

# 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  $\mu\text{H}$

Part number <sup>1</sup>	Inductance <sup>2</sup> ( $\mu\text{H}$ )	Percent tolerance	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	I <sub>max</sub> (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** –55°C to +125°C with I<sub>max</sub> current

**Maximum part temperature** +155°C (ambient + temp rise).

**Storage temperature** Component: –55°C to +155°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 +155 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



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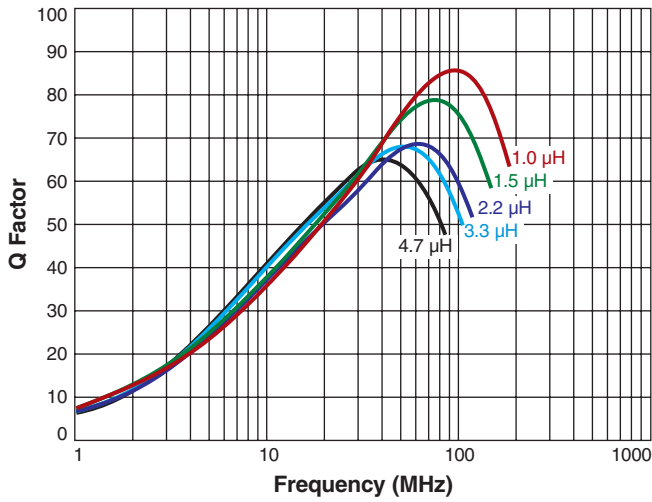
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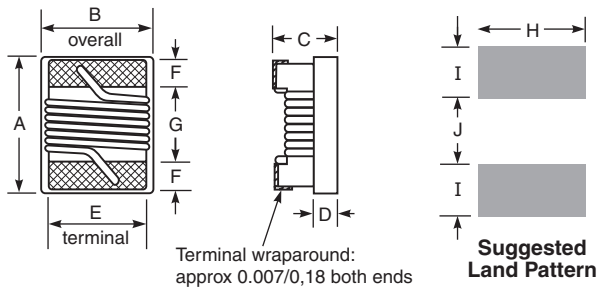
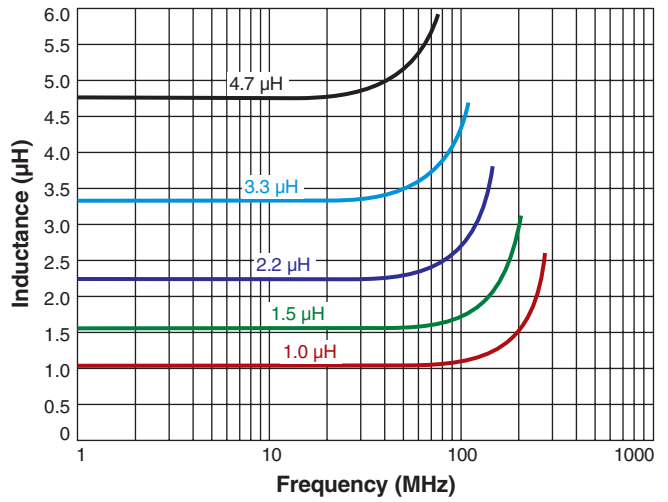
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# ST450RAA Series (1812)

## 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**.