

# High-Reliability Chip Inductors MS450RAB

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

base metalization with tin-lead (Sn-Pb) terminations ensures the best possible board adhesion.

Part number <sup>1</sup>	Inductance <sup>2</sup> ( $\mu$ H)	L test freq (MHz)	Percent tolerance	Q min <sup>3</sup>	Q test freq (MHz)	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	Imax (mA)
MS450RAB123JSZ	12	2.5	5	22	0.79	55	2.0	280
MS450RAB153JSZ	15	2.5	5	22	0.79	45	2.5	260
MS450RAB183JSZ	18	2.5	5	24	0.79	37	2.8	240
MS450RAB223JSZ	22	2.5	5	20	0.79	32	3.2	210
MS450RAB273JSZ	27	2.5	5	24	0.79	27	3.6	200
MS450RAB333JSZ	33	2.5	5	22	0.79	23	4.0	190
MS450RAB393JSZ	39	2.5	5	20	0.79	19	4.5	185
MS450RAB473JSZ	47	2.5	5	24	0.79	16	5.0	180
MS450RAB563JSZ	56	2.5	5	22	0.79	13	5.5	170
MS450RAB683JSZ	68	2.5	5	24	0.79	10	6.0	150
MS450RAB823JSZ	82	2.5	5	24	0.79	9.0	7.0	135
MS450RAB104JSZ	100	2.5	5	24	0.79	8.5	8.0	135
MS450RAB124JSZ	120	0.79	5	25	0.79	8.5	11.5	110
MS450RAB154JSZ	150	0.79	5	23	0.79	8.5	13.0	100
MS450RAB184JSZ	180	0.79	5	24	0.79	8.0	14.2	85
MS450RAB224JSZ	220	0.79	5	23	0.79	6.0	16.2	80
MS450RAB274JSZ	270	0.79	5	23	0.79	5.0	20.5	75
MS450RAB334JSZ	330	0.79	5	24	0.79	4.5	22.5	70
MS450RAB394JSZ	390	0.79	5	14	0.25	3.5	24.5	65
MS450RAB474JSZ	470	0.79	5	15	0.25	3.0	26.5	65
MS450RAB564JSZ	560	0.79	5	13	0.25	2.0	28.5	65
MS450RAB684JSZ	680	0.79	5	13	0.25	1.9	38.5	60
MS450RAB824JSZ	820	0.79	5	13	0.25	1.6	41.0	50
MS450RAB105JSZ	1000	0.79	5	15	0.25	1.5	44.0	50

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

**MS450RAB105JSZ**

**Testing:** Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10003

- Inductance at 2.5 MHz measured using an Agilent/HP 4286A and a Coilcraft SMD-A fixture with Coilcraft-provided correlation pieces. Inductance at 0.79 MHz measured using an Agilent/HP 4192A and Coilcraft SMD-B test fixture.
  - Q read at test frequency directly on an Agilent/HP 4192A LF impedance analyzer and a Coilcraft SMD-B test fixture.
  - SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
  - DCR measured on a Cambridge Technology micro-ohmmeter.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Core material** Ferrite

**Terminations** Tin-lead (63/37) over silver-platinum-glass frit

**Ambient temperature** -55°C to +125°C with Imax current, +125°C to +155°C with derated current

**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)** +200 to +700 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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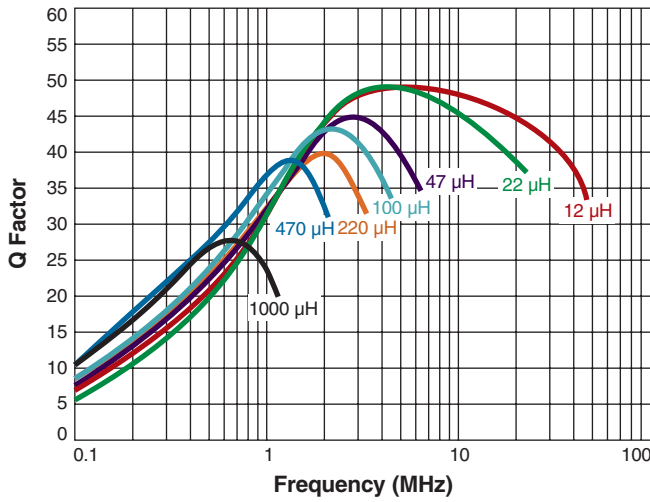
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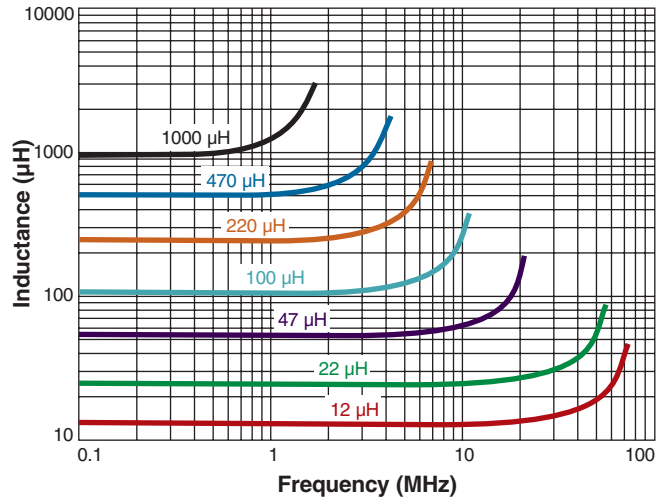
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# MS450RAB Series (1812)

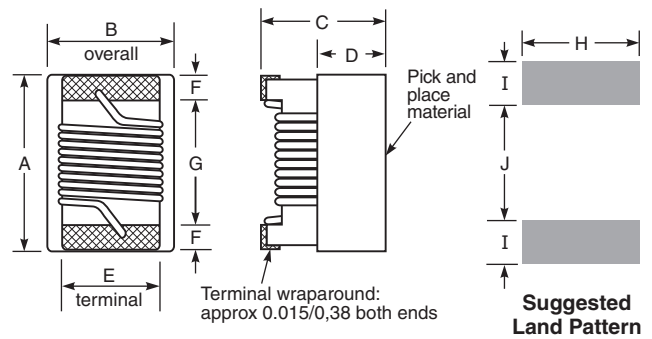
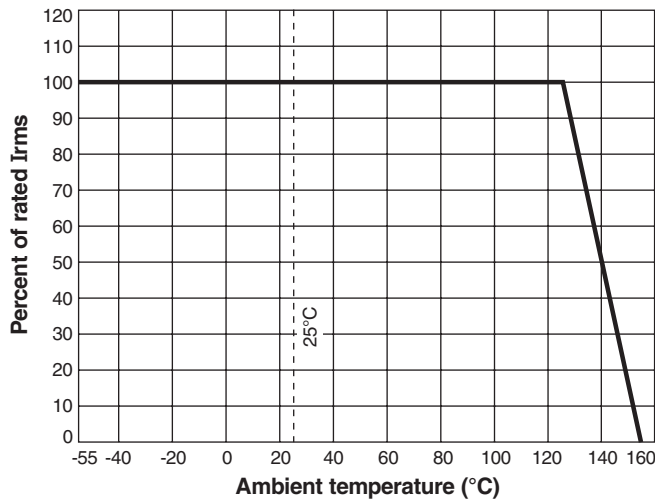
## Typical Q vs Frequency



## Typical L vs Frequency



## Current Derating



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
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**.



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