

**NEW!**

# SMT Power Inductors – LPS4414 Series



- Very low DCR; excellent current handling
- 4.4 × 4.4 mm footprint; only 1.4 mm tall



**Designer's Kit C340** contains 3 of each values

**Core material** Ferrite

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 82.3 – 89.8 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: –55°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)

**Mean Time Between Failures (MTBF)** 26,315,789 hours

**Packaging** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.52 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>±20% (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 |
| LPS4414-301ML_           | 0.30                                 | 0.040                             | 470                              | 5.6                   | 5.7         | 5.8         | 2.35                  | 3.25         |
| LPS4414-501ML_           | 0.50                                 | 0.050                             | 330                              | 4.3                   | 4.4         | 4.5         | 2.10                  | 2.80         |
| LPS4414-701ML_           | 0.70                                 | 0.055                             | 225                              | 3.7                   | 3.75        | 3.8         | 1.85                  | 2.50         |
| LPS4414-102ML_           | 1.0                                  | 0.060                             | 190                              | 3.0                   | 3.1         | 3.2         | 1.75                  | 2.30         |
| LPS4414-152ML_           | 1.5                                  | 0.078                             | 150                              | 2.9                   | 3.1         | 3.2         | 1.55                  | 2.00         |
| LPS4414-182ML_           | 1.8                                  | 0.087                             | 130                              | 2.7                   | 2.8         | 2.9         | 1.50                  | 1.90         |
| LPS4414-222ML_           | 2.2                                  | 0.110                             | 115                              | 2.2                   | 2.3         | 2.35        | 1.25                  | 1.60         |
| LPS4414-332ML_           | 3.3                                  | 0.165                             | 85.0                             | 1.8                   | 1.9         | 1.95        | 1.15                  | 1.50         |
| LPS4414-472ML_           | 4.7                                  | 0.215                             | 68.0                             | 1.4                   | 1.5         | 1.55        | 0.90                  | 1.20         |
| LPS4414-562ML_           | 5.6                                  | 0.260                             | 58.0                             | 1.4                   | 1.4         | 1.5         | 0.75                  | 1.10         |
| LPS4414-682ML_           | 6.8                                  | 0.270                             | 54.0                             | 1.2                   | 1.3         | 1.4         | 0.70                  | 1.00         |
| LPS4414-822ML_           | 8.2                                  | 0.350                             | 50.0                             | 1.1                   | 1.3         | 1.3         | 0.70                  | 0.98         |
| LPS4414-103ML_           | 10                                   | 0.380                             | 43.0                             | 1.1                   | 1.2         | 1.3         | 0.70                  | 0.95         |
| LPS4414-123ML_           | 12                                   | 0.380                             | 38.0                             | 0.94                  | 0.97        | 1.0         | 0.66                  | 0.88         |
| LPS4414-153ML_           | 15                                   | 0.440                             | 36.0                             | 0.85                  | 0.89        | 0.92        | 0.63                  | 0.82         |
| LPS4414-183ML_           | 18                                   | 0.530                             | 31.0                             | 0.76                  | 0.80        | 0.82        | 0.56                  | 0.75         |
| LPS4414-223ML_           | 22                                   | 0.590                             | 27.0                             | 0.69                  | 0.72        | 0.74        | 0.53                  | 0.68         |
| LPS4414-333ML_           | 33                                   | 0.715                             | 23.0                             | 0.47                  | 0.49        | 0.51        | 0.49                  | 0.65         |
| LPS4414-473ML_           | 47                                   | 0.935                             | 18.0                             | 0.39                  | 0.42        | 0.43        | 0.44                  | 0.58         |
| LPS4414-563ML_           | 56                                   | 1.15                              | 16.0                             | 0.37                  | 0.39        | 0.40        | 0.42                  | 0.54         |
| LPS4414-683ML_           | 68                                   | 1.35                              | 14.6                             | 0.32                  | 0.33        | 0.34        | 0.36                  | 0.48         |
| LPS4414-104ML_           | 100                                  | 1.90                              | 11.0                             | 0.26                  | 0.28        | 0.285       | 0.31                  | 0.40         |
| LPS4414-124ML_           | 120                                  | 2.60                              | 10.0                             | 0.23                  | 0.24        | 0.25        | 0.27                  | 0.34         |
| LPS4414-154ML_           | 150                                  | 3.10                              | 9.0                              | 0.22                  | 0.23        | 0.24        | 0.24                  | 0.32         |
| LPS4414-224ML_           | 220                                  | 4.10                              | 6.7                              | 0.18                  | 0.20        | 0.20        | 0.22                  | 0.29         |
| LPS4414-334ML_           | 330                                  | 6.00                              | 5.6                              | 0.14                  | 0.16        | 0.165       | 0.17                  | 0.23         |
| LPS4414-474ML_           | 470                                  | 9.50                              | 4.3                              | 0.13                  | 0.14        | 0.145       | 0.14                  | 0.23         |
| LPS4414-564ML_           | 560                                  | 10.7                              | 4.0                              | 0.12                  | 0.13        | 0.14        | 0.13                  | 0.17         |
| LPS4414-684ML_           | 680                                  | 11.7                              | 3.5                              | 0.10                  | 0.11        | 0.12        | 0.13                  | 0.17         |
| LPS4414-824ML_           | 820                                  | 15.1                              | 3.0                              | 0.10                  | 0.105       | 0.11        | 0.11                  | 0.14         |
| LPS4414-105ML_           | 1000                                 | 16.3                              | 2.6                              | 0.10                  | 0.102       | 0.106       | 0.10                  | 0.13         |
| LPS4414-155ML_           | 1500                                 | 26.4                              | 2.2                              | 0.096                 | 0.099       | 0.100       | 0.085                 | 0.11         |
| LPS4414-185ML_           | 1800                                 | 35.0                              | 1.9                              | 0.089                 | 0.094       | 0.097       | 0.075                 | 0.10         |
| LPS4414-225ML_           | 2200                                 | 42.5                              | 1.9                              | 0.082                 | 0.089       | 0.092       | 0.065                 | 0.080        |
| LPS4414-335ML_           | 3300                                 | 56.0                              | 1.3                              | 0.072                 | 0.078       | 0.083       | 0.055                 | 0.070        |

