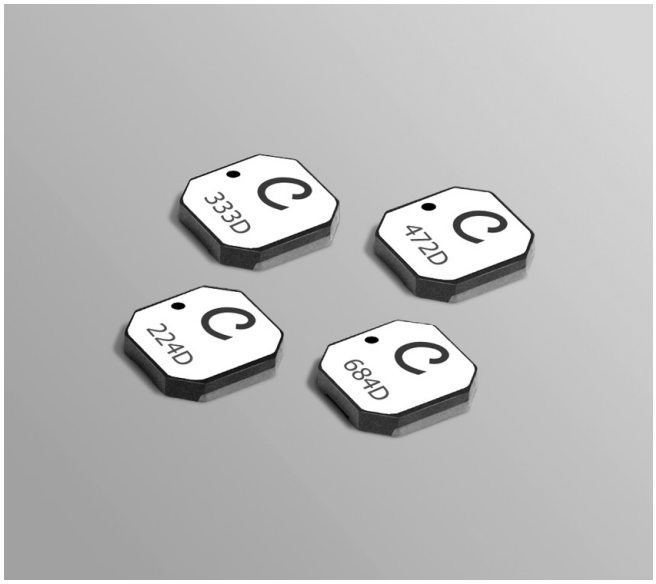
Shielded Power Inductors – LPS5010



- 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
Environmental RoHS compliant, halogen free
Terminations RoHS compliant matte tin over nickel over silver. 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 Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

Part number[1]	Inductance[2] ±20% (µH)	DCR max[3] (Ohms)	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
LPS5010-471MR_	0.47	0.038	290	3.1	3.3	3.4	2.0	2.7
LPS5010-821MR_	0.82	0.058	195	2.3	2.5	2.6	1.2	1.5
LPS5010-152MR_	1.5	0.072	168	1.7	1.8	1.9	0.90	1.4
LPS5010-222MR_	2.2	0.100	144	1.4	1.5	1.6	0.88	1.2
LPS5010-332MR_	3.3	0.125	105	1.1	1.2	1.3	0.86	1.1
LPS5010-472MR_	4.7	0.175	76	0.95	1.1	1.1	0.85	0.98
LPS5010-562MR_	5.6	0.240	75	0.90	0.97	1.00	0.75	0.92
LPS5010-682MR_	6.8	0.255	71	0.82	0.90	0.93	0.74	0.85
LPS5010-103MR_	10	0.350	51	0.66	0.72	0.74	0.73	0.80
LPS5010-153MR_	15	0.500	39	0.55	0.59	0.62	0.68	0.75
LPS5010-223MR_	22	0.670	32	0.47	0.51	0.53	0.46	0.62
LPS5010-333MR_	33	1.05	26	0.38	0.42	0.43	0.40	0.55
LPS5010-473MR_	47	1.45	20	0.31	0.34	0.36	0.33	0.44
LPS5010-683MR_	68	2.00	15	0.26	0.29	0.30	0.25	0.35
LPS5010-104MR_	100	3.10	12	0.21	0.23	0.24	0.21	0.28
LPS5010-124MR_	120	3.50	11	0.20	0.22	0.23	0.19	0.25
LPS5010-154MR_	150	4.25	9.0	0.18	0.20	0.21	0.17	0.23
LPS5010-224MR_	220	6.25	7.0	0.15	0.16	0.17	0.15	0.20
LPS5010-334MR_	330	8.60	5.5	0.12	0.13	0.14	0.13	0.185
LPS5010-474MR_	470	12.7	4.5	0.090	0.11	0.11	0.11	0.150
LPS5010-564MR_	560	15.7	4.0	0.090	0.10	0.10	0.10	0.135
LPS5010-684MR_	680	20.0	3.7	0.090	0.097	0.10	0.090	0.125

