

# Shielded Power Inductors – SER80XX



- Two different DCR / Isat versions to match the requirements of a wide variety of applications
- Low DCR; excellent current handling

**Core material** Ferrite

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

**Terminations** RoHS 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** 0.86 – 1.0 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** 250/7" reel, 1000/13" reel; Plastic tape: 16 mm wide, 0.4 mm thick, 12 mm pocket spacing, 5.2 mm pocket depth

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

## Low DCR version for high average current applications

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
SER8050-501ME_	0.50	2.22	2.50	234	19.40	22.02	22.68	9.78	13.52
SER8050-112ME_	1.1	3.19	3.50	109	12.22	13.86	14.50	8.05	11.97
SER8050-202ME_	2.0	5.35	5.88	74	7.94	9.22	9.78	7.83	10.79
SER8052-312ME_	3.1	6.44	7.20	63	6.58	7.56	8.00	6.26	8.71
SER8052-452ME_	4.5	8.64	9.50	52	4.76	5.74	6.14	5.37	7.68
SER8052-612ME_	6.1	8.64	9.50	45	3.44	4.22	4.58	5.17	7.31
SER8052-802ME_	8.0	13.03	14.33	43	2.90	3.58	3.86	4.57	6.31
SER8052-103ME_	10	13.03	14.33	40	2.24	2.80	3.10	4.61	6.32

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

SER8052-103MED

**Termination:** E = RoHS tin-silver over tin over nickel over phos bronze (pins 1 and 2); Matte tin over nickel over phos bronze (pin 3).

**Special order:** T = RoHS tin-silver-copper over 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 (250 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked(1000 parts per full reel).

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

3. DCR measured on a micro-ohmmeter.

4. SRF measured using an Agilent/HP 8753D 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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# SER80xx Shielded Power Inductors

High Isat version for high peak current applications

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
SER8050-451ME_	0.45	3.19	3.50	216	29.52	30.32	31.12	7.95	11.72
SER8050-811ME_	0.80	5.35	5.88	125	22.48	24.40	25.20	6.48	9.43
SER8052-122ME_	1.2	6.44	7.20	110	17.42	18.54	19.18	6.03	8.11
SER8052-182ME_	1.8	8.64	9.50	91	13.60	14.56	14.88	5.33	7.94
SER8052-242ME_	2.4	8.64	9.50	76	10.36	11.38	11.80	5.40	7.58
SER8052-332ME_	3.2	13.03	14.33	72	9.02	9.84	10.24	4.43	6.25
SER8052-402ME_	4.0	13.03	14.33	66	7.04	7.84	8.24	4.53	6.30

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

**SER8052-402MED**

**Termination:** **E** = RoHS tin-silver over tin over nickel over phos bronze (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 (250 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked(1000 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 8753D 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.](#)

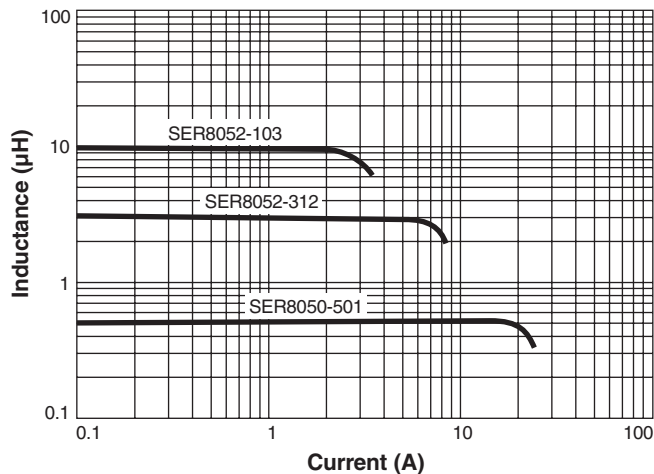
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information.](#)