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

LPS4414-223MLC

**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, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 8753ES or equivalent.

5. For inductance values ≥10 µH, DC current at which the inductance drops 20% (max) from its value without current. For inductance values <10 µH, DC current at which the inductance drops 30% (max) from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

See Qualification Standards section for environmental and test data.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

## Coilcraft®

Specifications subject to change without notice.  
Please check our website for latest information.

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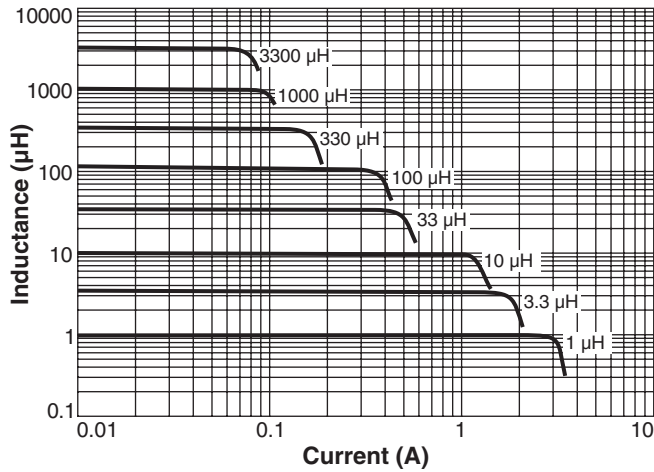
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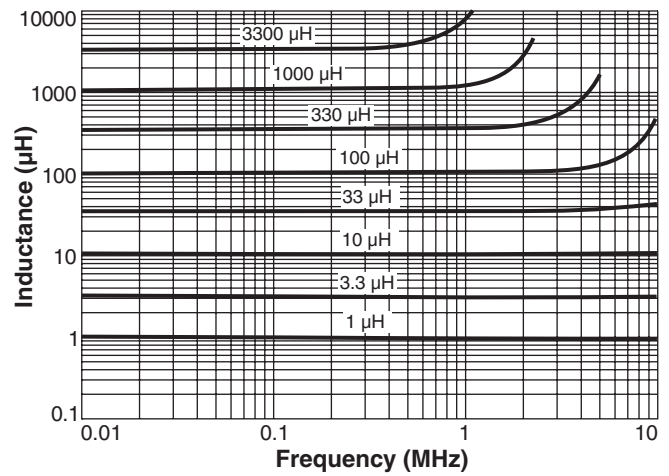
**NEW!**

