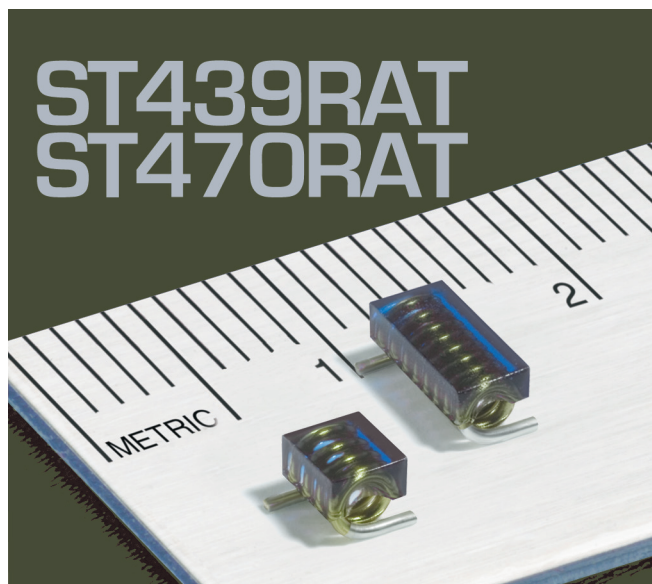


Air Core Inductors for Critical Applications

ST439RAT
ST470RAT



- Small air core inductors feature high Q and tight tolerances
- Acrylic jacket provides a flat top for pick and place
- Solder coated leads ensure reliable soldering

Terminations RoHS compliant tin-silver over copper. Other terminations available at additional cost.

Ambient temperature -40°C to +125°C with I_{max} current, +125°C to +140°C with derated current

Storage temperature Component: -40°C to +140°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)

Packaging

ST439RAT: 700/7" reel Plastic tape: 12 mm wide, 0.32 mm thick, 8 mm pocket spacing, 3.3 mm pocket depth

ST470RAT: 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 (mg)
ST439RAT2N5KLZ	1	2.5	10	145	12.5	1.1	4	31
ST439RAT5N0_LZ	2	5.0	5,2	140	6.5	1.8	4	42
ST439RAT8N0_LZ	3	8.0	5,2	140	5.0	2.6	4	52
ST439RAT13N_LZ	4	12.5	5,2	137	3.3	3.4	4	65
ST439RAT19N_LZ	5	18.5	5,2	132	2.5	3.9	4	78
ST470RAT18N_LZ	6	17.5	5,2	100	2.2	4.5	4	100
ST470RAT22N_LZ	7	22.0	5,2	102	2.1	5.2	4	110
ST470RAT28N_LZ	8	28.0	5,2	105	1.8	6.0	4	118
ST470RAT36N_LZ	9	35.5	5,2	112	1.5	6.8	4	133
ST470RAT43N_LZ	10	43.0	5,2	106	1.2	7.9	4	147

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

ST470RAT43NGLZ

Tolerance: G = 2% J = 5%

Termination: L = RoHS compliant tin-silver over copper.

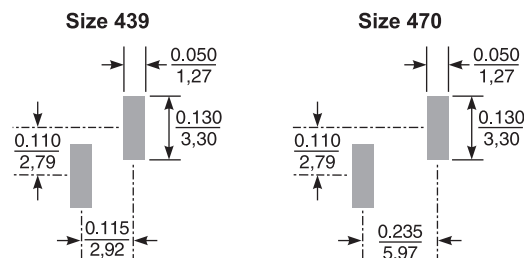
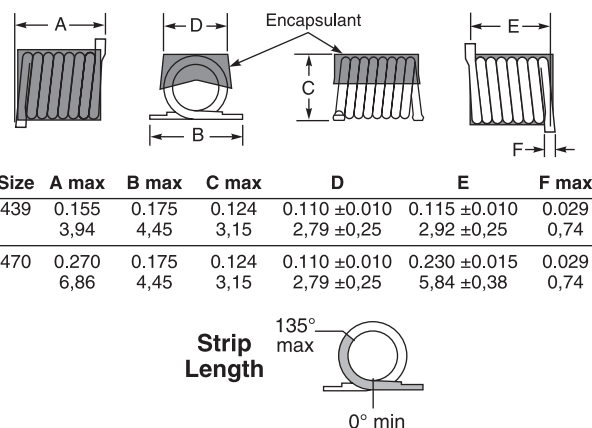
Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or
S = non-RoHS tin-lead (63/37).

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

- Inductance measured at 150 MHz on an Agilent/HP 4286A or equivalent with a Coilcraft SMD-A test fixture and correlation.
- Q measured at 150 MHz on an Agilent/HP 4291A or equivalent with a 16193A test fixture or equivalent.
- SRF measured on an Agilent/HP 8753ES network analyzer or equivalent with a Coilcraft CCF 1268 test fixture. Parts with SRF > 5 GHz are verified to > 5 GHz in screening
- DCR measured on a Keithley 580 Micro-Ohmmeter or equivalent.
- Electrical specifications at 25°C.

