

200°C Air Core Inductors

AT350RAT
AT394RAT



- High Q over a wide range of frequencies
- Special materials allow operation in ambient temperatures as low as -60°C and up to 200°C .
- Passes NASA low outgassing specifications

Terminations Tin-lead (63/37) over copper

Weight AT350RAT: 6 mg – 18 mg; AT394RAT: 14 mg – 30 mg

Ambient temperature -60°C to $+150^{\circ}\text{C}$ with I_{max} current

Maximum part temperature $+200^{\circ}\text{C}$ (ambient + temp rise).

Storage temperature Component: -60°C to $+200^{\circ}\text{C}$.

Packaging: -55°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) $+5$ to $+70$ ppm/ $^{\circ}\text{C}$

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

Enhanced crush-resistant packaging

AT350RAT: 500 per 7" reel Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.5 mm pocket depth

AT394RAT: 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)
AT350RAT1N7KSZ	2	1.65	10	100	>5.0	4.0	1.6
AT350RAT2N6JSZ	3	2.55	5	100	>5.0	5.0	1.6
AT350RAT3N9_SZ	4	3.85	5,2	100	>5.0	6.0	1.6
AT350RAT5N4_SZ	5	5.40	5,2	100	>5.0	8.0	1.6
AT394RAT5N6_SZ	6	5.60	5,2	100	>5.0	9.0	1.6
AT394RAT7N2_SZ	7	7.15	5,2	100	>5.0	10	1.6
AT394RAT8N8_SZ	8	8.80	5,2	100	>5.0	12	1.6
AT394RAT9N9_SZ	9	9.85	5,2	100	>5.0	13	1.6
AT394RAT13N_SZ	10	12.55	5,2	100	4.6	14	1.6

1. When ordering, specify **tolerance** and **screening** codes:

AT394RAT10GSZ

Tolerance: G = 2% J = 5%

- Screening:**
- Z = Unscreened
 - H = Coilcraft CP-SA-10001 Group A
 - F = ESCC3201 (F4 operational life performed at 90°C)
 - 1 = EEE-INST-002 (Family 3) Level 1
 - 2 = EEE-INST-002 (Family 3) Level 2
 - 3 = EEE-INST-002 (Family 3) Level 3
 - 4 = MIL-STD-981 (Family 50) Class B
 - 5 = MIL-STD-981 (Family 50) Class S
 - Screening performed to the document's latest revision.
 - Screening not available for parts with 2% tolerance.
 - Testing is performed using 155°C as max component temperature.
 - Lot qualification (Group B) available.
 - Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
 - Country of origin restrictions available; prefix option G.

2. Inductance measured at 800 MHz on an Agilent/HP 4286A or equivalent with a Coilcraft SMD-A test fixture and correlation.
 3. Q measured at 800 MHz on an Agilent/HP 4291A or equivalent with a 16193A test fixture or equivalent.
 4. 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.
 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.

Coilcraft CPS
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

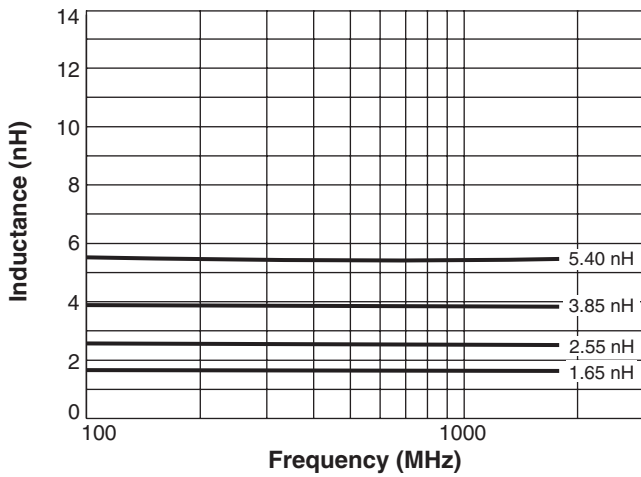
Document AT163-1 Revised 12/06/22

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.

