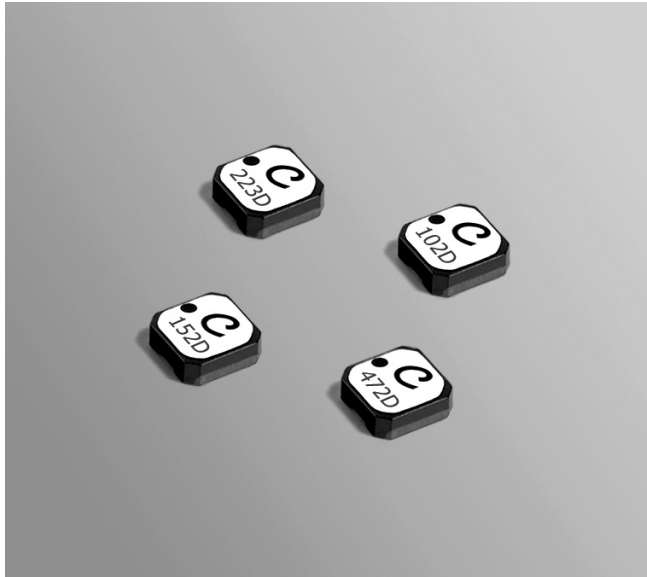


# Shielded Power Inductors - LPS3010



- 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](http://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 <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR max <sup>3</sup> (Ohms)	SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
				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

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.

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>.



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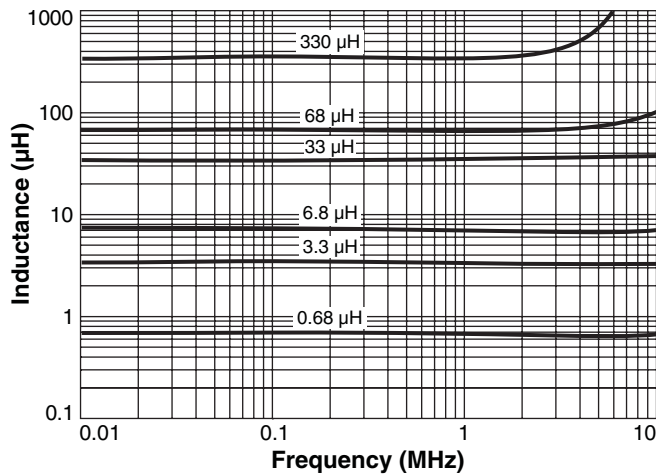
Document 428-1 Revised 09/01/15

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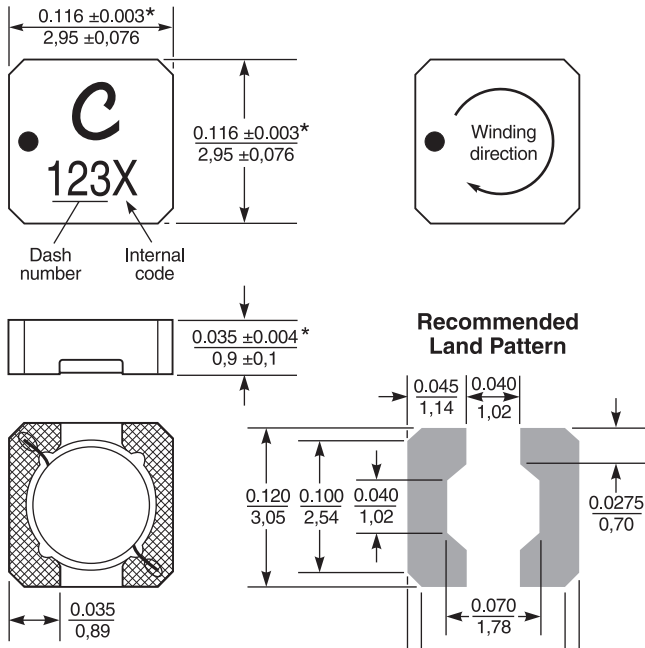
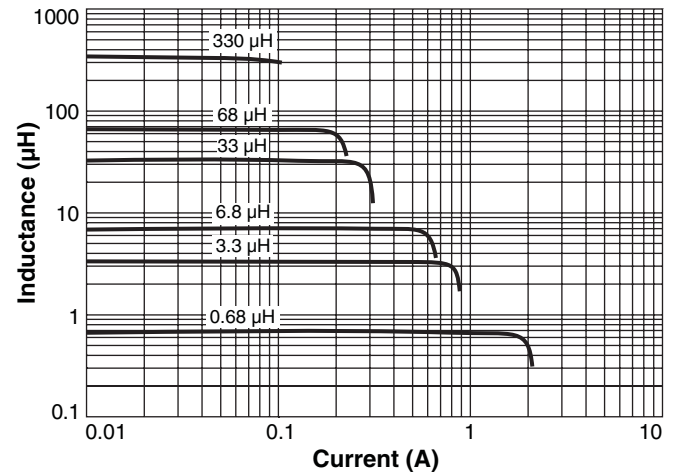
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

# Shielded SMT Power Inductors – LPS3010 Series

## L vs Frequency



## L vs Current

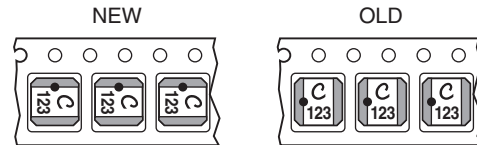


\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.  
For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 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.



# Mouser Electronics

Authorized Distributor

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## Coilcraft:

[LPS3010-184MLC](#) [LPS3010-183MLC](#) [LPS3010-473MLC](#) [LPS3010-334MLC](#) [LPS3010-152MLC](#) [LPS3010-153MLB](#)  
[LPS3010-681MLB](#) [LPS3010-822MLC](#) [LPS3010-124MLC](#) [LPS3010-682MLB](#) [LPS3010-223MLB](#) [LPS3010-104MLB](#)  
[LPS3010-332MLB](#) [LPS3010-154MLB](#) [LPS3010-183MLB](#) [LPS3010-822MLB](#) [LPS3010-123MLB](#) [LPS3010-154MLC](#)  
[LPS3010-152MLB](#) [LPS3010-472MLC](#) [LPS3010-333MLC](#) [LPS3010-103MLC](#) [LPS3010-102MLC](#) [LPS3010-182MLC](#)  
[LPS3010-562MLC](#) [LPS3010-472MLB](#) [LPS3010-124MLB](#) [LPS3010-683MLB](#) [LPS3010-682MLC](#) [LPS3010-224MLB](#)  
[LPS3010-683MLC](#) [LPS3010-223MLC](#) [LPS3010-184MLB](#) [LPS3010-681MLC](#) [LPS3010-471MLC](#) [LPS3010-123MLC](#)  
[LPS3010-153MLC](#) [LPS3010-224MLC](#) [LPS3010-104MLC](#) [LPS3010-102MLB](#) [LPS3010-473MLB](#) [LPS3010-562MLB](#)  
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