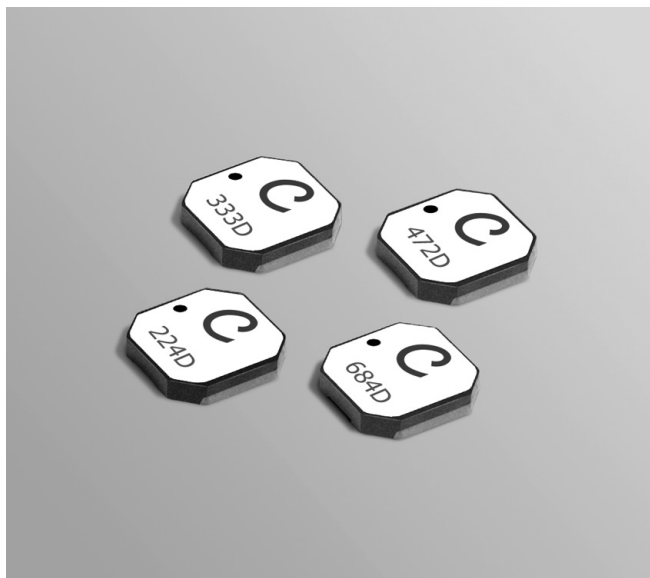


# Shielded Power Inductors – LPS5010



- Very low DCR; excellent current handling
- 5.0 × 5.0 mm footprint; less than 1.0 mm tall

**Designer's Kit C407** contains 3 each of all values

**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** 70 – 75 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; 3000/13" reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.02 mm pocket depth

**Recommended pick and place nozzle** OD: 5 mm; ID: ≤ 2.5 mm

**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
LPS5010-471ML_	0.47	0.038	290	3.1	3.3	3.4	2.0	2.7
LPS5010-821ML_	0.82	0.058	195	2.3	2.5	2.6	1.2	1.5
LPS5010-152ML_	1.5	0.072	168	1.7	1.8	1.9	0.90	1.4
LPS5010-222ML_	2.2	0.100	144	1.4	1.5	1.6	0.88	1.2
LPS5010-332ML_	3.3	0.125	105	1.1	1.2	1.3	0.86	1.1
LPS5010-472ML_	4.7	0.175	76	0.95	1.1	1.1	0.85	0.98
LPS5010-562ML_	5.6	0.240	75	0.90	0.97	1.00	0.75	0.92
LPS5010-682ML_	6.8	0.255	71	0.82	0.90	0.93	0.74	0.85
LPS5010-103ML_	10	0.350	51	0.66	0.72	0.74	0.73	0.80
LPS5010-153ML_	15	0.500	39	0.55	0.59	0.62	0.68	0.75
LPS5010-223ML_	22	0.670	32	0.47	0.51	0.53	0.46	0.62
LPS5010-333ML_	33	1.05	26	0.38	0.42	0.43	0.40	0.55
LPS5010-473ML_	47	1.45	20	0.31	0.34	0.36	0.33	0.44
LPS5010-683ML_	68	2.00	15	0.26	0.29	0.30	0.25	0.35
LPS5010-104ML_	100	3.10	12	0.21	0.23	0.24	0.21	0.28
LPS5010-124ML_	120	3.50	11	0.20	0.22	0.23	0.19	0.25
LPS5010-154ML_	150	4.25	9.0	0.18	0.20	0.21	0.17	0.23
LPS5010-224ML_	220	6.25	7.0	0.15	0.16	0.17	0.15	0.20
LPS5010-334ML_	330	8.60	5.5	0.12	0.13	0.14	0.13	0.185
LPS5010-474ML_	470	12.7	4.5	0.090	0.11	0.11	0.11	0.150
LPS5010-564ML_	560	15.7	4.0	0.090	0.10	0.10	0.10	0.135
LPS5010-684ML_	680	20.0	3.7	0.090	0.097	0.10	0.090	0.125
LPS5010-105ML_	1000	28.0	3.0	0.087	0.096	0.10	0.080	0.110

