

High-Reliability Chip Inductors MS450RAA

- Higher SRF values than 1812 size parts with ferrite cores
- 19 inductance values from 1.0 to 33 μH

Coilcraft MS450RAA ceramic chip inductors are ideal for applications requiring mid-range inductance and close tolerances ($\pm 5\%$). The SRFs of the parts in this series are up to three times higher than those of commonly available 1812 chip inductors made on ferrite cores.

Part number ¹	Inductance ² (μH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)
MS450RAA102_SZ	1.0 @ 7.9 MHz	5,2	59 @ 50 MHz	260	1.1	390
MS450RAA122_SZ	1.2 @ 7.9 MHz	5,2	54 @ 50 MHz	230	1.2	360
MS450RAA152_SZ	1.5 @ 7.9 MHz	5,2	57 @ 50 MHz	210	1.6	320
MS450RAA182_SZ	1.8 @ 7.9 MHz	5,2	57 @ 50 MHz	190	2.0	270
MS450RAA222_SZ	2.2 @ 7.9 MHz	5,2	52 @ 50 MHz	170	2.2	250
MS450RAA272_SZ	2.7 @ 7.9 MHz	5,2	53 @ 50 MHz	160	3.2	200
MS450RAA332_SZ	3.3 @ 7.9 MHz	5,2	53 @ 50 MHz	145	3.8	200
MS450RAA392_SZ	3.9 @ 7.9 MHz	5,2	53 @ 50 MHz	130	5.0	175
MS450RAA472_SZ	4.7 @ 7.9 MHz	5,2	32 @ 10 MHz	115	5.4	165
MS450RAA562JSZ	5.6 @ 7.9 MHz	5	32 @ 10 MHz	100	5.7	160
MS450RAA682JSZ	6.8 @ 7.9 MHz	5	32 @ 10 MHz	90	6.6	155
MS450RAA822_SZ	8.2 @ 7.9 MHz	5,2	32 @ 10 MHz	80	7.0	145
MS450RAA103JSZ	10.0 @ 7.9 MHz	5	32 @ 10 MHz	70	7.7	125
MS450RAA123JSZ	12.0 @ 2.5 MHz	5	26 @ 5 MHz	60	8.7	125
MS450RAA153JSZ	15.0 @ 2.5 MHz	5	26 @ 5 MHz	50	9.6	120
MS450RAA183JSZ	18.0 @ 2.5 MHz	5	28 @ 5 MHz	40	10.5	115
MS450RAA223_SZ	22.0 @ 2.5 MHz	5,2	28 @ 5 MHz	40	11.5	110
MS450RAA273JSZ	27.0 @ 2.5 MHz	5	28 @ 5 MHz	30	12.5	105
MS450RAA333_SZ	33.0 @ 2.5 MHz	5,2	24 @ 2.5 MHz	20	13.5	105

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

MS450RAA333JSZ

Tolerance: G = 2% J = 5%

Termination: S = Tin-lead (63/37) over silver-platinum-glass frit.

Special order:

T = Tin-silver-copper (95.5/4/0.5) over silver-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.

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

Core material Ceramic

Terminations Tin-lead (63/37) 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_{max} 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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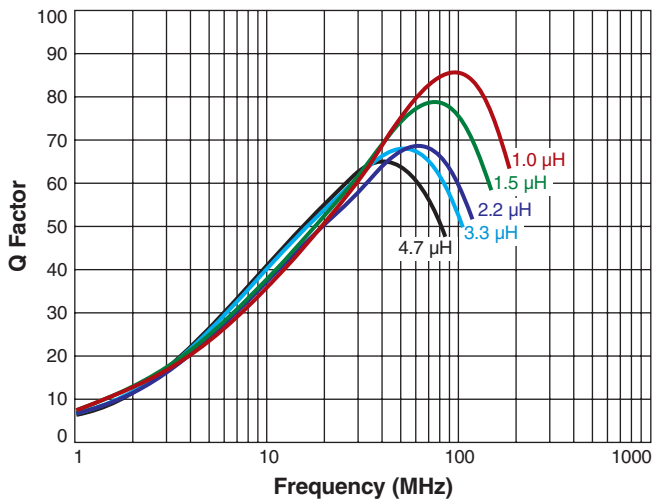
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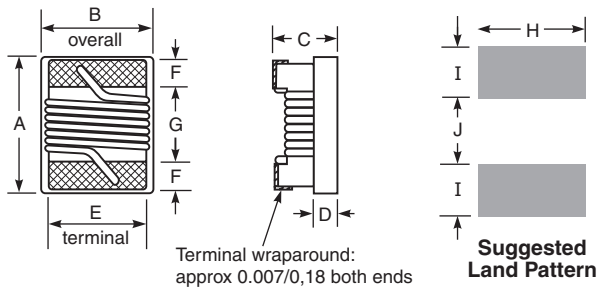
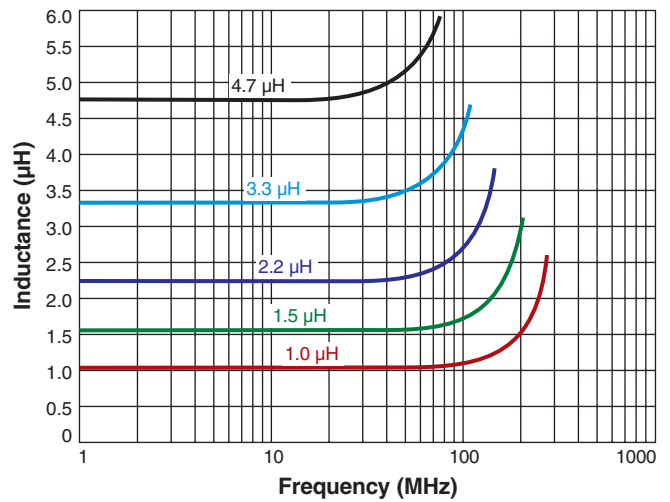
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

MS450RAA 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**.