# Shielded Power Inductors – LPS3314 Series


- Very low DCR; excellent current handling
- Miniature 3.3 × 3.3 mm footprint; less than1.4 mm tall

**Designer's Kit C330** contains 3 each of all values
**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** 44.1 – 46.5 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, 0.3 mm thick, 8 mm pocket spacing, 1.52 mm pocket depth
**Recommended pick and place nozzle** OD: 3.3 mm; ID: ≤ 1.65 mm
**PCB washing** Only pure water or alcohol recommended

| Part number[1] | Inductance[2] ±20% (µH) | DCR max[3] (Ohms) | SRF typ[4] (MHz) | Isat (A)[5] 10% drop | 20% drop | 30% drop | Irms (A)[6] 20°C rise | 40°C rise |
|---|---|---|---|---|---|---|---|---|
| LPS3314-102ML_ | 1.0 | 0.062 | 215 | 1.8 | 1.9 | 2.0 | 1.6 | 2.10 |
| LPS3314-222ML_ | 2.2 | 0.100 | 140 | 1.3 | 1.4 | 1.5 | 1.2 | 1.60 |
| LPS3314-332ML_ | 3.3 | 0.145 | 115 | 1.1 | 1.2 | 1.3 | 1.0 | 1.35 |
| LPS3314-472ML_ | 4.7 | 0.175 | 86 | 0.97 | 0.99 | 1.0 | 0.90 | 1.25 |
| LPS3314-562ML_ | 5.6 | 0.220 | 74 | 0.92 | 0.95 | 0.98 | 0.82 | 1.10 |
| LPS3314-682ML_ | 6.8 | 0.240 | 72 | 0.87 | 0.90 | 0.91 | 0.82 | 1.10 |
| LPS3314-822ML_ | 8.2 | 0.270 | 60 | 0.58 | 0.75 | 0.78 | 0.70 | 1.00 |
| LPS3314-103ML_ | 10 | 0.330 | 55 | 0.56 | 0.66 | 0.70 | 0.65 | 0.87 |
| LPS3314-153ML_ | 15 | 0.440 | 45 | 0.46 | 0.56 | 0.59 | 0.62 | 0.82 |
| LPS3314-183ML_ | 18 | 0.575 | 37 | 0.44 | 0.51 | 0.54 | 0.52 | 0.68 |
| LPS3314-223ML_ | 22 | 0.720 | 34 | 0.44 | 0.48 | 0.49 | 0.45 | 0.60 |
| LPS3314-333ML_ | 33 | 0.920 | 27 | 0.30 | 0.38 | 0.40 | 0.43 | 0.58 |
| LPS3314-473ML_ | 47 | 1.40 | 22 | 0.28 | 0.33 | 0.34 | 0.35 | 0.47 |
| LPS3314-563ML_ | 56 | 1.55 | 19 | 0.26 | 0.30 | 0.31 | 0.32 | 0.42 |
| LPS3314-683ML_ | 68 | 1.80 | 17 | 0.22 | 0.26 | 0.29 | 0.30 | 0.40 |
| LPS3314-823ML_ | 82 | 2.00 | 14 | 0.20 | 0.24 | 0.26 | 0.29 | 0.39 |
| LPS3314-104ML_ | 100 | 2.75 | 13 | 0.19 | 0.23 | 0.24 | 0.24 | 0.32 |
| LPS3314-124ML_ | 120 | 3.45 | 11 | 0.19 | 0.21 | 0.22 | 0.22 | 0.30 |
| LPS3314-154ML_ | 150 | 4.10 | 10 | 0.16 | 0.19 | 0.20 | 0.20 | 0.27 |
| LPS3314-184ML_ | 180 | 4.80 | 9.0 | 0.14 | 0.17 | 0.18 | 0.19 | 0.25 |
| LPS3314-224ML_ | 220 | 6.00 | 7.0 | 0.14 | 0.16 | 0.17 | 0.16 | 0.22 |
| LPS3314-334ML_ | 330 | 9.30 | 6.0 | 0.11 | 0.12 | 0.13 | 0.13 | 0.18 |
| LPS3314-474ML_ | 470 | 12.0 | 4.5 | 0.080 | 0.11 | 0.11 | 0.12 | 0.16 |
| LPS3314-564ML_ | 560 | 14.0 | 4.5 | 0.095 | 0.105 | 0.11 | 0.11 | 0.145 |
| LPS3314-684ML_ | 680 | 18.5 | 4.0 | 0.092 | 0.100 | 0.105 | 0.095 | 0.125 |
| LPS3314-824ML_ | 820 | 24.0 | 3.7 | 0.086 | 0.099 | 0.100 | 0.085 | 0.110 |
| LPS3314-105ML_ | 1000 | 31.0 | 3.0 | 0.090 | 0.099 | 0.100 | 0.082 | 0.100 |
| LPS3314-155ML_ | 1500 | 44.0 | 2.7 | 0.080 | 0.086 | 0.090 | 0.060 | 0.080 |

