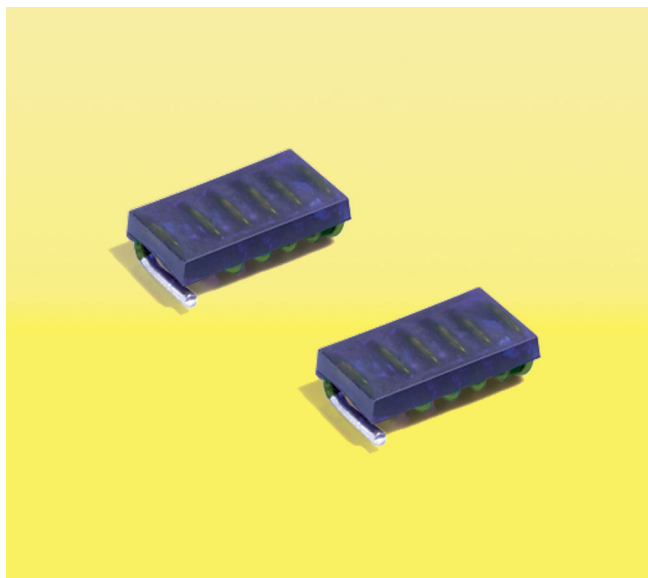


# High-Reliability Air Core Inductors

ML426RAT  
ML446RAT



- 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.

| Part number <sup>1</sup> | Turns | Inductance <sup>2</sup><br>(nH) | Percent<br>tolerance | Q<br>min <sup>3</sup> | SRF min <sup>4</sup><br>(GHz) | DCR max <sup>5</sup><br>(mOhm) | Imax<br>(A) | Wt<br>(mg) |
|--------------------------|-------|---------------------------------|----------------------|-----------------------|-------------------------------|--------------------------------|-------------|------------|
| ML426RAT5N5_LZ           | 3     | 5.5                             | 5,2                  | 115                   | 5.0                           | 2.6                            | 4.0         | 52         |
| ML426RAT9N0_LZ           | 4     | 9.0                             | 5,2                  | 120                   | 4.0                           | 3.4                            | 4.0         | 65         |
| ML426RAT13N_LZ           | 5     | 13.0                            | 5,2                  | 100                   | 3.0                           | 3.9                            | 4.0         | 78         |
| ML446RAT16N_LZ           | 7     | 16.0                            | 5,2                  | 110                   | 3.0                           | 5.2                            | 4.0         | 110        |
| ML446RAT18N_LZ           | 8     | 18.0                            | 5,2                  | 110                   | 2.9                           | 6.0                            | 4.0         | 118        |
| ML446RAT23N_LZ           | 9     | 23.0                            | 5,2                  | 110                   | 2.6                           | 6.8                            | 4.0         | 133        |
| ML446RAT27N_LZ           | 10    | 27.0                            | 5,2                  | 110                   | 2.3                           | 7.9                            | 4.0         | 147        |

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

ML446RAT27NGLZ

**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-silver 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

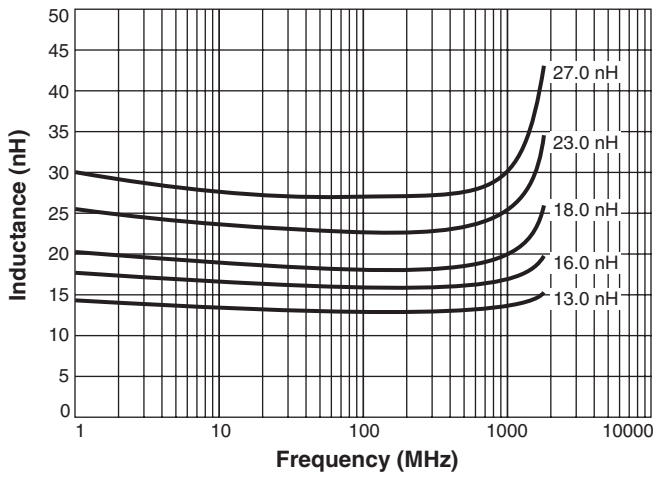
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

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

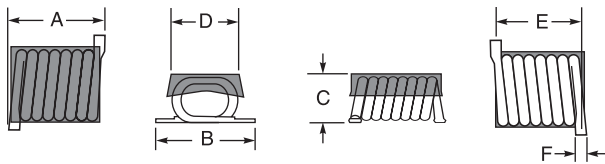
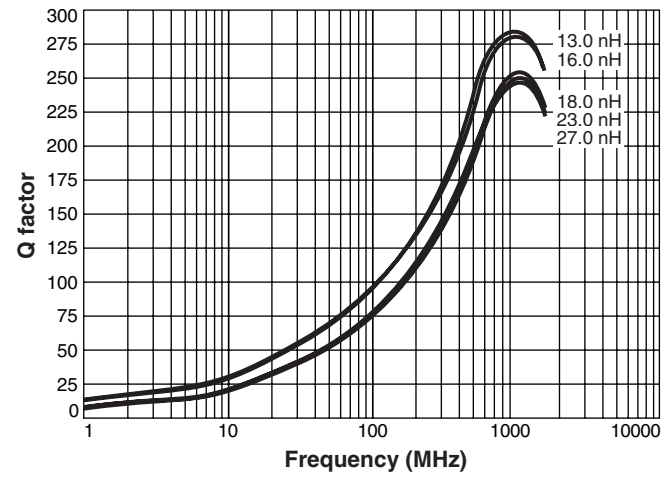
Plastic tape: 2 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.2 mm pocket depth

# ML426RAT / ML446RAT Low Profile Air Core Inductors

## Typical L vs Frequency

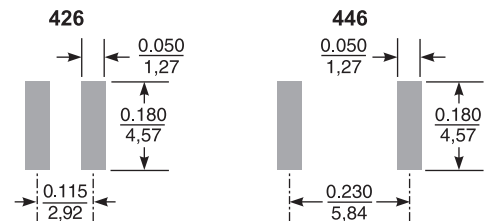


## Typical Q vs Frequency



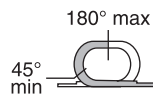
| Size | A max         | B max         | C max         | D             | E                          | F max         |
|------|---------------|---------------|---------------|---------------|----------------------------|---------------|
| 426  | 0,155<br>3,94 | 0,165<br>4,19 | 0,079<br>2,01 | 0,135<br>3,43 | 0,115 ±0,015<br>2,92 ±0,38 | 0,029<br>0,74 |
| 446  | 0,270<br>6,86 | 0,165<br>4,19 | 0,079<br>2,01 | 0,135<br>3,43 | 0,230 ±0,015<br>5,84 ±0,38 | 0,029<br>0,74 |

## Suggested Land Patterns



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

## Strip Length



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