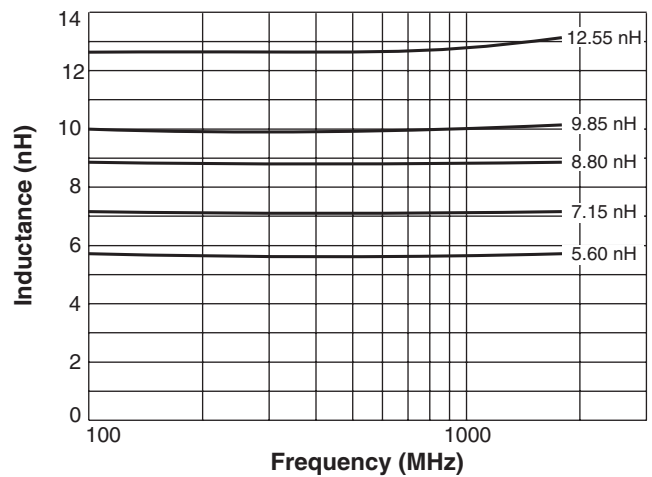
S-Parameter files
ON OUR WEB SITE
SPICE models
ON OUR WEB SITE

AT350RAT/AT394RAT Air Core Inductors

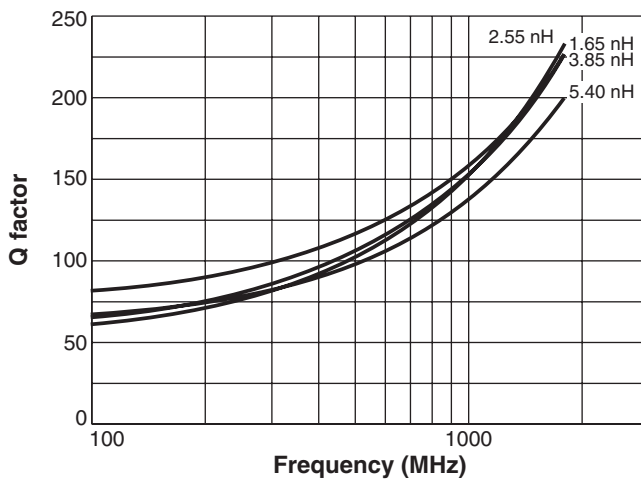
L vs Frequency – AT350RAT Series



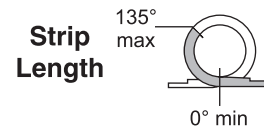
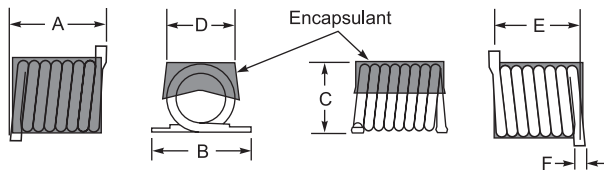
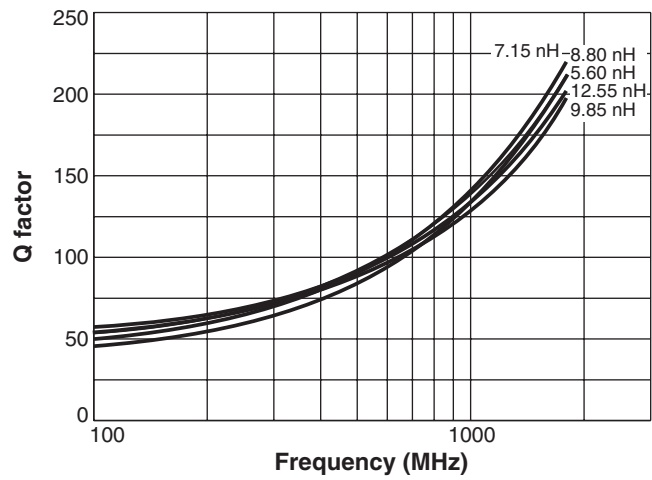
L vs Frequency – AT394RAT Series



Q vs Frequency – AT350RAT Series

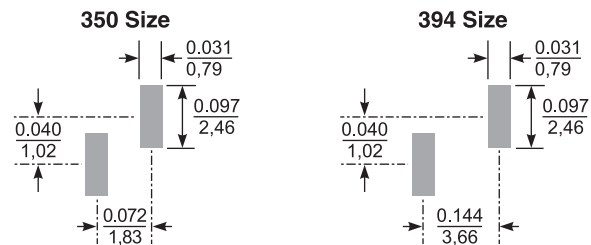


Q vs Frequency – AT394RAT Series



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

Suggested Land Patterns



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