# SMT Power Inductors – LPS4414 Series

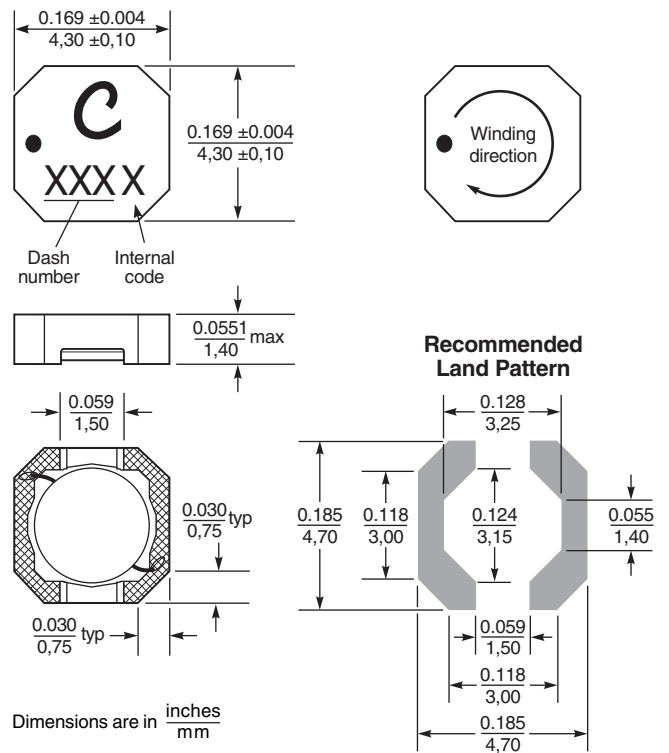
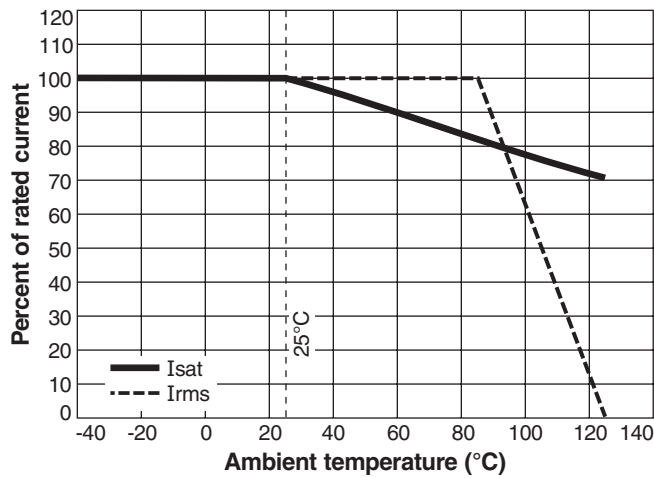
## Typical L vs Current



## Typical L vs Frequency



## Current Derating



Specifications subject to change without notice.  
Please check our website for latest information.

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