RoHS/ REACH COMPLIANT

Halogen Free

AEC Q200 +125°C

High Temp Power Inductors MSS1278H

- Designed for high ambient temperatures
- Magnetic shielding, very low DCR, excellent current handling
- AEC-Q200 Grade 1 (–40°C to +125°C)

Core material Ferrite

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

Environmental RoHS Compliant, halogen free

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

Weight: 3.8 g – 4.6 g

Operating voltage 400 V max

Ambient temperature –40°C to +125°C with (40°C rise) Irms current.

Maximum part temperature +165°C (ambient + temp rise). Derating.

Storage temperature Component: –40°C to +165°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)

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 to MIL-STD-202 Method 215 plus an additional aqueous wash. 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
MSS1278H-821M_D	0.82 ±20%	3.7	4.5	107	26.5	29.0	31.0	7.50	10.50
MSS1278H-142M_D	1.4 ±20%	4.6	5.6	77	21.0	23.0	24.5	7.50	10.50
MSS1278H-202M_D	2.0 ±20%	5.1	6.2	60	17.6	21.2	24.0	7.00	10.00
MSS1278H-272M_D	2.7 ±20%	5.7	7.0	49	14.9	16.7	18.0	6.20	8.80
MSS1278H-392M_D	3.9 ±20%	7.0	8.6	41	12.9	14.4	15.5	6.20	8.60
MSS1278H-472M_D	4.7 ±20%	7.8	9.4	33	11.4	12.7	13.7	5.30	7.40
MSS1278H-602M_D	6.0 ±20%	10.0	12.0	27	10.0	11.3	12.2	5.00	7.20
MSS1278H-722M_D	7.2 ±20%	10.6	12.8	24	9.2	10.3	11.1	4.40	6.00
MSS1278H-872M_D	8.7 ±20%	13.5	16.3	22	8.3	9.3	10.0	4.30	5.80
MSS1278H-103M_D	10 ±20%	15.0	18.0	20	7.6	8.4	9.2	4.20	5.60
MSS1278H-123M_D	12 ±20%	16.0	19.2	18	7.0	7.9	8.5	3.80	5.40
MSS1278H-153M_D	15 ±20%	17.0	20.4	17	6.5	7.3	7.9	3.60	5.10
MSS1278H-183M_D	18 ±20%	22.0	26.5	14	5.7	6.5	7.0	3.40	4.80
MSS1278H-223M_D	22 ±20%	25.0	30.0	12	5.1	5.8	6.2	3.00	4.30
MSS1278H-273M_D	27 ±20%	34.0	41.0	10	4.6	5.2	5.6	2.80	3.90
MSS1278H-333M_D	33 ±20%	38.0	45.0	9.5	4.2	4.7	5.1	2.70	3.80
MSS1278H-393M_D	39 ±20%	44.0	53.0	8.5	3.8	4.3	4.7	2.60	3.70
MSS1278H-473K_D	47 ±10%	48.0	57.0	7.5	3.6	4.0	4.4	2.30	3.20
MSS1278H-563K_D	56 ±10%	61.0	73.0	7.0	3.3	3.7	4.0	2.20	3.10
MSS1278H-683K_D	68 ±10%	68.0	83.0	6.5	3.0	3.3	3.6	2.00	2.70
MSS1278H-823K_D	82 ±10%	89.0	108	5.5	2.7	3.1	3.3	1.80	2.40
MSS1278H-104K_D	100 ±10%	101	121	5.0	2.4	2.8	3.0	1.70	2.30
MSS1278H-124K_D	120 ±10%	113	132	4.5	2.2	2.5	2.7	1.60	2.20
MSS1278H-154K_D	150 ±10%	155	181	3.9	2.0	2.2	2.4	1.30	1.80
MSS1278H-184K_D	180 ±10%	174	208	3.6	1.8	2.0	2.2	1.20	1.70
MSS1278H-224K_D	220 ±10%	225	270	3.5	1.6	1.9	2.0	1.05	1.45
MSS1278H-274K_D	270 ±10%	257	305	3.3	1.5	1.7	1.8	1.00	1.40
MSS1278H-334K_D	330 ±10%	291	350	2.9	1.3	1.5	1.6	0.92	1.30
MSS1278H-394K_D	390 ±10%	379	450	2.4	1.2	1.4	1.5	0.85	1.15
MSS1278H-474K_D	470 ±10%	430	500	2.3	1.1	1.3	1.4	0.80	1.10
MSS1278H-564K_D	560 ±10%	562	660	1.9	1.0	1.2	1.3	0.66	0.90
MSS1278H-684K_D	680 ±10%	633	760	1.7	0.92	1.0	1.1	0.63	0.85
MSS1278H-824K_D	820 ±10%	721	840	1.7	0.84	0.97	1.0	0.60	0.80
MSS1278H-105K_D	1000 ±10%	970	1150	1.4	0.76	0.87	0.94	0.54	0.74

