

# 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> ±20% (µH)	DCR (mOhm) <sup>3</sup>		SRF typ <sup>4</sup> (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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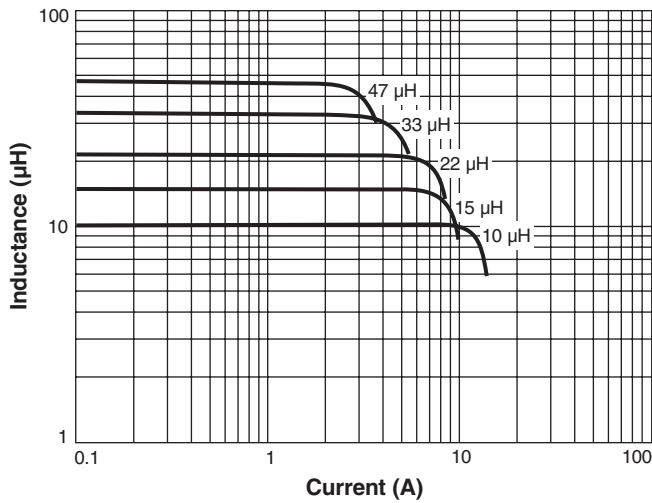
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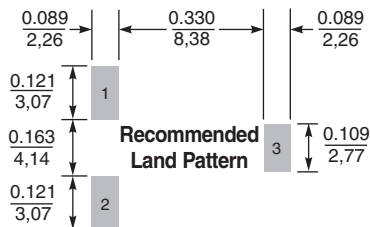
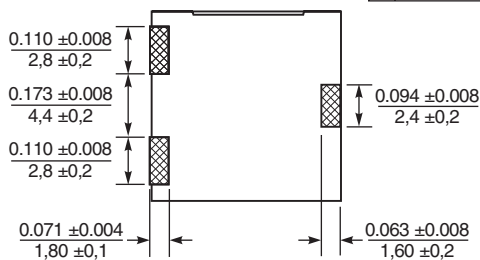
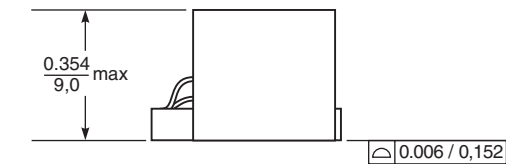
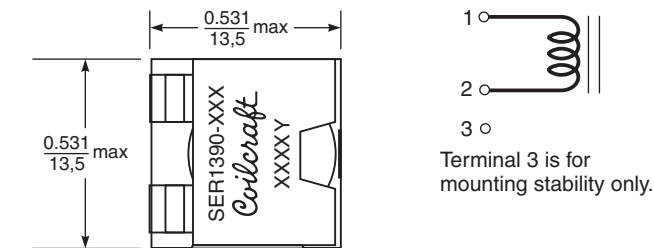
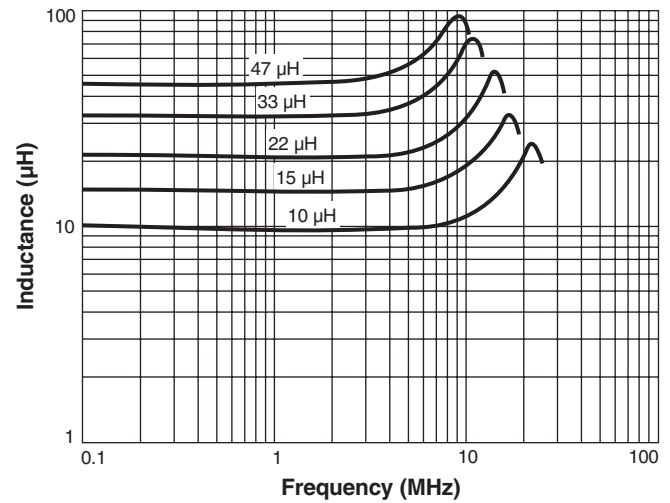


# Shielded Power Inductors – SER1390 Series

## L vs Current



## L vs Frequency



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



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