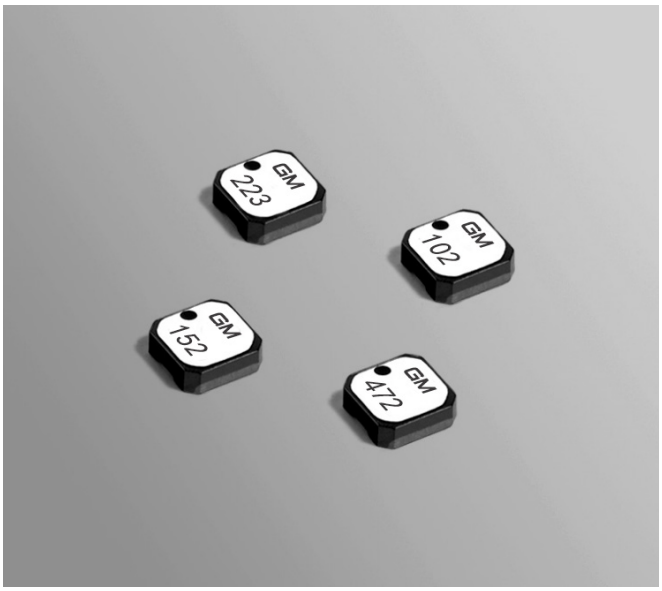
Shielded Power Inductors – LP3010



- Ultra small 3.0 × 3.0 mm footprint; less than 1.0 mm tall
- Very low DCR; excellent current handling

Core material Ferrite
Core and winding loss
Environmental RoHS compliant, halogen free
Terminations RoHS compliant matte tin over nickel over silver. Other terminations available at additional cost.
Weight 25 – 32 mg
Ambient temperature –40°C to +85°C with (40°C rise) Irms current.
Maximum part temperature +125°C (ambient + temp rise).
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 1000/7″ reel; 3500/13″ reel; Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.4 mm pocket depth
Recommended pick and place nozzle OD: 3 mm; ID: ≤ 1.5 mm
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash.

Part number	Inductance ±20% (µH)	DCR max (Ohms)	SRF typ (MHz)	Isat (A) 10% drop	Isat (A) 20% drop	Isat (A) 30% drop	Irms (A) 20°C rise	Irms (A) 40°C rise
LP3010-471MR_	0.47	0.070	370	1.8	1.9	2.0	1.3	1.80
LP3010-681MR_	0.68	0.080	270	1.6	1.7	1.7	1.3	1.75
LP3010-102MR_	1.0	0.085	230	1.5	1.6	1.6	1.1	1.50
LP3010-152MR_	1.5	0.120	165	1.3	1.4	1.4	1.05	1.40
LP3010-182MR_	1.8	0.150	150	1.2	1.2	1.3	1.00	1.40
LP3010-222MR_	2.2	0.220	130	1.3	1.4	1.4	0.90	1.10
LP3010-332MR_	3.3	0.220	110	0.83	0.88	0.90	0.85	1.10
LP3010-472MR_	4.7	0.300	92	0.72	0.75	0.77	0.70	0.95
LP3010-562MR_	5.6	0.400	80	0.67	0.69	0.71	0.60	0.78
LP3010-682MR_	6.8	0.450	70	0.61	0.63	0.64	0.56	0.74
LP3010-822MR_	8.2	0.520	62	0.56	0.59	0.59	0.53	0.70
LP3010-103MR_	10	0.540	58	0.50	0.53	0.55	0.48	0.64
LP3010-123MR_	12	0.700	47	0.46	0.49	0.50	0.44	0.58
LP3010-153MR_	15	0.950	43	0.41	0.43	0.44	0.37	0.48
LP3010-183MR_	18	1.10	40	0.38	0.40	0.41	0.33	0.47
LP3010-223MR_	22	1.20	36	0.32	0.35	0.36	0.30	0.41
LP3010-333MR_	33	2.00	27	0.25	0.27	0.28	0.26	0.35
LP3010-473MR_	47	3.20	21	0.23	0.24	0.25	0.22	0.31
LP3010-683MR_	68	3.50	21	0.20	0.21	0.22	0.20	0.28
LP3010-104MR_	100	5.25	14	0.14	0.16	0.17	0.18	0.24
LP3010-124MR_	120	6.10	12	0.13	0.15	0.15	0.14	0.19
LP3010-154MR_	150	9.15	11	0.13	0.14	0.14	0.13	0.17
LP3010-184MR_	180	10.1	9	0.11	0.12	0.13	0.11	0.15
LP3010-224MR_	220	12.5	8	0.10	0.11	0.12	0.095	0.13
LP3010-224MR_	330	18.5	7	0.10	0.105	0.115	0.085	0.11

PulseGM **Designer's Kit C392** contains samples of 0.80 µH to 33 µH parts (3 each) from LP3008, LP3010 and LP3015. **Kit C401** contains samples of 0.56 µH to 33 µH parts (3 each) from LP4012 and LP4018. **Kit C402** contains samples of 220 µH to 3300 µH parts (3 each) from all five series. For details of kit contents and to order, contact PulseGM.

