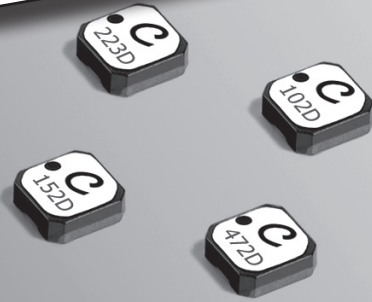


# Shielded Power Inductors - LPS3010

**Improved version now available.**

These parts are not recommended for new designs. They are replaced by new lead free and halogen free versions which are identical in form, fit and function. See [www.coilcraft.com/lps3010.cfm](http://www.coilcraft.com/lps3010.cfm).



- Ultra small 3.0 x 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)

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 25 – 32 mg

**Ambient temperature** -40°C to +85°C with Irms current, +85°C to +125°C with derated current

**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 (Refer to dimensional drawing for part orientation in tape.)

**Recommended pick and place nozzle** OD: 3 mm; ID: ≤ 1.5 mm

**PCB washing** Tested with pure water or alcohol only. For other solvents, 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
LPS3010-471ML_	0.47	0.070	370	1.8	1.9	2.0	1.3	1.80
LPS3010-681ML_	0.68	0.080	270	1.6	1.7	1.7	1.3	1.75
LPS3010-102ML_	1.0	0.085	230	1.5	1.6	1.6	1.1	1.50
LPS3010-152ML_	1.5	0.120	165	1.3	1.4	1.4	1.05	1.40
LPS3010-182ML_	1.8	0.150	150	1.2	1.2	1.3	1.00	1.40
LPS3010-222ML_	2.2	0.220	130	1.3	1.4	1.4	0.90	1.10
LPS3010-332ML_	3.3	0.220	110	0.83	0.88	0.90	0.85	1.10
LPS3010-472ML_	4.7	0.300	92	0.72	0.75	0.77	0.70	0.95
LPS3010-562ML_	5.6	0.400	80	0.67	0.69	0.71	0.60	0.78
LPS3010-682ML_	6.8	0.450	70	0.61	0.63	0.64	0.56	0.74
LPS3010-822ML_	8.2	0.520	62	0.56	0.59	0.59	0.53	0.70
LPS3010-103ML_	10	0.540	58	0.50	0.53	0.55	0.48	0.64
LPS3010-123ML_	12	0.700	47	0.46	0.49	0.50	0.44	0.58
LPS3010-153ML_	15	0.950	43	0.41	0.43	0.44	0.37	0.48
LPS3010-183ML_	18	1.10	40	0.38	0.40	0.41	0.33	0.47
LPS3010-223ML_	22	1.20	36	0.32	0.35	0.36	0.30	0.41
LPS3010-333ML_	33	2.00	27	0.25	0.27	0.28	0.26	0.35
LPS3010-473ML_	47	3.20	21	0.23	0.24	0.25	0.22	0.31
LPS3010-683ML_	68	3.50	21	0.20	0.21	0.22	0.20	0.28
LPS3010-104ML_	100	5.25	14	0.14	0.16	0.17	0.18	0.24
LPS3010-124ML_	120	6.10	12	0.13	0.15	0.15	0.14	0.19
LPS3010-154ML_	150	9.15	11	0.13	0.14	0.14	0.13	0.17
LPS3010-184ML_	180	10.1	9	0.11	0.12	0.13	0.11	0.15
LPS3010-224ML_	220	12.5	8	0.10	0.11	0.12	0.095	0.13
LPS3010-334ML_	330	18.5	7	0.10	0.105	0.115	0.085	0.11

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

**LPS3010-223MLC**

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.  
Special order:  
T = RoHS tin-silver-copper (95.5/4/0.5) or S = 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).

- 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.
- DCR measured on a micro-ohmmeter.
- SRF measured using an Agilent/HP 8753ES or equivalent.
- DC current that causes the specified inductance drop from its value without current.
- Current that causes the specified temperature rise from 25°C ambient.
- Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Coilcraft**<sup>®</sup>

