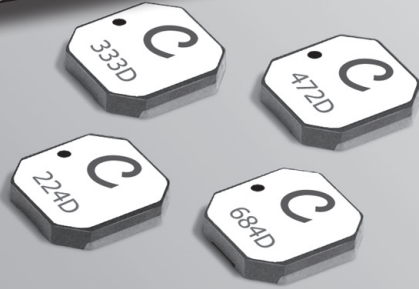


Shielded Power Inductors – LPS5010

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/lps5010.cfm.



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

Core material Ferrite

Core and winding loss See 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 (Refer to dimensional drawing for part orientation in tape.)

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			Irms (A) ⁶	
				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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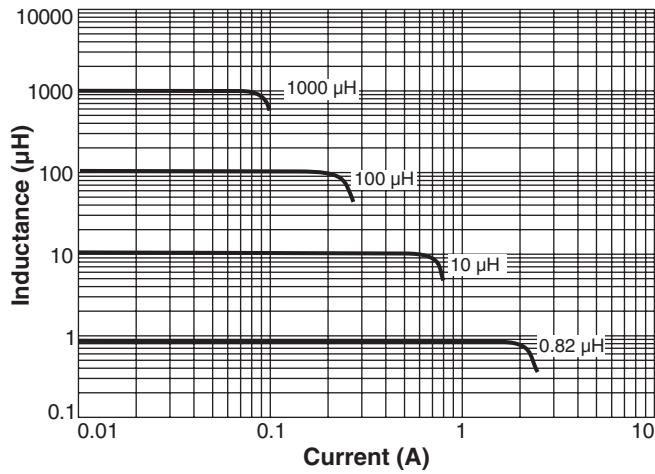
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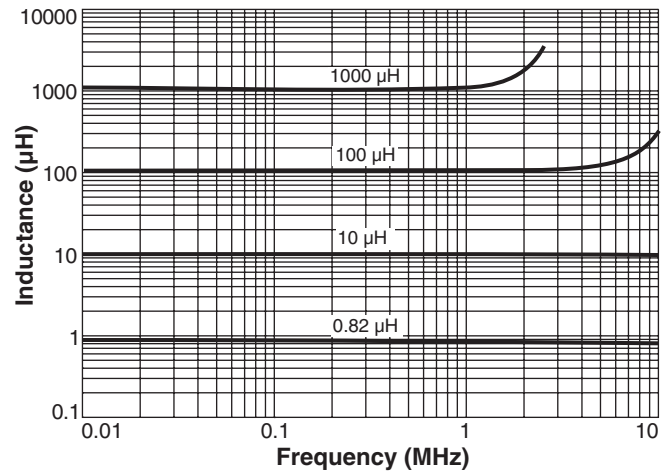


Shielded SMT Power Inductors – LPS5010 Series

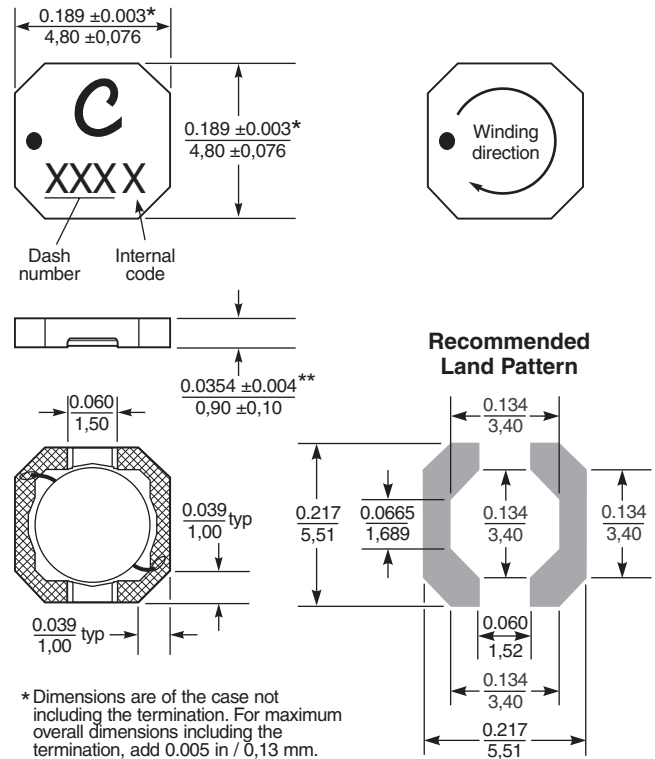
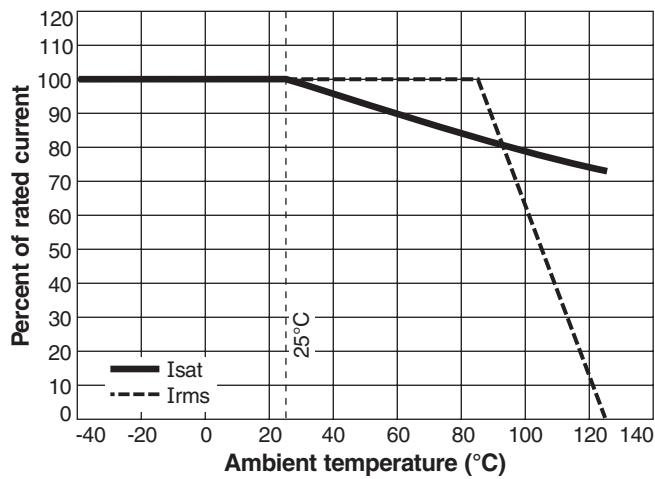
Typical L vs Current



Typical L vs Frequency



Current Derating



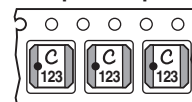
* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.

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

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

Orientation of parts in packaging tape



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