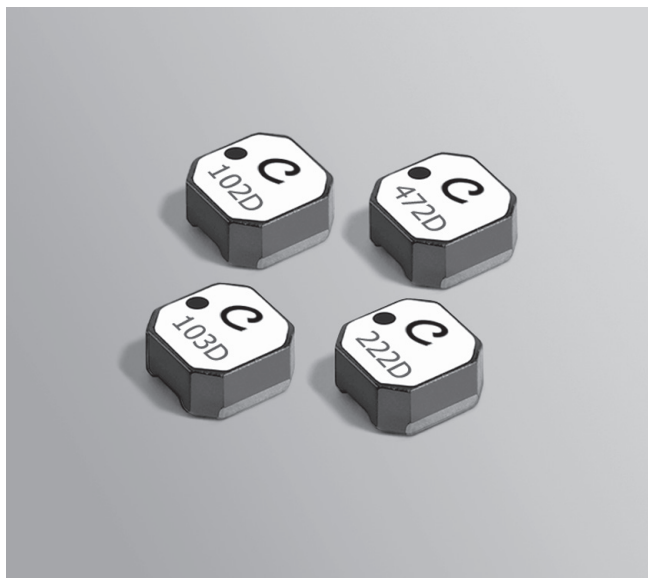




# Shielded Power Inductors – LPS4018



- 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><br>(µH) | DCR<br>max <sup>3</sup><br>(Ohms) | SRF<br>typ <sup>4</sup><br>(MHz) | Isat (A) <sup>5</sup> |             |             | Irms (A) <sup>6</sup> |              |
|--------------------------|---------------------------------|-----------------------------------|----------------------------------|-----------------------|-------------|-------------|-----------------------|--------------|
|                          |                                 |                                   |                                  | 10%<br>drop           | 20%<br>drop | 30%<br>drop | 20°C<br>rise          | 40°C<br>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.



[www.coilcraft.com](http://www.coilcraft.com)

**US** +1-847-639-6400 [sales@coilcraft.com](mailto:sales@coilcraft.com)  
**UK** +44-1236-730595 [sales@coilcraft-europe.com](mailto:sales@coilcraft-europe.com)  
**Taiwan** +886-2-2264 3646 [sales@coilcraft.com.tw](mailto:sales@coilcraft.com.tw)  
**China** +86-21-6218 8074 [sales@coilcraft.com.cn](mailto:sales@coilcraft.com.cn)  
**Singapore** +65-6484 8412 [sales@coilcraft.com.sg](mailto:sales@coilcraft.com.sg)

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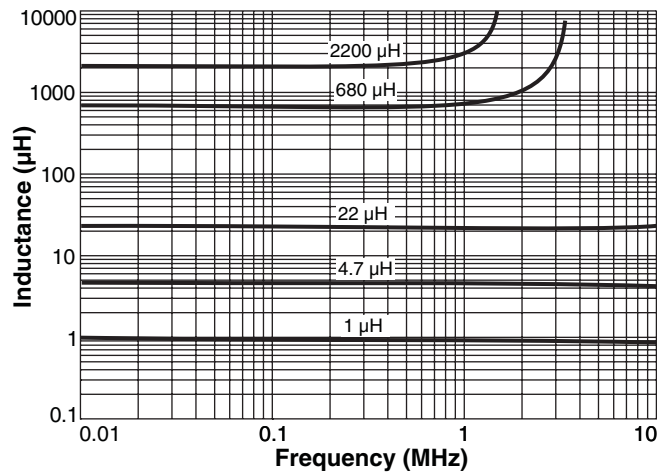
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check out web site for latest information.



