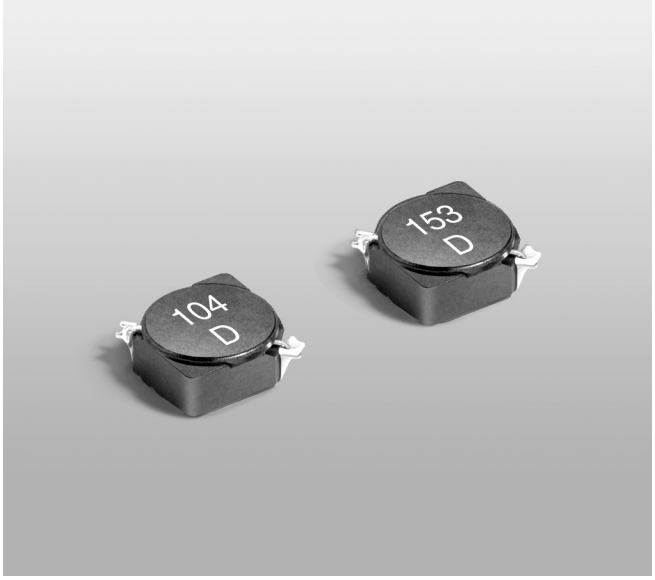
Shielded Power Inductors – MSS7331



- 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) typ	DCR (Ohms) max	SRF typ[3] (MHz)	Isat (A)[4] 10% drop	Isat (A)[4] 20% drop	Isat (A)[4] 30% drop	Irms (A)[5] 20°C rise	Irms (A)[5] 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.

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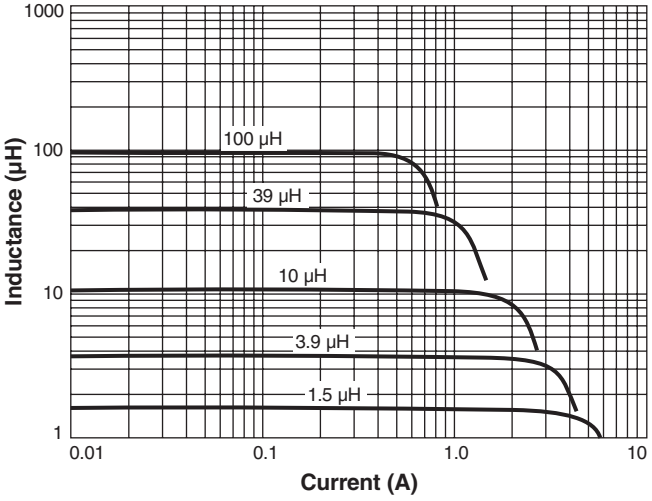
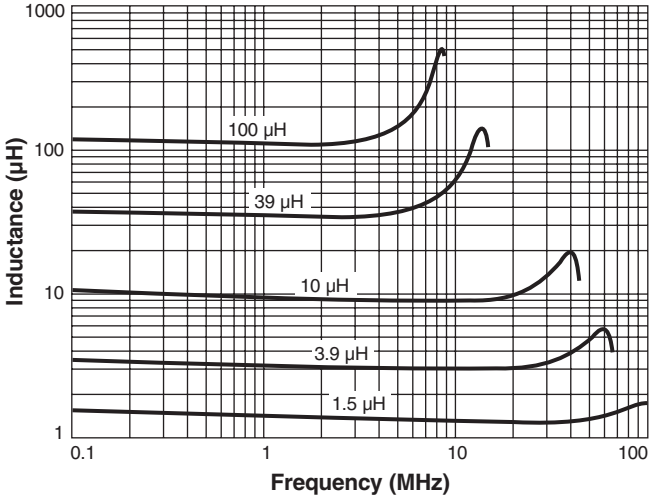
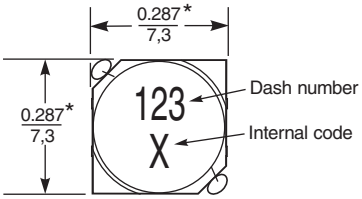
Typical L vs Current

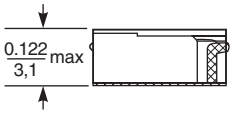


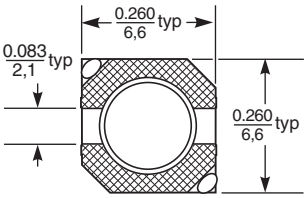
Typical L vs Frequency

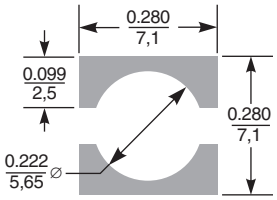




* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.02 in / 0,51 mm.







Recommended Land Pattern

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

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