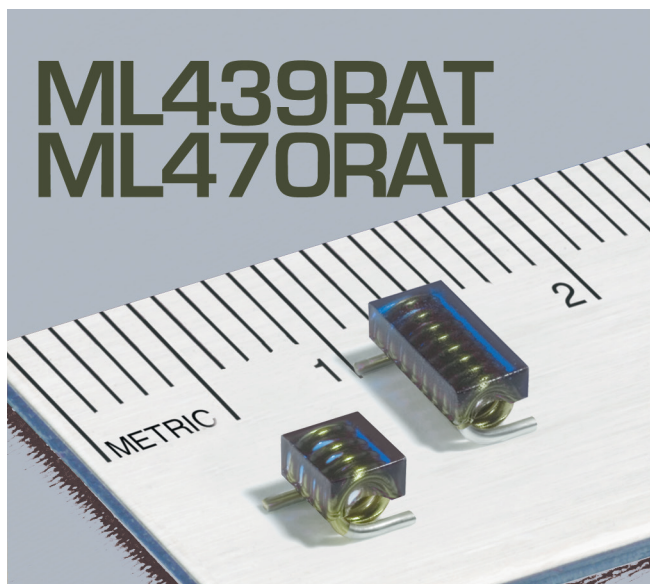


High-Reliability Air Core Inductors

ML439RAT
ML470RAT



- Small air core inductors feature high Q and tight tolerances
- High temperature materials allow operation in ambient temperatures up to 155°C.

Terminations Tin-silver 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.

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

ML439RAT: 700/7" reel Plastic tape: 12 mm wide, 0.32 mm thick, 8 mm pocket spacing, 3.3 mm pocket depth

ML470RAT: 500/7" reel Plastic tape: 16 mm wide, 0.28 mm thick, 8 mm pocket spacing, 3.4 mm pocket depth

Part number ¹	Turns	L^2 (nH)	Percent tol	Q^3 min	SRF min ⁴ (GHz)	DCR max ⁵ (mOhm)	I_{max} (A)	Weight max (mg)
ML439RAT2N5KLZ	1	2.5	10	145	>5.0	1.1	4	48
ML439RAT5N0_LZ	2	5.0	5,2	140	>5.0	1.8	4	63
ML439RAT8N0_LZ	3	8.0	5,2	140	5.0	2.6	4	78
ML439RAT13N_LZ	4	12.5	5,2	137	3.3	3.4	4	82
ML439RAT19N_LZ	5	18.5	5,2	132	2.5	3.9	4	95
ML470RAT18N_LZ	6	17.5	5,2	100	2.2	4.5	4	128
ML470RAT22N_LZ	7	22.0	5,2	102	2.1	5.2	4	143
ML470RAT28N_LZ	8	28.0	5,2	105	1.8	6.0	4	151
ML470RAT36N_LZ	9	35.5	5,2	112	1.5	6.8	4	169
ML470RAT43N_LZ	10	43.0	5,2	106	1.2	7.9	4	188

1. When ordering, please specify **tolerance** code:

ML470RAT43NGLZ

Tolerance: G = 2% J = 5%

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.

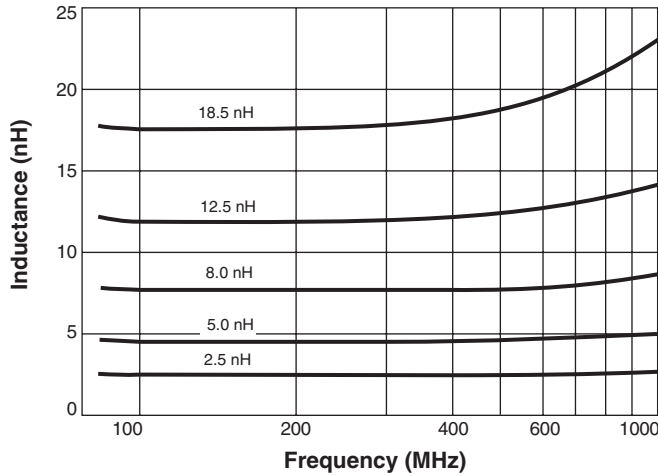
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



