

# 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  $-60^{\circ}\text{C}$  and up to  $200^{\circ}\text{C}$ .
- Passes NASA low outgassing specifications
- Tin-lead (Sn-Pb) terminations ensure the best possible board adhesion

Part number <sup>1</sup>	Turns	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	SRF min <sup>4</sup> (GHz)	DCR max <sup>5</sup> (mOhm)	Imax (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 **testing** codes:

AT446RAT27N**GSZ**

**Tolerance:** G = 2% J = 5%

**Testing:** Z = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

T = Screening per MIL-STD-981

U = Screening per EEE-INST-002

F = Screening per ESCC 3201

All screening performed to the document's latest revision  
Custom screening also available

Testing is performed using  $155^{\circ}\text{C}$  as max component  
temperature

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  $25^{\circ}\text{C}$ .
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Terminations** Tin-lead (63/37) over copper

**Ambient temperature**  $-60^{\circ}\text{C}$  to  $+155^{\circ}\text{C}$  with Imax current

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

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

Packaging:  $-55^{\circ}\text{C}$  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/ $^{\circ}\text{C}$

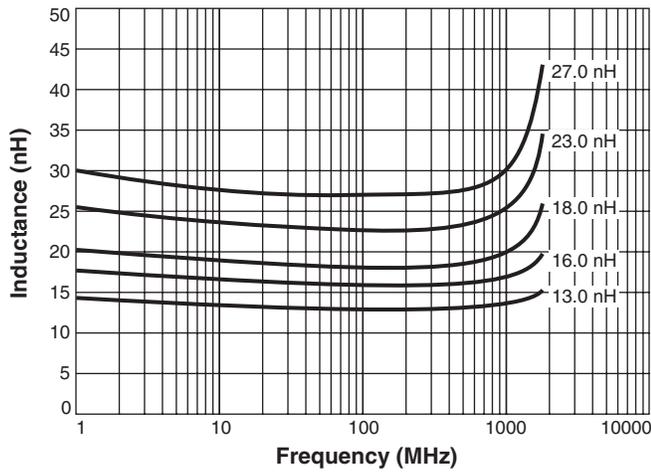
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 85% relative humidity)

**Enhanced crush-resistant packaging** 1000 per 7" reel

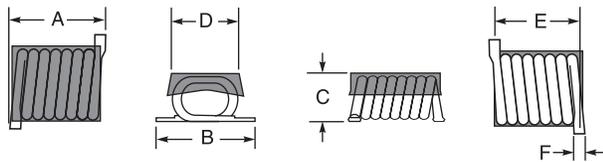
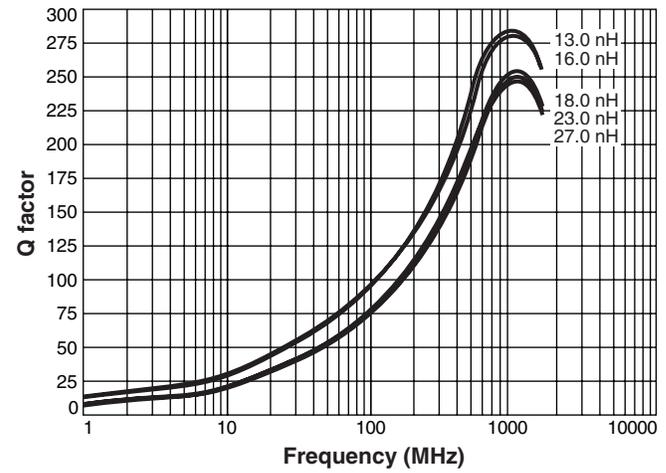
Plastic tape: 2 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.2 mm pocket depth

# AT426RAT/AT446RAT Low Profile Air Core Inductors

## Typical L vs Frequency

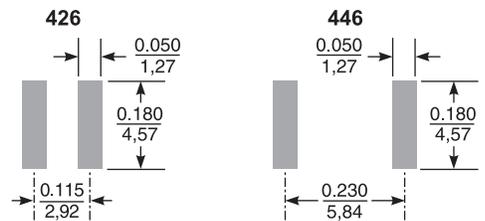


## Typical Q vs Frequency

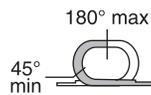


Size	A max	B max	C max	D	E	F max
426	0.155 3,94	0.165 4,19	0.079 2,01	0.135 3,43	0.115 ±0.015 2,92 ±0,38	0.029 0,74
446	0.270 6,86	0.165 4,19	0.079 2,01	0.135 3,43	0.230 ±0.015 5,84 ±0,38	0.029 0,74

### Suggested Land Patterns



### Strip Length



Dimensions are in inches/mm