SMT Power Inductors – MSS1278



- 12.3 × 12.3 mm footprint; 8 mm high shielded inductors
- Low DCR and excellent current handling

Designer's Kit C380 contains 3 each of all values.
Core material Ferrite
Core and winding loss See www.coilcraft.com/coreloss
Terminations RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.
Weight: 3.8 – 4.6 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 500/13″ reel; Plastic tape: 24 mm wide, 0.5 mm thick, 16 mm pocket spacing, 8.7 mm pocket depth
PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

Part number[1]	Inductance[2] (µH)	DCR[3] (mOhms) typ	DCR[3] (mOhms) max	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
MSS1278-142ML_	1.4 ±20%	8.8	9.8	80.0	25.2	28.6	30.6	7.00	10.00
MSS1278-472ML_	4.7 ±20%	13.9	15.5	30.0	13.7	15.2	15.9	4.30	6.20
MSS1278-562ML_	5.6 ±20%	15.7	17.5	24.0	12.2	13.7	14.6	4.30	6.20
MSS1278-682ML_	6.8 ±20%	19.1	21.3	21.0	11.3	12.7	13.7	4.20	6.00
MSS1278-822ML_	8.2 ±20%	20.3	22.6	20.0	10.1	11.5	12.3	4.10	5.90
MSS1278-103ML_	10 ±20%	21.8	24.3	17.0	9.36	10.6	11.2	4.00	5.70
MSS1278-123ML_	12 ±20%	23.2	25.8	15.0	8.84	10.0	10.7	3.70	5.20
MSS1278-153ML_	15 ±20%	27.9	31.0	13.0	7.30	8.36	9.00	3.50	4.90
MSS1278-183ML_	18 ±20%	30.8	34.3	12.0	6.10	7.10	7.74	3.00	4.50
MSS1278-223ML_	22 ±20%	35.5	39.5	11.0	6.04	6.78	7.24	2.90	4.00
MSS1278-273ML_	27 ±20%	45.0	50.0	10.0	5.80	6.56	7.02	2.60	3.60
MSS1278-333ML_	33 ±20%	61.9	68.8	9.5	5.22	5.90	6.30	2.30	3.10
MSS1278-393ML_	39 ±20%	69.1	76.8	8.5	4.68	5.42	5.80	2.10	3.00
MSS1278-473ML_	47 ±20%	72.3	80.4	7.5	4.40	5.02	5.32	2.00	2.90
MSS1278-563ML_	56 ±20%	80.2	89.2	7.0	4.02	4.60	4.90	1.90	2.70
MSS1278-683ML_	68 ±20%	91.3	101.5	6.5	3.40	3.86	4.26	1.80	2.60
MSS1278-823ML_	82 ±20%	125.9	139.9	5.0	3.12	3.58	3.80	1.60	2.30
MSS1278-104ML_	100 ±20%	135.1	150.2	4.5	2.88	3.28	3.52	1.50	2.20
MSS1278-124KL_	120 ±10%	182.3	202.6	4.3	2.62	3.00	3.24	1.40	1.90
MSS1278-154KL_	150 ±10%	216.5	240.6	4.1	2.48	2.86	3.02	1.30	1.80
MSS1278-184KL_	180 ±10%	229.0	254.5	4.0	2.26	2.58	2.74	1.20	1.70
MSS1278-224KL_	220 ±10%	323.6	359.6	3.4	1.96	2.22	2.36	1.00	1.60
MSS1278-274KL_	270 ±10%	415.6	461.8	3.1	1.74	2.04	2.18	0.90	1.20
MSS1278-334KL_	330 ±10%	487.3	541.5	2.9	1.66	1.86	2.00	0.80	1.00
MSS1278-394KL_	390 ±10%	533.6	592.9	2.7	1.52	1.72	1.88	0.75	1.00
MSS1278-474KL_	470 ±10%	707.5	786.2	2.2	1.34	1.54	1.64	0.66	0.90
MSS1278-564KL_	560 ±10%	777.4	863.8	2.0	1.24	1.42	1.50	0.60	0.80
MSS1278-684KL_	680 ±10%	1045	1162	1.7	1.16	1.28	1.38	0.55	0.75
MSS1278-824KL_	820 ±10%	1166	1296	1.4	1.04	1.16	1.26	0.50	0.70
MSS1278-105KL_	1000 ±10%	1334	1483	1.3	0.97	1.10	1.14	0.48	0.68

1. Please specify **termination** and **packaging** codes:

MSS1278-105KLD

Termination: L = RoHS compliant matte tin over nickel over phos bronze. 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 (500 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 an 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.

