

**NEW!**

# SMT Power Inductors - LPS3010 Series



- Only 3.0 × 3.0 mm footprint; 1.0 mm tall
- Very low DCR; excellent current handling



**Core material** Ferrite

**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  $I_{rms}$  current, +85°C to +125°C with derated current

**Storage temperature** Component: –40°C to +125°C.  
Packaging: –55°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)

**Mean Time Between Failures (MTBF)** 26,315,789 hours

**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

**PCB washing** Only pure water or alcohol recommended

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	2.3	2.4	2.4	1.8	2.3
LPS3010-681ML_	0.68	0.080	270	1.8	1.9	1.9	1.5	2.0
LPS3010-102ML_	1.0	0.085	230	1.6	1.7	1.7	1.3	1.75
LPS3010-152ML_	1.5	0.120	165	1.3	1.3	1.4	1.2	1.60
LPS3010-182ML_	1.8	0.150	150	1.2	1.2	1.3	1.0	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	0.500	62	0.56	0.59	0.60	0.53	0.71
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	0.38	0.52
LPS3010-183ML_	18	1.00	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	0.15	0.20
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  $V_{rms}$  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.
- See Qualification Standards section for environmental and test data.  
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>.

## Coilcraft®

Specifications subject to change without notice.  
Please check our website for latest information.

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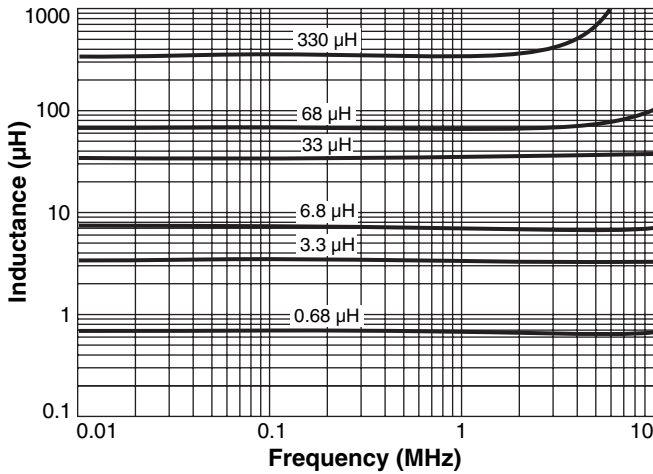


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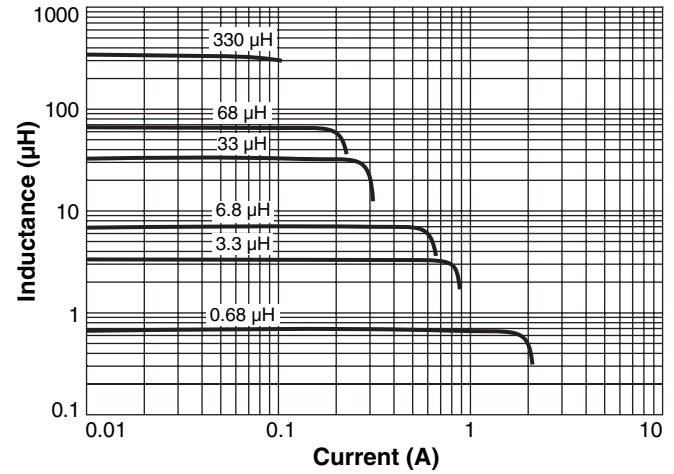
# SMT Power Inductors - LPS3010 Series

**SPICE models**  
ON OUR WEB SITE OR CD

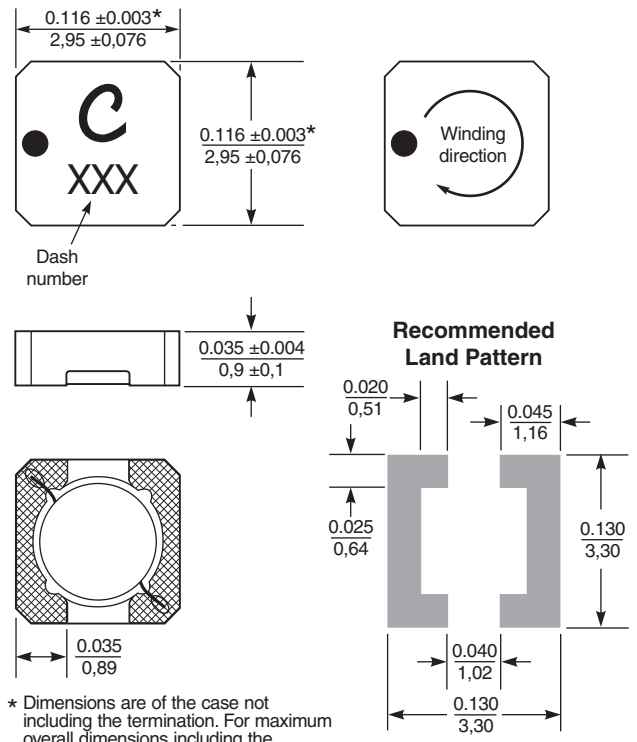
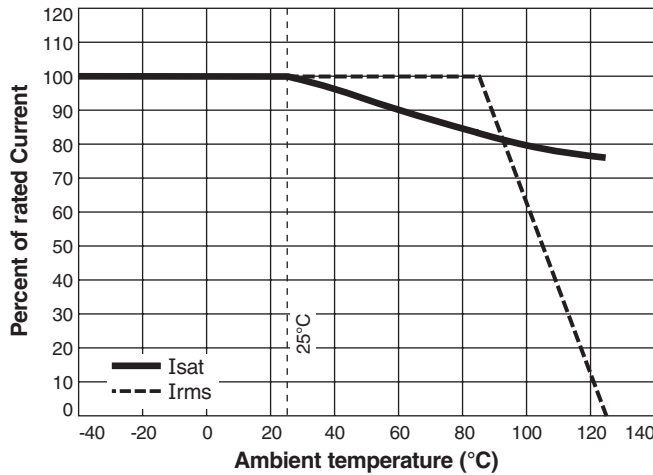
## L vs Frequency



## L vs Current



## Typical Isat Derating



\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.

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



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