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

LPS5010-684MRC

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 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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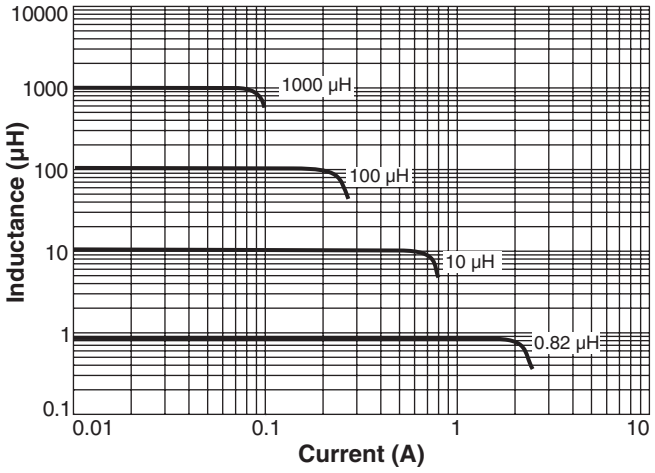
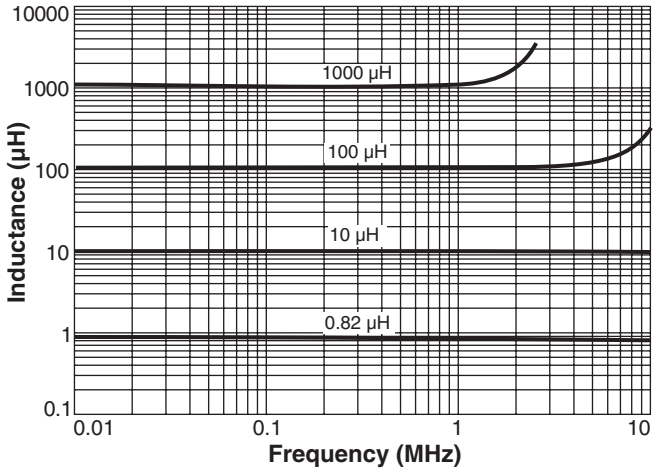
Shielded SMT Power Inductors – LPS5010 Series

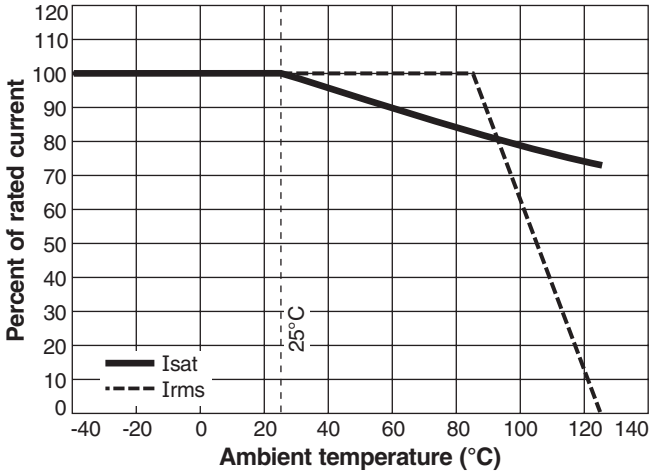
Typical L vs Current

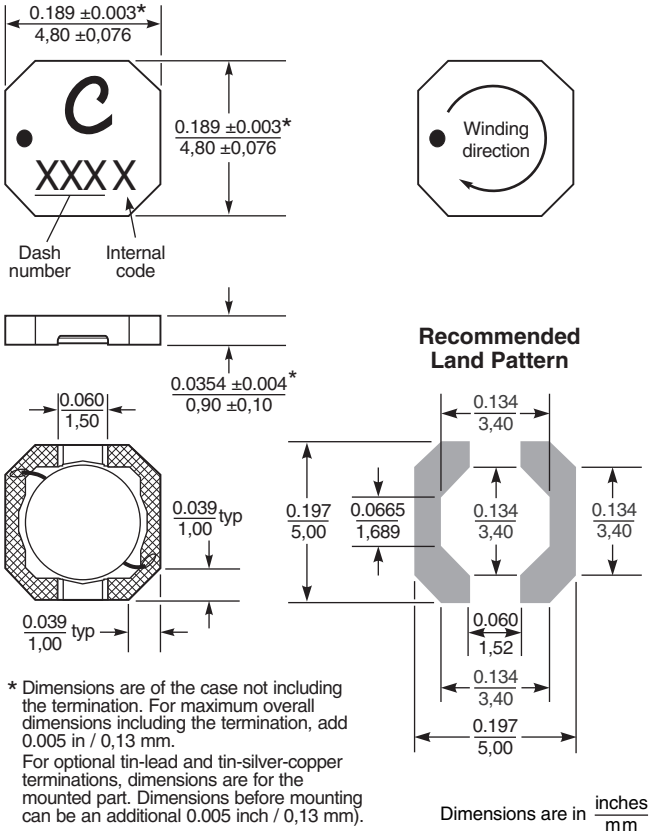


Typical L vs Frequency



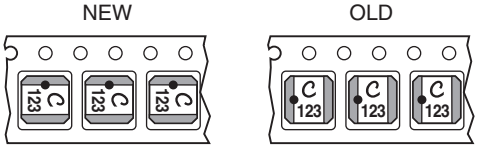
Current Derating





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

NOTE NEW PART ORIENTATION Parts are rotated 90° in the packaging tape compared to previous versions of this product.



* 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 inches / mm

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Document 536-2 Revised 08/01/13