

# 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	52
AE426RAT9N0_SZ	4	9.0	5,2	120	4.0	3.4	4.0	65
AE426RAT13N_SZ	5	13.0	5,2	100	3.0	3.9	4.0	78
AE446RAT16N_SZ	7	16.0	5,2	110	3.0	5.2	4.0	110
AE446RAT18N_SZ	8	18.0	5,2	110	2.9	6.0	4.0	118
AE446RAT23N_SZ	9	23.0	5,2	110	2.6	6.8	4.0	133
AE446RAT27N_SZ	10	27.0	5,2	110	2.3	7.9	4.0	147

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

AE446RAT27N **G** **SZ**

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

**Testing:** **Z** = COTS

**H** = Screening per Coilcraft CP-SA-10001

**N** = Screening per Coilcraft CP-SA-10003

**C** = Custom screening (please specify when ordering)

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 16193-A test fixture or equivalent.

4. SRF measured on an Agilent/HP 8722ES or equivalent and a test fixture with an air gap.

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, +125°C to +155°C with derated current

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

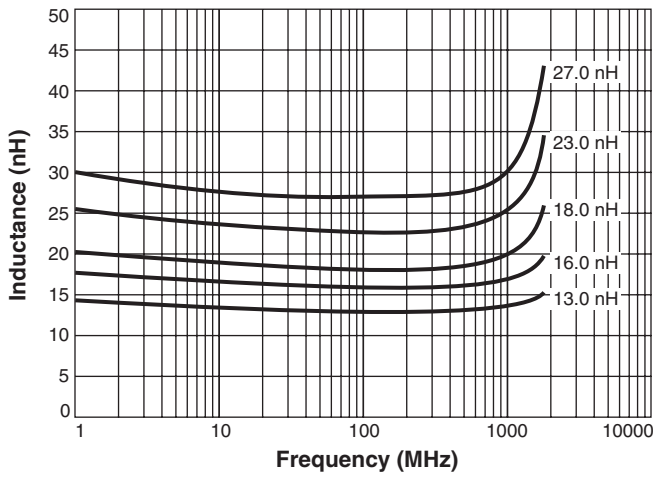
**Temperature Coefficient of Inductance (TCL)** +5 to +70 ppm/°C

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

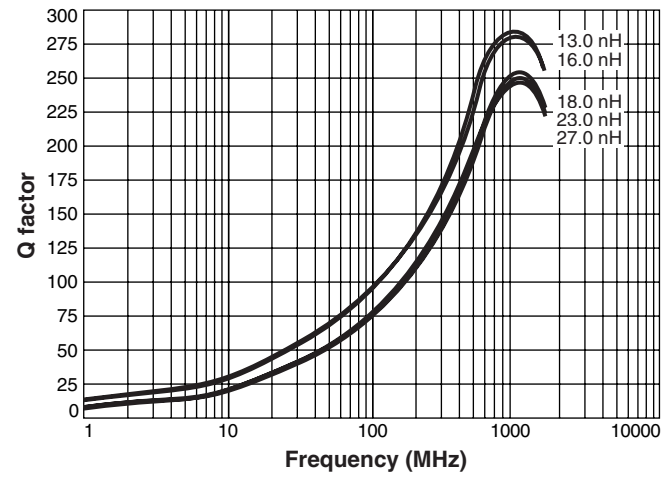
**Enhanced crush-resistant packaging** 1000 per 7" reel  
Plastic tape: 2 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.2 mm pocket depth

# AE426RAT / AE446RAT Low Profile Air Core Inductors

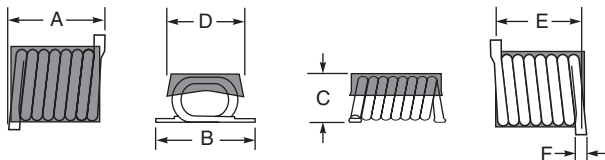
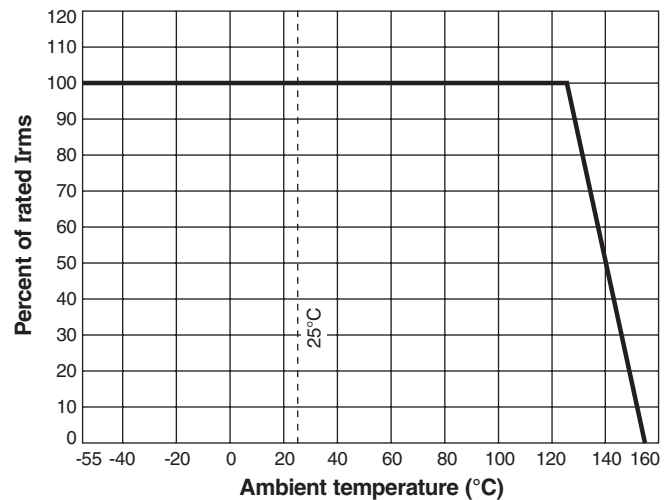
## Typical L vs Frequency



## Typical Q vs Frequency

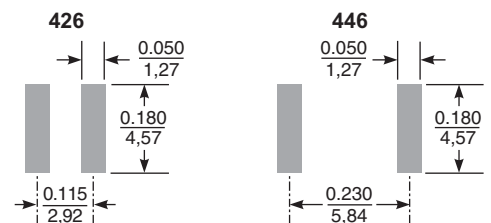


## Typical Current Derating

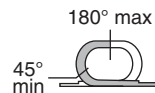


Size	A max	B max	C max	D	E	F max
426	0.155 3,94	0.165 4,19	0.079 2,01	0.135 3,43	0.115 ±0.015 2,92 ±0,38	0.029 0,74
446	0.270 6,86	0.165 4,19	0.079 2,01	0.135 3,43	0.230 ±0.015 5,84 ±0,38	0.029 0,74

## Suggested Land Patterns



## Strip Length



Dimensions are in inches/mm