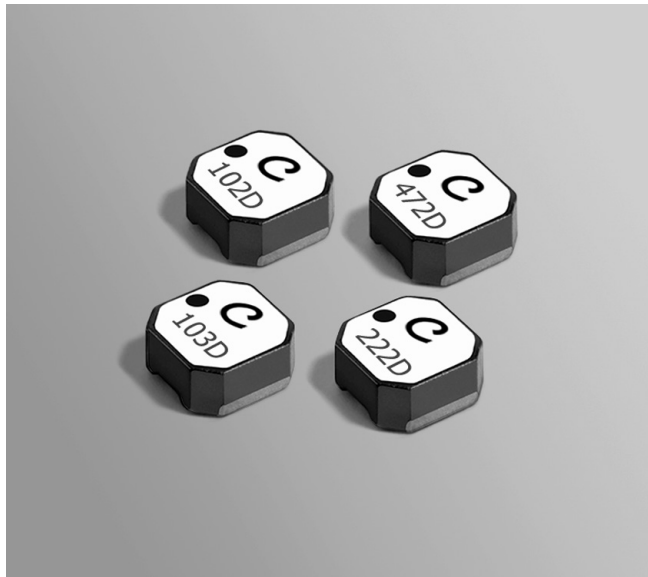


Shielded Power Inductors – LPS4018



- Very low DCR; excellent current handling
- 4.0 × 4.0 mm footprint; less than 1.8 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 54 – 100 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, 1.9 mm pocket depth

Recommended pick and place nozzle OD: 4 mm; ID: ≤ 2 mm

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

Part number ¹	Inductance ² (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
LPS4018-561ML	0.56 ±20%	0.033	250	4.8	5.2	5.3	1.9	2.8
LPS4018-102NL	1.0 ±30%	0.042	180	3.8	3.9	4.0	1.8	2.5
LPS4018-222ML	2.2 ±20%	0.070	90	2.7	2.8	2.9	1.5	2.0
LPS4018-332ML	3.3 ±20%	0.080	75	1.9	2.0	2.0	1.4	1.9
LPS4018-472ML	4.7 ±20%	0.125	65	1.8	1.9	1.9	1.3	1.8
LPS4018-682ML	6.8 ±20%	0.150	50	1.2	1.3	1.3	1.0	1.5
LPS4018-103ML	10 ±20%	0.200	40	1.1	1.2	1.3	0.90	1.25
LPS4018-153ML	15 ±20%	0.260	32	0.86	0.91	0.94	0.80	1.12
LPS4018-183ML	18 ±20%	0.270	27	0.78	0.83	0.85	0.70	1.00
LPS4018-223ML	22 ±20%	0.360	26	0.74	0.80	0.83	0.65	0.90
LPS4018-333ML	33 ±20%	0.420	20	0.58	0.64	0.68	0.55	0.80
LPS4018-473ML	47 ±20%	0.650	16	0.51	0.55	0.56	0.45	0.68
LPS4018-683ML	68 ±20%	0.950	13	0.41	0.45	0.46	0.40	0.56
LPS4018-104ML	100 ±20%	1.40	10	0.34	0.36	0.37	0.35	0.50
LPS4018-124ML	120 ±20%	1.60	9.0	0.31	0.33	0.34	0.30	0.45
LPS4018-154ML	150 ±20%	2.00	8.0	0.27	0.29	0.30	0.28	0.40
LPS4018-184ML	180 ±20%	2.50	7.5	0.24	0.26	0.27	0.26	0.36
LPS4018-224ML	220 ±20%	3.70	6.5	0.21	0.225	0.235	0.20	0.30
LPS4018-334ML	330 ±20%	5.90	5.5	0.18	0.19	0.20	0.17	0.23
LPS4018-474ML	470 ±20%	7.80	4.5	0.14	0.16	0.17	0.15	0.20
LPS4018-564ML	560 ±20%	10.0	4.0	0.13	0.14	0.15	0.14	0.18
LPS4018-684ML	680 ±20%	11.5	3.5	0.12	0.13	0.14	0.12	0.16
LPS4018-824ML	820 ±20%	14.0	2.9	0.11	0.12	0.13	0.10	0.14
LPS4018-105ML	1000 ±20%	18.0	2.8	0.10	0.11	0.11	0.098	0.125
LPS4018-155ML	1500 ±20%	25.0	2.4	0.095	0.10	0.105	0.080	0.110
LPS4018-185ML	1800 ±20%	31.5	2.3	0.090	0.095	0.100	0.070	0.095
LPS4018-225ML	2200 ±20%	32.5	2.1	0.088	0.094	0.100	0.070	0.090
LPS4018-335ML	3300 ±20%	48.0	1.6	0.082	0.092	0.094	0.055	0.075

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

LPS4018-223MLC

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 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.



