

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 ¹ | Turns | Inductance ² (nH) | Percent tolerance | Q min ³ | SRF min ⁴ (GHz) | DCR max ⁵ (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:

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_{max} 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

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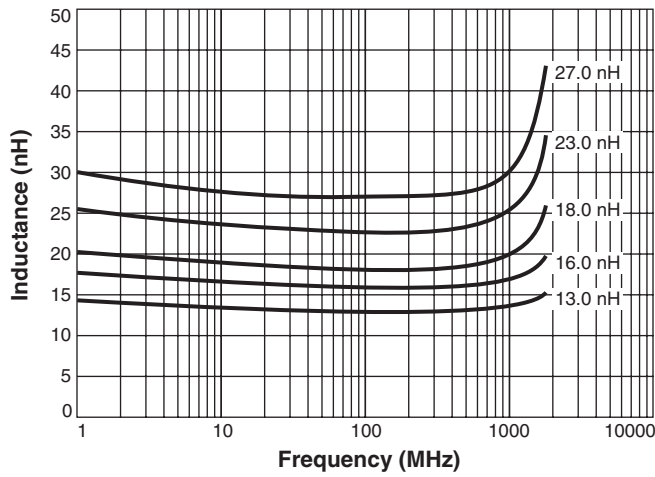
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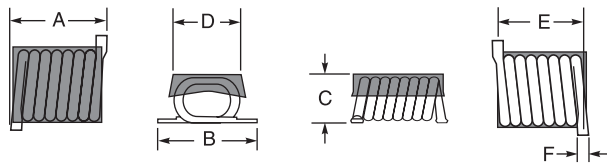
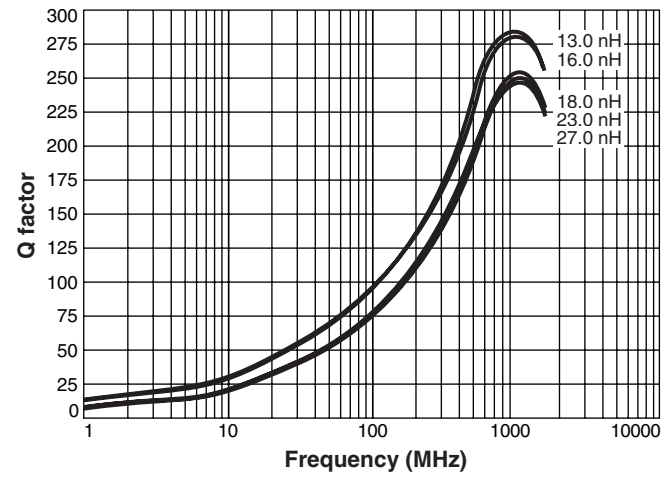
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

AE426RAT/AE446RAT Low Profile Air Core Inductors

Typical L vs Frequency

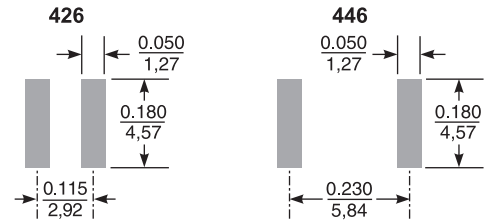


Typical Q vs Frequency

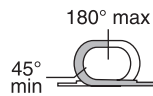


| Size | A max | B max | C max | D | E | F max |
|------|---------------|---------------|---------------|---------------|----------------------------|---------------|
| 426 | 0.155 3,94 | 0.165 4,19 | 0.079 2,01 | 0.135 3,43 | 0.115 ±0.015 2,92 ±0,38 | 0.029 0,74 |
| 446 | 0.270 6,86 | 0.165 4,19 | 0.079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