

# Outgassing Compliant Air Core Inductors

AE426RAT  
AE446RAT



- Only 2 mm tall
- High Q over a wide range of frequencies
- Low DCR and excellent current handling capability
- High temperature materials allow operation in ambient temperatures up to 155°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)
AE426RAT5N5_SZ	3	5.5	5,2	115	5.0	2.6	4.0	60
AE426RAT9N0_SZ	4	9.0	5,2	120	4.0	3.4	4.0	75
AE426RAT13N_SZ	5	13.0	5,2	100	3.0	3.9	4.0	90
AE446RAT16N_SZ	7	16.0	5,2	110	3.0	5.2	4.0	127
AE446RAT18N_SZ	8	18.0	5,2	110	2.9	6.0	4.0	136
AE446RAT23N_SZ	9	23.0	5,2	110	2.6	6.8	4.0	153
AE446RAT27N_SZ	10	27.0	5,2	110	2.3	7.9	4.0	169

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

AE446RAT27NGSZ

**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

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.

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

**Ambient temperature** -55°C to +125°C with I<sub>max</sub> current

**Maximum part temperature** +155°C (ambient + temp rise).

**Storage temperature** Component: -55°C to +155°C.

Tape and reel packaging: -55°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)

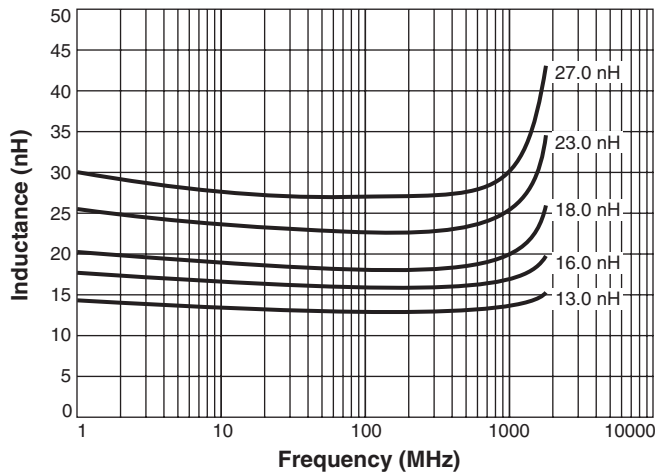
**Enhanced crush-resistant packaging** 1000 per 7" reel

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

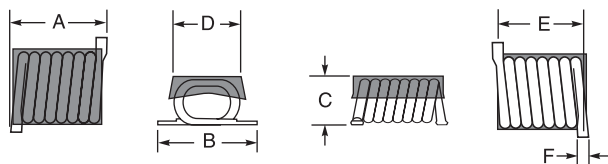
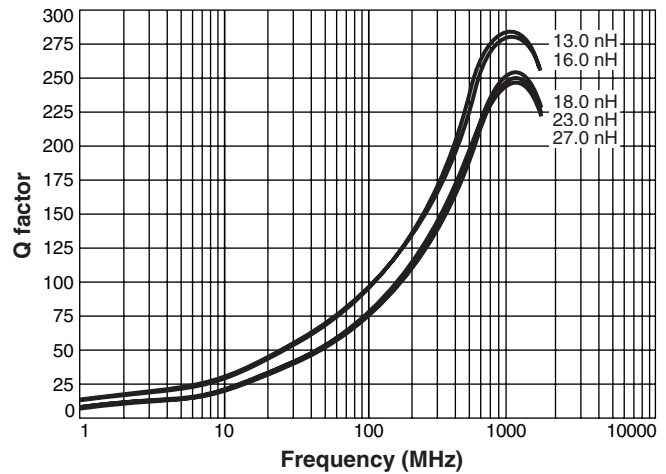


# AE426RAT/AE446RAT Low Profile Air Core Inductors

## Typical L vs Frequency

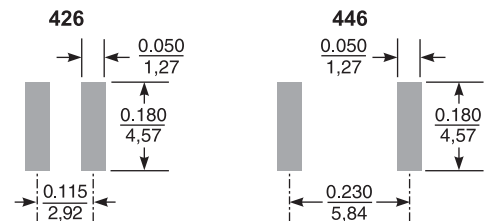


## Typical Q vs Frequency

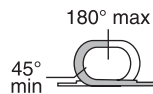


Size	A max	B max	C max	D	E	F max
426	0.155 3,94	0.165 4,19	0.079 2,01	0.135 3,43	0.115 ±0.015 2,92 ±0,38	0.029 0,74
446	0.270 6,86	0.165 4,19	0.079 2,01	0.135 3,43	0.230 ±0.015 5,84 ±0,38	0.029 0,74

### Suggested Land Patterns



### Strip Length



Dimensions are in inches/mm