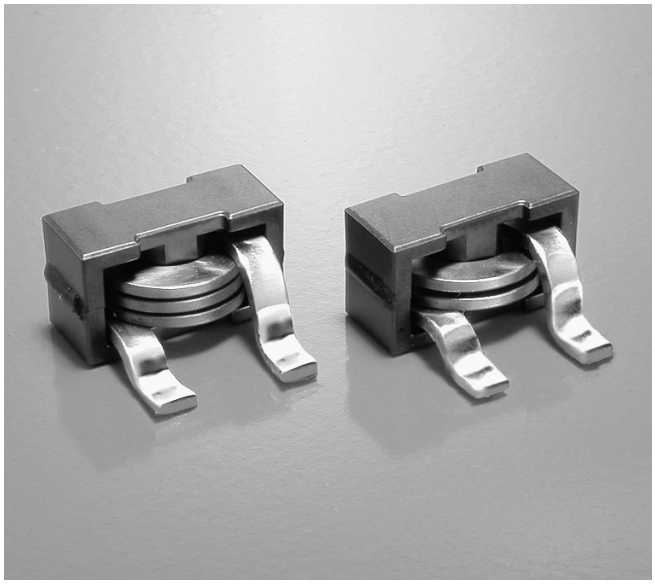
Shielded Power Inductors – SER1590



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

Part number[1]	Inductance[2] ±20% (µH)	DCR (mOhms)[3] typ	DCR (mOhms)[3] max	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms[6] (A)
SER1590-301ML_	0.30	0.66	0.72	260	53	56	57	32
SER1590-501ML_	0.50	0.87	0.94	202	39	42	44	27
SER1590-601ML_	0.60	0.87	0.94	182	33	35	36	27
SER1590-681ML_	0.68	0.87	0.94	160	30	32	33	27
SER1590-801ML_	0.80	0.87	0.94	123	25	26	27	27
SER1590-901ML_	0.90	1.08	1.15	160	27	28	29	22
SER1590-102ML_	1.0	0.87	0.94	115	20	22	23	27
SER1590-122ML_	1.2	1.08	1.15	90	20	22	23	22
SER1590-152ML_	1.5	1.08	1.15	73	17	18	19	22

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

SER1590-102MLD

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 the specified amount from its value without current.
6. Current that causes a 40°C temperature rise from 25°C ambient. When Irms is greater than Isat, Isat is the more critical specification, and Irms is shown in gray type. See Temperature Rise vs Current curve on next page.
7. Electrical specifications at 25°C.

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 tin silver (96.5/3.5) 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. 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 per 13″ reel; Plastic tape: 32 mm wide, 0.4 mm thick, 32 mm pocket spacing, 10.4 mm pocket depth