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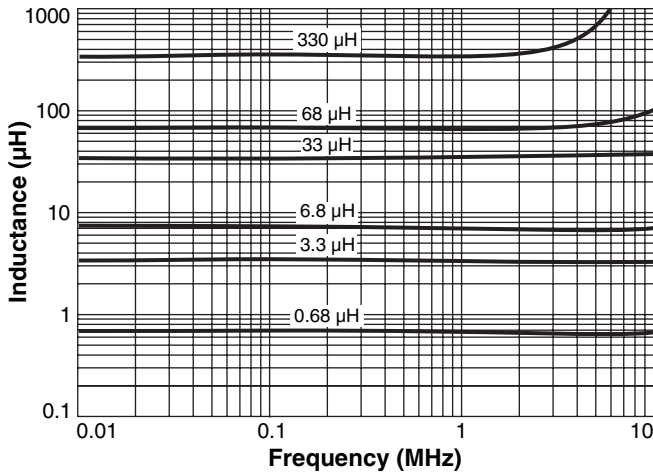
Document 428NR-1 Revised 11/22/11

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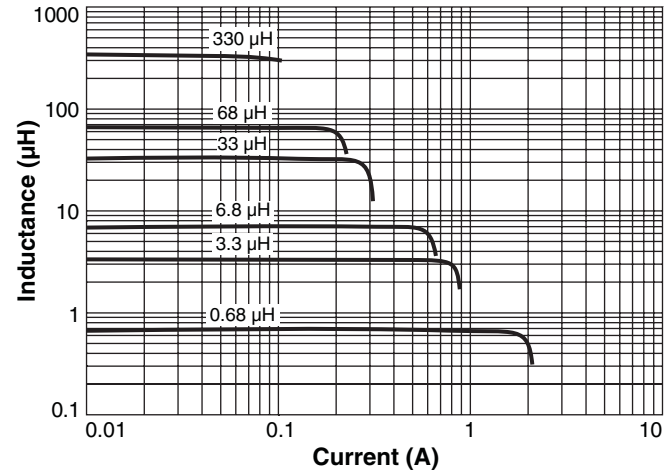
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

# Shielded SMT Power Inductors – LPS3010 Series

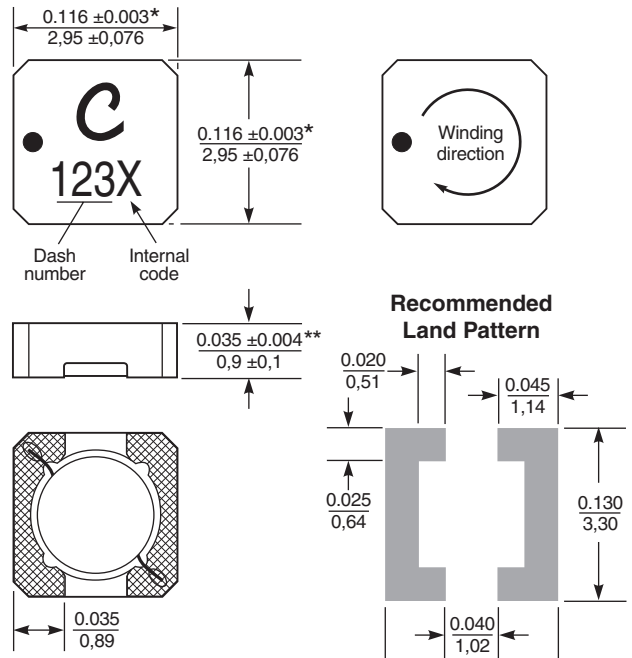
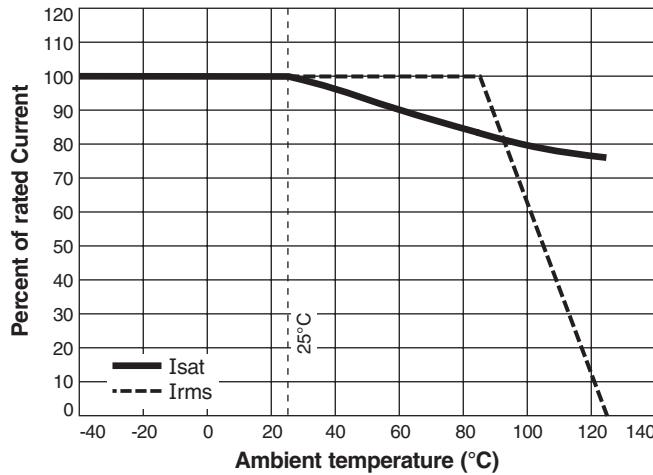
## L vs Frequency



## L vs Current



## Typical Current Derating



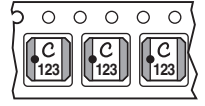
\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.

\*\*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

### Orientation of parts in packaging tape



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