

High Temp Power Inductors MSS1278T



- Designed for high ambient temperatures
- Magnetic shielding, very low DCR, excellent current handling

Designer's Kit C419 contains 3 of each value

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 g – 4.6 g

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)		SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
		typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
MSS1278T-102NL	1.0 ±30%	6.3	7.0	115	31.84	35.04	36.84	7.1	10.1
MSS1278T-142NL	1.4 ±30%	8.8	9.8	85	25.04	27.76	29.52	6.8	9.8
MSS1278T-222NL	2.2 ±30%	9.4	10.5	60	22.56	24.80	25.96	6.3	9.2
MSS1278T-272NL	2.7 ±30%	10.1	11.3	40	18.76	20.72	22.04	6.1	8.6
MSS1278T-392NL	3.9 ±30%	11.7	13.0	35	16.52	18.24	19.20	5.7	7.7
MSS1278T-472ML	4.7 ±20%	13.9	15.5	33	15.30	16.90	17.76	4.3	6.2
MSS1278T-562ML	5.6 ±20%	15.7	17.5	30	13.38	14.86	15.74	4.3	6.2
MSS1278T-682ML	6.8 ±20%	19.1	21.3	23	12.10	13.56	14.20	4.2	6.0
MSS1278T-822ML	8.2 ±20%	20.3	22.6	20	11.38	12.60	13.28	4.1	5.9
MSS1278T-103ML	10 ±20%	21.8	24.3	17	10.62	11.82	12.48	4.0	5.7
MSS1278T-123ML	12 ±20%	23.2	25.8	15	8.90	9.88	10.44	3.7	5.2
MSS1278T-153ML	15 ±20%	27.9	31.0	13	8.36	9.32	9.94	3.5	4.9
MSS1278T-183ML	18 ±20%	30.8	34.3	12	8.00	8.88	9.36	3.0	4.5
MSS1278T-223ML	22 ±20%	35.5	39.5	11	7.08	7.88	8.34	2.9	4.0
MSS1278T-273ML	27 ±20%	45.0	50.0	10	6.32	7.08	7.54	2.6	3.6
MSS1278T-333ML	33 ±20%	61.9	68.8	9.5	5.96	6.56	6.98	2.3	3.1
MSS1278T-393ML	39 ±20%	69.1	76.8	8.5	5.38	5.94	6.28	2.1	3.0
MSS1278T-473ML	47 ±20%	72.3	80.4	7.5	4.76	5.40	5.66	2.0	2.9
MSS1278T-563ML	56 ±20%	80.2	89.2	7.0	4.40	4.98	5.30	1.9	2.7
MSS1278T-683ML	68 ±20%	91.3	101.5	6.5	3.92	4.46	4.74	1.8	2.6
MSS1278T-823ML	82 ±20%	125.9	139.9	5.0	3.66	4.08	4.38	1.6	2.3
MSS1278T-104ML	100 ±20%	135.1	150.2	4.5	3.12	3.56	3.78	1.5	2.2
MSS1278T-124KL	120 ±10%	182.3	202.6	4.3	3.02	3.36	3.58	1.4	1.9
MSS1278T-154KL	150 ±10%	216.5	240.6	4.1	2.60	2.94	3.10	1.3	1.8
MSS1278T-184KL	180 ±10%	229.0	254.5	4.0	2.36	2.68	2.84	1.2	1.7
MSS1278T-224KL	220 ±10%	323.6	359.6	3.4	2.24	2.50	2.62	1.0	1.6
MSS1278T-274KL	270 ±10%	415.6	461.8	3.1	1.94	2.18	2.34	0.90	1.2
MSS1278T-334KL	330 ±10%	487.3	541.5	2.9	1.72	1.92	2.06	0.80	1.0
MSS1278T-394KL	390 ±10%	533.6	592.9	2.7	1.62	1.82	1.92	0.75	1.0
MSS1278T-474KL	470 ±10%	707.5	786.2	2.2	1.44	1.64	1.74	0.66	0.90
MSS1278T-564KL	560 ±10%	777.4	863.8	2.0	1.40	1.54	1.66	0.60	0.80
MSS1278T-684KL	680 ±10%	1045	1162	1.7	1.24	1.32	1.46	0.55	0.75
MSS1278T-824KL	820 ±10%	1166	1296	1.4	1.14	1.28	1.42	0.50	0.70
MSS1278T-105KL	1000 ±10%	1334	1482	1.3	0.982	1.08	1.18	0.48	0.68

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

MSS1278T-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). 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 A dc 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.