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

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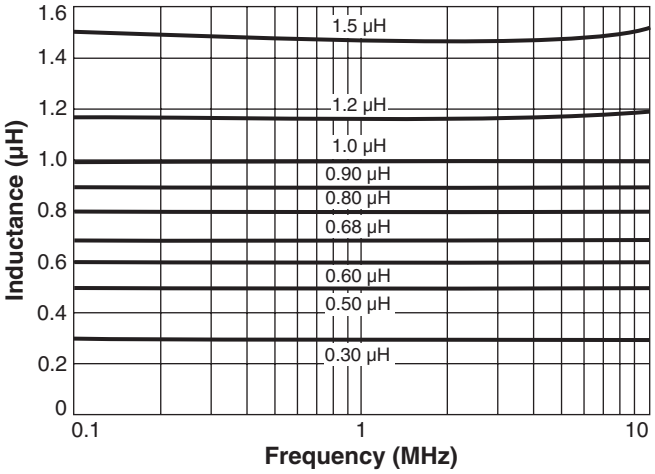
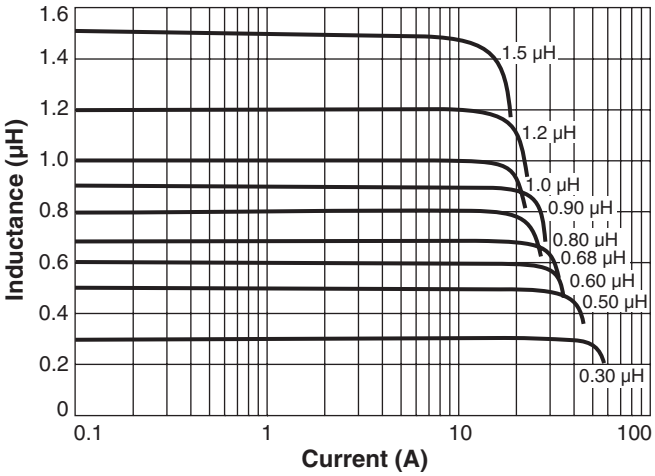
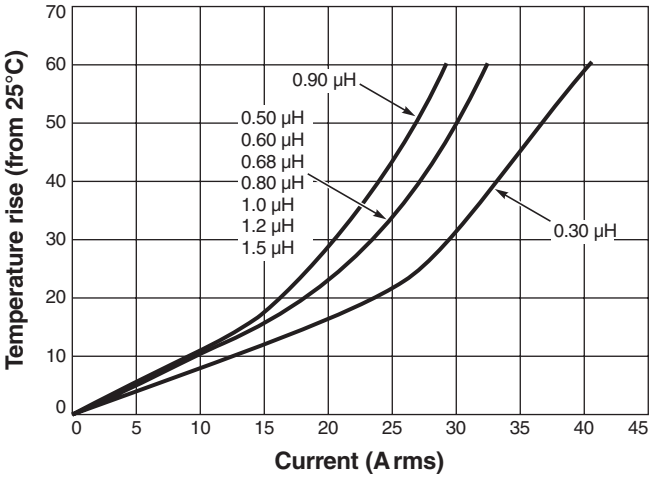
L vs Frequency



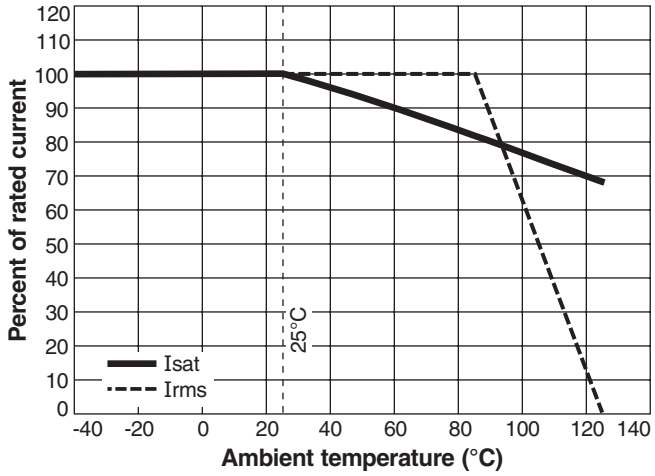
L vs Current

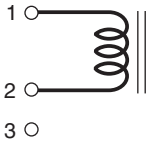


Temperature Rise vs Current



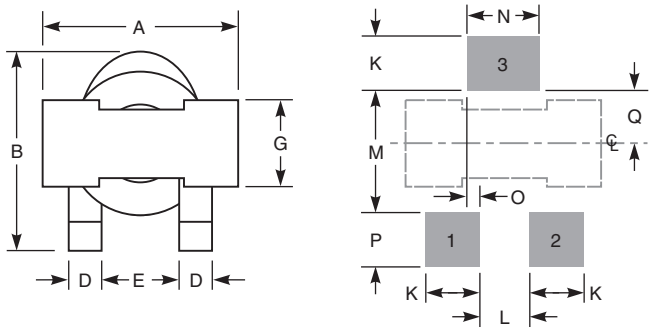
Current Derating

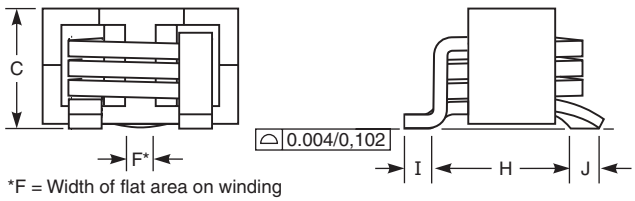




Caution:
Terminal 3 is provided for mounting stability only. This terminal is connected to the winding of the inductor and must not be connected to ground or any circuitry.

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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Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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