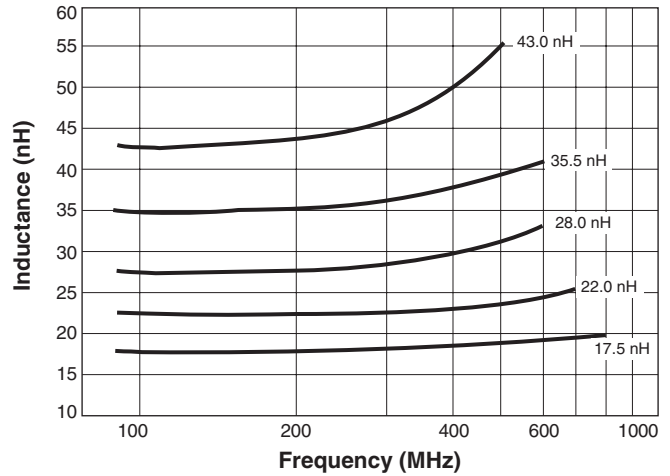
S-Parameter files
ON OUR WEB SITE
SPICE models
ON OUR WEB SITE

ML439RAT/ML470RAT Air Core Inductors

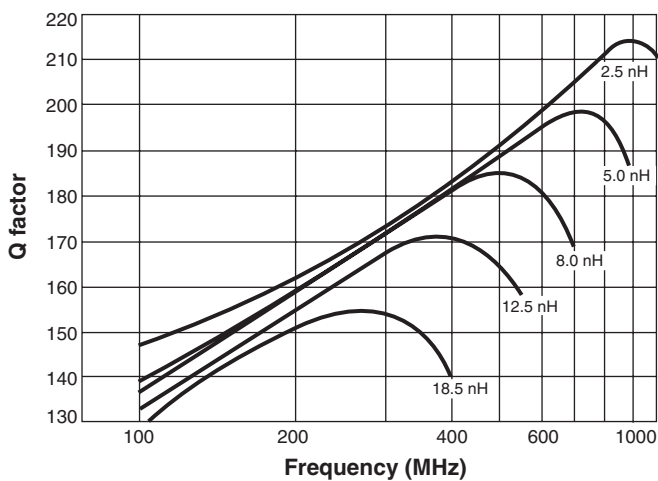
L vs Frequency – ML439RAT



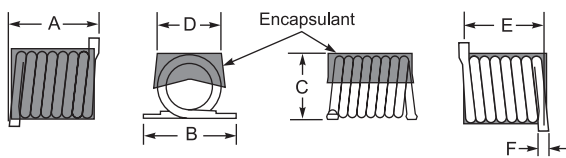
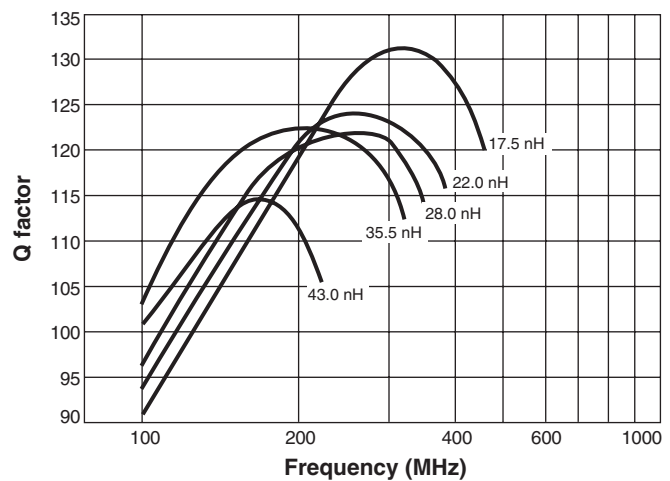
L vs Frequency – ML470RAT



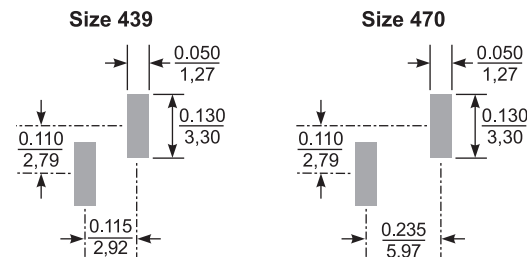
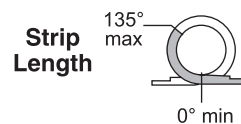
Q vs Frequency – ML439RAT



Q vs Frequency – ML470RAT



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



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

Suggested Land Patterns



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Document ML107-2 Revised 06/21/22

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.