

# Shielded Power Inductors—MSS1210



- 12.3 × 12.3 mm footprint; 10 mm high shielded inductors
- 27 inductance values from 10  $\mu$ H to 10 mH
- Low DCR and excellent current handling

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://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:** 5.1–6.2 g

**Ambient temperature** –40°C to +85°C with (40°C rise) Irms current.

**Maximum part temperature** +125°C (ambient + temp rise). **Derating.**

**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: 24 mm wide, 0.5 mm thick, 20 mm pocket spacing, 10.3 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](http://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
MSS1210-103ME_	10 $\pm$ 20%	0.014	0.016	15.0	9.6	11.5	12.5	4.70	6.50
MSS1210-153ME_	15 $\pm$ 20%	0.019	0.022	12.0	8.3	9.9	10.7	4.20	5.70
MSS1210-223ME_	22 $\pm$ 20%	0.026	0.030	9.5	6.8	8.1	8.8	3.20	4.40
MSS1210-333ME_	33 $\pm$ 20%	0.033	0.039	7.5	5.4	6.4	6.9	2.90	3.80
MSS1210-473ME_	47 $\pm$ 20%	0.048	0.056	6.0	4.5	5.4	5.8	2.20	3.00
MSS1210-683ME_	68 $\pm$ 20%	0.068	0.080	4.5	3.8	4.5	4.9	2.10	2.80
MSS1210-104KE_	100 $\pm$ 10%	0.106	0.125	3.6	3.1	3.7	4.0	1.80	2.40
MSS1210-124KE_	120 $\pm$ 10%	0.115	0.135	3.3	2.9	3.4	3.7	1.70	2.30
MSS1210-154KE_	150 $\pm$ 10%	0.157	0.185	2.9	2.6	3.1	3.4	1.26	1.75
MSS1210-184KE_	180 $\pm$ 10%	0.173	0.203	2.8	2.3	2.8	3.0	1.20	1.70
MSS1210-224KE_	220 $\pm$ 10%	0.191	0.225	2.7	2.1	2.5	2.8	1.10	1.50
MSS1210-334KE_	330 $\pm$ 10%	0.289	0.340	1.8	1.7	2.1	2.2	0.85	1.20
MSS1210-474KE_	470 $\pm$ 10%	0.434	0.510	1.6	1.4	1.7	1.8	0.70	0.98
MSS1210-684KE_	680 $\pm$ 10%	0.536	0.630	1.4	1.2	1.4	1.6	0.69	0.91
MSS1210-105KE_	1000 $\pm$ 10%	0.816	0.960	1.1	0.98	1.2	1.3	0.60	0.83
MSS1210-125KE_	1200 $\pm$ 10%	1.07	1.26	1.0	0.91	1.1	1.2	0.49	0.67
MSS1210-155KE_	1500 $\pm$ 10%	1.23	1.45	0.85	0.81	0.96	1.0	0.46	0.65
MSS1210-185KE_	1800 $\pm$ 10%	1.39	1.63	0.85	0.73	0.87	0.95	0.45	0.63
MSS1210-225KE_	2200 $\pm$ 10%	1.82	2.14	0.70	0.66	0.79	0.86	0.38	0.52
MSS1210-275KE_	2700 $\pm$ 10%	2.02	2.38	0.65	0.59	0.71	0.77	0.36	0.50
MSS1210-335KE_	3300 $\pm$ 10%	2.69	3.17	0.56	0.54	0.64	0.70	0.31	0.43
MSS1210-395KE_	3900 $\pm$ 10%	2.98	3.50	0.54	0.50	0.60	0.64	0.30	0.41
MSS1210-475KE_	4700 $\pm$ 10%	3.34	3.93	0.51	0.45	0.54	0.58	0.28	0.39
MSS1210-565KE_	5600 $\pm$ 10%	3.71	4.37	0.45	0.41	0.49	0.54	0.27	0.38
MSS1210-685KE_	6800 $\pm$ 10%	4.97	5.85	0.40	0.38	0.45	0.49	0.22	0.31
MSS1210-825KE_	8200 $\pm$ 10%	5.51	6.48	0.38	0.35	0.41	0.45	0.21	0.28
MSS1210-106KE_	10000 $\pm$ 10%	7.39	8.69	0.31	0.31	0.37	0.40	0.18	0.24

