

200°C Air Core Inductors

AT426RAT
AT446RAT



- Only 2 mm tall
- High Q over a wide range of frequencies
- Low DCR and excellent current handling capability
- Special materials allow operation in ambient temperatures as low as -60°C and up to 200°C .
- Passes NASA low outgassing specifications

Terminations Tin-lead (63/37) over copper

Ambient temperature -60°C to $+155^{\circ}\text{C}$ with I_{max} current

Maximum part temperature $+200^{\circ}\text{C}$ (ambient + temp rise).

Storage temperature Component: -60°C to $+200^{\circ}\text{C}$.

Packaging: -55°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) $+5$ to $+70$ ppm/ $^{\circ}\text{C}$

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

Enhanced crush-resistant packaging 1000 per 7" reel
Plastic tape: 2 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.2 mm pocket depth

Part number ¹	Turns	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (GHz)	DCR max ⁵ (mOhm)	I _{max} (A)	Wt (mg)
AT426RAT5N5_SZ	3	5.5	5,2	115	5.0	2.6	4.0	60
AT426RAT9N0_SZ	4	9.0	5,2	120	4.0	3.4	4.0	75
AT426RAT13N_SZ	5	13.0	5,2	100	3.0	3.9	4.0	90
AT446RAT16N_SZ	7	16.0	5,2	110	3.0	5.2	4.0	127
AT446RAT18N_SZ	8	18.0	5,2	110	2.9	6.0	4.0	136
AT446RAT23N_SZ	9	23.0	5,2	110	2.6	6.8	4.0	153
AT446RAT27N_SZ	10	27.0	5,2	110	2.3	7.9	4.0	169

1. When ordering, specify **tolerance** and **screening** codes:

AT446RAT27NGSZ

Tolerance: G = 2% J = 5%

Screening: Z = Unscreened

H = Coilcraft CP-SA-10001 Group A

F = ESCC3201 (F4 operational life performed at 90°C)

1 = EEE-INST-002 (Family 3) Level 1

2 = EEE-INST-002 (Family 3) Level 2

3 = EEE-INST-002 (Family 3) Level 3

4 = MIL-STD-981 (Family 50) Class B

5 = MIL-STD-981 (Family 50) Class S

• Screening performed to the document's latest revision.

• Screening not available for parts with 2% tolerance.

• Testing is performed using 155°C as max component temperature.

• Lot qualification (Group B) available.

• Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.

• Country of origin restrictions available; prefix option G.

2. Inductance measured at 250 MHz on an Agilent/HP 4286A or equivalent with a Coilcraft SMD-A test fixture and correlation.

3. Q measured at 250 MHz on an Agilent/HP 4291A or equivalent with a 16193A test fixture or equivalent.

4. SRF measured on an Agilent/HP 8753ES or equivalent with a Coilcraft CCF1268 test fixture.

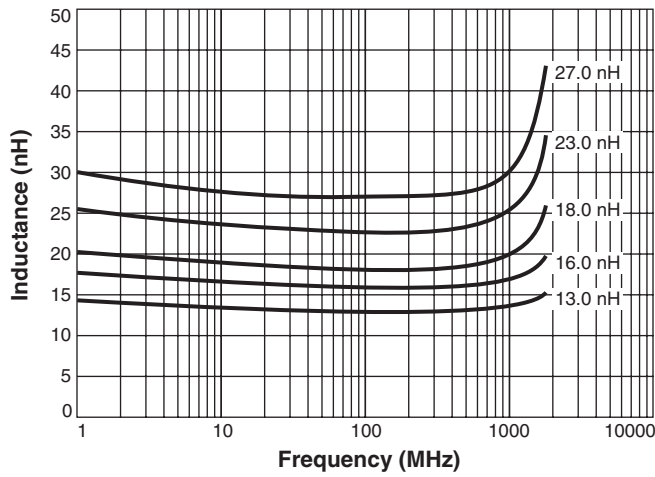
5. DCR measured on a Keithley 580 Micro-Ohmmeter or equivalent.

6. Electrical specifications at 25°C .

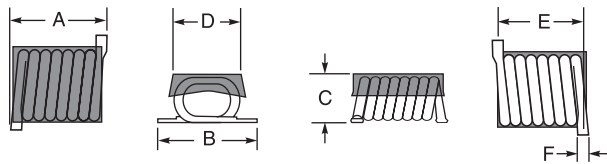
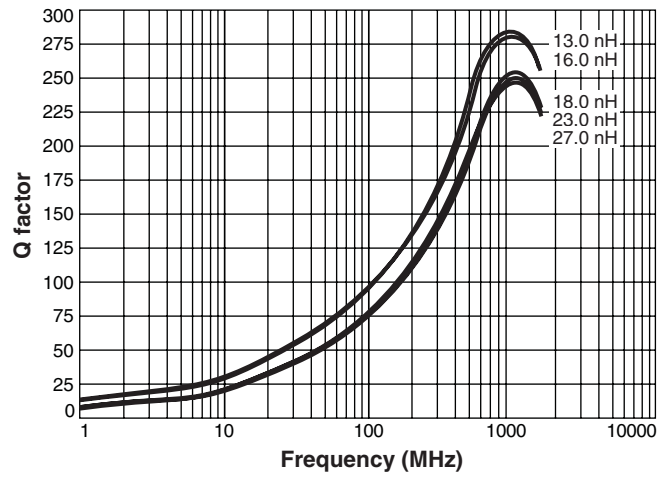
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

AT426RAT/AT446RAT Low Profile Air Core Inductors

Typical L vs Frequency

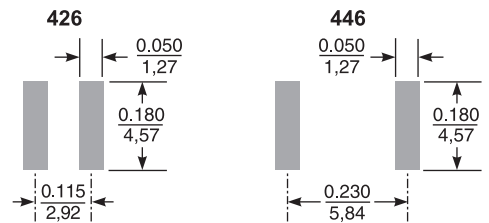


Typical Q vs Frequency

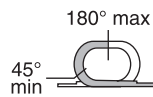


Size	A max	B max	C max	D	E	F max
426	0.155 3,94	0.165 4,19	0.079 2,01	0.135 3,43	0.115 ±0.015 2,92 ±0,38	0.029 0,74
446	0.270 6,86	0.165 4,19	0.079 2,01	0.135 3,43	0.230 ±0.015 5,84 ±0,38	0.029 0,74

Suggested Land Patterns



Strip Length



Dimensions are in inches/mm