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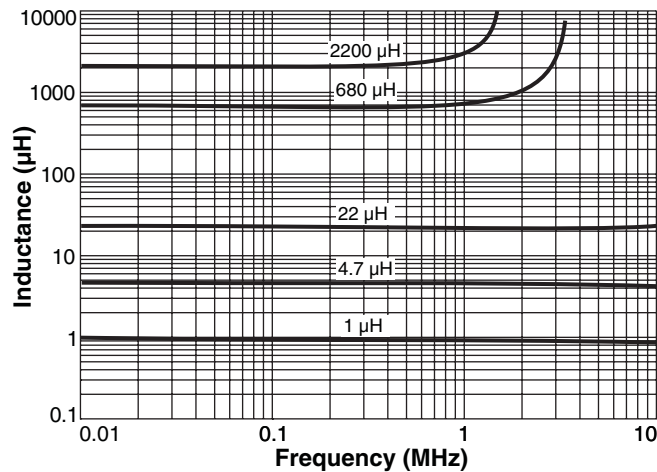
Document 435-1 Revised 05/15/12

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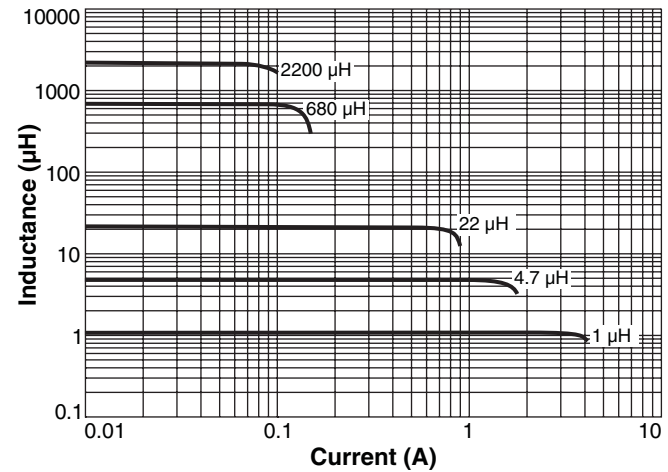
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

Shielded SMT Power Inductors – LPS4018 Series

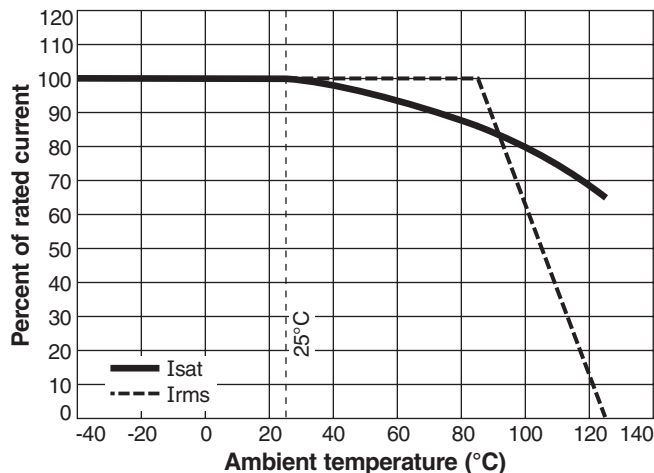
Typical L vs Frequency



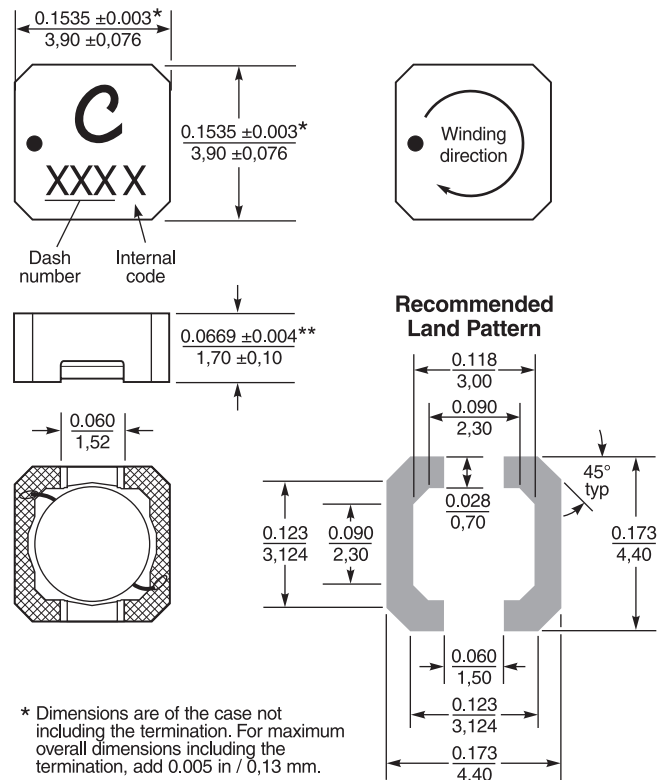
Typical L vs Current



Current Derating



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>.



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