5,2 | 64 | 5.2 | 6.0 | 2.9 |
| 0806SQ-8N9_L_ | 8.9 | 5,2 | 90 | 4.3 | 7.0 | 2.9 |
| 0806SQ-12N_L_ | 12.3 | 5,2 | 90 | 4.8 | 8.0 | 2.9 |
| 0806SQ-16N_L_ | 15.7 | 5,2 | 90 | 4.4 | 9.0 | 2.9 |
| 0806SQ-19N_L_ | 19.4 | 5,2 | 90 | 4.0 | 10.0 | 2.9 |
| 0807SQ-6N9_L_ | 6.9 | 5,2 | 100 | 4.6 | 6.0 | 2.7 |
| 0807SQ-10N_L_ | 10.2 | 5,2 | 100 | 4.0 | 7.0 | 2.7 |
| 0807SQ-11N_L_ | 11.2 | 5,2 | 90 | 3.6 | 6.3 | 2.7 |
| 0807SQ-14N_L_ | 13.7 | 5,2 | 100 | 4.3 | 8.0 | 2.7 |
| 0807SQ-17N_L_ | 17.0 | 5,2 | 100 | 4.0 | 9.0 | 2.7 |
| 0807SQ-22N_L_ | 22.0 | 5,2 | 100 | 3.5 | 10.0 | 2.7 |
| 0908SQ-8N1_L_ | 8.1 | 5,2 | 130 | 5.2 | 6.0 | 4.4 |
| 0908SQ-12N_L_ | 12.1 | 5,2 | 130 | 4.3 | 7.0 | 4.4 |
| 0908SQ-14N_L_ | 14.7 | 5,2 | 90 | 3.0 | 7.2 | 4.4 |
| 0908SQ-17N_L_ | 16.6 | 5,2 | 130 | 3.4 | 8.0 | 4.4 |
| 0908SQ-22N_L_ | 21.5 | 5,2 | 130 | 3.7 | 9.0 | 4.4 |
| 0908SQ-23N_L_ | 23.0 | 5,2 | 120 | 2.6 | 10.0 | 4.4 |
| 0908SQ-25N_L_ | 25.0 | 5,2 | 130 | 2.5 | 10.0 | 4.4 |
| 0908SQ-27N_L_ | 27.3 | 5,2 | 130 | 3.2 | 10.0 | 4.4 |

1. Please specify **tolerance**, **termination** and **packaging** codes:

0908SQ-27NGLC

Tolerance: **G** = 2%, **J** = 5% (Table shows stock tolerances in bold.)

Termination: **L** = 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
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).

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.

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

- Inductance measured at 400 MHz, 0.1 Vrms, 0 A using an Agilent/HP 4287A LCR meter or equivalent with a Coilcraft CCF1166 test fixture and Coilcraft-provided correlation pieces.
 - Tolerances in bold are stocked for immediate shipment.
 - Q measured at 400 MHz using an Agilent/HP 4291A impedance analyzer or equivalent.
 - SRF measured using an Agilent/HP 8753 network analyzer and a Coilcraft CCF1142 test fixture.
 - 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.
 - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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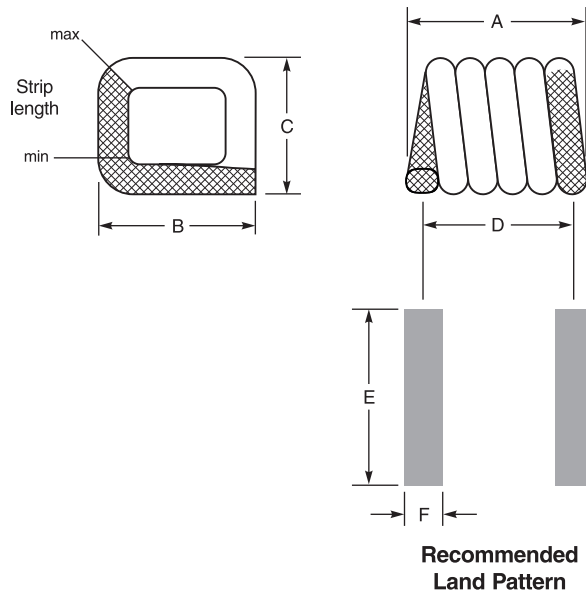
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Square Air Core Inductors



Packaging 2000/7" reel; 7500/13" reel
Plastic tape: 12 mm wide, 0.254 mm thick, 4 mm pocket spacing

