

# Shielded Power Inductors – LPS3314



- Very low DCR; excellent current handling
- Miniature 3.3 × 3.3 mm footprint; less than 1.4 mm tall

**Designer's Kit C330** contains 3 each of all values

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant matte tin over nickel over silver. Other terminations available at additional cost.

**Weight** 37.3 – 57.3 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)

**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** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| 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 |
| LPS3314-102MR_           | 1.0                                  | 0.062                             | 215                              | 1.8                   | 1.9         | 2.0         | 1.6                   | 2.10         |
| LPS3314-222MR_           | 2.2                                  | 0.100                             | 140                              | 1.3                   | 1.4         | 1.5         | 1.2                   | 1.60         |
| LPS3314-332MR_           | 3.3                                  | 0.145                             | 115                              | 1.1                   | 1.2         | 1.3         | 1.0                   | 1.35         |
| LPS3314-472MR_           | 4.7                                  | 0.175                             | 86                               | 0.97                  | 0.99        | 1.0         | 0.90                  | 1.25         |
| LPS3314-562MR_           | 5.6                                  | 0.220                             | 74                               | 0.92                  | 0.95        | 0.98        | 0.82                  | 1.10         |
| LPS3314-682MR_           | 6.8                                  | 0.240                             | 72                               | 0.87                  | 0.90        | 0.91        | 0.82                  | 1.10         |
| LPS3314-822MR_           | 8.2                                  | 0.270                             | 60                               | 0.58                  | 0.75        | 0.78        | 0.70                  | 1.00         |
| LPS3314-103MR_           | 10                                   | 0.330                             | 55                               | 0.56                  | 0.66        | 0.70        | 0.65                  | 0.87         |
| LPS3314-153MR_           | 15                                   | 0.440                             | 45                               | 0.46                  | 0.56        | 0.59        | 0.62                  | 0.82         |
| LPS3314-183MR_           | 18                                   | 0.575                             | 37                               | 0.44                  | 0.51        | 0.54        | 0.52                  | 0.68         |
| LPS3314-223MR_           | 22                                   | 0.720                             | 34                               | 0.44                  | 0.48        | 0.49        | 0.45                  | 0.60         |
| LPS3314-333MR_           | 33                                   | 0.920                             | 27                               | 0.30                  | 0.38        | 0.40        | 0.43                  | 0.58         |
| LPS3314-473MR_           | 47                                   | 1.40                              | 22                               | 0.28                  | 0.33        | 0.34        | 0.35                  | 0.47         |
| LPS3314-563MR_           | 56                                   | 1.55                              | 19                               | 0.26                  | 0.30        | 0.31        | 0.32                  | 0.42         |
| LPS3314-683MR_           | 68                                   | 1.80                              | 17                               | 0.22                  | 0.26        | 0.29        | 0.30                  | 0.40         |
| LPS3314-823MR_           | 82                                   | 2.00                              | 14                               | 0.20                  | 0.24        | 0.26        | 0.29                  | 0.39         |
| LPS3314-104MR_           | 100                                  | 2.75                              | 13                               | 0.19                  | 0.23        | 0.24        | 0.24                  | 0.32         |
| LPS3314-124MR_           | 120                                  | 3.45                              | 11                               | 0.19                  | 0.21        | 0.22        | 0.22                  | 0.30         |
| LPS3314-154MR_           | 150                                  | 4.10                              | 10                               | 0.16                  | 0.19        | 0.20        | 0.20                  | 0.27         |
| LPS3314-184MR_           | 180                                  | 4.80                              | 9.0                              | 0.14                  | 0.17        | 0.18        | 0.19                  | 0.25         |
| LPS3314-224MR_           | 220                                  | 6.00                              | 7.0                              | 0.14                  | 0.16        | 0.17        | 0.16                  | 0.22         |
| LPS3314-334MR_           | 330                                  | 9.30                              | 6.0                              | 0.11                  | 0.12        | 0.13        | 0.13                  | 0.18         |
| LPS3314-474MR_           | 470                                  | 12.0                              | 4.5                              | 0.10                  | 0.11        | 0.11        | 0.12                  | 0.16         |
| LPS3314-564MR_           | 560                                  | 14.0                              | 4.5                              | 0.095                 | 0.105       | 0.11        | 0.11                  | 0.145        |
| LPS3314-684MR_           | 680                                  | 18.5                              | 4.0                              | 0.092                 | 0.100       | 0.105       | 0.095                 | 0.125        |
| LPS3314-824MR_           | 820                                  | 24.0                              | 3.7                              | 0.086                 | 0.099       | 0.100       | 0.085                 | 0.110        |