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

**LPS3314-105M 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 Vrms, 0 Ad using an Agilent/HP 4263B LCR meter or equivalent. 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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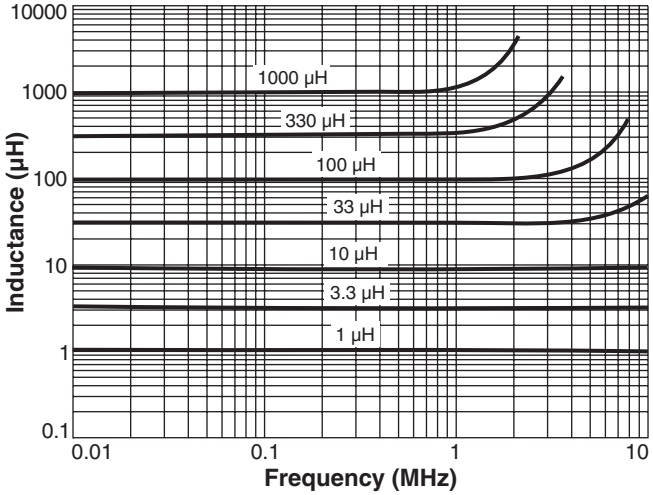
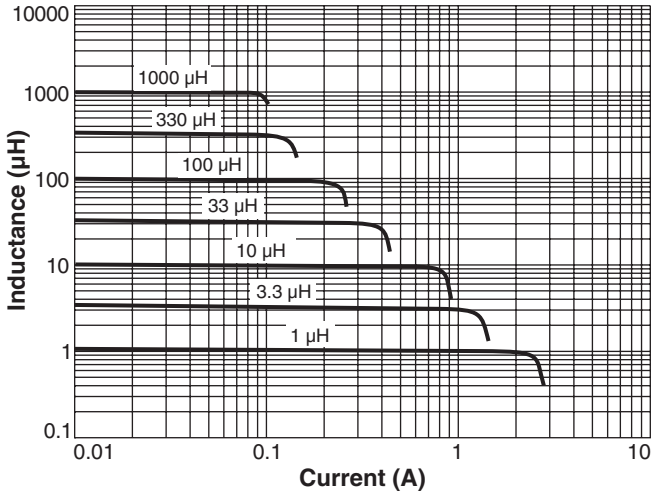
# Shielded SMT Power Inductors – LPS3314 Series

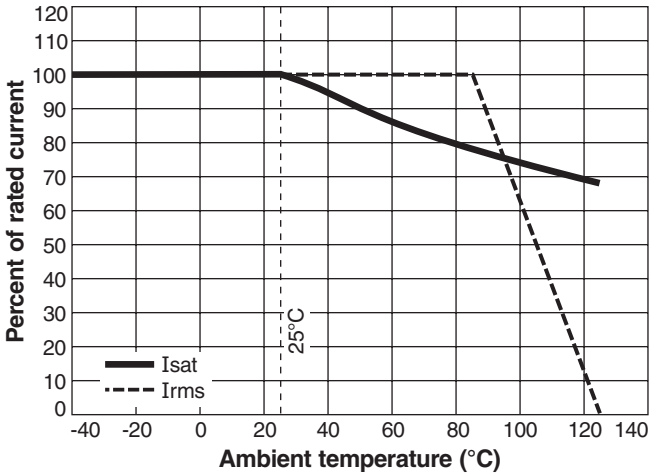
## Typical L vs Frequency

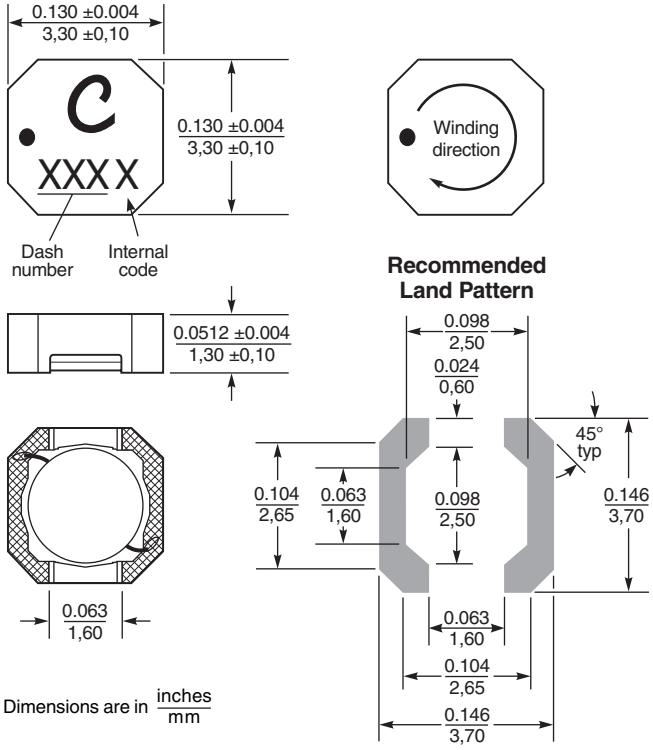



## Typical L vs Current




## Current Derating







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