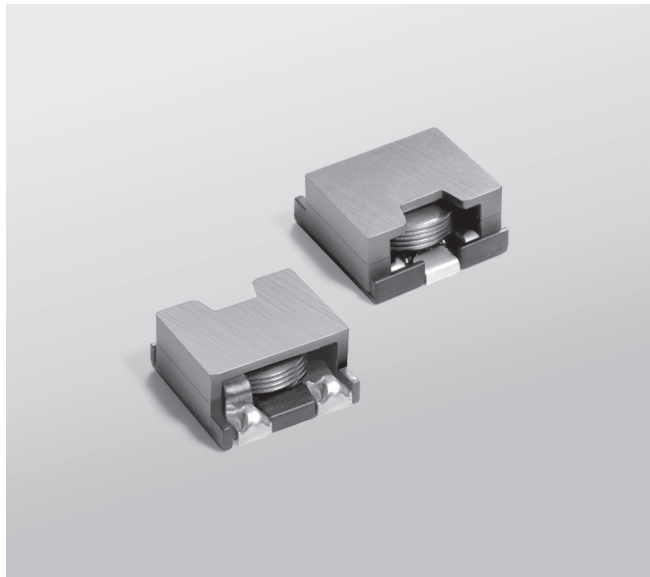




# Shielded Power Inductors – SER1052



- High current, low DCR shielded power inductors
- Less than 11 × 11 mm base; only 5.2 mm tall

**Designer's Kit C421** contains 3 of each value

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Core material** Ferrite

**Terminations** RoHS compliant tin-silver over tin over nickel over phos bronze (pins 1 and 2); matte tin over nickel over phos bronze (pin 3). Other terminations available at additional cost.

**Weight** 1.6 g

**Ambient temperature** -40°C to +85°C with Irms current, +85°C to +125°C with derated current

**Storage temperature** Component: -40°C to +125°C.

Tape and reel packaging: -40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging** 200/7" reel; 700/13" reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 5.45 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

| Part number <sup>1</sup> | Inductance<br>±20% <sup>2</sup><br>(μH) | DCR<br>max <sup>3</sup><br>(mΩ) | SRF<br>typ <sup>4</sup><br>(MHz) | Isat (A) <sup>5</sup> |             |             | Irms(A) <sup>6</sup> |              |
|--------------------------|-----------------------------------------|---------------------------------|----------------------------------|-----------------------|-------------|-------------|----------------------|--------------|
|                          |                                         |                                 |                                  | 10%<br>drop           | 20%<br>drop | 30%<br>drop | 20°C<br>rise         | 40°C<br>rise |
| SER1052-801ML_           | 0.80                                    | 4.0                             | 100                              | 24.9                  | 25.2        | 25.6        | 12.5                 | 16.3         |
| SER1052-102ML_           | 1.0                                     | 4.0                             | 95                               | 16.5                  | 17.0        | 17.5        | 12.5                 | 16.3         |
| SER1052-122ML_           | 1.2                                     | 6.0                             | 91                               | 20.5                  | 21.0        | 21.3        | 11.0                 | 15.0         |
| SER1052-132ML_           | 1.3                                     | 4.0                             | 81                               | 12.9                  | 16.8        | 17.2        | 12.5                 | 16.3         |
| SER1052-152ML_           | 1.5                                     | 4.0                             | 75                               | 13.5                  | 14.0        | 14.5        | 11.0                 | 15.0         |
| SER1052-182ML_           | 1.8                                     | 6.0                             | 70                               | 13.3                  | 13.8        | 14.3        | 11.0                 | 15.0         |
| SER1052-202ML_           | 2.0                                     | 9.0                             | 65                               | 15.3                  | 15.8        | 16.2        | 8.5                  | 11.5         |
| SER1052-222ML_           | 2.2                                     | 4.0                             | 58                               | 8.9                   | 9.6         | 10.0        | 12.5                 | 16.3         |
| SER1052-252ML_           | 2.5                                     | 7.5                             | 55                               | 11.4                  | 11.8        | 12.1        | 9.0                  | 12.0         |
| SER1052-322ML_           | 3.2                                     | 6.0                             | 53                               | 7.3                   | 7.8         | 8.5         | 11.0                 | 15.0         |
| SER1052-402ML_           | 4.0                                     | 9.0                             | 47                               | 8.3                   | 8.5         | 8.8         | 8.5                  | 11.5         |
| SER1052-432ML_           | 4.3                                     | 7.5                             | 44                               | 6.4                   | 6.8         | 7.0         | 9.0                  | 12.0         |
| SER1052-572ML_           | 5.7                                     | 9.0                             | 35                               | 5.4                   | 5.8         | 6.0         | 8.5                  | 11.5         |

1. Please specify **termination** and **packaging** codes:

**SER1052-572MLD**

**Termination:** **L** = RoHS compliant tin-silver over copper (pins 1 and 2); matte tin over nickel over phos bronze (pin 3).

Special order:

**T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

**Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (200 parts per full reel).

**B** = Less than full reel. In tape, but not machine ready.

To have a leader and trailer added (\$25 charge), use code letter C instead.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (700 parts per full reel)

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A or equivalent.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using an Agilent/HP 4395A network analyzer and an Agilent/HP 16193A test fixture.

