# 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[1] | Inductance[2] (µH) | L test freq (MHz) | Percent tolerance | Q min[3] | Q test freq (MHz) | SRF min[4] (MHz) | DCR max[5] (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
2. 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.
3. Q read at test frequency directly on an Agilent/HP 4192A LF impedance analyzer and a Coilcraft SMD-B test fixture.
4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
5. DCR measured on a Cambridge Technology micro-ohmmeter.
6. 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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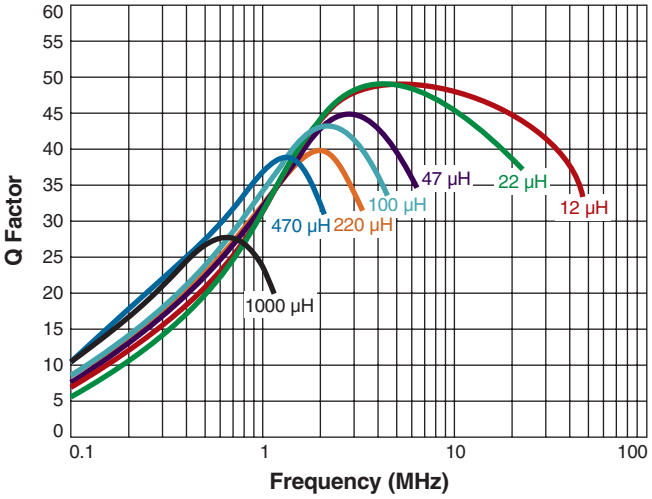
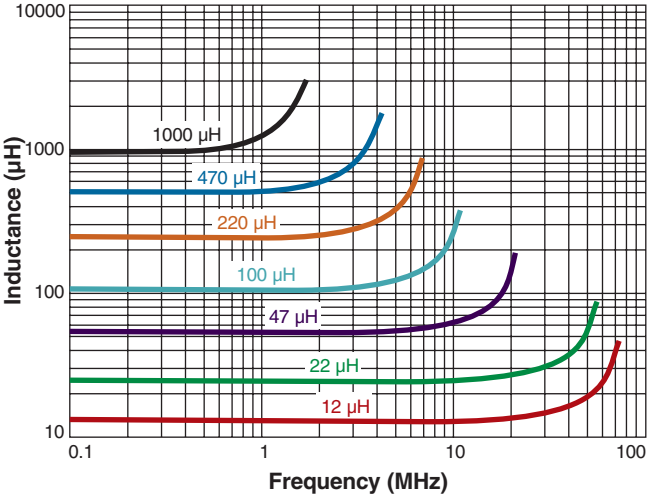
# MS450RAB Series (1812)

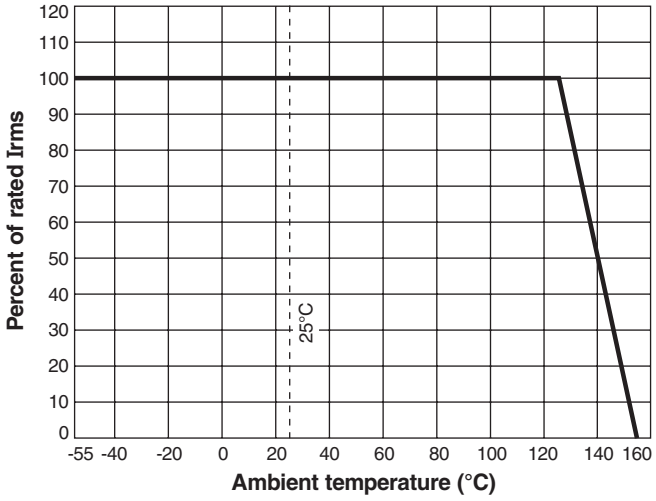
## Typical Q vs Frequency

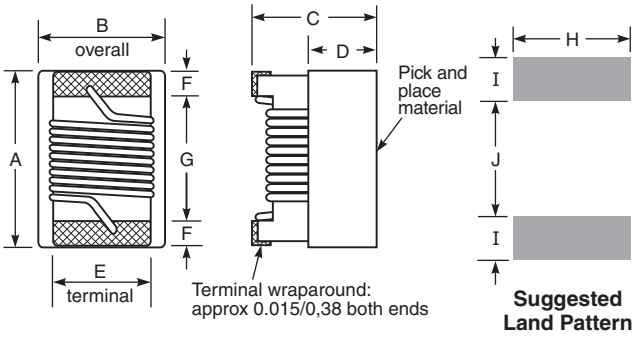



## Typical L vs Frequency




## Current Derating




| 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 | inches |
| 4,95 | 3,81 | 3,43 | 1,78 | 2,54 | 0,64 | 3,25 | 3,05 | 1,14 | 3,00 | mm |

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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Specifications subject to change without notice.
Please check our web site for latest information.