

Shielded Power Inductors—MSS1583



- 14.8 × 14.8 mm footprint; 8.6 mm high shielded inductors
- 16 inductance values from 10 μH to 1 mH
- Low DCR and excellent current handling

Core material Ferrite

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

Environment RoHS compliant, halogen free

Terminations RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

Weight: 3.7 – 4.4 g

Ambient temperature -40°C to $+85^{\circ}\text{C}$ with $(40^{\circ}\text{C}$ rise) Irms current.

Maximum part temperature $+125^{\circ}\text{C}$ (ambient + temp rise). [Derating](#).

Storage temperature Component: -40°C to $+125^{\circ}\text{C}$.

Tape and reel packaging: -40°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

Packaging 300/13" reel; Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 8.6 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	Inductance ² (μH)	DCR (Ohms) ³		SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
		typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
MSS1583-103ME_	10 $\pm 20\%$	0.014	0.015	17.0	12.0	13.6	14.7	5.0	7.4
MSS1583-123ME_	12 $\pm 20\%$	0.014	0.017	14.5	11.7	13.3	14.2	4.4	6.3
MSS1583-153ME_	15 $\pm 20\%$	0.018	0.021	13.5	10.1	11.5	12.4	4.3	6.1
MSS1583-183ME_	18 $\pm 20\%$	0.020	0.023	12.0	9.2	10.5	11.2	3.9	5.5
MSS1583-223ME_	22 $\pm 20\%$	0.023	0.026	10.5	8.2	9.1	10.4	3.7	5.3
MSS1583-333ME_	33 $\pm 20\%$	0.033	0.038	8.5	7.0	7.9	8.6	3.4	4.8
MSS1583-473ME_	47 $\pm 20\%$	0.048	0.055	7.3	5.9	6.7	7.3	2.7	3.7
MSS1583-683ME_	68 $\pm 20\%$	0.061	0.070	6.0	4.7	5.5	6.0	2.5	3.4
MSS1583-104KE_	100 $\pm 10\%$	0.090	0.103	4.8	3.9	4.4	4.8	2.0	2.8
MSS1583-154KE_	150 $\pm 10\%$	0.138	0.159	3.7	3.1	3.6	3.9	1.55	2.20
MSS1583-224KE_	220 $\pm 10\%$	0.205	0.235	3.0	2.6	3.0	3.3	1.30	1.80
MSS1583-334KE_	330 $\pm 10\%$	0.300	0.345	2.7	2.0	2.3	2.5	1.00	1.45
MSS1583-474KE_	470 $\pm 10\%$	0.386	0.445	2.2	1.8	2.0	2.2	0.96	1.35
MSS1583-684KE_	680 $\pm 10\%$	0.570	0.655	1.8	1.4	1.6	1.8	0.78	1.10
MSS1583-824KE_	820 $\pm 10\%$	0.640	0.736	1.6	1.3	1.5	1.6	0.74	1.0
MSS1583-105KE_	1000 $\pm 10\%$	0.860	0.990	1.5	1.1	1.3	1.4	0.63	0.86

1. Specify **termination** and **packaging** codes:

MSS1583-105KED

Termination: E = RoHS compliant matte tin over nickel over phos bronze.

Special order:

Q = RoHS tin-silver-copper (95.5/4/0.5) or

P = non-RoHS tin-lead (63/37).

Packaging: D = 13" machine-ready reel. EIA-481 embossed plastic tape (300 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 D.

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

3. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.

4. SRF measured using Agilent/HP 4191A or equivalent.

5. DC current at 25°C that causes the specified drop in inductance 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.](#)

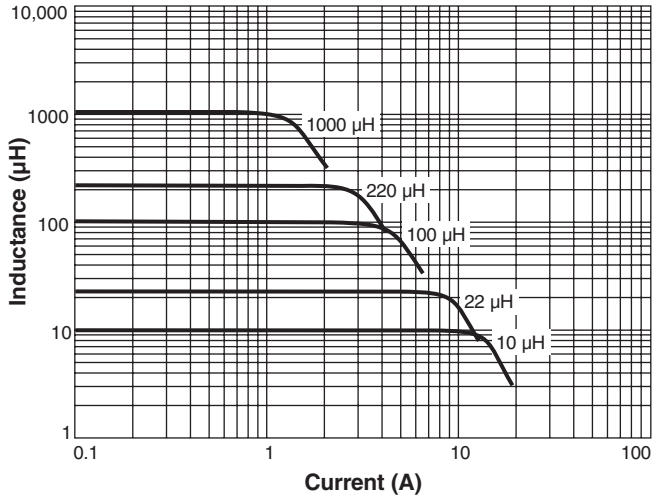
7. Electrical specifications at 25°C .

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

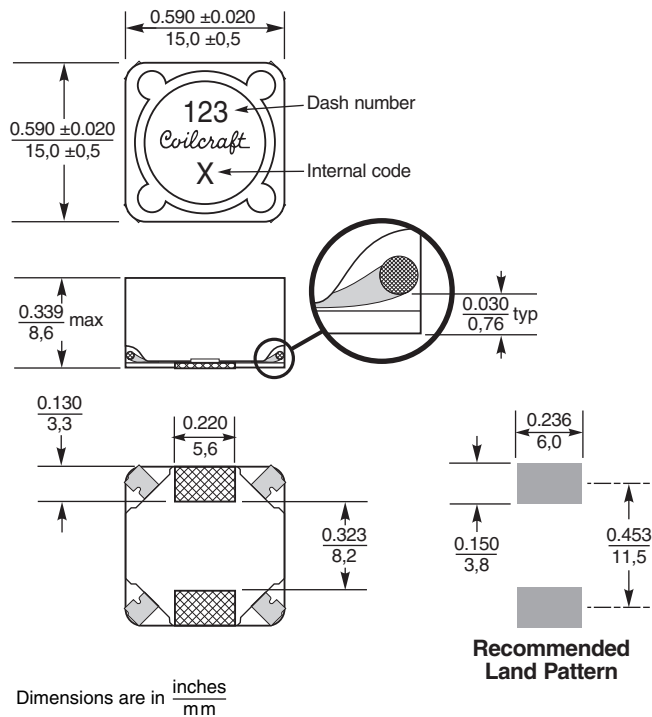
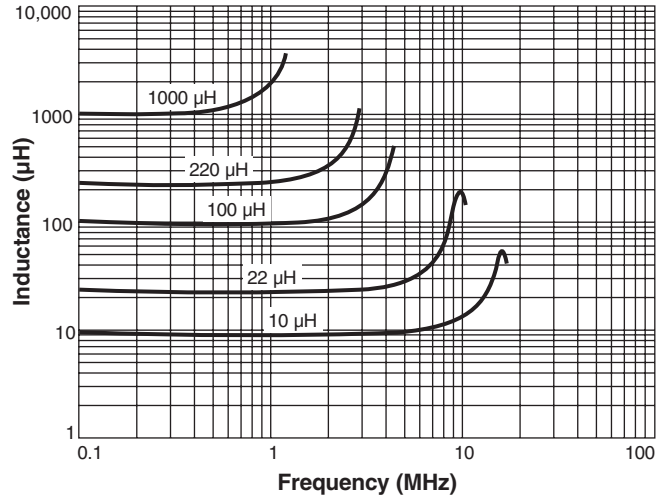


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Typical L vs Current



Typical L vs Frequency



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