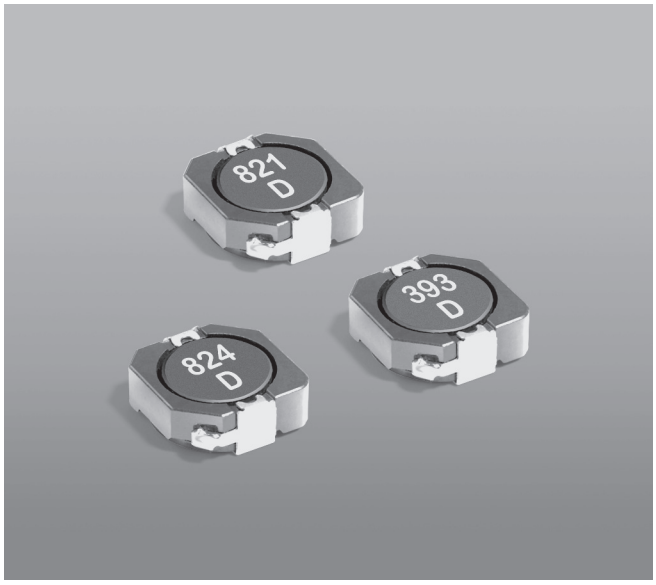
HIGH TEMPERATURE

RoHS COMPLIANT

SMT Power Inductors – MSS1038T



- 10.0 × 10.2 mm footprint; 3.8 mm high shielded inductors
- Designed for high temperature applications; ambient temperature up to 165°C.
- AEC-Q200 qualified
- Very low DCR and excellent current handling

Core material Ferrite

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

Weight: 1.5 g

Ambient temperature –40°C to +125°C with Irms current, +125°C to +165°C with derated current

Storage temperature Component: –40°C to +165°C. 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 250/7″ reel; 1000/13″ reel; Plastic tape: 24 mm wide, 0.35 mm thick, 16 mm pocket spacing, 4.3 mm pocket depth

PCB washing Only pure water or alcohol recommended

Part number[1]	Inductance[2] (µH)	DCR max (mΩ)	SRF typ[3] (MHz)	Isat (A)[4] 10% drop	Isat (A)[4] 20% drop	Isat (A)[4] 30% drop	Irms (A)[5] 20°C rise	Irms (A)[5] 40°C rise
MSS1038T-821NL_	0.82 ±30%	6.0	138	9.00	11.16	12.10	7.30	10.00
MSS1038T-152NL_	1.5 ±30%	8.1	81	7.40	9.48	11.06	5.60	7.85
MSS1038T-252NL_	2.5 ±30%	10	61	5.70	7.62	9.26	4.65	6.65
MSS1038T-382NL_	3.8 ±30%	13	45	4.94	6.50	7.64	4.25	6.05
MSS1038T-522NL_	5.2 ±30%	22	37	3.96	5.28	6.14	3.60	5.10
MSS1038T-702NL_	7.0 ±30%	27	33	3.62	4.74	5.60	3.10	4.35
MSS1038T-103NL_	10 ±30%	35	29	3.04	3.90	4.52	2.90	4.05
MSS1038T-123ML_	12 ±20%	41	25	2.72	3.48	4.04	2.85	4.00
MSS1038T-153ML_	15 ±20%	50	21	2.84	3.44	3.86	2.70	3.80
MSS1038T-183ML_	18 ±20%	65	18	2.44	3.10	3.52	2.25	3.35
MSS1038T-223ML_	22 ±20%	73	15	2.34	2.94	3.30	1.90	2.85
MSS1038T-273ML_	27 ±20%	89	15	1.98	2.48	2.84	1.65	2.35
MSS1038T-333ML_	33 ±20%	93	13	1.84	2.34	2.62	1.60	2.30
MSS1038T-393ML_	39 ±20%	112	12	1.60	2.04	2.34	1.55	2.25
MSS1038T-473ML_	47 ±20%	128	11	1.60	1.98	2.22	1.45	2.20
MSS1038T-563ML_	56 ±20%	180	11	1.48	1.84	2.04	1.40	1.85
MSS1038T-683ML_	68 ±20%	213	10	1.32	1.62	1.82	1.15	1.75
MSS1038T-823ML_	82 ±20%	261	8	1.12	1.42	1.60	1.09	1.50
MSS1038T-104ML_	100 ±20%	304	6	1.02	1.30	1.46	1.05	1.45
MSS1038T-124KL_	120 ±10%	380	6	0.95	1.18	1.34	0.85	1.25
MSS1038T-154KL_	150 ±10%	506	6	0.89	1.10	1.22	0.80	1.20
MSS1038T-184KL_	180 ±10%	582	5	0.89	1.02	1.16	0.71	0.98
MSS1038T-224KL_	220 ±10%	756	5	0.72	0.88	0.99	0.70	0.97
MSS1038T-274KL_	270 ±10%	926	4	0.66	0.81	0.91	0.65	0.86
MSS1038T-334KL_	330 ±10%	1090	4	0.59	0.73	0.82	0.50	0.69
MSS1038T-394KL_	390 ±10%	1141	4	0.51	0.65	0.74	0.49	0.65
MSS1038T-474KL_	470 ±10%	1243	3	0.50	0.62	0.70	0.45	0.63
MSS1038T-564KL_	560 ±10%	1696	3	0.43	0.53	0.56	0.43	0.59
MSS1038T-684KL_	680 ±10%	1926	3	0.38	0.48	0.52	0.36	0.50
MSS1038T-824KL_	820 ±10%	2596	3	0.37	0.46	0.49	0.34	0.47
MSS1038T-105KL_	1000 ±10%	2853	3	0.35	0.43	0.46	0.33	0.45

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

MSS1038T-105KLC

Termination: L = RoHS compliant matte tin over nickel over copper.
Special order:
T = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

Packaging: C = 7″ machine-ready reel. EIA-481 embossed plastic tape (250 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 C instead.
D = 13″ machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1000 parts per full reel).

