SMT Power Inductor – SER1590 Series

Designed for high current, low voltage power supply applications, the SER1590 Series offers unmatched electrical performance in an extremely robust package.

With their heavy flat wire windings, these inductors have exceptionally low DC resistance and offer saturation current ratings up to 50 Amps. Winding to core isolation is 300 Vrms.

SPICE models ON OUR WEB SITE OR CD

Part number[1]	Inductance[2] ±20% (µH)	DCR typ[3] (mOhms)	DCR max[3] (mOhms)	SRF typ[4] (MHz)	Isat[5] (A)	Irms[6] (A)
SER1590-301ML_	0.30	0.66	0.72	260	50	32
SER1590-501ML_	0.50	0.87	0.94	202	36	27
SER1590-601ML_	0.60	0.87	0.94	182	32	27
SER1590-681ML_	0.68	0.87	0.94	160	27	27
SER1590-801ML_	0.80	0.87	0.94	123	24	27
SER1590-901ML_	0.90	1.08	1.15	160	27	22
SER1590-102ML_	1.0	0.87	0.94	115	20	27
SER1590-122ML_	1.2	1.08	1.15	90	19	22
SER1590-152ML_	1.5	1.08	1.15	73	17	22

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

   SER1590-102M L D

   Termination: L = RoHS compliant tin-silver over copper.
   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 (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 D instead.
2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.
3. DCR measured on a Keithley 580 micro-ohmmeter.
4. SRF measured using an Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.
5. DC current at which the inductance drops 10% (typ) from its value without current.
6. Current that causes a 40°C temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.

See Qualification Standards section for environmental and test data.
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Designer’s Kit C366 contains 4 of each value

Core material Ferrite

Core and winding loss See www.coilcraft.com/coreloss

Terminations RoHS ctin silver over copper. Other terminations available at additional cost.

Weight 4.14 – 5.2 g

Ambient temperature –40°C to +85°C with Irms current, +85°C to +125°C with derated current

Storage temperature Component: –40°C to +125°C. Packaging: –55°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)

Mean Time Between Failures (MTBF) 26,315,789 hours

Packaging 250 per 13″ reel; Plastic tape: 32 mm wide, 0.4 mm thick, 32 mm pocket spacing, 10.4 mm pocket depth

PCB washing Only pure water or alcohol recommended

Coilcraft®

Specifications subject to change without notice.
Please check our website for latest information. Document 289-1 Revised 12/26/07

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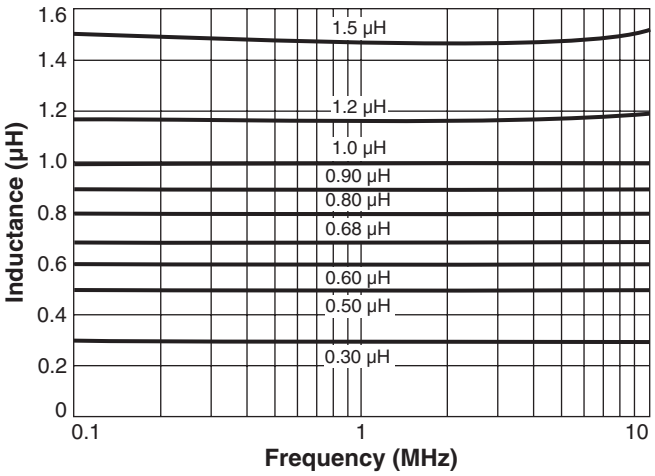
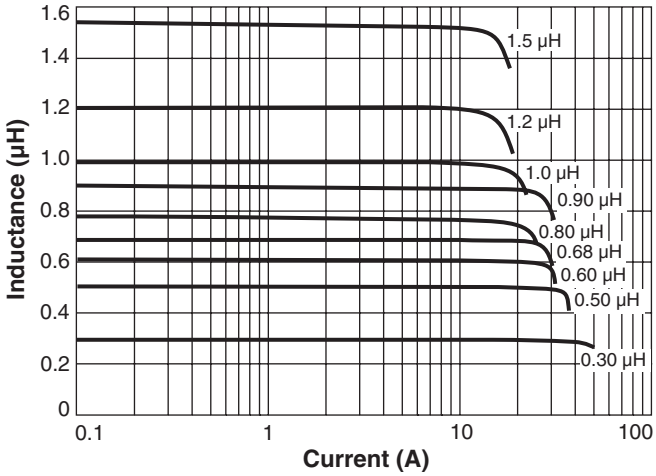
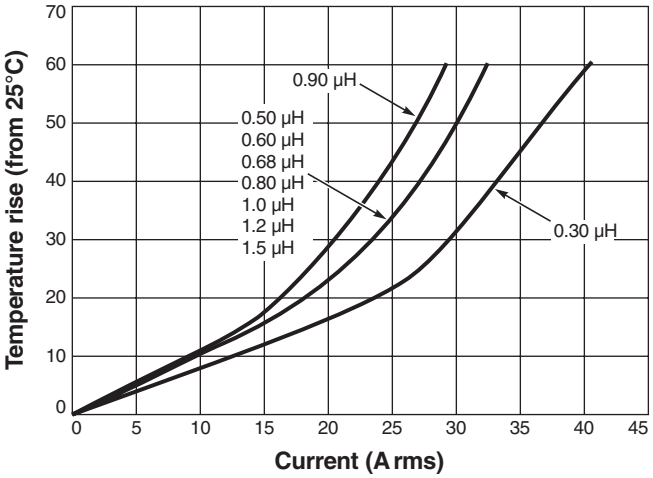
L vs Frequency



