

Shielded Power Inductors – LPS4414

Improved version now available.

These parts are not recommended for new designs. They are replaced by new lead free and halogen free versions which are identical in form, fit and function. See www.coilcraft.com/lps4414.cfm.



- Very low DCR; excellent current handling
- 4.4 × 4.4 mm footprint; only 1.4 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 82.3 – 89.8 mg

Ambient temperature –40°C to +85°C with (40°C rise) Irms current.

Maximum part temperature +125°C (ambient + temp rise). **Derating.**

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)

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 (Refer to dimensional drawing for part orientation in tape.)

Recommended pick and place nozzle: OD: 4.5 mm; ID: ≤2 mm

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

| Part number ¹ | Inductance ² ±20% (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 |
| 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 | This part number has been changed to LPS4414-801. | | | | | | | |
| LPS4414-801ML | 0.80 | 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).

- Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.
- DCR measured on a micro-ohmmeter.
- SRF measured using Agilent/HP 8753ES or equivalent.
- DC current at which the inductance drops the specified amount from its value without current. [Click for temperature derating information.](#)
- Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information.](#)
- Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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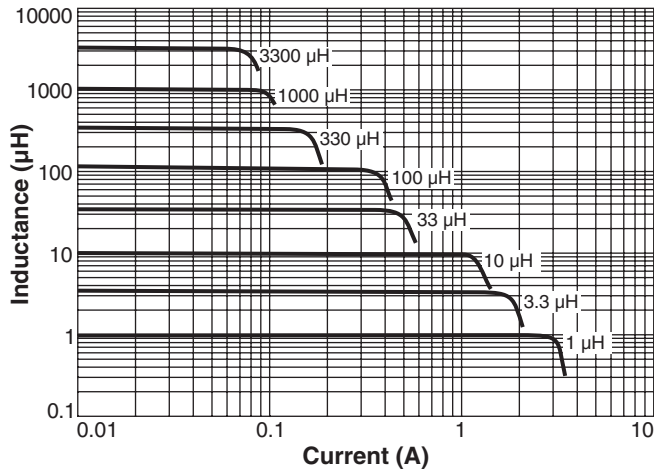
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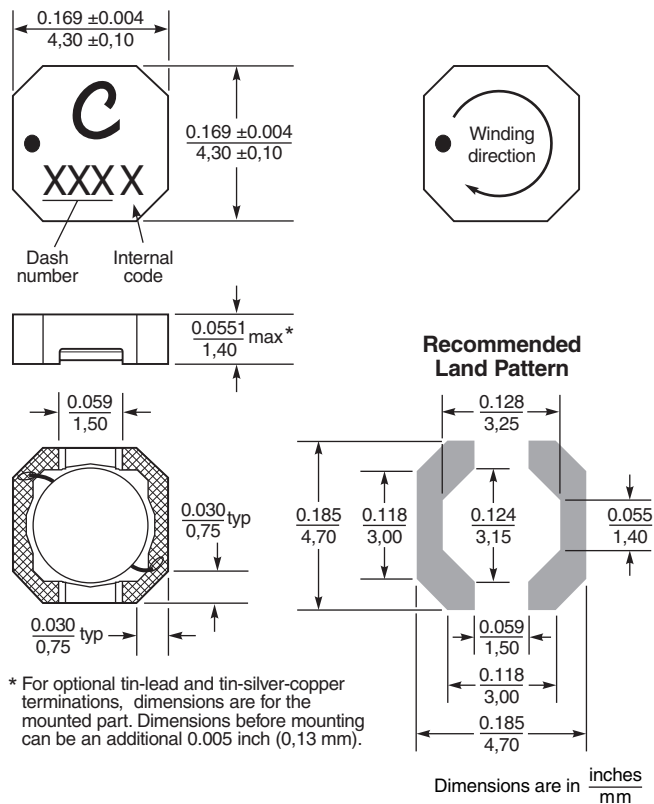
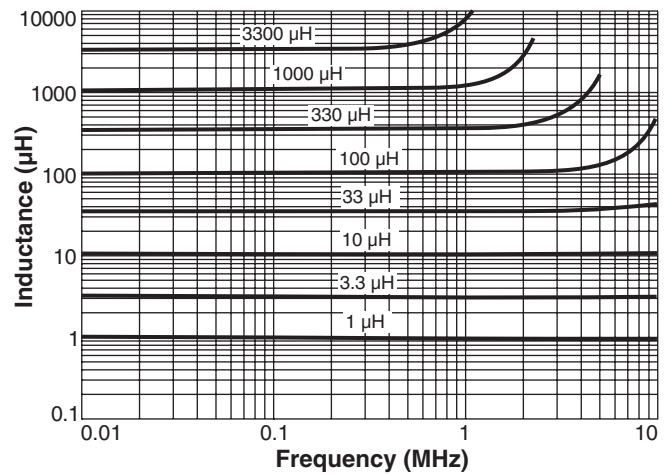


Shielded Power Inductors – LPS4414 Series

Typical L vs Current

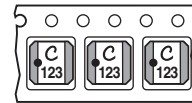


Typical L vs Frequency



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

Orientation of parts in packaging tape



* 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).