



# Shielded Power Inductors – MSS5131



- 5.1 × 5.1 mm footprint; 3.1mm high shielded inductors
- Low DCR and excellent current handling

**Designer's Kit C362** contains 3 of each value

**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 (current production) or gold over nickel over phos bronze (prior production). Other terminations available at additional cost.

**Weight** 0.20 – 0.24 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** 600/7" reel, 2500/13" reel; Plastic tape: 12 mm wide, 0.35 mm thick, 8 mm pocket spacing, 3.25 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR max (Ohms)	SRF typ <sup>3</sup> (MHz)	Isat (A) <sup>4</sup>			Irms (A) <sup>5</sup>	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
MSS5131-222ML	2.2	0.020	65.0	1.76	2.08	2.30	2.00	3.30
MSS5131-332ML	3.3	0.028	60.0	1.33	1.58	1.73	1.60	2.90
MSS5131-472ML	4.7	0.038	48.0	1.08	1.32	1.42	1.40	2.50
MSS5131-562ML	5.6	0.042	44.0	1.00	1.20	1.30	1.30	2.30
MSS5131-682ML	6.8	0.050	42.0	0.98	1.14	1.24	1.20	2.16
MSS5131-822ML	8.2	0.058	40.0	0.90	1.04	1.18	1.10	2.00
MSS5131-103ML	10	0.070	38.0	0.85	0.98	1.13	1.00	1.90
MSS5131-123ML	12	0.080	35.0	0.72	0.85	0.94	0.97	1.60
MSS5131-153ML	15	0.100	32.0	0.67	0.78	0.86	0.94	1.50
MSS5131-183ML	18	0.120	26.0	0.61	0.72	0.79	0.89	1.40
MSS5131-223ML	22	0.145	22.0	0.54	0.64	0.70	0.87	1.30
MSS5131-273ML	27	0.161	19.0	0.48	0.56	0.62	0.85	1.20
MSS5131-333ML	33	0.200	18.0	0.44	0.52	0.58	0.80	1.10
MSS5131-393ML	39	0.215	17.0	0.42	0.50	0.55	0.74	1.00
MSS5131-473ML	47	0.270	16.0	0.38	0.46	0.51	0.71	0.95
MSS5131-563ML	56	0.280	15.0	0.34	0.42	0.47	0.70	0.90
MSS5131-683ML	68	0.368	12.5	0.31	0.38	0.42	0.66	0.85
MSS5131-823ML	82	0.420	12.0	0.27	0.32	0.35	0.62	0.80
MSS5131-104ML	100	0.580	11.5	0.26	0.30	0.33	0.55	0.69
MSS5131-124ML	120	0.610	11.0	0.23	0.27	0.30	0.51	0.62
MSS5131-154ML	150	0.820	10.0	0.21	0.26	0.28	0.47	0.58
MSS5131-184ML	180	1.00	9.0	0.19	0.23	0.25	0.43	0.54
MSS5131-224ML	220	1.10	8.0	0.18	0.21	0.23	0.39	0.50
MSS5131-274ML	270	1.43	7.5	0.15	0.18	0.20	0.35	0.45
MSS5131-334ML	330	1.58	6.8	0.13	0.17	0.19	0.32	0.42
MSS5131-394ML	390	1.80	5.4	0.12	0.15	0.16	0.30	0.38

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

**MSS5131-394MLC**

**Termination:** L = RoHS compliant matte tin over nickel over phos bronze (current production) or gold over nickel over phos bronze (prior production).

**Special order:**

**T** = RoHS tin-silver-copper (95.5/4/0.5) over gold over nickel over phos bronze or **S** = non-RoHS tin-lead (63/37) over gold over nickel over phos bronze.

**Packaging:** C = 7" machine-ready reel EIA-481 embossed plastic tape (600 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 (2500 per reel per full reel).

- Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
  - SRF measured using Agilent/HP 4191A or equivalent.
  - DC current at which the inductance drops the specified amount from its value without current.
  - Current that causes the specified temperature rise from 25°C ambient.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**SPICE models**  
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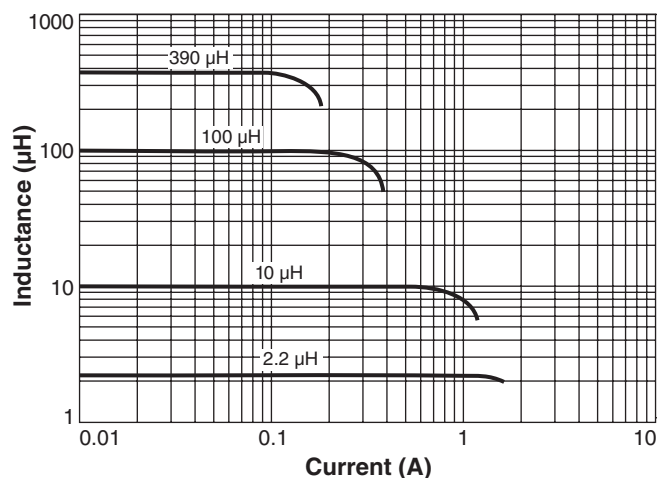
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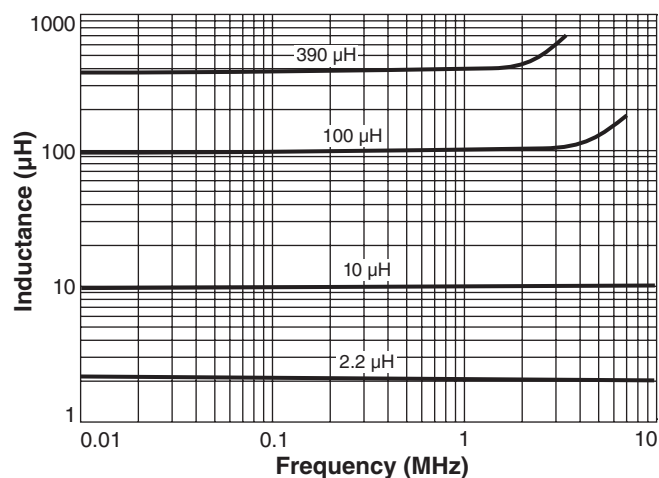


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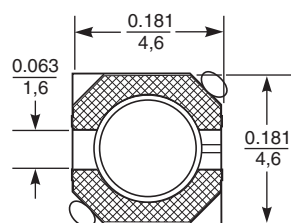
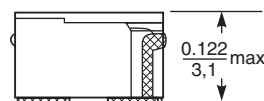
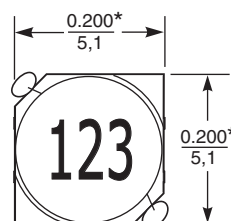
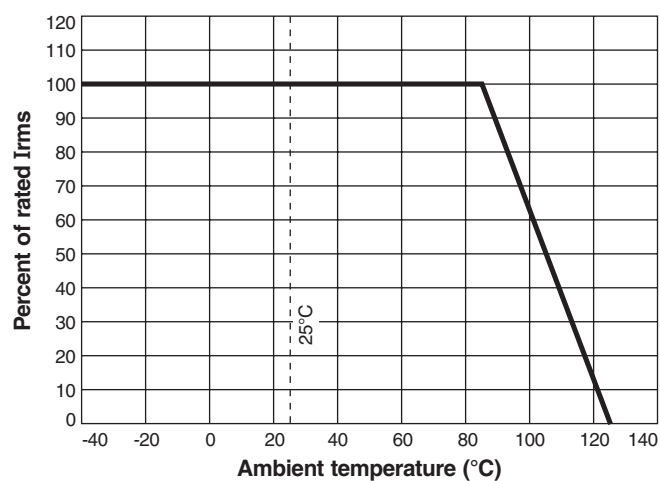
## Typical L vs Current



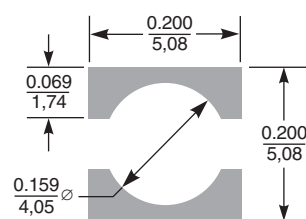
## Typical L vs Frequency



## Irms Derating



\*Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.035 in / 0.9 mm.



**Recommended Land Pattern**

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$