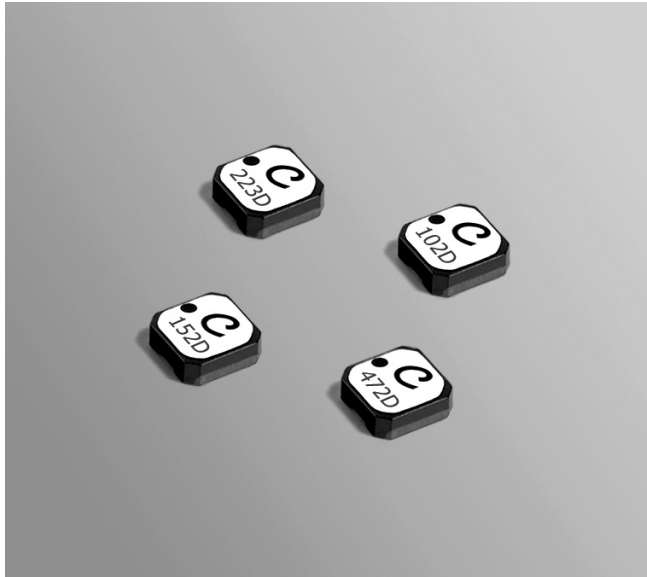


Shielded Power Inductors - LPS3010



- 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 See www.coilcraft.com/coreloss

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). [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 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. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	Inductance ² ±20% (µH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
LPS3010-471MR_	0.47	0.070	370	1.8	1.9	2.0	1.3	1.80
LPS3010-681MR_	0.68	0.080	270	1.6	1.7	1.7	1.3	1.75
LPS3010-102MR_	1.0	0.085	230	1.5	1.6	1.6	1.1	1.50
LPS3010-152MR_	1.5	0.120	165	1.3	1.4	1.4	1.05	1.40
LPS3010-182MR_	1.8	0.150	150	1.2	1.2	1.3	1.00	1.40
LPS3010-222MR_	2.2	0.220	130	1.3	1.4	1.4	0.90	1.10
LPS3010-332MR_	3.3	0.220	110	0.83	0.88	0.90	0.85	1.10
LPS3010-472MR_	4.7	0.300	92	0.72	0.75	0.77	0.70	0.95
LPS3010-562MR_	5.6	0.400	80	0.67	0.69	0.71	0.60	0.78
LPS3010-682MR_	6.8	0.450	70	0.61	0.63	0.64	0.56	0.74
LPS3010-822MR_	8.2	0.520	62	0.56	0.59	0.59	0.53	0.70
LPS3010-103MR_	10	0.540	58	0.50	0.53	0.55	0.48	0.64
LPS3010-123MR_	12	0.700	47	0.46	0.49	0.50	0.44	0.58
LPS3010-153MR_	15	0.950	43	0.41	0.43	0.44	0.37	0.48
LPS3010-183MR_	18	1.10	40	0.38	0.40	0.41	0.33	0.47
LPS3010-223MR_	22	1.20	36	0.32	0.35	0.36	0.30	0.41
LPS3010-333MR_	33	2.00	27	0.25	0.27	0.28	0.26	0.35
LPS3010-473MR_	47	3.20	21	0.23	0.24	0.25	0.22	0.31
LPS3010-683MR_	68	3.50	21	0.20	0.21	0.22	0.20	0.28
LPS3010-104MR_	100	5.25	14	0.14	0.16	0.17	0.18	0.24
LPS3010-124MR_	120	6.10	12	0.13	0.15	0.15	0.14	0.19
LPS3010-154MR_	150	9.15	11	0.13	0.14	0.14	0.13	0.17
LPS3010-184MR_	180	10.1	9	0.11	0.12	0.13	0.11	0.15
LPS3010-224MR_	220	12.5	8	0.10	0.11	0.12	0.095	0.13

Coilcraft **Designer's Kit C392** contains samples of 0.80 µH to 33 µH parts (3 each) from LPS3008, LPS3010 and LPS3015. **Kit C401** contains samples of 0.56 µH to 33 µH parts (3 each) from LPS4012 and LPS4018. **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 Coilcraft or visit <http://order.coilcraft.com>.

