



Shielded Power Inductors—LPS4018 Series



- 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 – 64 mg

Ambient temperature –40°C to +85°C with I_{rms} 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 ¹	Inductance ² (µH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Isat (A) ⁵			I _{rms} (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:

LPS4018-223M L C

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 V_{rms} 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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Specifications subject to change without notice.
Please check our website for latest information.

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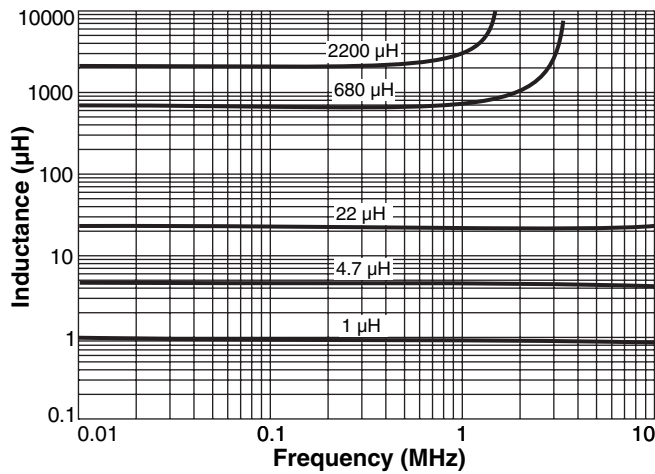
1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

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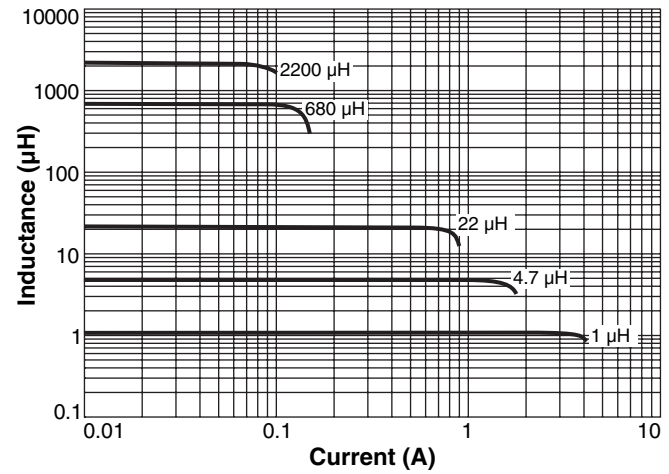


Shielded SMT Power Inductors – LPS4018 Series

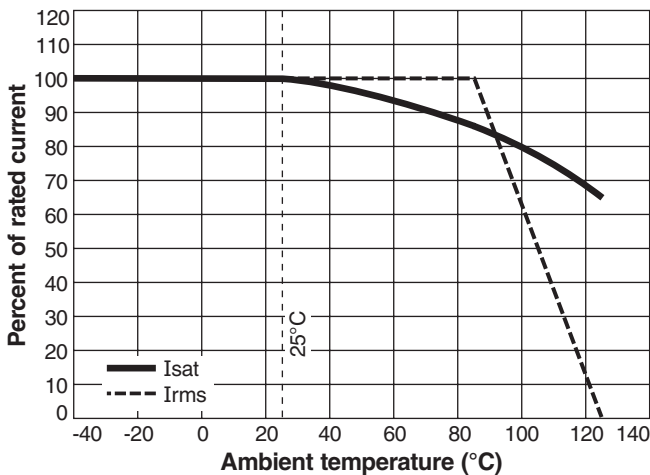
Typical L vs Frequency



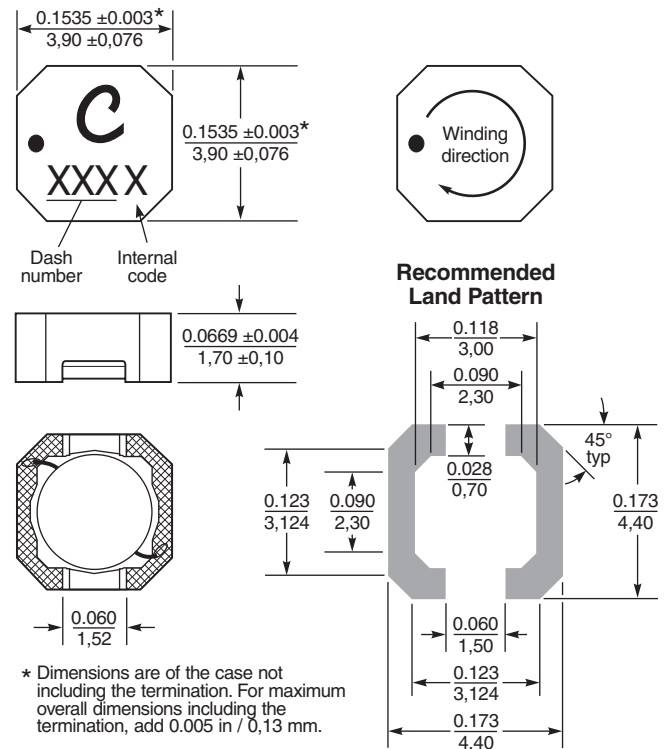
Typical L vs Current



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>.



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