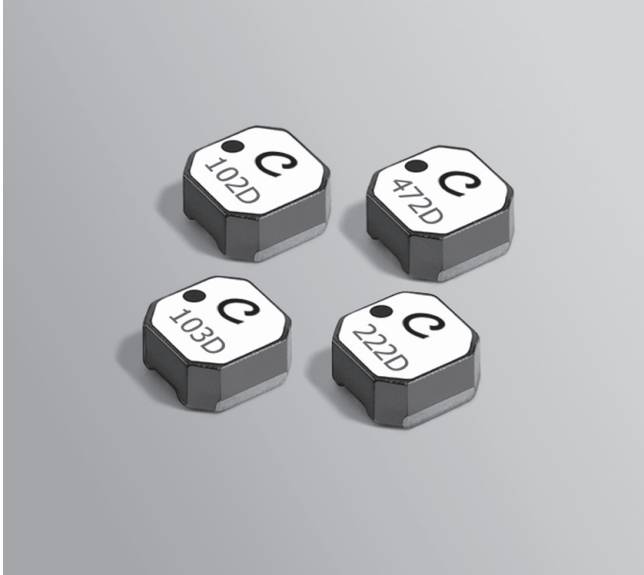




# Shielded Power Inductors – LPS4018



- 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](http://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. 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** Only pure water or alcohol recommended

Part number <sup>1</sup>	Inductance <sup>2</sup> (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
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).

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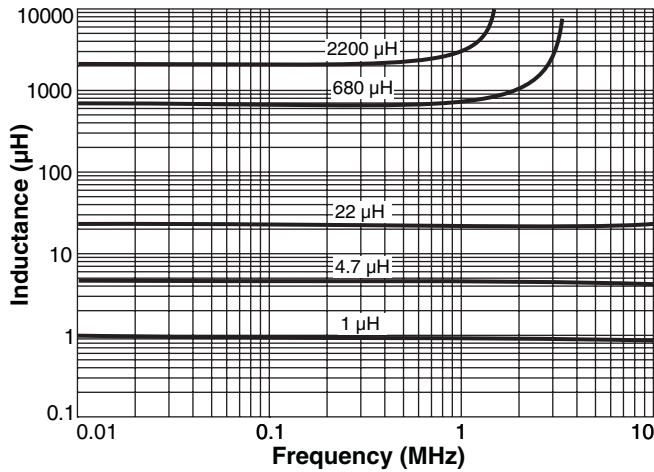
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This product may not be used in medical of high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check out web site for latest information.

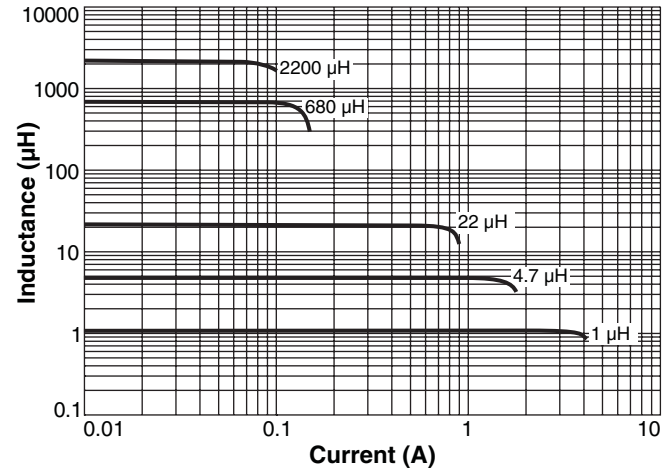


# Shielded SMT Power Inductors – LPS4018 Series

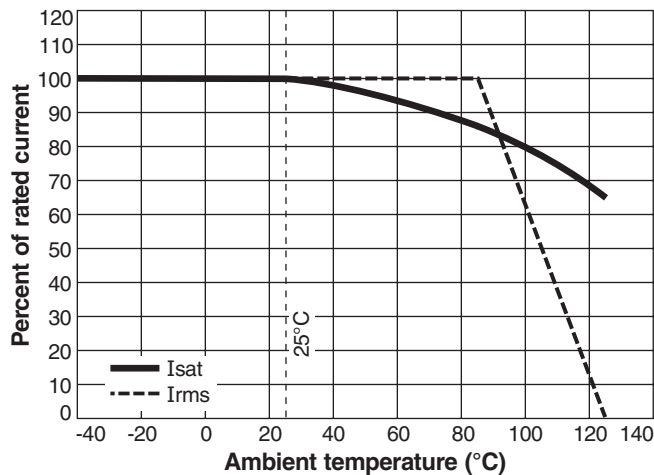
## Typical L vs Frequency



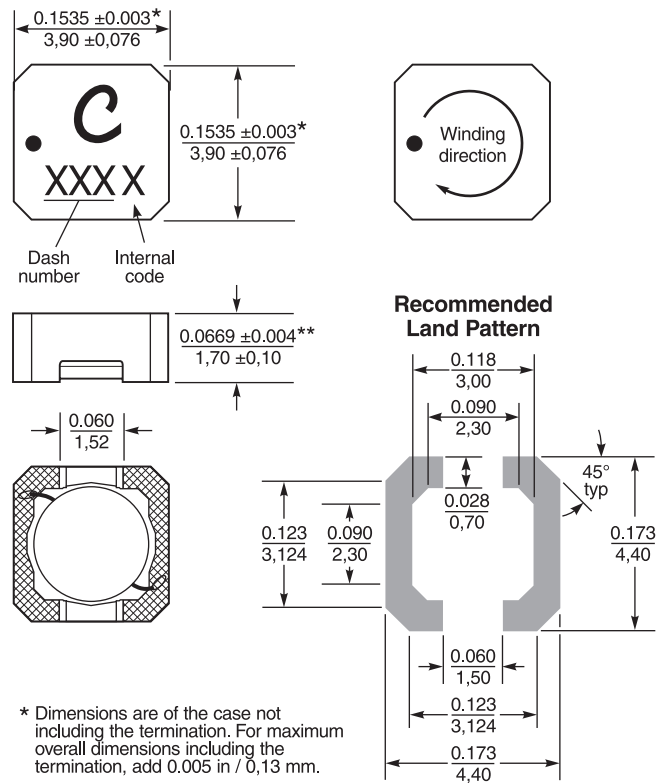
## Typical L vs Current



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



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