

# Shielded Power Inductors – SER1390



- Exceptionally high current carrying capability
- Low DC resistance
- AEC-200 Grade 3 qualified (–40°C to +85°C ambient)

**Core material** Ferrite

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

**Terminations** RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 4.0 – 4.8 g

**Ambient temperature** –40°C to +85°C with (40°C rise) Irms current.

**Maximum part temperature** +125°C (ambient + temp rise). [Derating](#).

**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** 300 per 13" reel; Plastic tape: 24 mm wide, 0.5 mm thick, 20 mm pocket spacing, 9.6 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>±20% (µH) | DCR (mOhm) <sup>3</sup> |      | SRF typ <sup>4</sup><br>(MHz) | Isat (A) <sup>5</sup> |          |          | Irms (A) <sup>6</sup> |           |
|--------------------------|--------------------------------------|-------------------------|------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
|                          |                                      | typ                     | max  |                               | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| SER1390-103ML_           | 10                                   | 13.7                    | 15.0 | 26.9                          | 11.32                 | 12.56    | 13.16    | 6.4                   | 9.2       |
| SER1390-153ML_           | 15                                   | 13.7                    | 15.0 | 24.3                          | 7.20                  | 8.04     | 8.60     | 6.4                   | 9.2       |
| SER1390-223ML_           | 22                                   | 21.0                    | 23.1 | 20.3                          | 6.08                  | 6.80     | 7.36     | 5.7                   | 7.7       |
| SER1390-333ML_           | 33                                   | 21.0                    | 23.1 | 15.7                          | 3.80                  | 4.40     | 4.76     | 5.7                   | 7.7       |
| SER1390-473ML_           | 47                                   | 21.0                    | 23.1 | 13.2                          | 2.60                  | 3.00     | 3.20     | 5.7                   | 7.7       |

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

**SER1390-473MLD**

**Termination:** L = RoHS compliant matte-tin over nickel over phos bronze.

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

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (300 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 D instead.

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 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information](#).

6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information](#).

7. Electrical specifications at 25°C.

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



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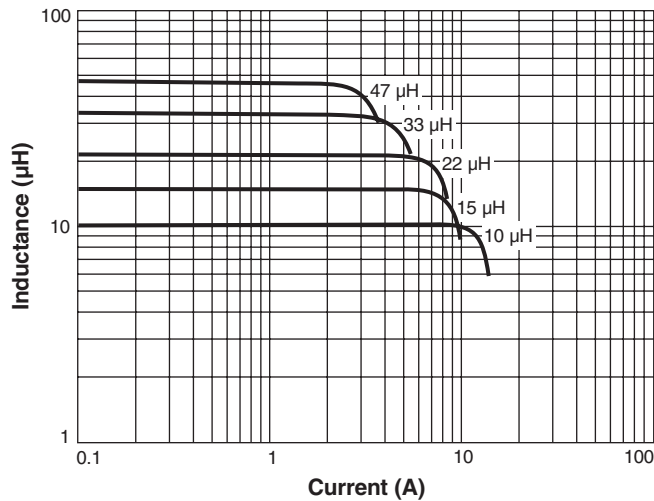
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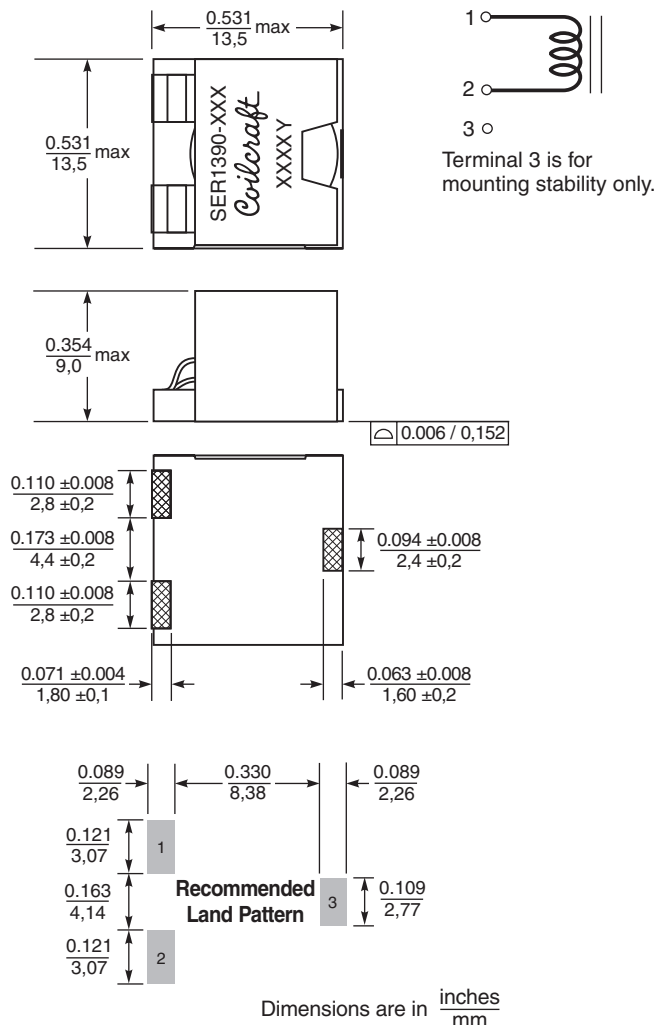
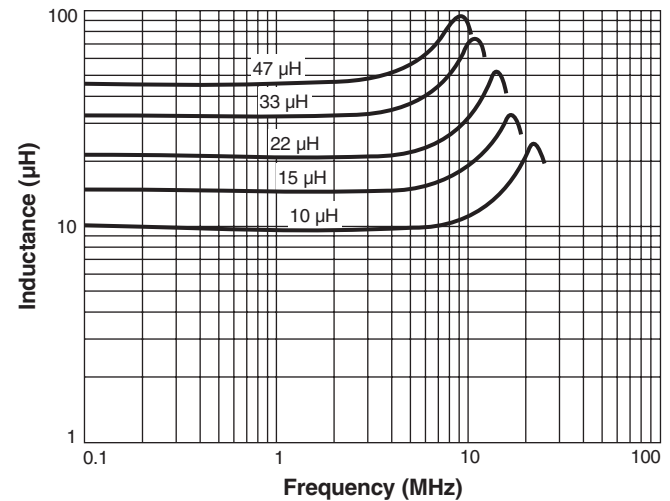


# Shielded Power Inductors – SER1390 Series

## L vs Current



## L vs Frequency



www.coilcraft.com

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