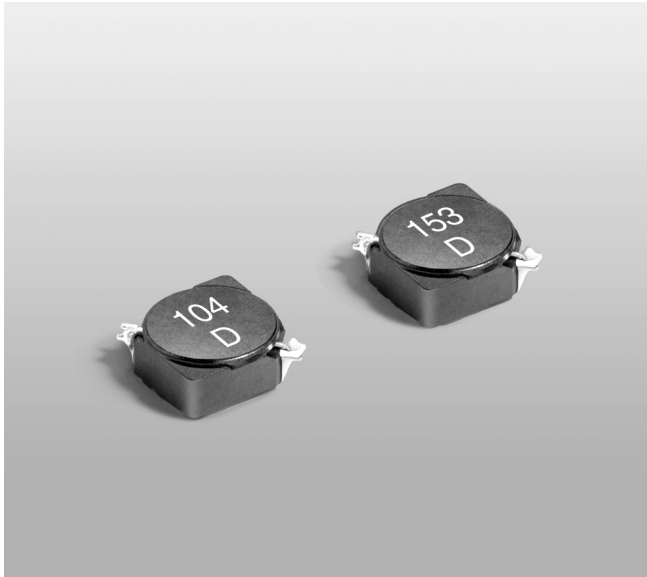




Shielded Power Inductors – MSS7331



- 7.0 × 7.0 mm footprint; 3.1 mm high shielded inductors
- Low DCR and excellent current handling

Core material Ferrite

Core and winding loss See www.coilcraft.com/coreloss

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

Weight 0.48 – 0.51 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 350/7" reel, 1500/13" reel; Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 3.7 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

| Part number ¹ | Inductance ² (µH) | DCR (Ohms) | | SRF typ ³ (MHz) | Isat (A) ⁴ | | | Irms (A) ⁵ | |
|--------------------------|---------------------------------|---------------|-------|----------------------------------|-----------------------|-------------|-------------|-----------------------|--------------|
| | | typ | max | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| MSS7331-152NL_ | 1.5 ±30% | 0.009 | 0.012 | 80.0 | 3.5 | 4.4 | 5.1 | 4.8 | 6.9 |
| MSS7331-302NL_ | 3.0 ±30% | 0.014 | 0.020 | 55.0 | 2.3 | 3.0 | 3.5 | 4.2 | 6.0 |
| MSS7331-392NL_ | 3.9 ±30% | 0.017 | 0.023 | 45.0 | 2.2 | 2.8 | 3.2 | 4.1 | 5.7 |
| MSS7331-502ML_ | 5.0 ±20% | 0.022 | 0.030 | 40.0 | 2.0 | 2.4 | 2.8 | 3.3 | 4.5 |
| MSS7331-602ML_ | 6.0 ±20% | 0.025 | 0.033 | 38.0 | 1.8 | 2.2 | 2.6 | 3.4 | 4.6 |
| MSS7331-732ML_ | 7.3 ±20% | 0.035 | 0.045 | 35.0 | 1.8 | 2.2 | 2.5 | 2.8 | 3.8 |
| MSS7331-862ML_ | 8.6 ±20% | 0.038 | 0.048 | 33.5 | 1.6 | 2.0 | 2.2 | 2.5 | 3.4 |
| MSS7331-103ML_ | 10 ±20% | 0.046 | 0.052 | 30.0 | 1.4 | 1.7 | 1.9 | 2.4 | 3.2 |
| MSS7331-123ML_ | 12 ±20% | 0.058 | 0.066 | 26.0 | 1.3 | 1.6 | 1.7 | 2.1 | 2.8 |
| MSS7331-153ML_ | 15 ±20% | 0.067 | 0.075 | 24.0 | 1.2 | 1.4 | 1.6 | 2.0 | 2.7 |
| MSS7331-183ML_ | 18 ±20% | 0.071 | 0.088 | 22.0 | 1.1 | 1.3 | 1.4 | 1.9 | 2.6 |
| MSS7331-223ML_ | 22 ±20% | 0.095 | 0.113 | 21.0 | 0.98 | 1.2 | 1.3 | 1.6 | 2.2 |
| MSS7331-273ML_ | 27 ±20% | 0.105 | 0.132 | 17.0 | 0.89 | 1.1 | 1.2 | 1.5 | 2.0 |
| MSS7331-333ML_ | 33 ±20% | 0.123 | 0.150 | 16.0 | 0.80 | 0.97 | 1.1 | 1.4 | 1.9 |
| MSS7331-393ML_ | 39 ±20% | 0.161 | 0.180 | 14.5 | 0.70 | 0.86 | 0.96 | 1.2 | 1.6 |
| MSS7331-473ML_ | 47 ±20% | 0.180 | 0.215 | 12.5 | 0.67 | 0.80 | 0.89 | 1.2 | 1.6 |
| MSS7331-563ML_ | 56 ±20% | 0.240 | 0.270 | 11.5 | 0.61 | 0.72 | 0.80 | 1.0 | 1.4 |
| MSS7331-683ML_ | 68 ±20% | 0.273 | 0.300 | 10.5 | 0.55 | 0.66 | 0.74 | 0.92 | 1.2 |
| MSS7331-823ML_ | 82 ±20% | 0.304 | 0.370 | 9.5 | 0.52 | 0.60 | 0.67 | 0.84 | 1.2 |
| MSS7331-104ML_ | 100 ±20% | 0.419 | 0.495 | 8.5 | 0.45 | 0.54 | 0.61 | 0.79 | 1.1 |

