

# Shielded Power Inductors – MSS1246



- 12 × 12 mm footprint; 4.6 mm high shielded inductors
- Very low DCR and excellent current handling

**Designer's Kit C410** contains 3 each of all values.

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

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

**Weight:** 2.3 g – 2.5 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

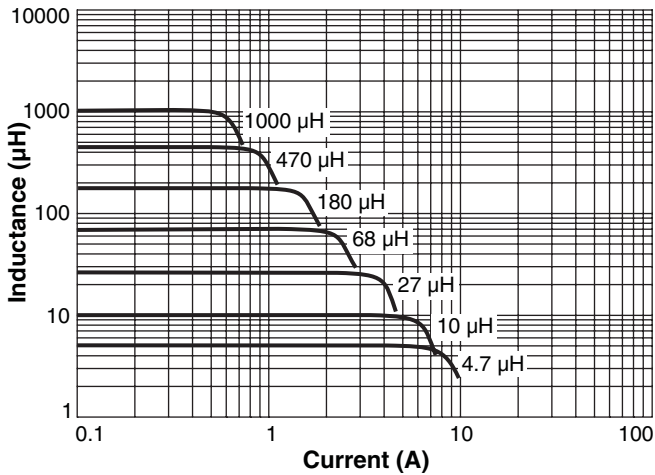
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)** 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

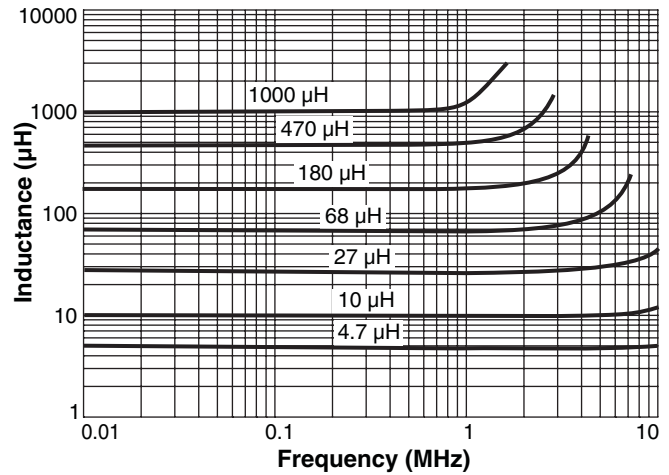
**Packaging** 200/7" reel; 800/13" reel; Plastic tape: 24 mm wide, 0.40 mm thick, 16 mm pocket spacing, 4.7 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

