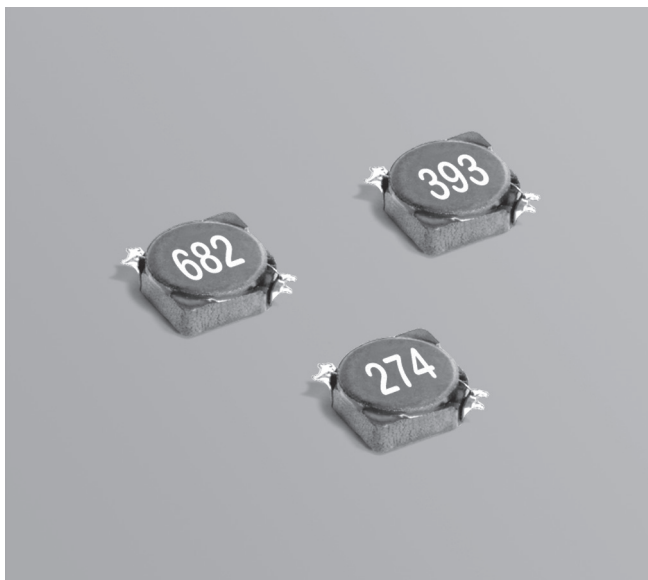




Shielded Power Inductors – MSS5121



- Low profile shielded power inductors
- Low DCR, excellent current handling and low cost

Designer's Kit C411 contains 3 of each value

Core material Ferrite

Terminations RoHS compliant gold over nickel over phos bronze. Other terminations available at additional cost.

Weight 141 – 147 mg

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 |
| MSS5121-222ML_ | 2.2 | 0.050 | 120.0 | 1.86 | 2.10 | 2.30 | 2.1 | 2.9 |
| MSS5121-332ML_ | 3.3 | 0.070 | 90.0 | 1.62 | 1.84 | 2.00 | 1.7 | 2.3 |
| MSS5121-472ML_ | 4.7 | 0.095 | 80.0 | 1.38 | 1.54 | 1.66 | 1.4 | 1.9 |
| MSS5121-562ML_ | 5.6 | 0.100 | 73.0 | 1.28 | 1.42 | 1.54 | 1.3 | 1.8 |
| MSS5121-682ML_ | 6.8 | 0.110 | 65.0 | 1.10 | 1.28 | 1.38 | 1.2 | 1.6 |
| MSS5121-822ML_ | 8.2 | 0.135 | 55.0 | 1.06 | 1.22 | 1.32 | 1.1 | 1.5 |
| MSS5121-103ML_ | 10 | 0.160 | 47.0 | 0.98 | 1.08 | 1.18 | 0.99 | 1.3 |
| MSS5121-123ML_ | 12 | 0.190 | 41.0 | 0.87 | 0.99 | 1.05 | 0.91 | 1.2 |
| MSS5121-153ML_ | 15 | 0.280 | 37.0 | 0.76 | 0.85 | 0.90 | 0.82 | 1.1 |
| MSS5121-183ML_ | 18 | 0.300 | 35.0 | 0.71 | 0.81 | 0.87 | 0.75 | 1.0 |
| MSS5121-223ML_ | 22 | 0.330 | 32.0 | 0.68 | 0.77 | 0.82 | 0.71 | 0.97 |
| MSS5121-273ML_ | 27 | 0.420 | 27.0 | 0.61 | 0.69 | 0.74 | 0.63 | 0.85 |
| MSS5121-333ML_ | 33 | 0.480 | 25.0 | 0.58 | 0.64 | 0.67 | 0.56 | 0.76 |
| MSS5121-393ML_ | 39 | 0.530 | 23.0 | 0.48 | 0.54 | 0.58 | 0.55 | 0.73 |
| MSS5121-473ML_ | 47 | 0.750 | 22.0 | 0.44 | 0.51 | 0.54 | 0.46 | 0.63 |
| MSS5121-563ML_ | 56 | 0.860 | 19.0 | 0.40 | 0.46 | 0.49 | 0.44 | 0.60 |
| MSS5121-683ML_ | 68 | 1.00 | 18.0 | 0.37 | 0.42 | 0.46 | 0.41 | 0.56 |
| MSS5121-823ML_ | 82 | 1.20 | 15.0 | 0.35 | 0.40 | 0.42 | 0.35 | 0.47 |
| MSS5121-104ML_ | 100 | 1.40 | 13.5 | 0.28 | 0.32 | 0.35 | 0.33 | 0.44 |
| MSS5121-124ML_ | 120 | 1.60 | 12.0 | 0.26 | 0.30 | 0.32 | 0.31 | 0.42 |
| MSS5121-154ML_ | 150 | 2.10 | 9.0 | 0.26 | 0.29 | 0.31 | 0.29 | 0.38 |
| MSS5121-184ML_ | 180 | 2.31 | 8.5 | 0.21 | 0.25 | 0.27 | 0.25 | 0.34 |
| MSS5121-224ML_ | 220 | 3.10 | 7.5 | 0.21 | 0.24 | 0.25 | 0.22 | 0.29 |
| MSS5121-274ML_ | 270 | 3.50 | 7.0 | 0.18 | 0.20 | 0.22 | 0.20 | 0.27 |
| MSS5121-334ML_ | 330 | 4.00 | 6.5 | 0.17 | 0.19 | 0.20 | 0.19 | 0.26 |
| MSS5121-394ML_ | 390 | 5.00 | 5.8 | 0.15 | 0.17 | 0.19 | 0.15 | 0.21 |

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

MSS5121-394MLC

Termination: L = RoHS compliant gold 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 (600 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 (2500 parts per full reel).

