

Air Core Inductors for Critical Applications

ST350RAT
ST394RAT



- High Q over a wide range of frequencies
- 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.

Weight ST350RAT: 6 mg – 18 mg; ST394RAT: 14 mg – 30 mg

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

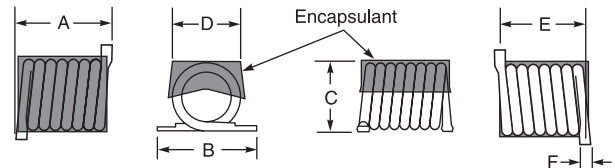
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging

ST350RAT: 500 per 7" reel Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.5 mm pocket depth

ST394RAT: 500 per 7" reel Plastic tape: 12 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.6 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)
ST350RAT1N7KLZ	2	1.65	10	100	10	4.0	1.6
ST350RAT2N6JLZ	3	2.55	5	100	8.2	5.0	1.6
ST350RAT3N9_LZ	4	3.85	5,2	100	7.5	6.0	1.6
ST350RAT5N4_LZ	5	5.40	5,2	100	7.0	8.0	1.6
ST394RAT5N6_LZ	6	5.60	5,2	100	6.5	9.0	1.6
ST394RAT7N2_LZ	7	7.15	5,2	100	6.0	10	1.6
ST394RAT8N8_LZ	8	8.80	5,2	100	6.0	12	1.6
ST394RAT9N9_LZ	9	9.85	5,2	100	5.2	13	1.6
ST394RAT13N_LZ	10	12.55	5,2	100	4.6	14	1.6



Size	A max	B max	C max	D	E	F max
350	0.095	0.135	0.060	0.055 ±0.010	0.072 ±0.010	0.020
	2,41	3,43	1,52	1,40 ±0,25	1,83 ±0,25	0,51
394	0.165	0.135	0.062	0.055 ±0.010	0.144 ±0.012	0.020
	4,19	3,43	1,58	1,40 ±0,25	3,66 ±0,30	0,51

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

ST394RAT10GLZ

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

T = Screening per MIL-STD-981

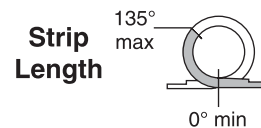
U = Screening per EEE-INST-002

F = Screening per ESCC 3201

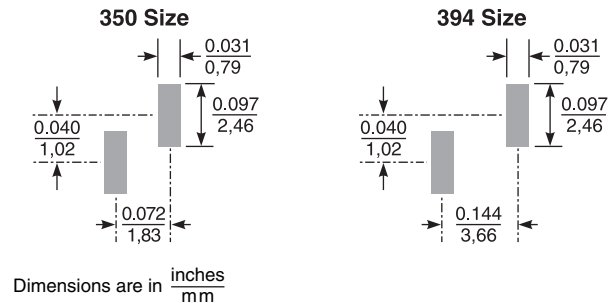
All screening performed to the document's latest revision
Custom screening also available

- Inductance measured at 800 MHz on an Agilent/HP 4286A or equivalent with a Coilcraft SMD-A test fixture and correlation.
- Q measured at 800 MHz on an Agilent/HP 4291A or equivalent with a 16193A test fixture or equivalent.
- SRF measured on an Agilent/HP 8753ES or equivalent with a Coilcraft CCF1268 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



