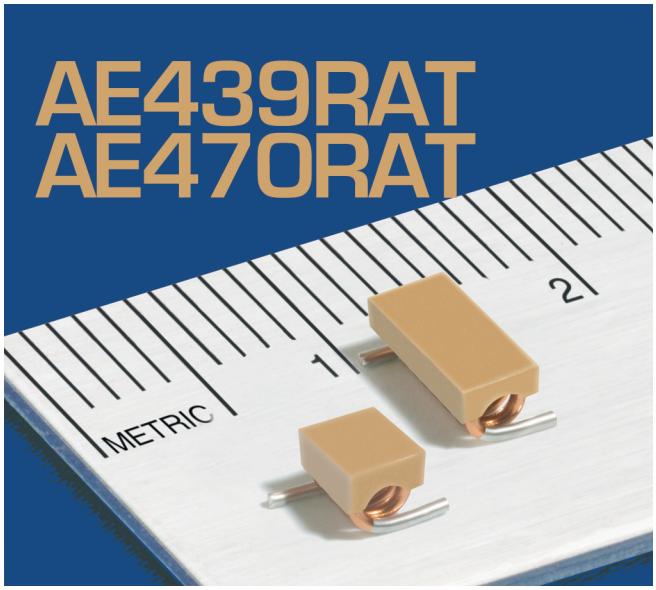
Outgassing Compliant Air Core Inductors

AE439RAT
AE470RAT



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Passes NASA low outgassing specifications
- Tin-lead (Sn-Pb) terminations ensures the best possible board adhesion

Terminations Tin-lead (63/37) over copper

Ambient temperature –55°C to +125°C with Imax current, +125°C to +155°C with derated current

Storage temperature Component: –55°C to +155°C. Packaging: –40°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
AE439RAT: 700/7″ reel Plastic tape: 12 mm wide, 0.32 mm thick, 8 mm pocket spacing, 3.3 mm pocket depth
AE470RAT: 500/7″ reel Plastic tape: 16 mm wide, 0.28 mm thick, 8 mm pocket spacing, 3.4 mm pocket depth

PCB washing Only pure water or alcohol recommended

Part number[1]	Turns	L[2] (nH)	Percent tol	Q[3] min	SRF min[4] (GHz)	DCR max[5] (mOhm)	Imax (A)	Weight (mg)
AE439RAT2N5KSZ	1	2.5	10	145	12.5	1.1	4	31
AE439RAT5N0_SZ	2	5.0	5,2	140	6.5	1.8	4	42
AE439RAT8N0_SZ	3	8.0	5,2	140	5.0	2.6	4	52
AE439RAT13N_SZ	4	12.5	5,2	137	3.3	3.4	4	65
AE439RAT19N_SZ	5	18.5	5,2	132	2.5	3.9	4	78
AE470RAT18N_SZ	6	17.5	5,2	100	2.2	4.5	4	100
AE470RAT22N_SZ	7	22.0	5,2	102	2.1	5.2	4	110
AE470RAT28N_SZ	8	28.0	5,2	105	1.8	6.0	4	118
AE470RAT36N_SZ	9	35.5	5,2	112	1.5	6.8	4	133
AE470RAT43N_SZ	10	43.0	5,2	106	1.2	7.9	4	147

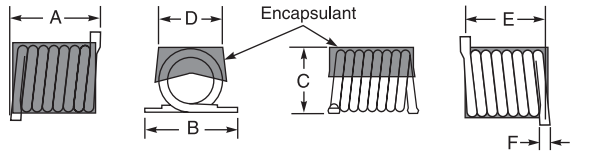
1. When ordering, please specify **tolerance** and **testing** codes:

AE470RAT43NGSZ

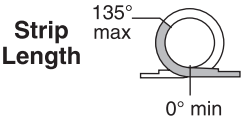
Tolerance: **G** = 2% **J** = 5%
Testing: **Z** = COTS
H = Screening per Coilcraft CP-SA-10001
N = Screening per Coilcraft CP-SA-10003

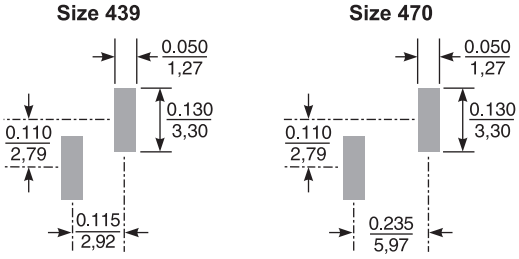
2. Inductance measured at 150 MHz on an Agilent/HP 4286A or equivalent with a Coilcraft SMD-A test fixture and correlation.
3. Q measured at 150 MHz on an Agilent/HP 4291A or equivalent with a 16193A test fixture or equivalent.
4. SRF measured on an Agilent/HP 8753ES network analyzer or equivalent with a Coilcraft CCF1268 test fixture. Parts with SRF >5 GHz are verified to >5 GHz in screening
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.



