

Outgassing Compliant Air Core Inductors AE475RAT



- High Q over a wide range of frequencies
- 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

Terminations Tin-lead (63/37) over copper

Ambient temperature -55°C to +125°C with I_{max} 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 500 per 7" reel
Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 4.2 mm pocket depth

Part number ¹	Inductance ² (nH)	Percent tolerance	Q ³ typ	Q ³ min	SRF min ⁴ (GHz)	DCR max ⁵ (mOhm)	I _{max} (A)
AE475RAT22N_SZ	22	5,2	135	100	3.2	4.2	3.0
AE475RAT27N_SZ	27	5,2	135	100	2.7	4.0	3.5
AE475RAT33N_SZ	33	5,2	130	100	2.5	4.8	3.0
AE475RAT39N_SZ	39	5,2	135	100	2.1	4.4	3.0
AE475RAT47N_SZ	47	5,2	135	100	2.1	5.6	3.0
AE475RAT56N_SZ	56	5,2	125	100	1.5	6.2	3.0
AE475RAT68N_SZ	68	5,2	120	100	1.5	8.2	2.5
AE475RAT82N_SZ	82	5,2	120	100	1.3	9.4	2.5
AE475RATR10_SZ	100	5,2	115	100	1.2	12.3	1.7
AE475RATR12_SZ	120	5,2	125	100	1.1	17.3	1.5
AE475RATR15_SZ	150	5,2	145	100	0.75	33.0	1.2

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

AE475RATR15 **G** **S** **Z**

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 150 MHz on an Agilent/HP 4286A or equivalent with a Coilcraft SMD-A test fixture and correlation.

3. Q measured at 150 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.

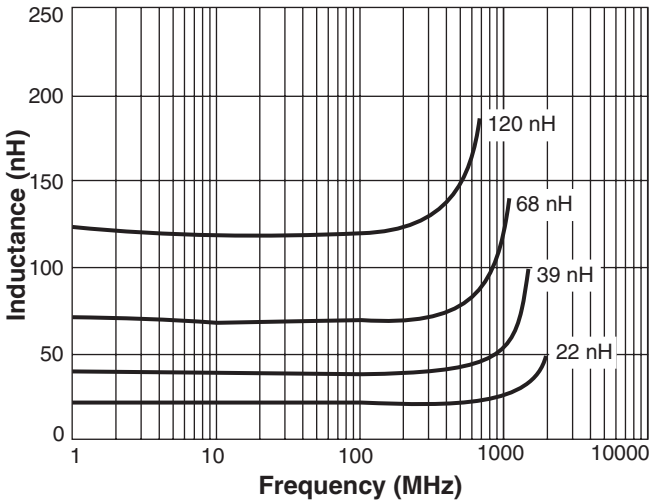
5. DCR measured on a Keithley 580 Micro-Ohmmeter or equivalent.

6. Electrical specifications at 25°C.

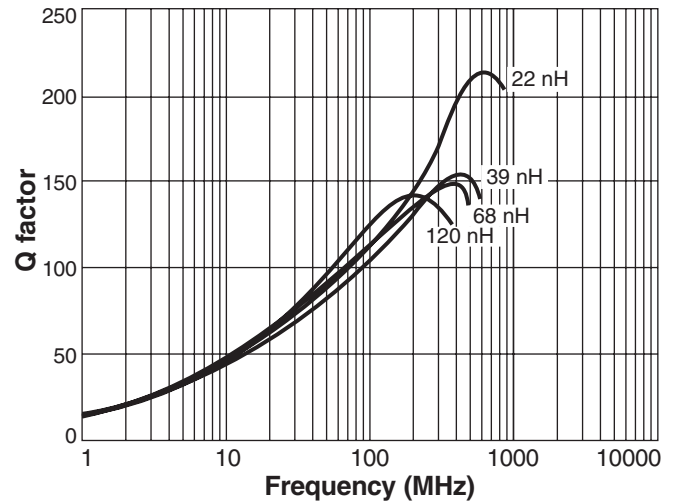
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

AE475RAT Air Core Inductors

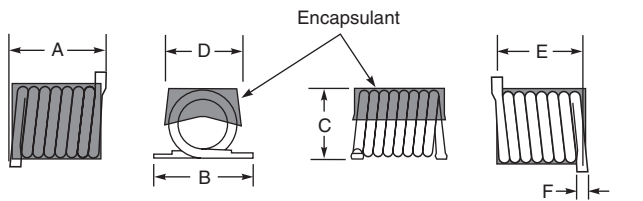
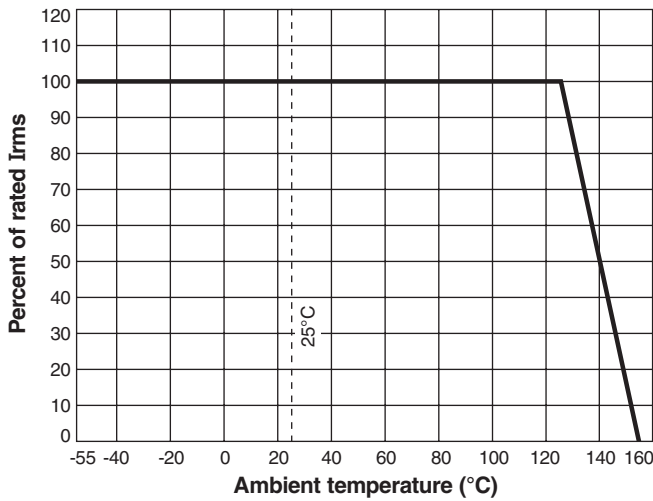
Typical L vs Frequency



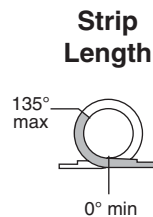
Typical Q vs Frequency



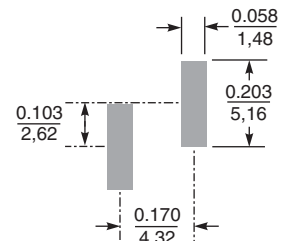
Current Derating



A max	B max	C max	D	E	F max
0.195	0.250	0.165	0.140 ±0.010	0.170 ±0.015	0.030
4,95	6,35	4,20	3,56 ±0,25	4,32 ±0,38	0,76



Suggested Land Pattern



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