## Typical L vs Current



## Typical L vs Frequency





# Shielded Power Inductors – MSS1246

Part number <sup>1</sup>	Inductance <sup>2</sup> (µH)	DCR <sup>3</sup> (mOhms)		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
MSS1246-102ML_	1.0 ±20%	5.84	6.60	100	18.4	19.4	19.9	6.00	8.00
MSS1246-332ML_	3.3 ±20%	12.1	13.60	51	10.16	11.24	11.76	4.80	6.30
MSS1246-472ML_	4.7 ±20%	19.1	21.3	42	8.52	9.42	9.86	4.50	6.00
MSS1246-562ML_	5.6 ±20%	22.1	24.6	37	7.64	8.66	9.28	4.19	5.75
MSS1246-682ML_	6.8 ±20%	24.9	27.7	33	6.52	7.34	7.82	3.80	5.20
MSS1246-822ML_	8.2 ±20%	27.4	30.5	31	5.98	6.80	7.34	3.55	4.87
MSS1246-103ML_	10 ±20%	36.8	40.9	27	5.72	6.44	6.84	3.30	4.20
MSS1246-123ML_	12 ±20%	38.9	43.3	24	5.02	5.76	6.22	3.00	3.95
MSS1246-153ML_	15 ±20%	48.6	54.1	22	4.58	5.24	5.54	2.85	3.80
MSS1246-183ML_	18 ±20%	51.0	56.7	19.0	4.28	4.78	5.14	2.71	3.52
MSS1246-223ML_	22 ±20%	60.3	67.0	18.0	3.76	4.24	4.50	2.50	3.40
MSS1246-273ML_	27 ±20%	67.5	75.0	16.0	3.46	3.92	4.18	2.16	2.96
MSS1246-333ML_	33 ±20%	81.7	90.8	15.0	3.14	3.54	3.78	1.90	2.60
MSS1246-393ML_	39 ±20%	95.2	105.8	13.3	2.72	3.14	3.38	1.73	2.39
MSS1246-473ML_	47 ±20%	120.6	134.0	12.0	2.66	3.06	3.24	1.50	2.10
MSS1246-563ML_	56 ±20%	133.8	148.7	10.6	2.34	2.64	2.80	1.44	2.01
MSS1246-683ML_	68 ±20%	167.3	185.9	9.7	2.10	2.40	2.56	1.30	1.80
MSS1246-823ML_	82 ±20%	188.5	209.5	8.8	1.80	2.06	2.24	1.24	1.72
MSS1246-104ML_	100 ±20%	216.8	240.9	8.0	1.64	1.86	2.04	1.20	1.60
MSS1246-124KL_	120 ±10%	287.2	319.2	7.2	1.62	1.82	1.92	1.03	1.42
MSS1246-154KL_	150 ±10%	326.7	363.0	6.6	1.36	1.58	1.70	0.95	1.30
MSS1246-184KL_	180 ±10%	379.5	421.7	5.9	1.34	1.48	1.60	0.89	1.21
MSS1246-224KL_	220 ±10%	488.2	542.5	5.3	1.18	1.30	1.40	0.76	1.00
MSS1246-274KL_	270 ±10%	560.1	622.4	4.7	1.04	1.18	1.24	0.72	0.95
MSS1246-334KL_	330 ±10%	731.4	812.7	4.1	1.00	1.10	1.20	0.65	0.87
MSS1246-394KL_	390 ±10%	813.7	904.2	3.8	0.91	1.00	1.08	0.59	0.79
MSS1246-474KL_	470 ±10%	935.1	1039	3.5	0.81	0.92	0.98	0.56	0.76
MSS1246-564KL_	560 ±10%	1193	1326	3.0	0.76	0.85	0.90	0.50	0.67
MSS1246-684KL_	680 ±10%	1370	1523	2.8	0.68	0.77	0.82	0.46	0.62
MSS1246-824KL_	820 ±10%	1590	1767	2.6	0.61	0.70	0.75	0.43	0.58
MSS1246-105KL_	1000 ±10%	2090	2323	2.4	0.56	0.63	0.68	0.36	0.50

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

**MSS1246-105KLC**

**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).

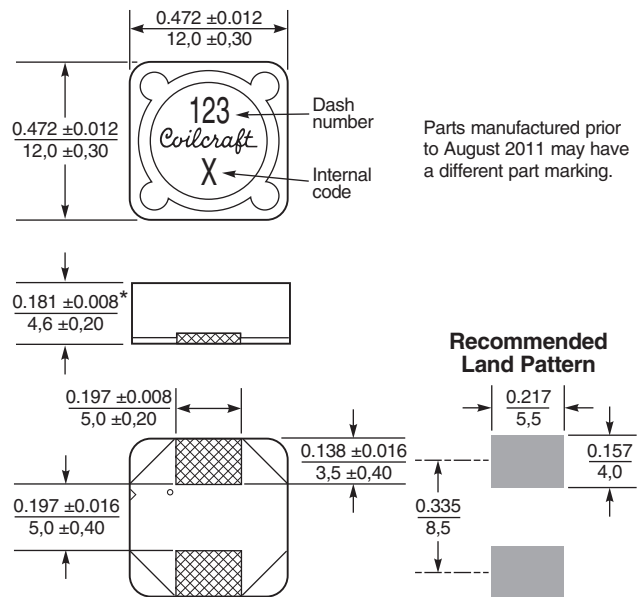
**Packaging:** C=7" machine-ready reel. EIA-481 embossed plastic tape (200 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**D**=13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (800 parts per full reel).

**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 C.

- Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B LCR meter or equivalent.
- DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
- SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
- DC current at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information..](#)
- 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.](#)
- Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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



**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 471-2 Revised 07/15/20

© Coilcraft Inc. 2020

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.