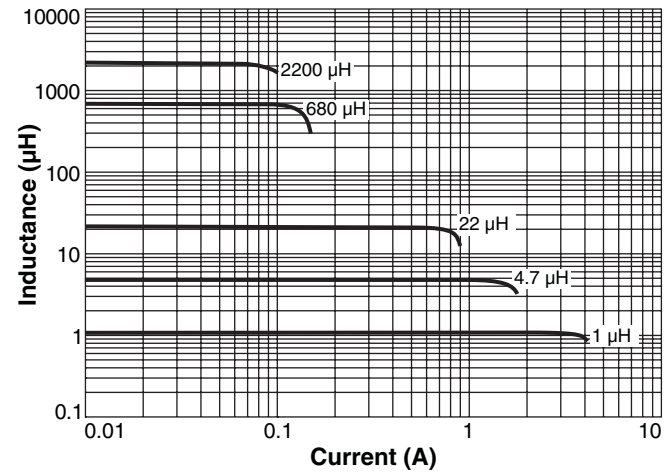
# Shielded SMT Power Inductors – LPS4018 Series

**SPICE models**  
ON OUR WEB SITE

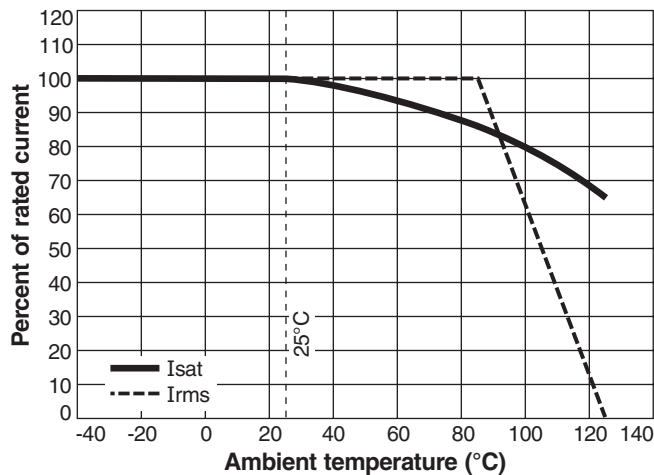
## Typical L vs Frequency



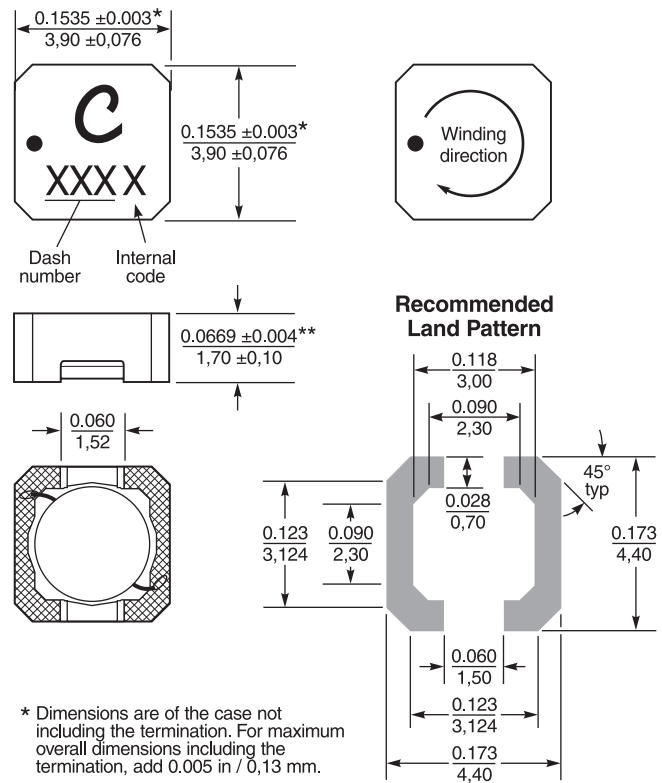
## Typical L vs Current



## Current Derating



Coilcraft **Designer's Kit C392** contains samples of 0.80  $\mu\text{H}$  to 33  $\mu\text{H}$  parts (3 each) from LPS3008, LPS3010 and LPS3015. **Kit C401** contains samples of 0.56  $\mu\text{H}$  to 33  $\mu\text{H}$  parts (3 each) from LPS4012 and LPS4018. **Kit C402** contains samples of 220  $\mu\text{H}$  to 3300  $\mu\text{H}$  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  $\frac{\text{inches}}{\text{mm}}$



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.