1. Please specify **termination** code:

   MSS1278H-105KED

   Termination: E = 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). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
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 8753D network analyzer and a Coilcraft SMD-D test fixture.
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.

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

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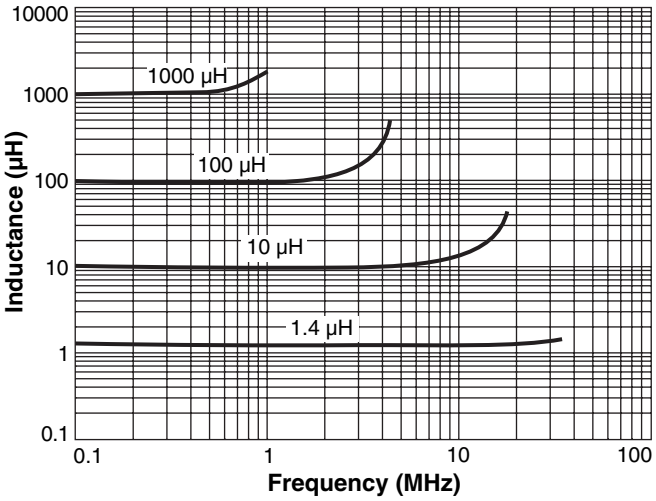
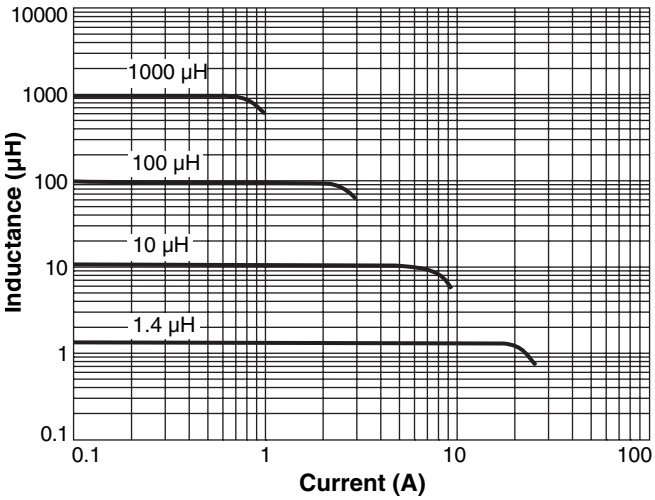
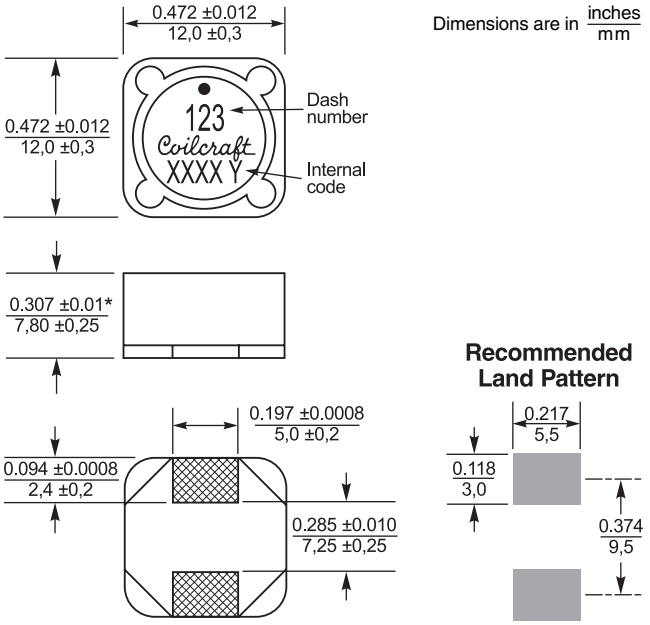
SMT Power Inductors – MSS1278H Series

Typical L vs Frequency



Typical L vs Current





* 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).

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