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

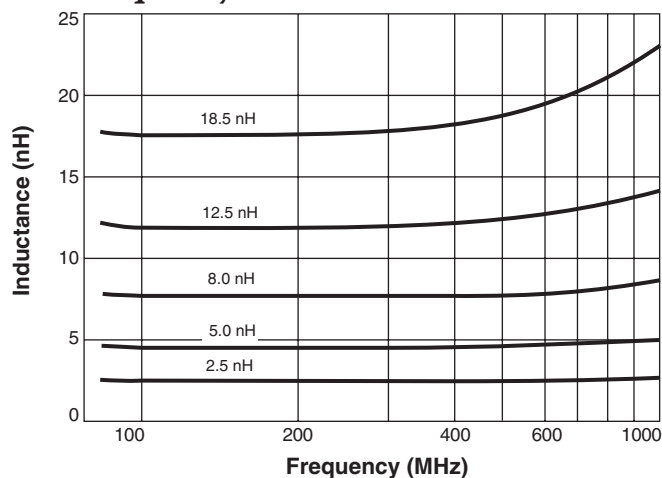


Suggested Land Patterns

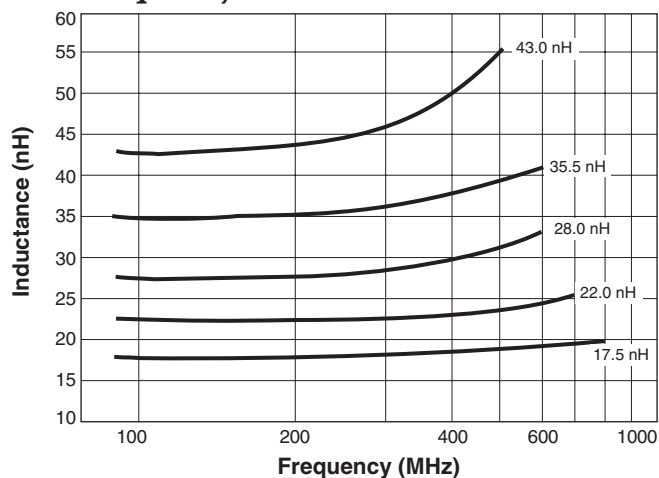
Dimensions are in $\frac{\text{inches}}{\text{mm}}$

ST439RAT/ST470RAT Air Core Inductors

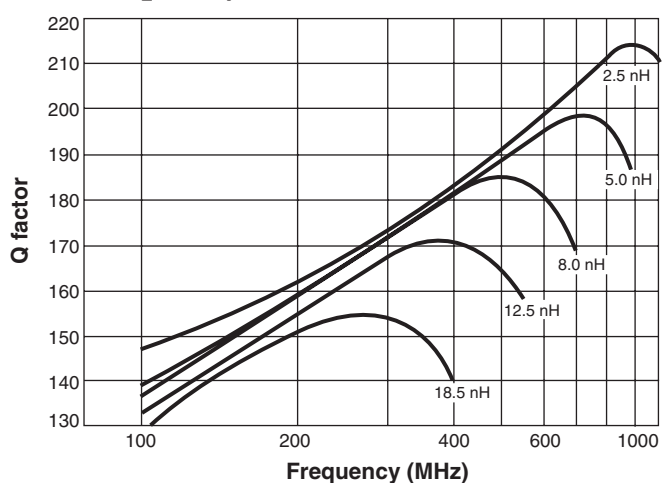
L vs Frequency – ST439RAT



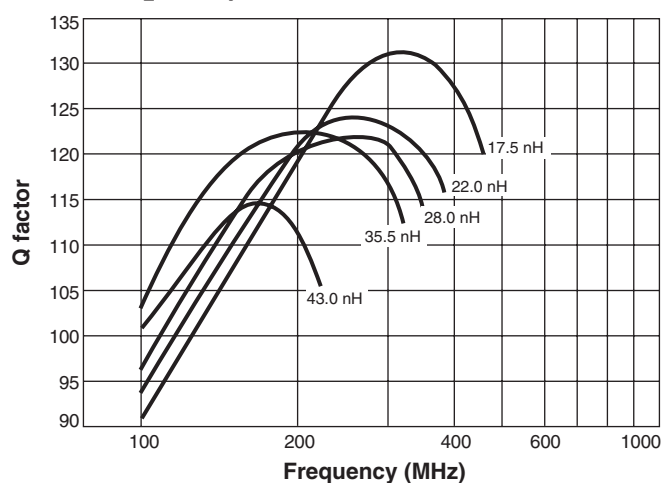
L vs Frequency – ST470RAT



Q vs Frequency – ST439RAT



Q vs Frequency – ST470RAT



Typical Current Derating