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using Coilcraft SMD-A fixture in an Agilent/HP 4284A impedance analyzer.

3. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.

4. DC current at which the inductance drops the specified amount from its value without current.

5. Current that causes the specified temperature rise for 25°C ambient.

6. Electrical specifications at 25°C.

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



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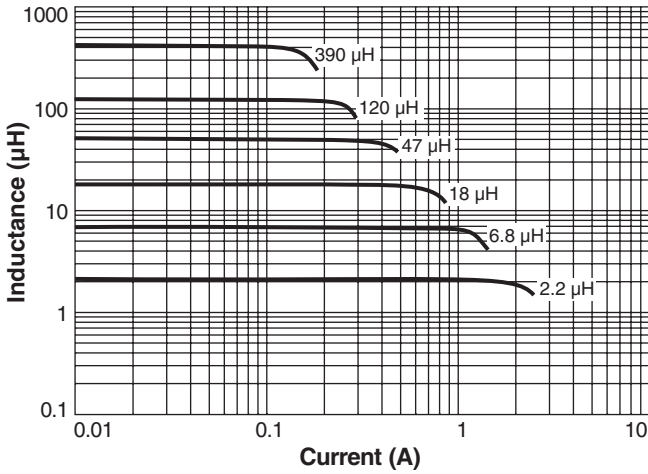
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This product may not be used in medical of high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check out web site for latest information.

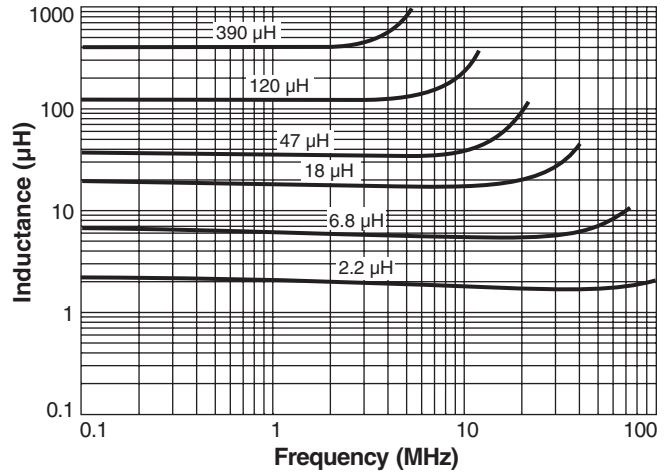


Shielded Power Inductors – MSS5121 Series

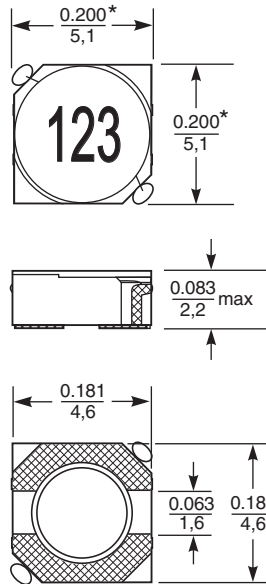
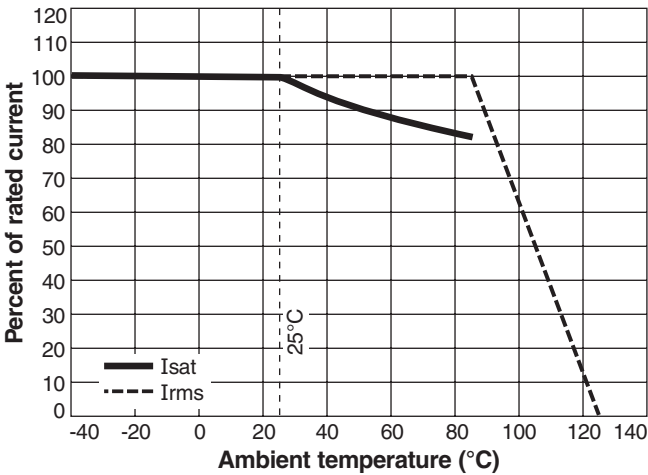
Typical L vs Current



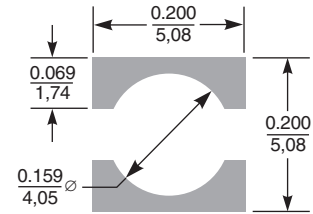
Typical L vs Frequency



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