Size	A max	B max	C max	D	E	F max
439	0.155 3,94	0.175 4,45	0.124 3,15	0.110 ±0.010 2,79 ±0,25	0.115 ±0.010 2,92 ±0,25	0.029 0,74
470	0.270 6,86	0.175 4,45	0.124 3,15	0.110 ±0.010 2,79 ±0,25	0.230 ±0.015 5,84 ±0,38	0.029 0,74





Suggested Land Patterns

Dimensions are in inches / mm

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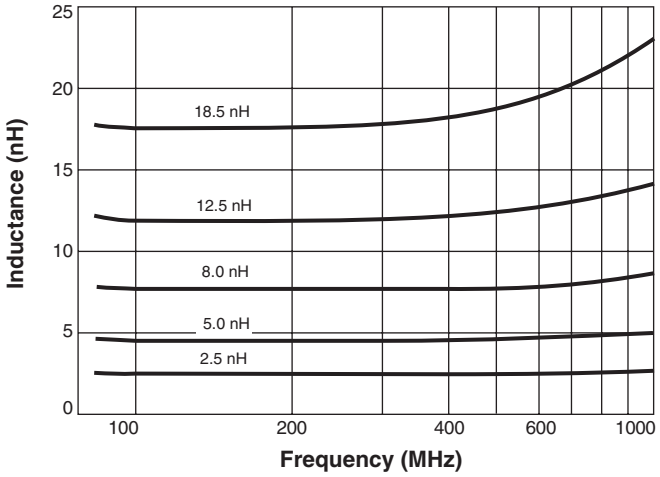
Specifications subject to change without notice.
Please check our website for latest information. Document AE107-1 Revised 09/08/11

S-Parameter files
ON OUR WEB SITE

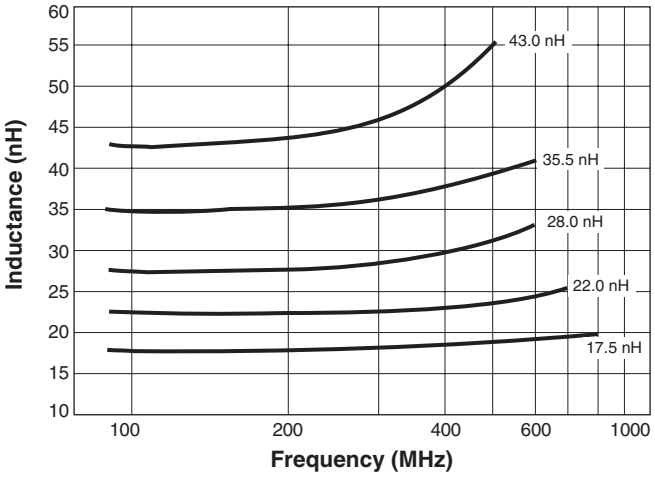
SPICE models
ON OUR WEB SITE

AE439RAT/AE470RAT Air Core Inductors

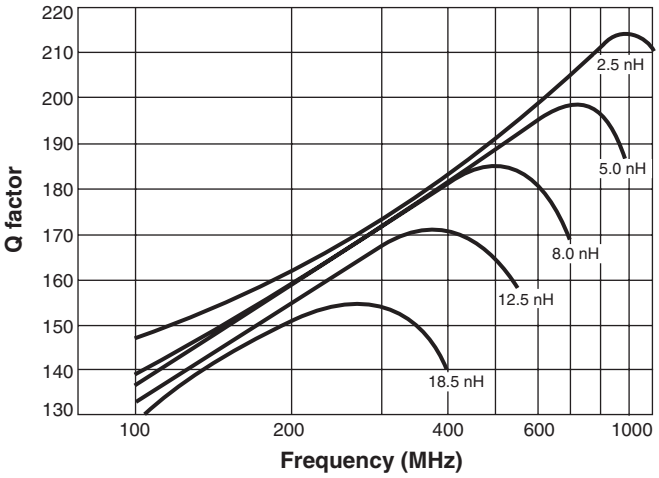
L vs Frequency – AE439RAT



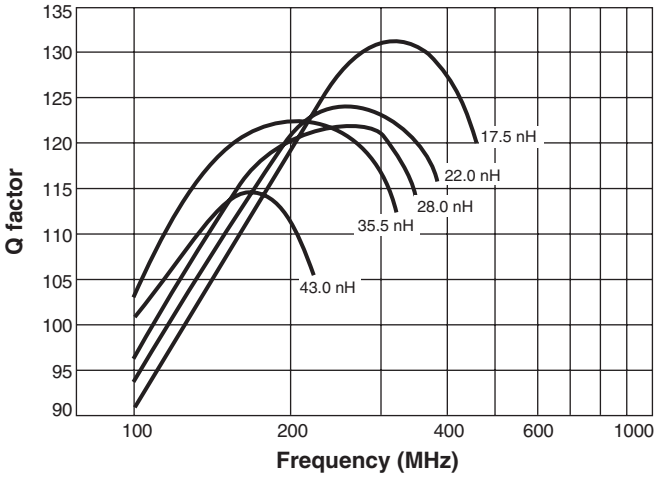
L vs Frequency – AE470RAT



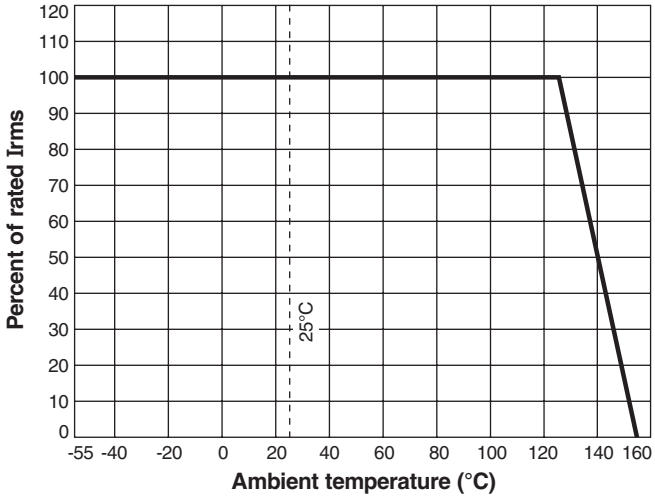
Q vs Frequency – AE439RAT



Q vs Frequency – AE470RAT



Typical Current Derating



Specifications subject to change without notice.
Please check our website for latest information. Document AE107-2 Revised 09/08/11

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