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
3. SRF measured using an Agilent/HP 8753D or equivalent.
4. DC current at which the inductance drops the specified amount from its value without current.
5. Current that causes the specified temperature rise from 25°C ambient.
6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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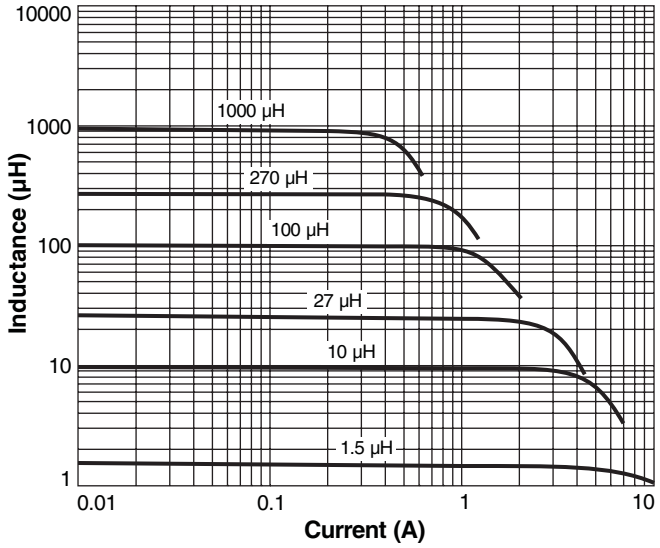
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HIGH TEMPERATURE

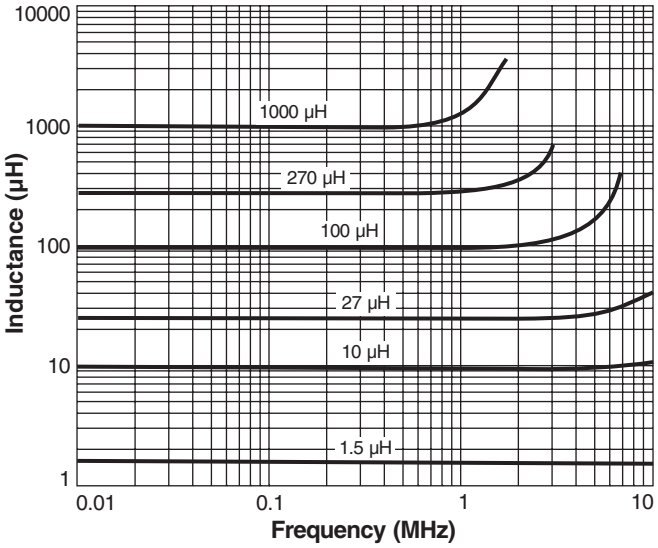
RoHS COMPLIANT

SMT Power Inductors – MSS1038T

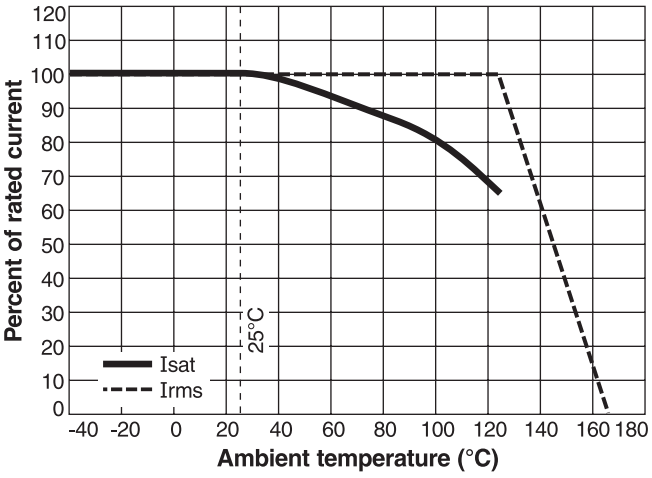
Typical L vs Current

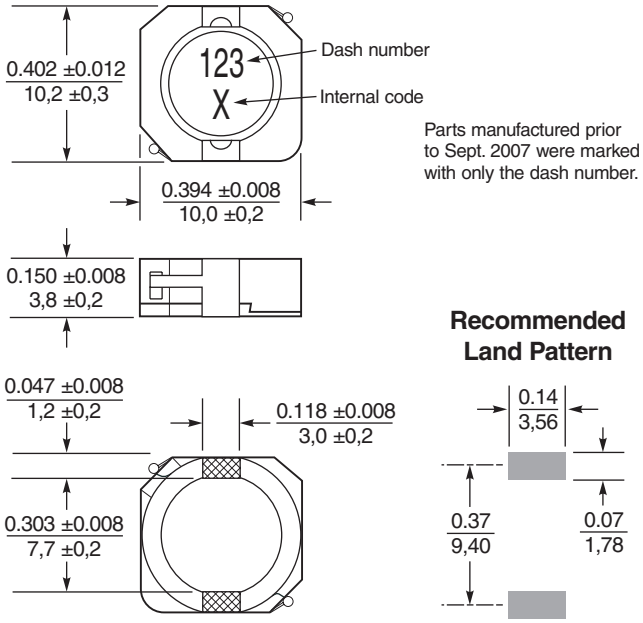


Typical L vs Frequency



Typical Current Derating





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

Recommended Land Pattern

Dimensions are in inches / mm

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