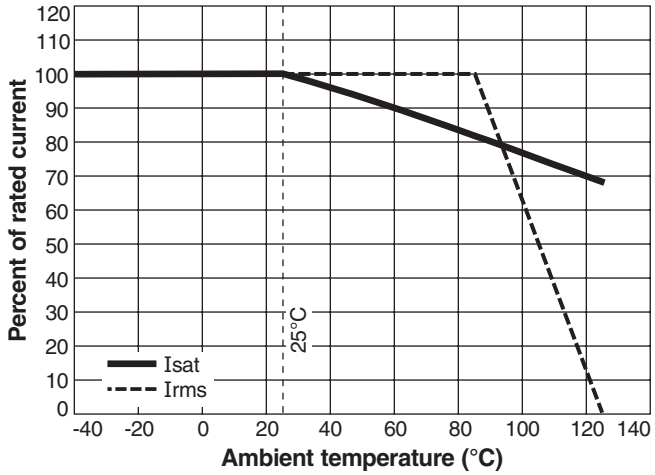
L vs Current

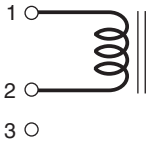


Temperature Rise vs Current



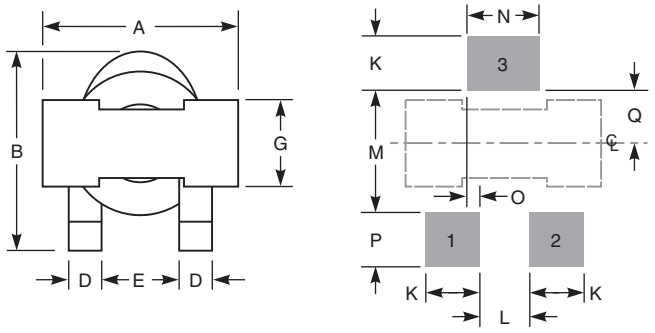
Current Derating

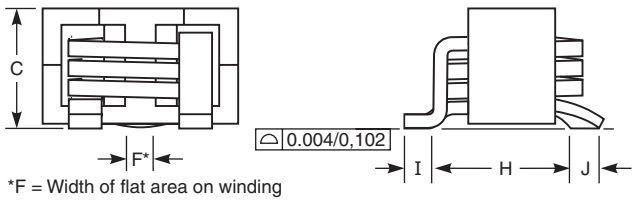




Caution:
Terminal 3 is provided for mounting stability only. This terminal is connected to the winding of the inductor and must not be connected to ground or any circuitry.

Recommended Land Pattern





*F = Width of flat area on winding

A max	B max	C max	D	E	F	G	H
0.62	0.64	0.40	0.10	0.23	0.09	0.260±0.006	0.45
15,75	16,26	10,16	2,54	5,84	2,29	6,60 ±0,15	11,43

I	J	K	L	M	N	O	P	Q
0.08	0.10	0.15	0.18	0.35	0.25	0.035	0.16	0.15
2,03	2,54	3,81	4,57	8,89	6,35	0,89	4,06	3,81

Dimensions are in inches / mm

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Please check our website for latest information.

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