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

LP3010-223MRC

Termination: **R**= RoHS compliant matte tin over nickel over silver. Special order, added cost: **Q** = RoHS tin-silver-copper (95.5/4/0.5) or **P** = non-RoHS tin-lead (63/37).

Packaging: **C**= 7″ machine-ready reel. EIA-481 embossed plastic tape (1000 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 (3500 parts per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A. Inductance at 1 MHz is the same for parts with SRF ≥10 MHz.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using an Agilent/HP 8753ES or equivalent.
5. DC current at 25°C that causes the specified inductance drop from its value without current.
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum rat-ings.
7. Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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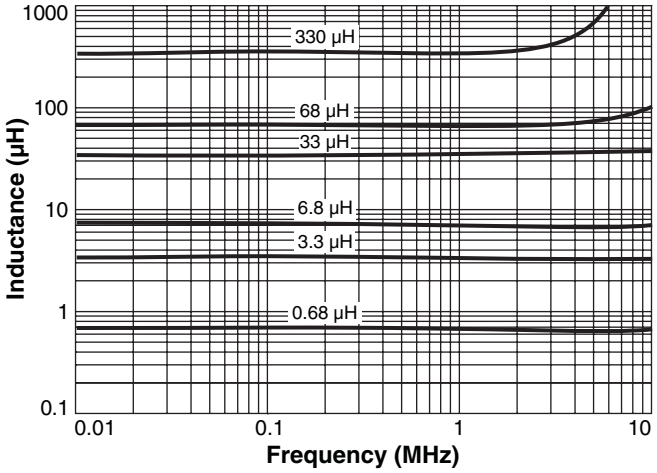
Specification subject to change without notice.
Please check web site for latest information.

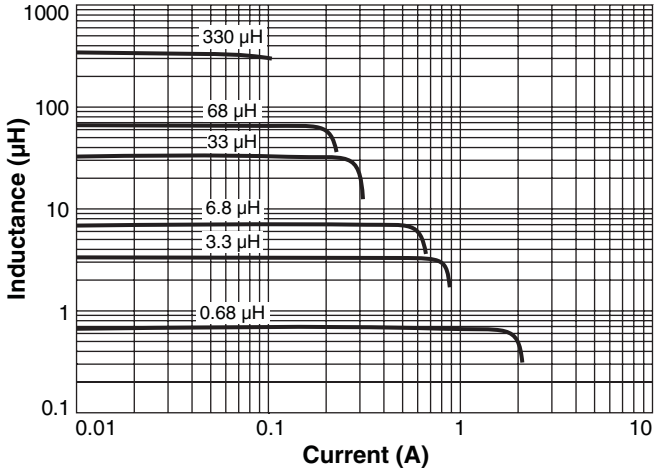
SPICE models
ON OUR WEB SITE

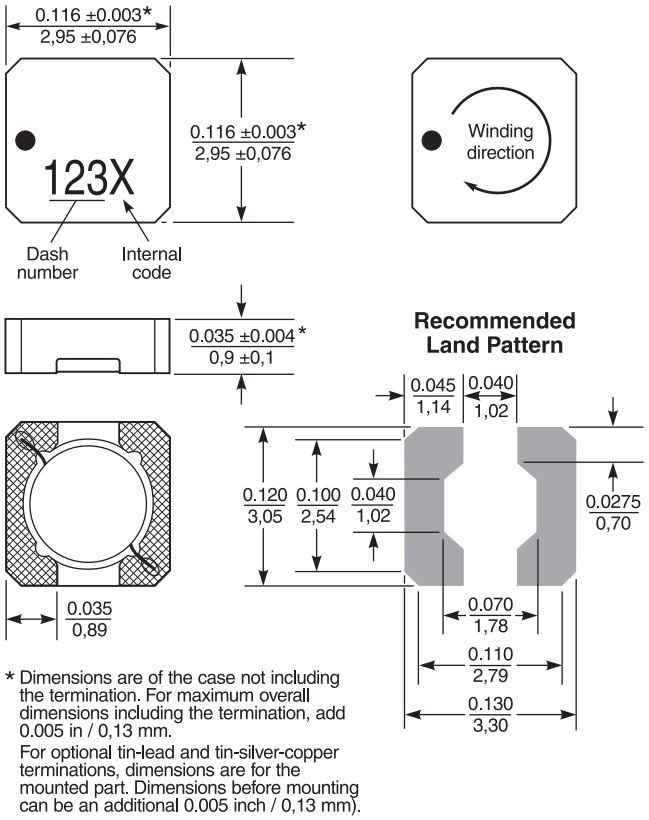
Shielded SMT Power Inductors – LP3010 Series

L vs Frequency



L vs Current



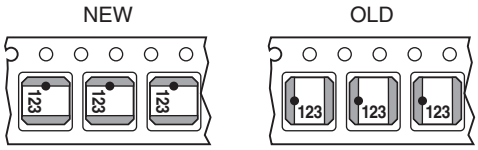


* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.
For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0,13 mm).

Dimensions are in inches / mm

Packaging 1000/7″ reel; 3500/13″ reel; Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.4 mm pocket depth

NOTE NEW PART ORIENTATION Parts are rotated 90° in the packaging tape compared to previous versions of this product.



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