RoHS/ REACH COMPLIANT

Halogen Free

Shielded Power Inductors – ER80xx



- 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
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).
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.

Low DCR version for high average current applications

Part number[1]	Inductance[2] ±20% (µH)	DCR (mOhm)[3] typ	DCR (mOhm)[3] max	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
ER8050-501ME_	0.50	2.22	2.50	234	19.40	22.02	22.68	9.78	13.52
ER8050-112ME_	1.1	3.19	3.50	109	12.22	13.86	14.50	8.05	11.97
ER8050-202ME_	2.0	5.35	5.88	74	7.94	9.22	9.78	7.83	10.79
ER8052-312ME_	3.1	6.44	7.20	63	6.58	7.56	8.00	6.26	8.71
ER8052-452ME_	4.5	8.64	9.50	52	4.76	5.74	6.14	5.37	7.68
ER8052-612ME_	6.1	8.64	9.50	45	3.44	4.22	4.58	5.17	7.31
ER8052-802ME_	8.0	13.03	14.33	43	2.90	3.58	3.86	4.57	6.31
ER8052-103ME_	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:

ER8052-103MED

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).
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.
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.
7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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Specification subject to change without notice.
Please check web site for latest information.

ER80xx Shielded Power Inductors

High Isat version for high peak current applications

Part number[1]	Inductance[2] ±20% (µH)	DCR (mOhm)[3] typ	DCR (mOhm)[3] max	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
ER8050-201ME_	0.20	2.22	2.50	381	51.04	53.04	53.44	8.71	12.89
ER8050-451ME_	0.45	3.19	3.50	216	29.52	30.32	31.12	7.95	11.72
ER8050-811ME_	0.80	5.35	5.88	125	22.48	24.40	25.20	6.48	9.43
ER8052-122ME_	1.2	6.44	7.20	110	17.42	18.54	19.18	6.03	8.11
ER8052-182ME_	1.8	8.64	9.50	91	13.60	14.56	14.88	5.33	7.94
ER8052-242ME_	2.4	8.64	9.50	76	10.36	11.38	11.80	5.40	7.58
ER8052-332ME_	3.2	13.03	14.33	72	9.02	9.84	10.24	4.43	6.25
ER8052-402ME_	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:

ER8052-402MED

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).

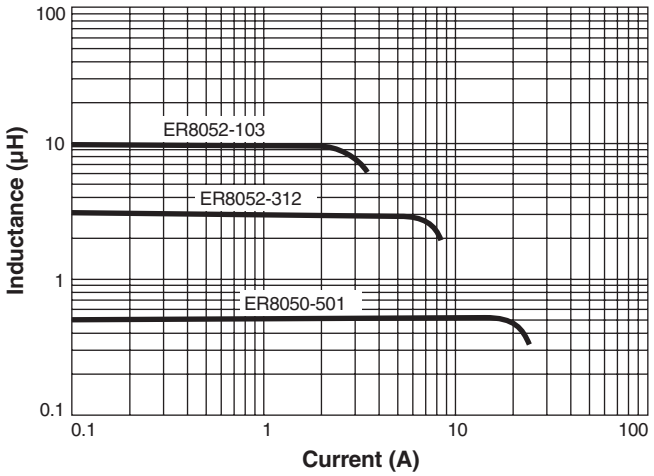
Packaging: **C** = 7″ machine-ready reel. EIA-481 embossed plastic tape (250 parts per full reel).
B = Less than full reel. In tape, but not machine ready.
To have a leader and trailer added ($25 charge), use code letter C instead.
D = 13″ machine-ready reel. EIA-481 embossed plastic tape. Factory order 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.
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.
7. Electrical specifications at 25°C.