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

MSS1210-105KED

**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).

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 25°C that causes the specified inductance drop 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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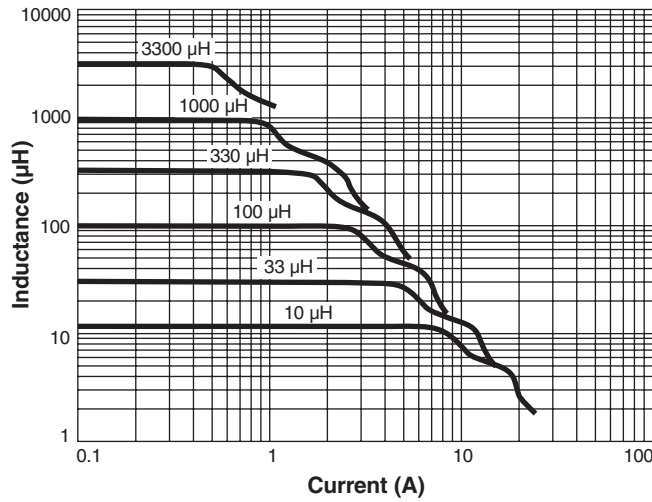
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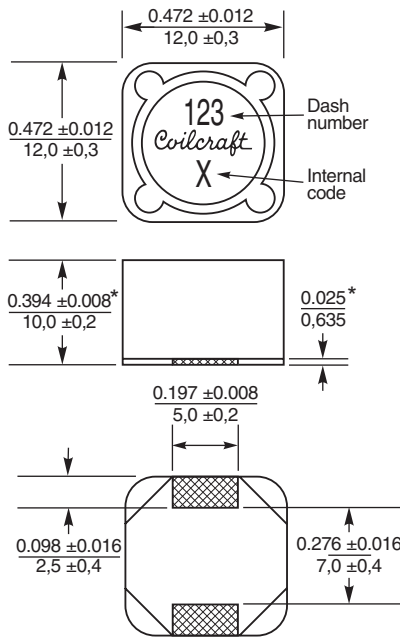
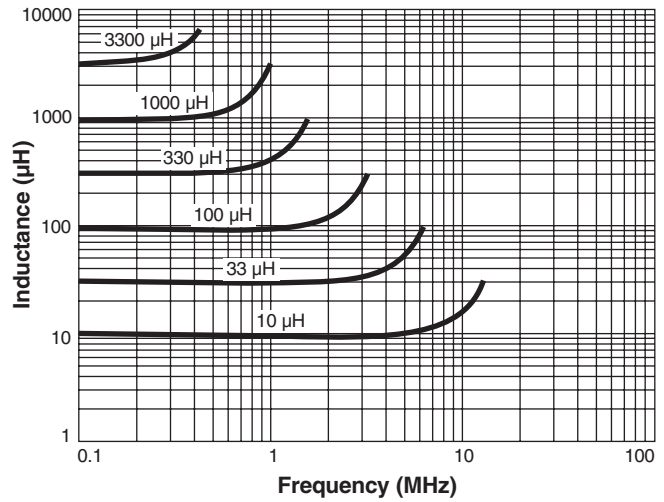


# Shielded Power Inductors – MSS1210

## Typical L vs Current

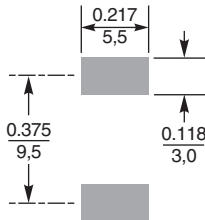


## Typical L vs Frequency



Parts manufactured prior to August 2011 may have a different part marking.

### Recommended Land Pattern



\* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.012 inch (0.3 mm).

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$