

# High-Reliability Chip Inductors<sup>ML450RAA</sup>

- Higher SRF values than 1812 size parts with ferrite cores
- 19 inductance values from 1.0 to 33  $\mu\text{H}$

This robust version of Coilcraft's standard 1812CS series features high temperature materials that allow operation in ambient temperatures up to 155°C.

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)
ML450RAA102_LZ	1.0 @ 7.9 MHz	5,2	59 @ 50 MHz	260	1.1	390
ML450RAA122_LZ	1.2 @ 7.9 MHz	5,2	54 @ 50 MHz	230	1.2	360
ML450RAA152_LZ	1.5 @ 7.9 MHz	5,2	57 @ 50 MHz	210	1.6	320
ML450RAA182_LZ	1.8 @ 7.9 MHz	5,2	57 @ 50 MHz	190	2.0	270
ML450RAA222_LZ	2.2 @ 7.9 MHz	5,2	52 @ 50 MHz	170	2.2	250
ML450RAA272_LZ	2.7 @ 7.9 MHz	5,2	53 @ 50 MHz	160	3.2	200
ML450RAA332_LZ	3.3 @ 7.9 MHz	5,2	53 @ 50 MHz	145	3.8	200
ML450RAA392_LZ	3.9 @ 7.9 MHz	5,2	53 @ 50 MHz	130	5.0	175
ML450RAA472_LZ	4.7 @ 7.9 MHz	5,2	32 @ 10 MHz	115	5.4	165
ML450RAA562JLZ	5.6 @ 7.9 MHz	5	32 @ 10 MHz	100	5.7	160
ML450RAA682JLZ	6.8 @ 7.9 MHz	5	32 @ 10 MHz	90	6.6	155
ML450RAA822_LZ	8.2 @ 7.9 MHz	5,2	32 @ 10 MHz	80	7.0	145
ML450RAA103JLZ	10.0 @ 7.9 MHz	5	32 @ 10 MHz	70	7.7	125
ML450RAA123JLZ	12.0 @ 2.5 MHz	5	26 @ 5 MHz	60	8.7	125
ML450RAA153JLZ	15.0 @ 2.5 MHz	5	26 @ 5 MHz	50	9.6	120
ML450RAA183JLZ	18.0 @ 2.5 MHz	5	28 @ 5 MHz	40	10.5	115
ML450RAA223_LZ	22.0 @ 2.5 MHz	5,2	28 @ 5 MHz	40	11.5	110
ML450RAA273JLZ	27.0 @ 2.5 MHz	5	28 @ 5 MHz	30	12.5	105
ML450RAA333_LZ	33.0 @ 2.5 MHz	5,2	24 @ 2.5 MHz	20	13.5	105

1. When ordering, please specify **tolerance** code:

ML450RAA333JLZ

**Tolerance:** G = 2% J = 5%

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 16197 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 Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF859 test fixture.
  6. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Core material** Ceramic

**Terminations** Silver-palladium-platinum-glass frit

**Weight:** 102 – 142 mg

**Ambient temperature** –55°C to +140°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



CRITICAL PRODUCTS & SERVICES

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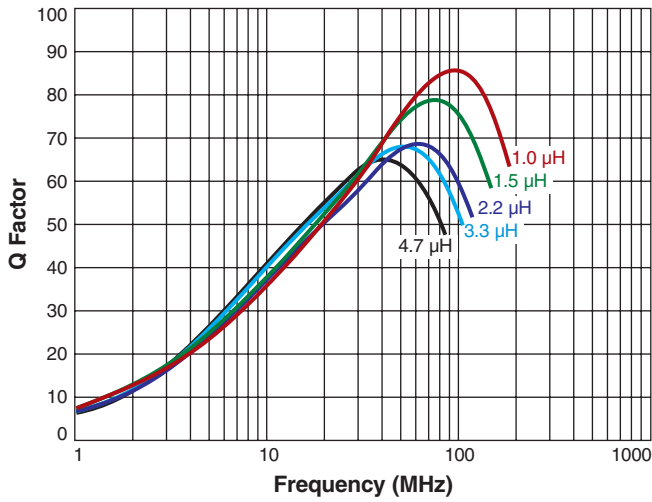
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**PRECISION** REPEATABLE  
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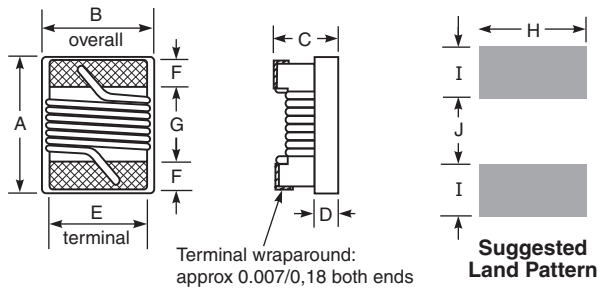
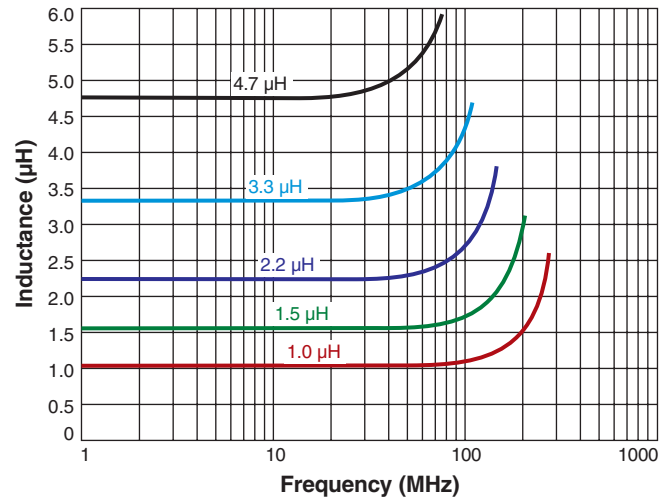
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# ML450RAA Series (1812)

## 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



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