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

LPS5010-105MLC

**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).

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 Agilent/HP 8753ES or equivalent.
  5. DC current that causes the specified inductance drop from its value without current.
  6. Current that causes the specified temperature rise from 25°C ambient.
  7. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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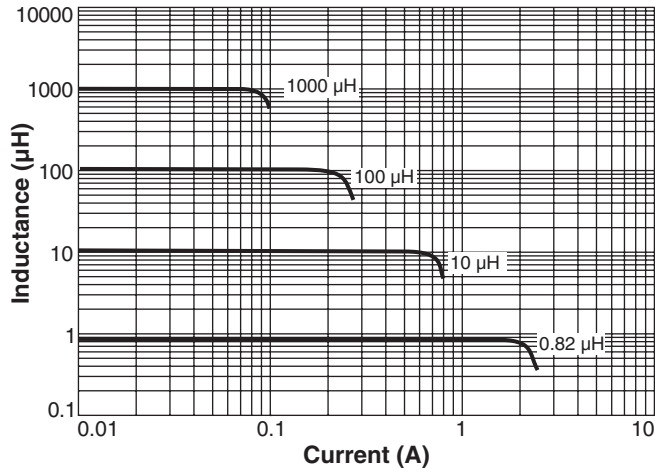
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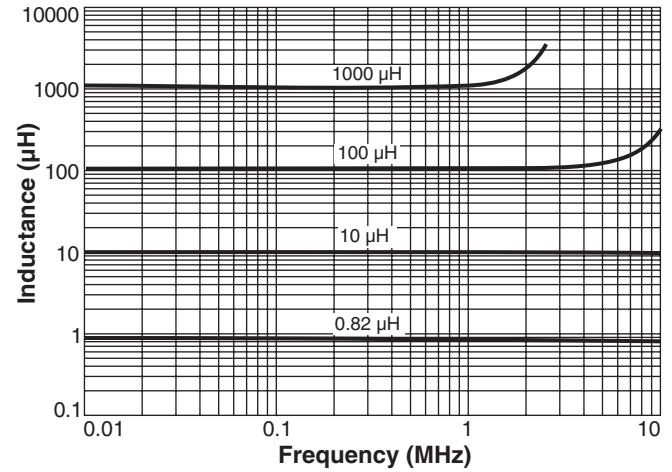


# Shielded SMT Power Inductors – LPS5010 Series

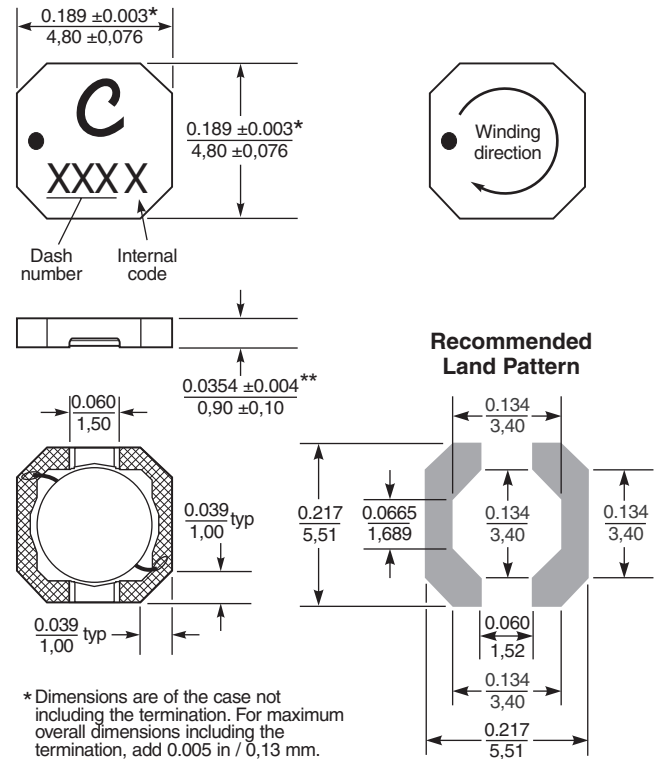
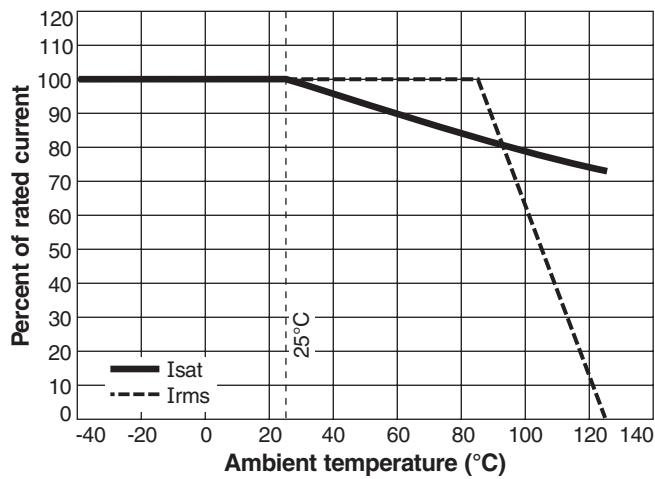
## Typical L vs Current



## Typical L vs Frequency



## 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  $\frac{\text{inches}}{\text{mm}}$