CRITICAL PRODUCTS & SERVICES

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S-Parameter files

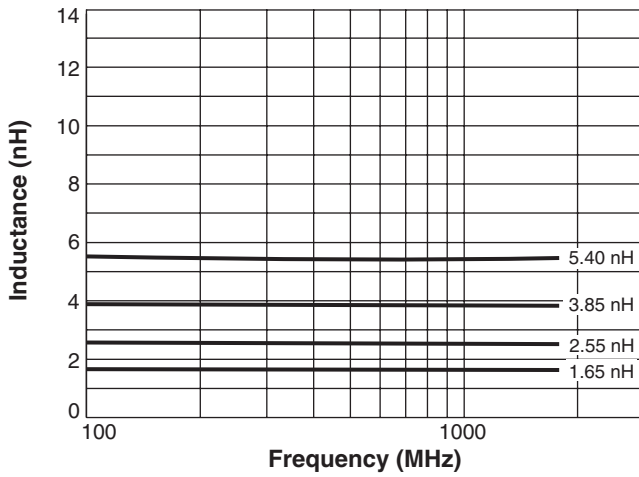
ON OUR WEB SITE

SPICE models

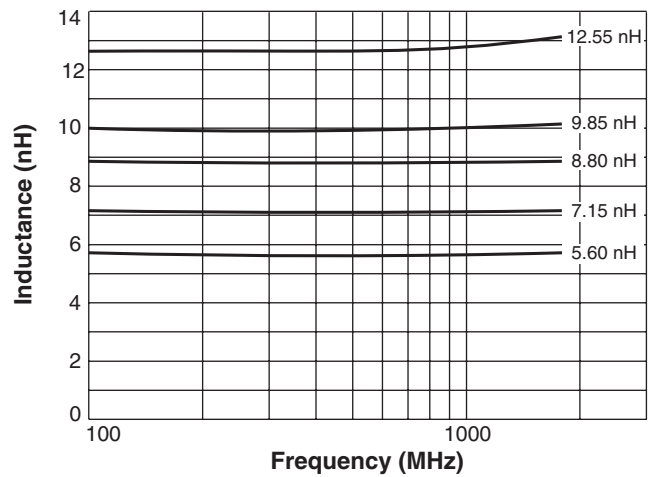
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ST350RAT/ST394RAT Air Core Inductors

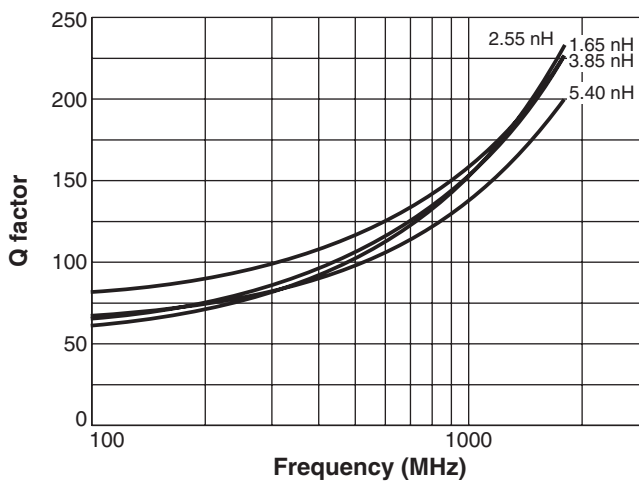
L vs Frequency – ST350RAT Series



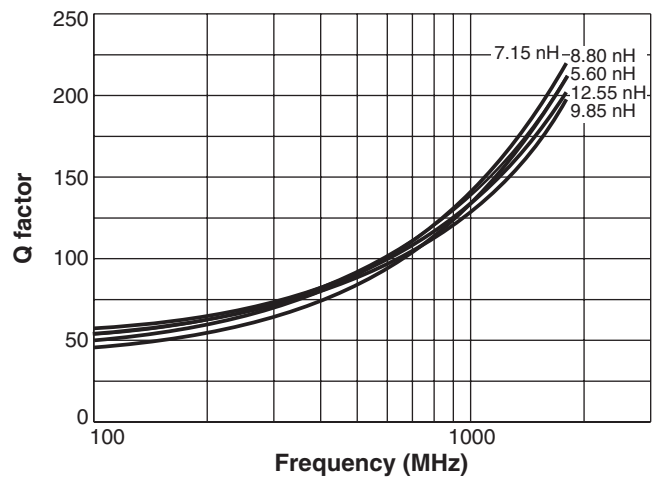
L vs Frequency – ST394RAT Series



Q vs Frequency – ST350RAT Series



Q vs Frequency – ST394RAT Series



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