7. Electrical specifications at 25°C.

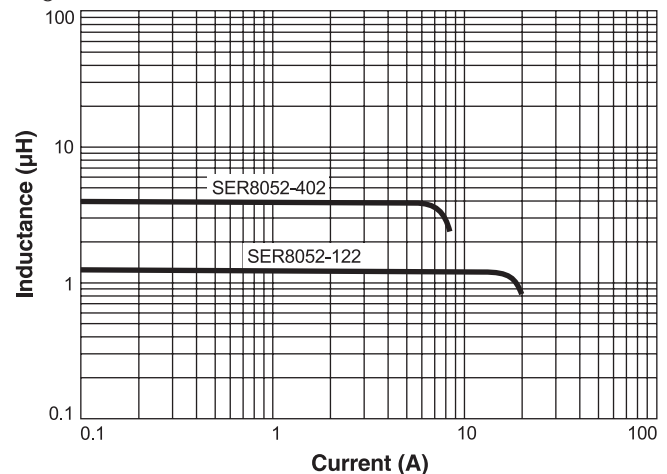
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

## Typical L vs Current

Low DCR version



High Isat version



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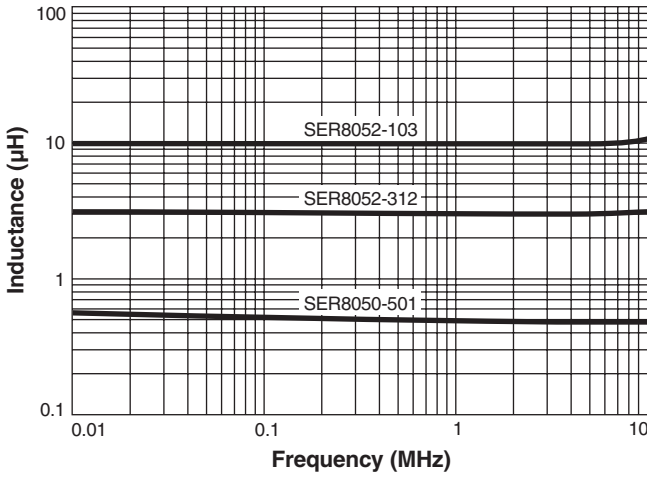
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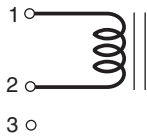
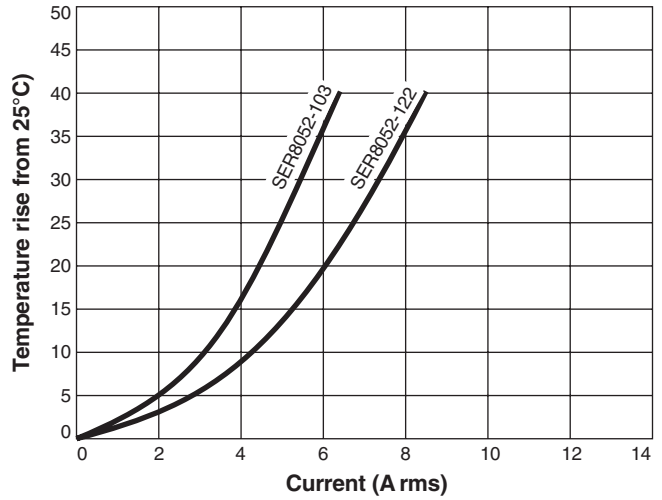


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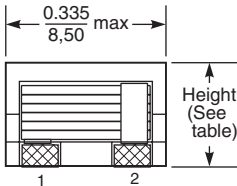
## Typical L vs Frequency



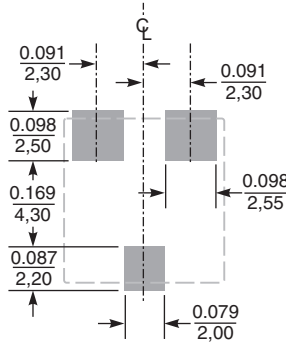
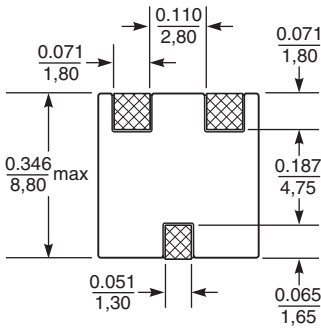
## Typical Temperature Rise vs Current



Terminal 3 is for mounting stability only.



	Height max (in / mm)
SER8050	0.197 / 5,0
SER8052	0.205 / 5,2



**Recommended Land Pattern**

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



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