



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

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 Only pure water or alcohol recommended

| Part number ¹ | Inductance ² ±20% (µH) | DCR max (Ohms) | SRF typ ³ (MHz) | Isat (A) ⁴ | | | Irms (A) ⁵ | |
|--------------------------|--------------------------------------|----------------------|----------------------------------|-----------------------|-------------|-------------|-----------------------|--------------|
| | | | | 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).

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
 3. SRF measured using Agilent/HP 4191A 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.

SPICE models
ON OUR WEB SITE



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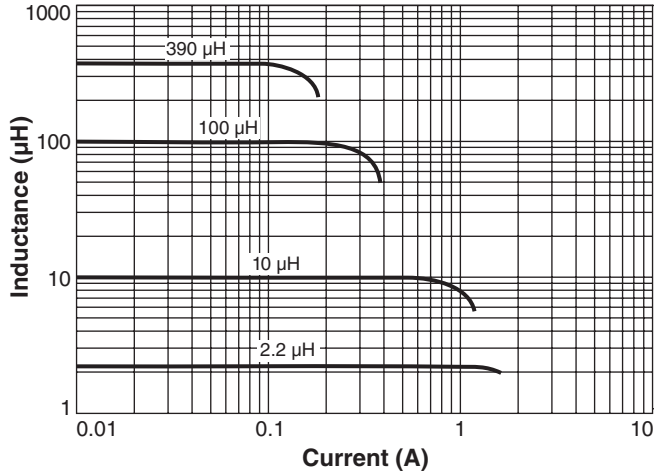
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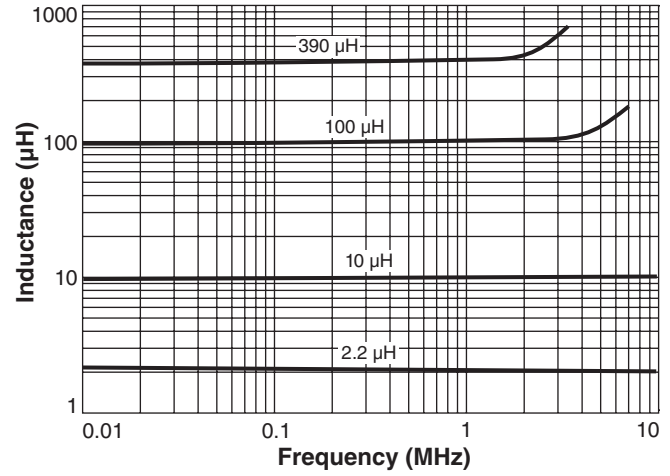


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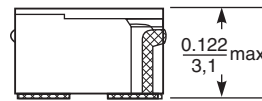
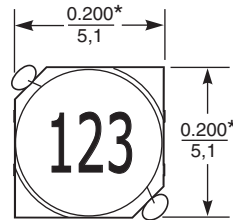
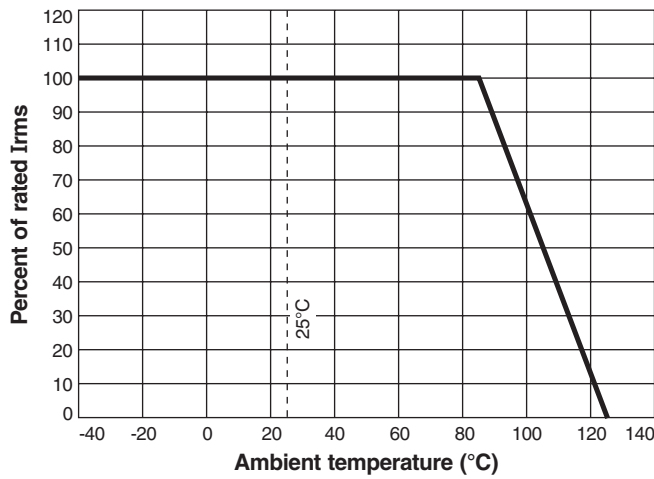
Typical L vs Current



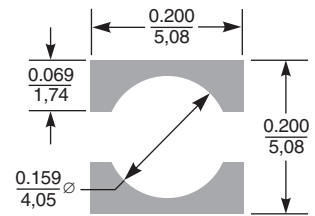
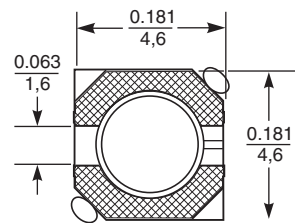
Typical L vs Frequency



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



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