

**NEW!**

# Shielded Power Inductors—MSS1583



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

**Core material** Ferrite**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°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** 300/13" reel; Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 8.6 mm pocket depth**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf

Part number <sup>1</sup>	Inductance <sup>2</sup> ( $\mu$ H)	DCR (Ohms) <sup>3</sup>		SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
MSS1583-103ME_	10 $\pm$ 20%	0.012	0.014	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:

P = RoHS tin-silver-copper (95.5/4/0.5) or Q = non-RoHS tin-lead (63/37).

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (300 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 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 which the inductance drops the specified amount from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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



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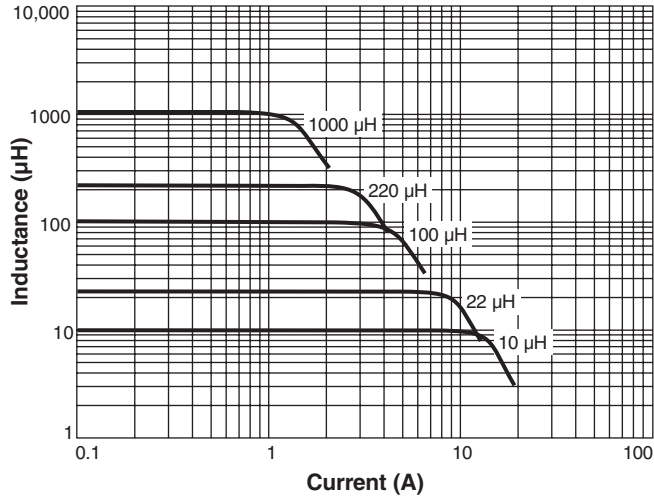
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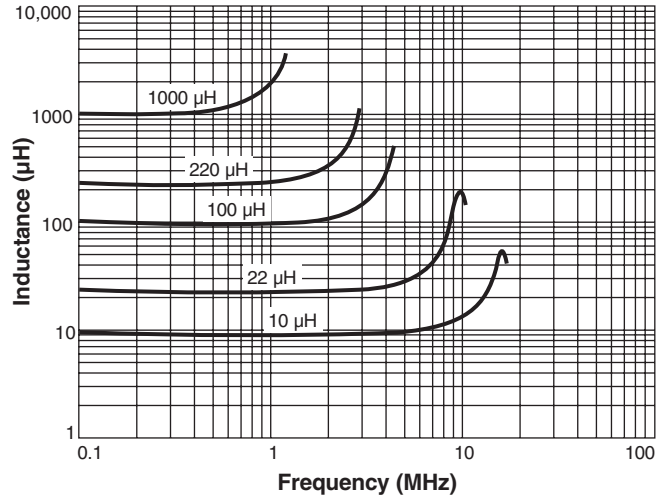
# Shielded Power Inductors – MSS1583



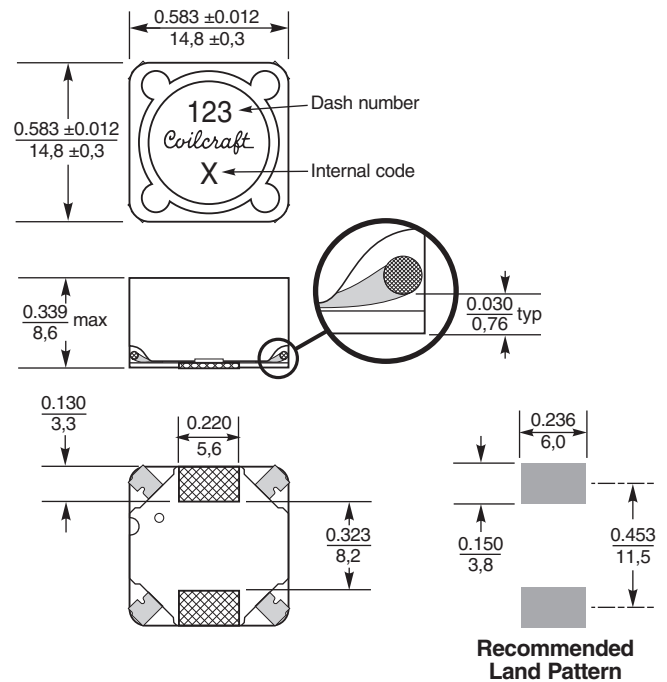
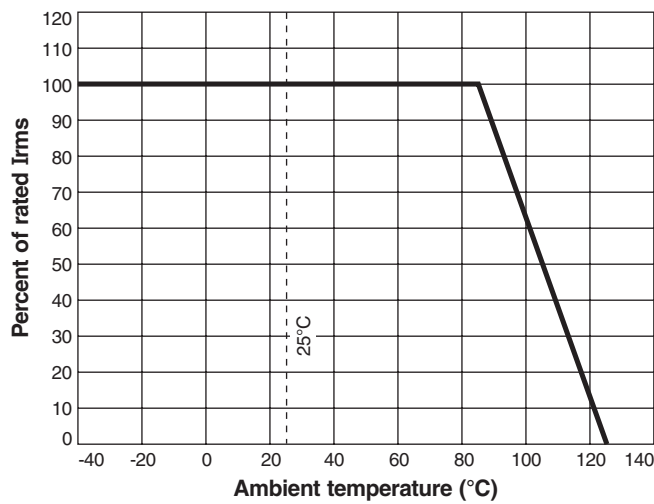
## Typical L vs Current



## Typical L vs Frequency



## Typical Current Derating



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