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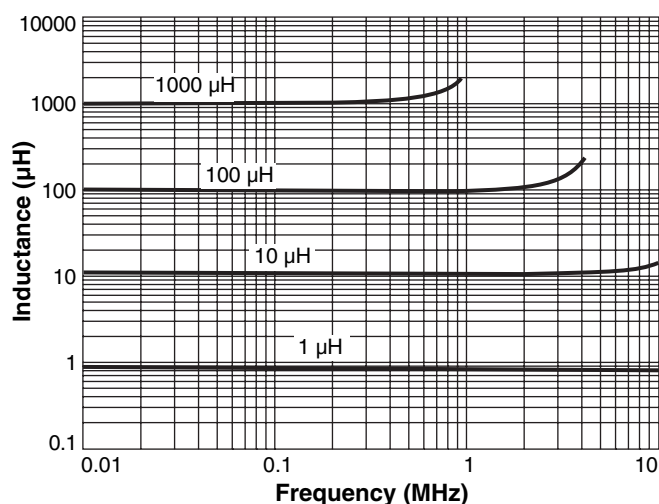
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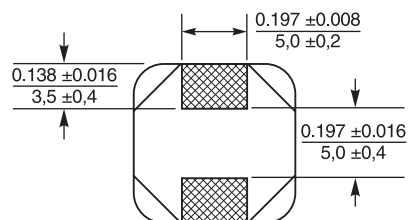
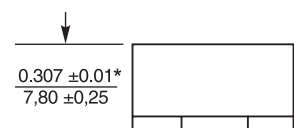
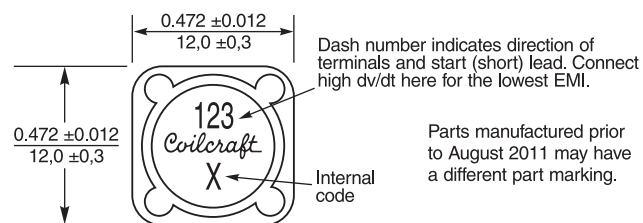
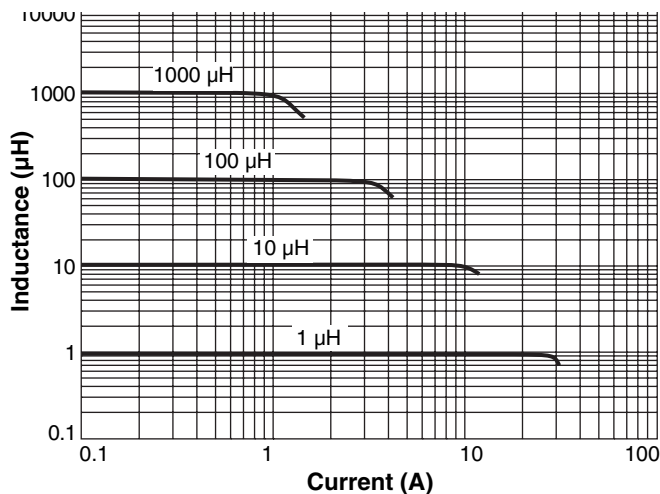
HIGH TEMPERATURE

SMT Power Inductors – MSS1278T Series

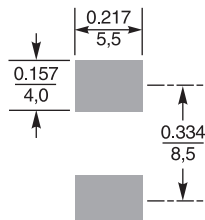
Typical L vs Frequency



Typical L vs Current



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 $\frac{\text{inches}}{\text{mm}}$



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