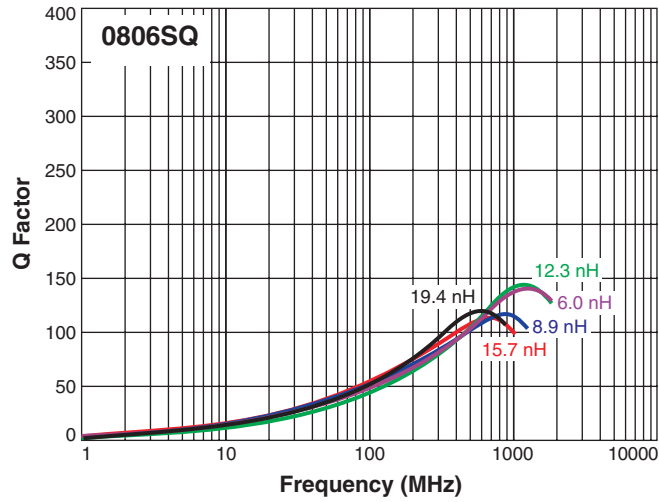
| Part number | A | B | C | D | E | F | Weight (mg) | Tape pocket depth (mm) |
|-------------|--------------|--------------|--------------|-------|-----|------|-------------|------------------------|
| 0806SQ-5N5 | 1,346 ±0,102 | 1,829 ±0,254 | 1,397 ±0,102 | 0,962 | 2,6 | 0,51 | 9,9 | 1,42 |
| 0806SQ-6N0 | 1,295 ±0,102 | 1,829 ±0,254 | 1,397 ±0,102 | 1,02 | 2,6 | 0,51 | 8,5 | 1,42 |
| 0806SQ-8N9 | 1,626 ±0,152 | 1,829 ±0,254 | 1,397 ±0,102 | 1,32 | 2,6 | 0,51 | 10,8 | 1,55 |
| 0806SQ-12N | 1,930 ±0,152 | 1,829 ±0,254 | 1,397 ±0,102 | 1,63 | 2,6 | 0,51 | 13,6 | 1,52 |
| 0806SQ-16N | 2,286 ±0,152 | 1,829 ±0,254 | 1,397 ±0,102 | 1,96 | 2,6 | 0,51 | 16,1 | 1,50 |
| 0806SQ-19N | 2,591 ±0,152 | 1,829 ±0,254 | 1,397 ±0,102 | 2,29 | 2,6 | 0,51 | 18,7 | 1,55 |
| <hr/> | | | | | | | | |
| 0807SQ-6N9 | 1,295 ±0,102 | 1,829 ±0,254 | 1,524 ±0,254 | 1,02 | 2,6 | 0,51 | 9,1 | 1,60 |
| 0807SQ-10N | 1,626 ±0,152 | 1,829 ±0,254 | 1,524 ±0,254 | 1,32 | 2,6 | 0,51 | 11,5 | 1,57 |
| 0807SQ-11N | 1,549 ±0,152 | 1,829 ±0,254 | 1,524 ±0,254 | 1,24 | 2,6 | 0,51 | 11,5 | 1,55 |
| 0807SQ-14N | 1,930 ±0,152 | 1,829 ±0,254 | 1,524 ±0,254 | 1,63 | 2,6 | 0,51 | 14,0 | 1,60 |
| 0807SQ-17N | 2,286 ±0,152 | 1,829 ±0,254 | 1,524 ±0,254 | 1,96 | 2,6 | 0,51 | 16,8 | 1,68 |
| 0807SQ-22N | 2,591 ±0,152 | 1,829 ±0,254 | 1,524 ±0,254 | 2,29 | 2,6 | 0,51 | 19,4 | 1,68 |
| <hr/> | | | | | | | | |
| 0908SQ-8N1 | 1,473 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 1,12 | 2,8 | 0,64 | 12,8 | 2,01 |
| 0908SQ-12N | 1,854 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 1,45 | 2,8 | 0,64 | 16,9 | 1,96 |
| 0908SQ-14N | 1,549 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 1,24 | 2,8 | 0,64 | 13,5 | 1,52 |
| 0908SQ-17N | 2,210 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 1,83 | 2,8 | 0,64 | 21,1 | 2,01 |
| 0908SQ-22N | 2,565 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 2,18 | 2,8 | 0,64 | 24,7 | 1,98 |
| 0908SQ-23N | 2,235 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 1,90 | 2,8 | 0,64 | 19,2 | 1,98 |
| 0908SQ-25N | 2,972 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 2,57 | 2,8 | 0,64 | 27,6 | 2,01 |
| 0908SQ-27N | 2,972 ±0,152 | 2,134 ±0,152 | 1,829 ±0,203 | 2,57 | 2,8 | 0,64 | 28,7 | 2,01 |

All dimensions are in mm.

