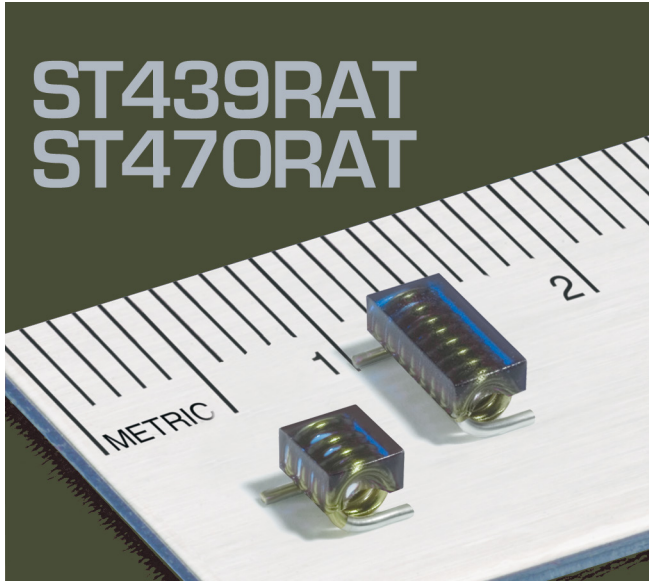


Air Core Inductors for Critical Applications ST439RAT ST470RAT



- 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 Tin-silver over copper. Other terminations available at additional cost.

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

Maximum part temperature +140°C (ambient + temp rise).

Storage temperature Component: -55°C to +140°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

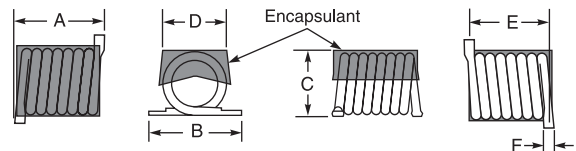
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

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 max (mg)
ST439RAT2N5KSZ	1	2.5	10	145	>5.0	1.1	4	48
ST439RAT5N0_SZ	2	5.0	5,2	140	>5.0	1.8	4	63
ST439RAT8N0_SZ	3	8.0	5,2	140	5.0	2.6	4	78
ST439RAT13N_SZ	4	12.5	5,2	137	3.3	3.4	4	82
ST439RAT19N_SZ	5	18.5	5,2	132	2.5	3.9	4	95
ST470RAT18N_SZ	6	17.5	5,2	100	2.2	4.5	4	128
ST470RAT22N_SZ	7	22.0	5,2	102	2.1	5.2	4	143
ST470RAT28N_SZ	8	28.0	5,2	105	1.8	6.0	4	151
ST470RAT36N_SZ	9	35.5	5,2	112	1.5	6.8	4	169
ST470RAT43N_SZ	10	43.0	5,2	106	1.2	7.9	4	188



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

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

ST470RAT43NGLZ

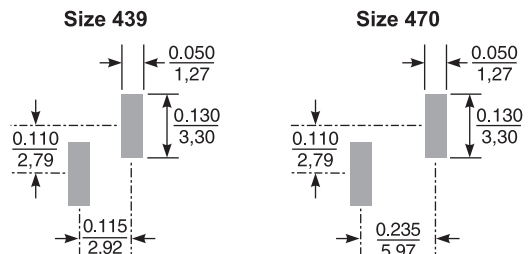
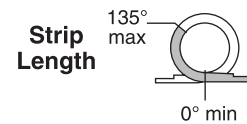
Tolerance: G = 2% J = 5%

Termination: L = Tin-silver over copper
Special order: T = Tin-silver-copper (95.5/4/0.5) or
S = Tin-lead (63/37).

Testing: Z = Unscreened
H = Group A screening per Coilcraft CP-SA-10001
All screening performed to the document's latest revision
Custom screening also available

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.



Suggested Land Patterns

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



CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

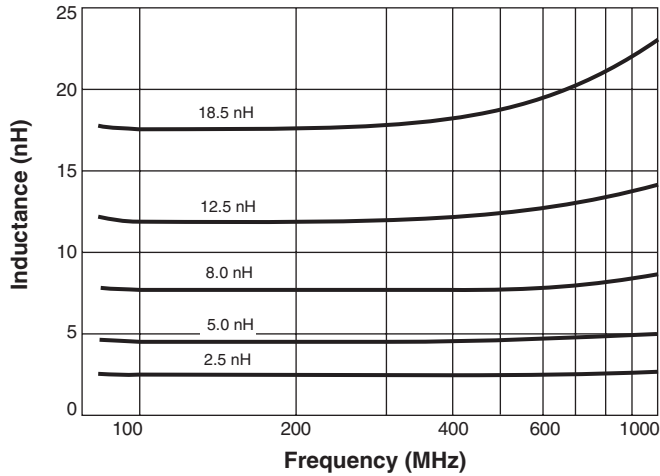
Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document ST107-1 Revised 10/30/17

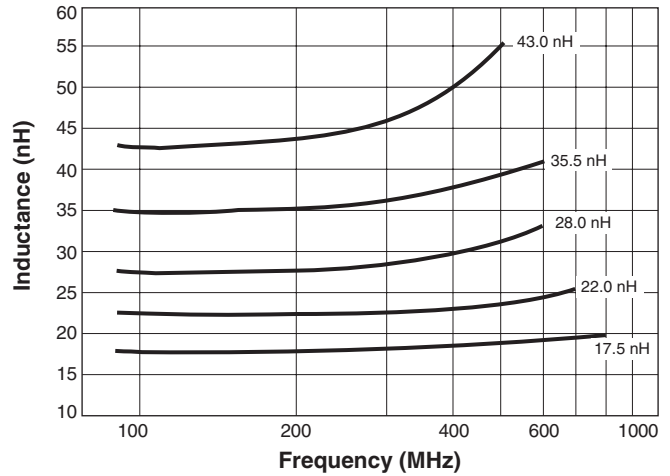
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

ST439RAT/ST470RAT Air Core Inductors

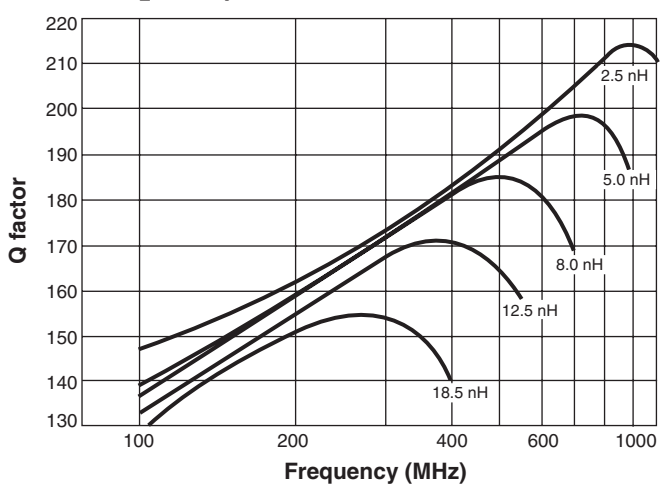
L vs Frequency – ST439RAT



L vs Frequency – ST470RAT



Q vs Frequency – ST439RAT



Q vs Frequency – ST470RAT

