

High-Reliability Chip Inductors ST450RAA

- Higher SRF values than 1812 size parts with ferrite cores
- 5% tolerances for all values
- 19 inductance values from 1.0 to 33 μH

Part number ¹	Inductance ² (μH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)
ST450RAA102JRZ	1.0 @ 7.9 MHz	5	59 @ 50 MHz	260	1.1	390
ST450RAA122JRZ	1.2 @ 7.9 MHz	5	54 @ 50 MHz	230	1.2	360
ST450RAA152JRZ	1.5 @ 7.9 MHz	5,2	57 @ 50 MHz	210	1.6	320
ST450RAA182JRZ	1.8 @ 7.9 MHz	5	57 @ 50 MHz	190	2.0	270
ST450RAA222JRZ	2.2 @ 7.9 MHz	5,2	52 @ 50 MHz	170	2.2	250
ST450RAA272JRZ	2.7 @ 7.9 MHz	5,2	53 @ 50 MHz	160	3.2	200
ST450RAA332JRZ	3.3 @ 7.9 MHz	5,2	53 @ 50 MHz	145	3.8	200
ST450RAA392JRZ	3.9 @ 7.9 MHz	5,2	53 @ 50 MHz	130	5.0	175
ST450RAA472JRZ	4.7 @ 7.9 MHz	5	32 @ 10 MHz	115	5.4	165
ST450RAA562JRZ	5.6 @ 7.9 MHz	5	32 @ 10 MHz	100	5.7	160
ST450RAA682JRZ	6.8 @ 7.9 MHz	5	32 @ 10 MHz	90	6.6	155
ST450RAA822JRZ	8.2 @ 7.9 MHz	5,2	32 @ 10 MHz	80	7.0	145
ST450RAA103JRZ	10.0 @ 7.9 MHz	5	32 @ 10 MHz	70	7.7	125
ST450RAA123JRZ	12.0 @ 2.5 MHz	5	26 @ 5 MHz	60	8.7	125
ST450RAA153JRZ	15.0 @ 2.5 MHz	5	26 @ 5 MHz	50	9.6	120
ST450RAA183JRZ	18.0 @ 2.5 MHz	5	28 @ 5 MHz	40	10.5	115
ST450RAA223JRZ	22.0 @ 2.5 MHz	5,2	28 @ 5 MHz	40	11.5	110
ST450RAA273JRZ	27.0 @ 2.5 MHz	5	28 @ 5 MHz	30	12.5	105
ST450RAA333JRZ	33.0 @ 2.5 MHz	5,2	24 @ 2.5 MHz	20	13.5	105

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

ST450RAA333JRZ

Tolerance: G = 2% J = 5%

Termination: R = Matte tin over nickel over silver-platinum glass frit
 L = Silver-palladium-platinum glass frit.
 P = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.
 Q = Tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit.
 S = Tin-lead (63/37) over silver-platinum-glass frit.
 T = Tin-silver-copper (95.5/4/0.5) over silver-platinum glass frit

Screening: Z = Unscreened
 H = Coilcraft CP-SA-10001 Group A
 • Screening performed to the document's latest revision.
 • Lot qualification (Group B) available.
 • Custom testing also available.
 • Country of origin restrictions available; prefix options G or F.

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286 impedance analyzer or equivalent with Coilcraft-provided correlation pieces.
 3. Q measured at the same frequency as inductance using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture or equivalents.
 4. SRF measured using an Agilent/HP 8753ES network analyzer or equivalent and a Coilcraft SMD-D test fixture.
 5. DCR measured on a micro-ohmmeter.
 6. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Core material Ceramic

Terminations Matte tin over nickel over silver-platinum glass frit. Other terminations available at an additional cost.

Weight: 102 – 142 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) +25 to +125 ppm/°C

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

Enhanced crush-resistant packaging 600 per 7" reel
 Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 3.7 mm pocket depth



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

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

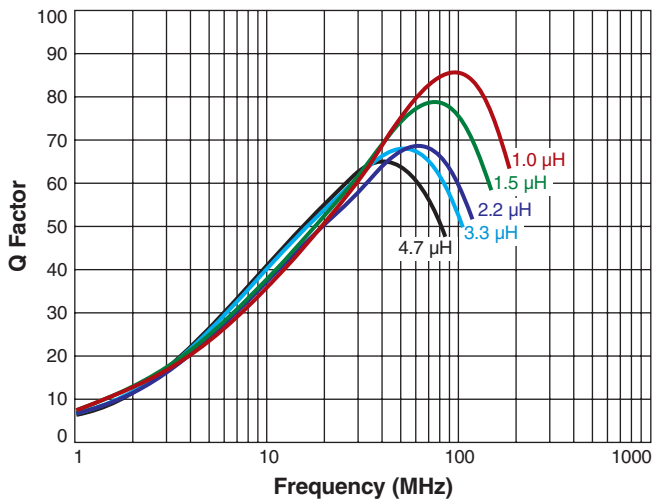
COILCRAFT ACCURATE
PRECISION REPEATABLE
 MEASUREMENTS
 SEE WEB SITE **TEST FIXTURES**

Document ST105-1 Revised 12/05/23

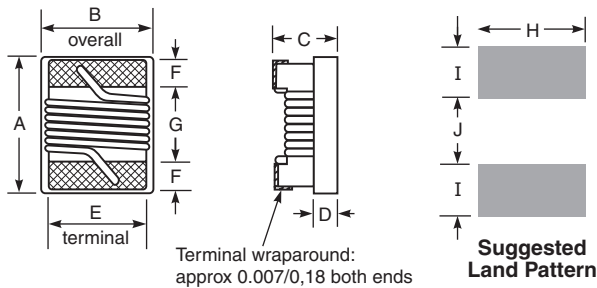
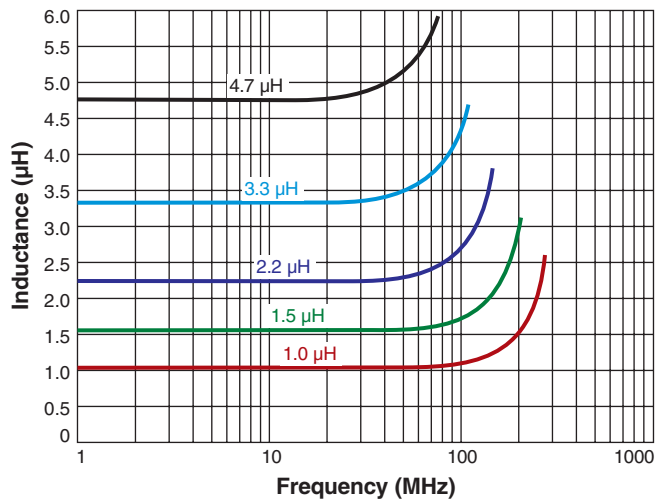
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

ST450RAA Series (1812)

Typical Q vs Frequency



Typical L vs Frequency



A max	B max	C max	D ref	E	F	G	H	I	J
0.195	0.150	0.135	0.070	0.100	0.025	0.128	0.120	0.045	0.118
4,95	3,81	3,43	1,78	2,54	0,64	3,25	3,05	1,14	3,00

Note: Dimensions are before solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to **B** and 0.006 in / 0,15 mm to **A** and **C**.