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

MSS7331-104MLC

Termination: L = RoHS compliant gold over nickel over phos bronze

Special order:

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

Packaging: C = 7" machine-ready reel EIA-481 embossed plastic tape (350 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 (1500 per reel per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4284A LCR meter or equivalent.

3. For SRF >13 MHz, SRF measured using an Agilent/HP 8753D network Analyzer or equivalent. For SRF <13 MHz, SRF measured using an Agilent/HP 4192A or equivalent.

4. DC current at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information.](#)

5. 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.](#)

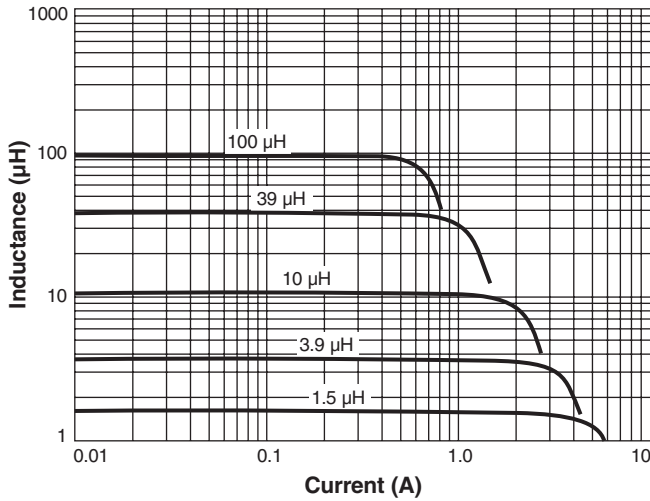
6. Electrical specifications at 25°C.

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

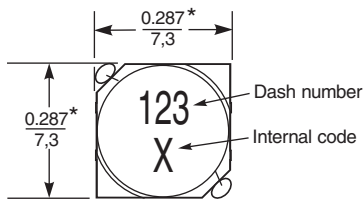
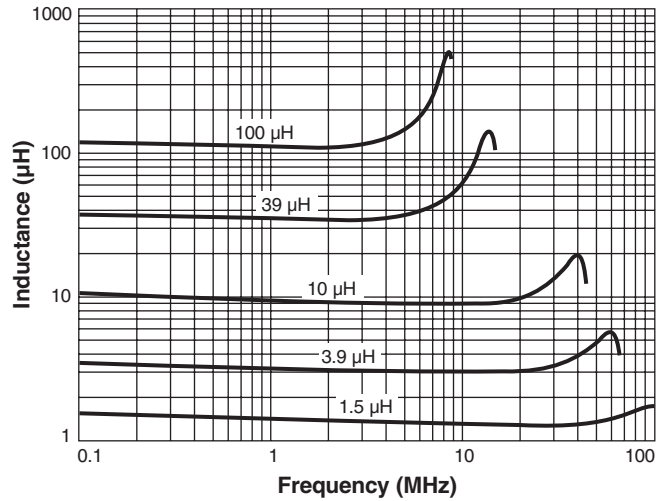


Shielded Power Inductors – MSS7331

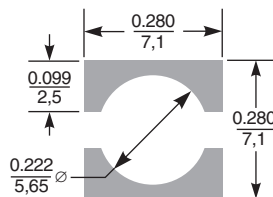
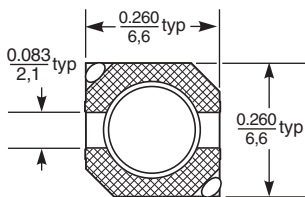
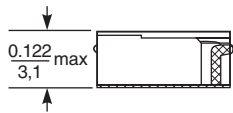
Typical L vs Current



Typical L vs Frequency



* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.02 in / 0,51 mm.



Recommended Land Pattern

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

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