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

LPS3010-223MRC

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).

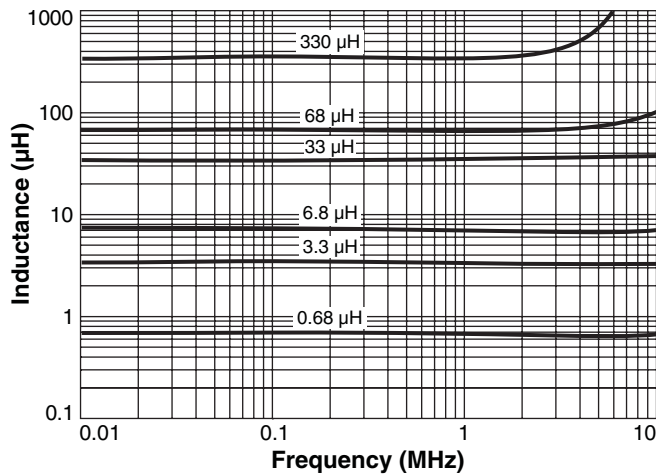
B= Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

D= 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 parts per full reel).

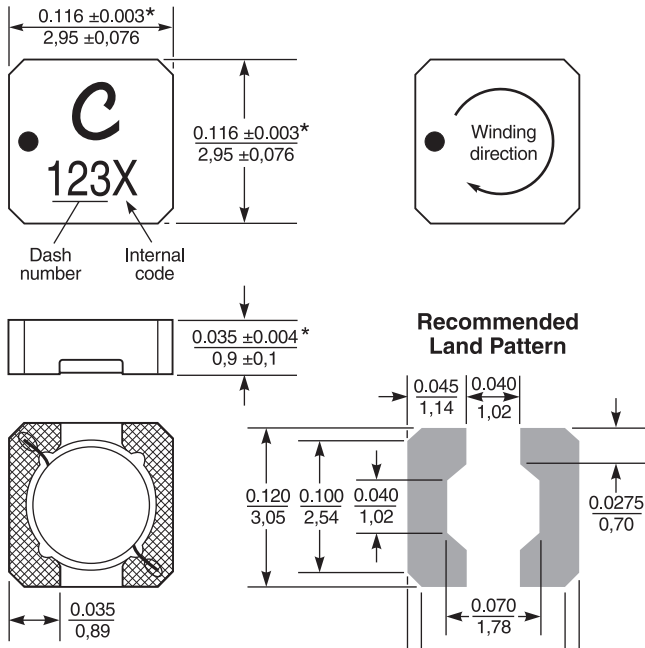
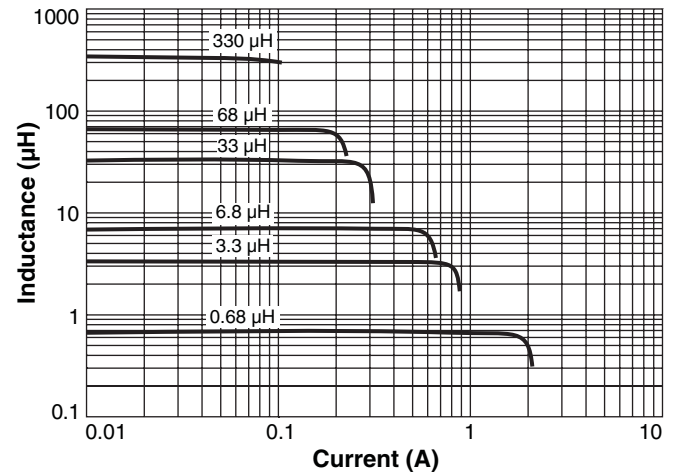
2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A. Inductance at 1 MHz is the same for parts with SRF ≥ 10 MHz.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using an Agilent/HP 8753ES or equivalent.
5. DC current at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information](#).
6. 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](#).
7. Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Shielded SMT Power Inductors – LPS3010 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 $\frac{\text{inches}}{\text{mm}}$

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.