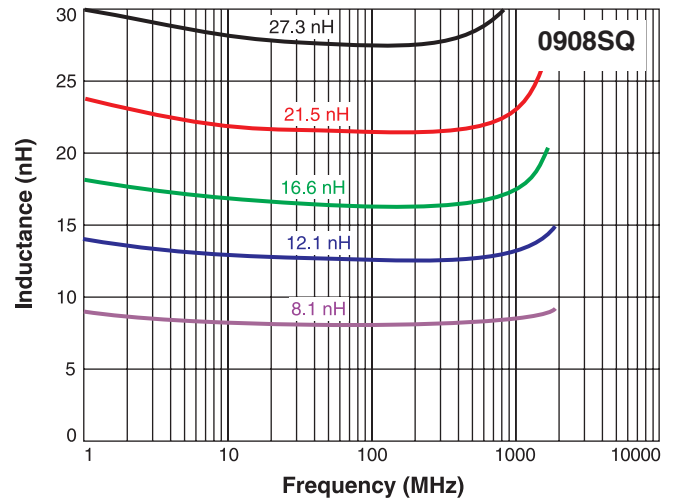
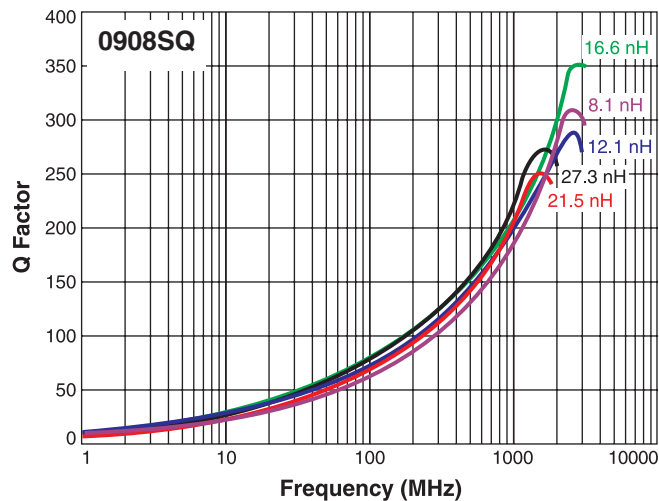
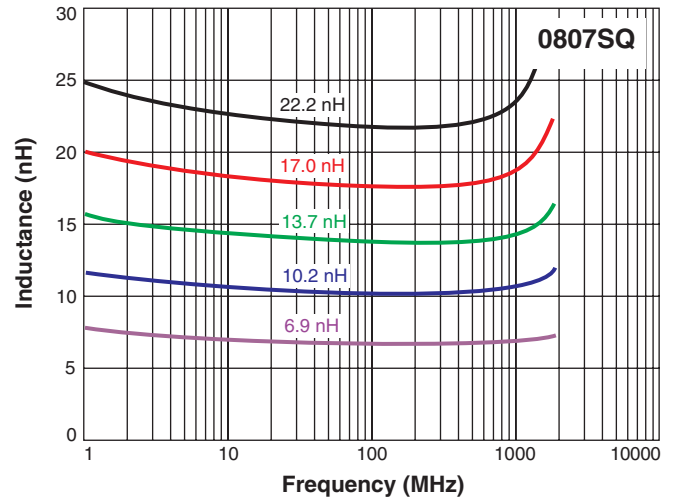
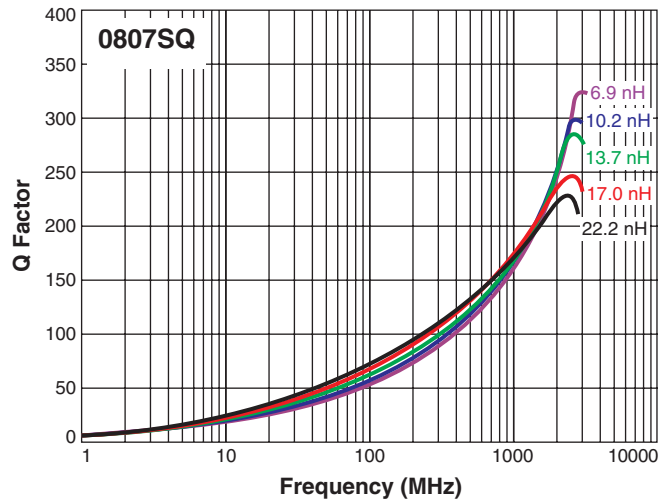
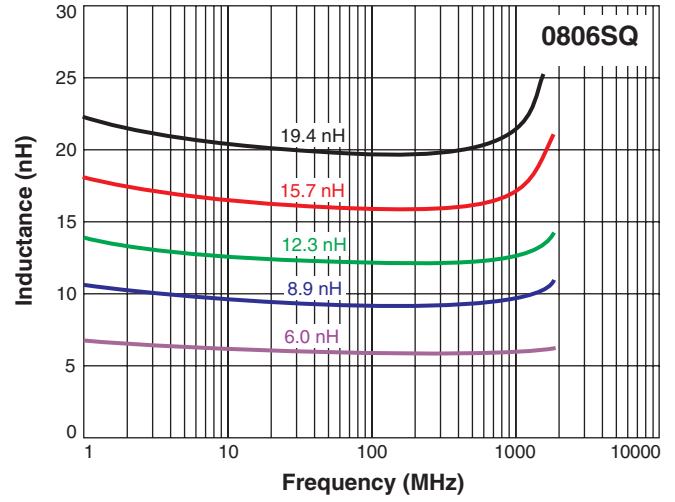


Square Air Core Inductors

Typical Q vs Frequency



Typical L vs Frequency



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