5. DC current at which the inductance drops the specified amount from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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



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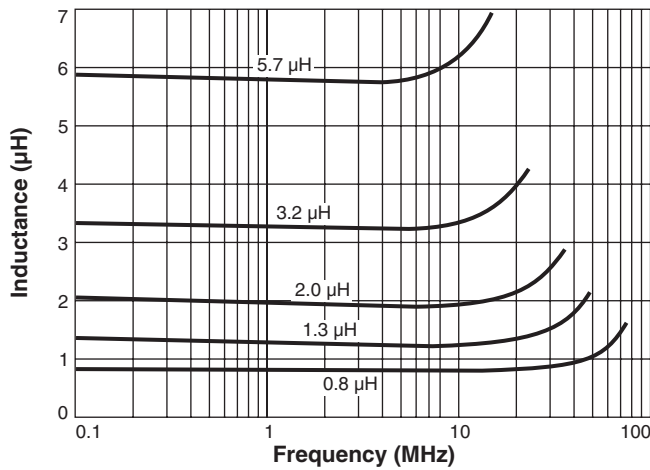
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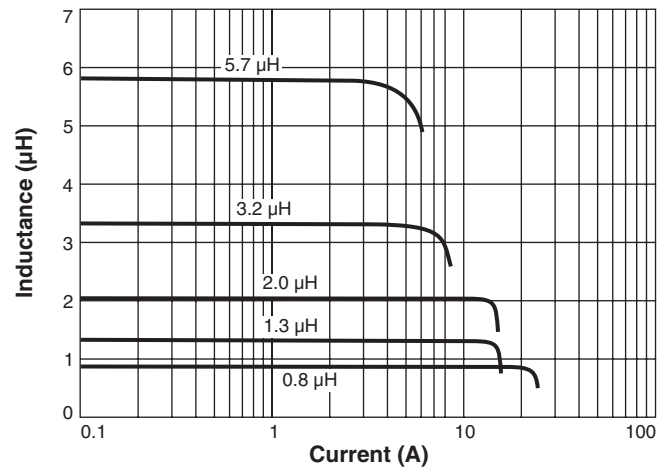


# Shielded Power Inductors - SER1052 Series

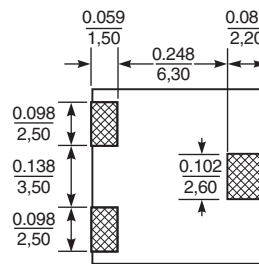
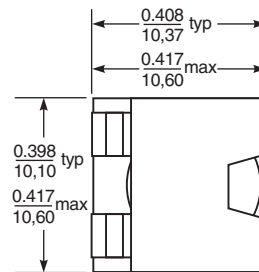
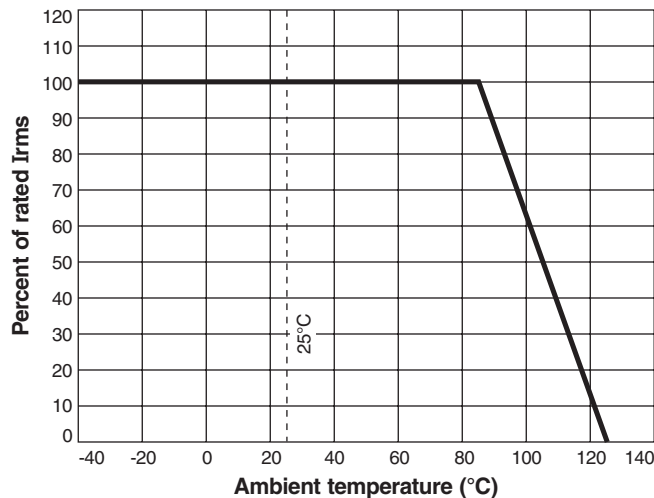
## Typical L vs Frequency



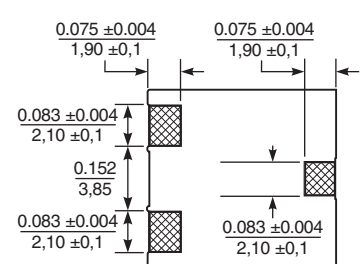
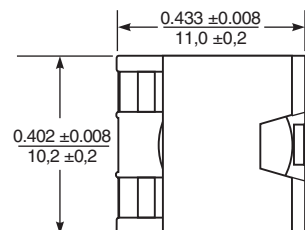
## Typical L vs Current



## Irms Derating

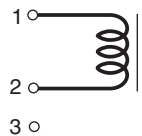


For parts manufactured  
prior to 01/09



For parts manufactured  
after 12/08

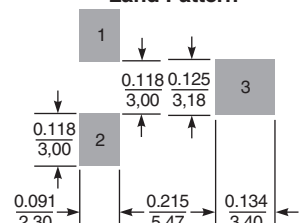
Visit <http://coilcraft.com/datecode.cfm>  
for an explanation of date codes.



Terminal 3 is for  
mounting stability only.

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

## Recommended Land Pattern



[www.coilcraft.com](http://www.coilcraft.com)

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