

Chip Inductors for Critical Applications ST450RAB

With inductance values up to 1000 μH , these are our highest inductance chip inductors. Their ferrite core allows higher current ratings and lower DC resistance.

| Part number ¹ | Inductance ² (μH) | L test freq (MHz) | Percent tolerance | Q typ ³ | Q test freq (MHz) | SRF min ⁴ (MHz) | DCR max ⁵ (Ohms) | I _{max} (mA) |
|--------------------------|--|----------------------|----------------------|-----------------------|----------------------|-------------------------------|--------------------------------|--------------------------|
| ST450RAB123JLZ | 12 | 2.5 | 5 | 22 | 0.79 | 55 | 2.0 | 280 |
| ST450RAB153JLZ | 15 | 2.5 | 5 | 22 | 0.79 | 45 | 2.5 | 260 |
| ST450RAB183JLZ | 18 | 2.5 | 5 | 24 | 0.79 | 37 | 2.8 | 240 |
| ST450RAB223JLZ | 22 | 2.5 | 5 | 20 | 0.79 | 32 | 3.2 | 210 |
| ST450RAB273JLZ | 27 | 2.5 | 5 | 24 | 0.79 | 27 | 3.6 | 200 |
| ST450RAB333JLZ | 33 | 2.5 | 5 | 22 | 0.79 | 23 | 4.0 | 190 |
| ST450RAB393JLZ | 39 | 2.5 | 5 | 20 | 0.79 | 19 | 4.5 | 185 |
| ST450RAB473JLZ | 47 | 2.5 | 5 | 24 | 0.79 | 16 | 5.0 | 180 |
| ST450RAB563JLZ | 56 | 2.5 | 5 | 22 | 0.79 | 13 | 5.5 | 170 |
| ST450RAB683JLZ | 68 | 2.5 | 5 | 24 | 0.79 | 10 | 6.0 | 150 |
| ST450RAB823JLZ | 82 | 2.5 | 5 | 24 | 0.79 | 9.0 | 7.0 | 135 |
| ST450RAB104JLZ | 100 | 2.5 | 5 | 24 | 0.79 | 8.5 | 8.0 | 135 |
| ST450RAB124JLZ | 120 | 0.79 | 5 | 25 | 0.79 | 8.5 | 11.5 | 110 |
| ST450RAB154JLZ | 150 | 0.79 | 5 | 23 | 0.79 | 8.5 | 13.0 | 100 |
| ST450RAB184JLZ | 180 | 0.79 | 5 | 24 | 0.79 | 8.0 | 14.2 | 85 |
| ST450RAB224JLZ | 220 | 0.79 | 5 | 23 | 0.79 | 6.0 | 16.2 | 80 |
| ST450RAB274JLZ | 270 | 0.79 | 5 | 23 | 0.79 | 5.0 | 20.5 | 75 |
| ST450RAB334JLZ | 330 | 0.79 | 5 | 24 | 0.79 | 4.5 | 22.5 | 70 |
| ST450RAB394JLZ | 390 | 0.79 | 5 | 14 | 0.25 | 3.5 | 24.5 | 65 |
| ST450RAB474JLZ | 470 | 0.79 | 5 | 15 | 0.25 | 3.0 | 26.5 | 65 |
| ST450RAB564JLZ | 560 | 0.79 | 5 | 13 | 0.25 | 2.0 | 28.5 | 65 |
| ST450RAB684JLZ | 680 | 0.79 | 5 | 13 | 0.25 | 1.9 | 38.5 | 60 |
| ST450RAB824JLZ | 820 | 0.79 | 5 | 13 | 0.25 | 1.6 | 41.0 | 50 |
| ST450RAB105JLZ | 1000 | 0.79 | 5 | 15 | 0.25 | 1.5 | 44.0 | 50 |

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

ST450RAB105JLZ

Termination: L = Silver-palladium-platinum glass frit.

Special order:

R = 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.

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.

