







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

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

	Inductance ²	DCR (mOhm) ³		SRF tvp ⁴	Isat (A)⁵			Irms (A) ⁶	
Part number ¹	±20% (μH)	typ	max	(MHz)	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).

- \mathbf{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(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.
- 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

0	Inductance ²	DCR (mOhm) ³		SRF tvp ⁴	Isat (A)⁵			Irms (A) ⁶	
Part number ¹	±20% (μΗ)	typ	max	(MHz)	10% drop	20% drop	30% drop	20°C rise	40°C rise
SER8050-201ME_	0.20	2.22	2.50	381	51.04	53.04	53.44	8.71	12.89
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). C = 7" machine-ready reel. EIA-481 embossed plastic tape (250 parts per full reel). Packaging:

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(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



High Isat version





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Typical L vs Frequency





3 O Terminal 3 is for mounting stability only.









Land Pattern

Typical Temperature Rise vs Current



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