SPICE models ON OUR WEB SITE

Coilcraft
www.coilcraft.com

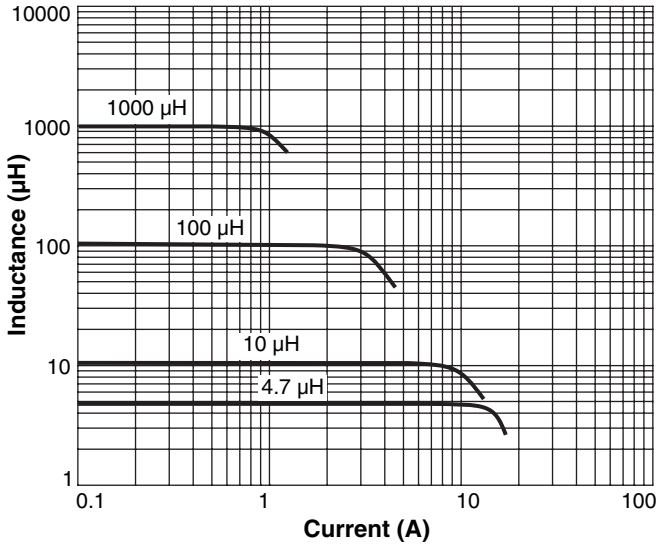
US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 322-1 Revised 04/04/13

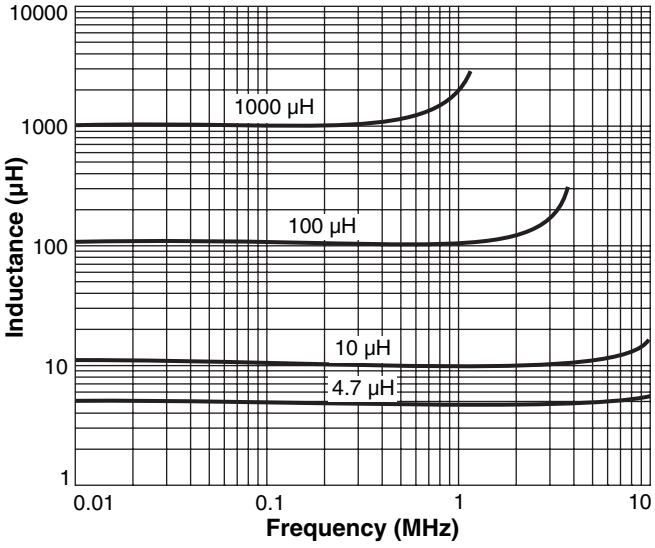
© Coilcraft Inc. 2013
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

SMT Power Inductors – MSS1278

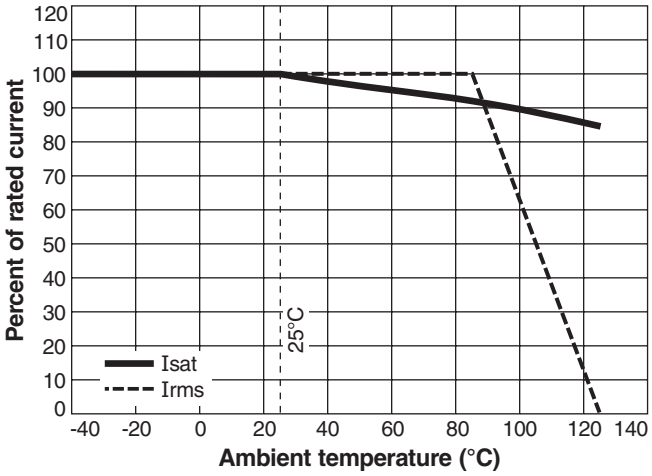
Typical L vs Current

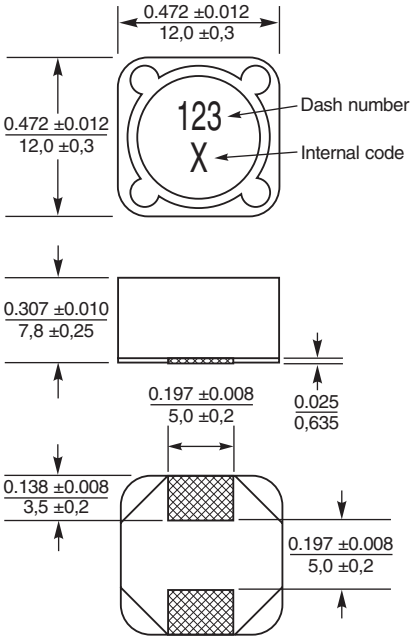


Typical L vs Frequency



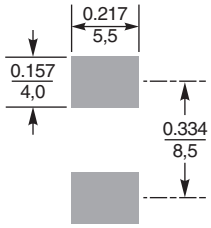
Typical Current Derating





Parts manufactured prior to Sept. 2007 were marked with only the dash number.

Recommended Land Pattern



Dimensions are in inches / mm

Coilcraft®
www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 322-2 Revised 04/04/13

© Coilcraft Inc. 2013
This product may not be used in medical or high risk applications without prior Coilcraft approval.
Specification subject to change without notice.
Please check web site for latest information.