Testing: Z = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

All screening performed to the document's latest revision

Custom screening also available

2. Inductance at 2.5 MHz measured using an Agilent/HP 4286A or equivalent and a Coilcraft SMD-A fixture with Coilcraft-provided correlation pieces. Inductance at 0.79 MHz measured using an Agilent/HP 4192A or equivalent and Coilcraft SMD-B test fixture.

3. Q read at test frequency directly on an Agilent/HP 4395A impedance analyzer and an Agilent/HP 16193A test fixture or equivalents.

4. SRF measured using an Agilent/HP 8753D network analyzer or equivalent and a Coilcraft SMD-D test fixture.

5. DCR measured on a Cambridge Technology micro-ohmmeter or equivalent.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Core material Ferrite

Terminations Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

Ambient temperature -40°C to +85°C with I_{max} current

Maximum part temperature +100°C (ambient + temp rise).

Storage temperature Component: -55°C to +100°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)

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

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

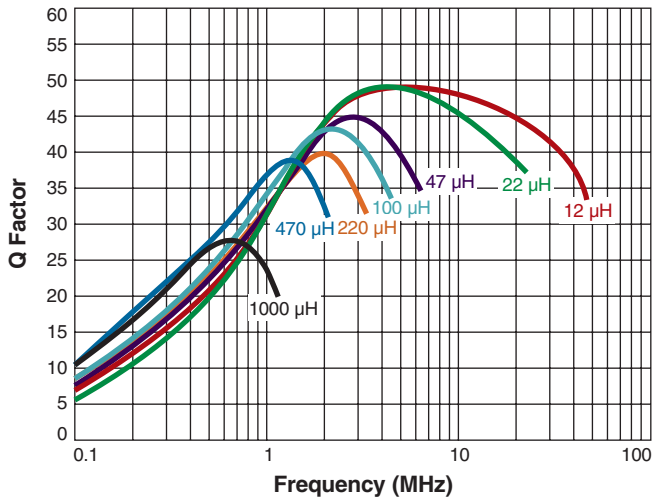
Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

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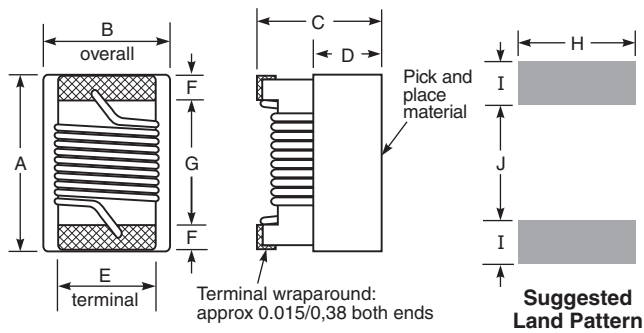
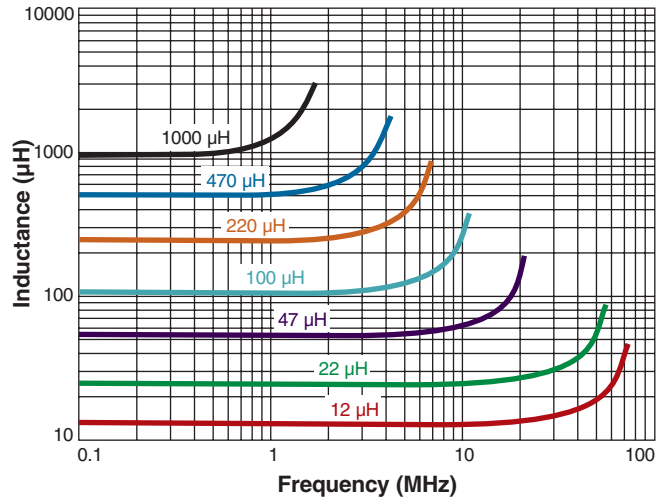
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

ST450RAB Series (1812)

Typical Q vs Frequency



Typical L vs Frequency



| 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 optional 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**.



1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

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