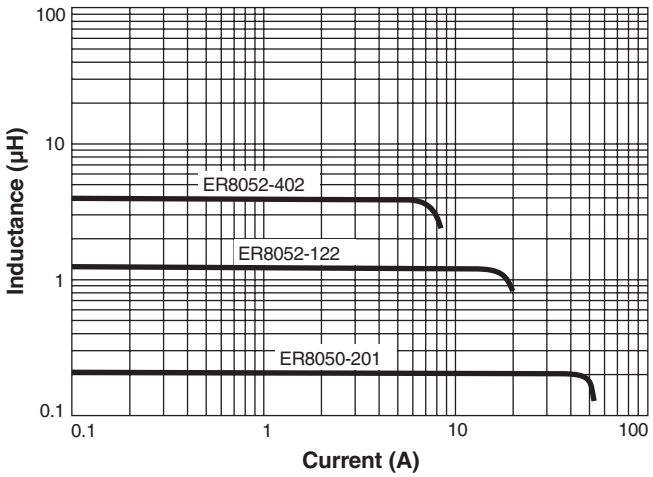
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Typical L vs Current

Low DCR version



High Isat version



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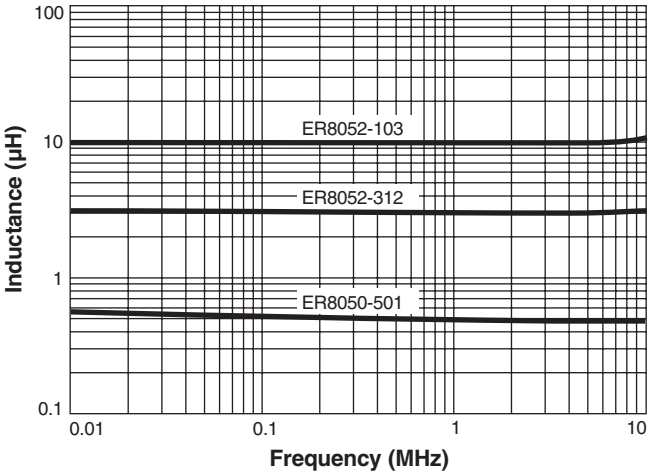
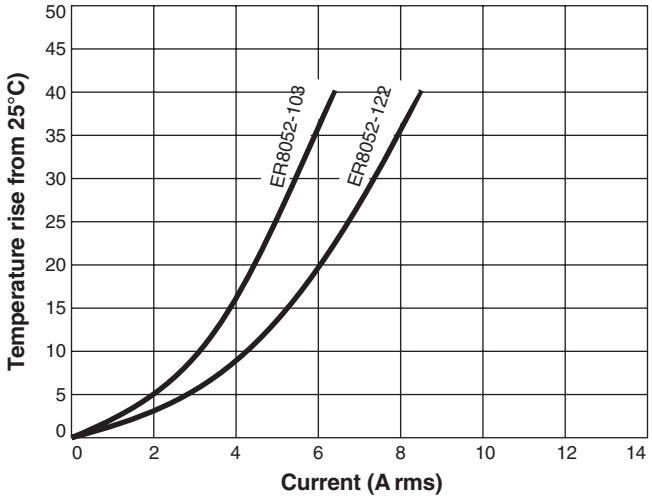
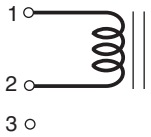
Typical L vs Frequency

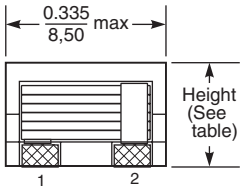


Typical Temperature Rise vs Current

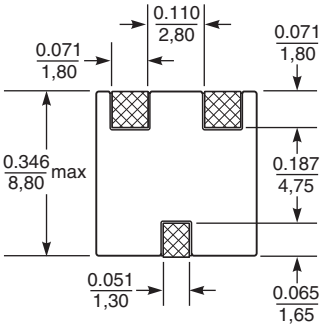


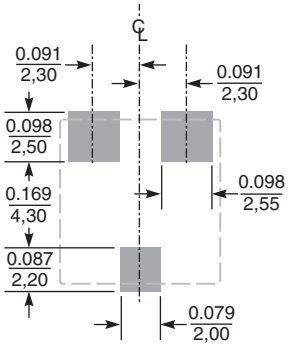


Terminal 3 is for mounting stability only.



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





Recommended Land Pattern

Dimensions are in inches / mm

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