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

**LPS3314-824MRC**

**Termination:** R= RoHS compliant matte tin over nickel over silver.

Special order, added cost:

**Q** = RoHS tin-silver-copper (95.5/4/0.5)

or **P** = 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 using an Agilent/HP 4192A impedance analyzer 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 at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information.](#)
6. 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.](#)
7. Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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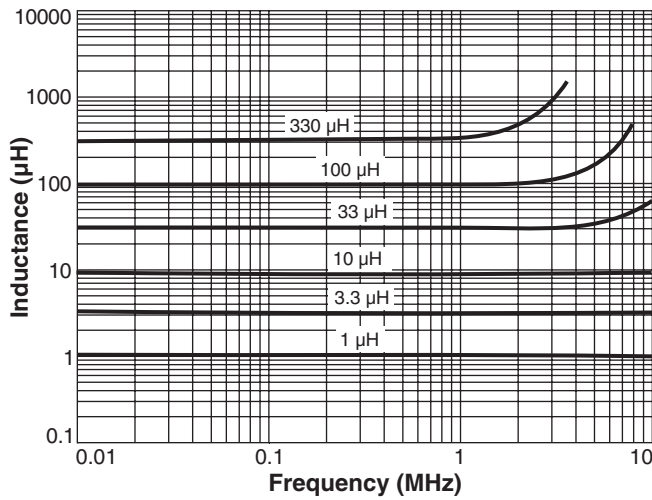
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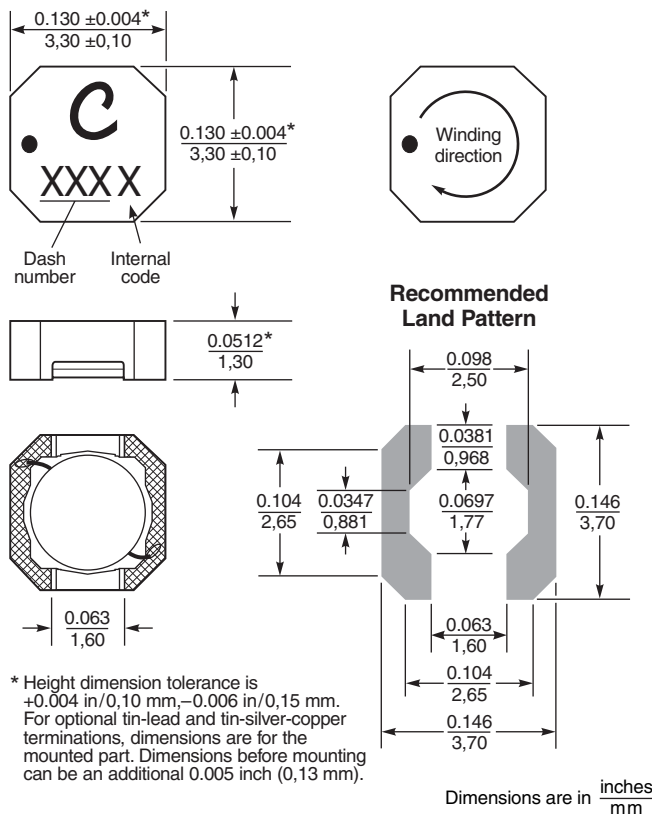
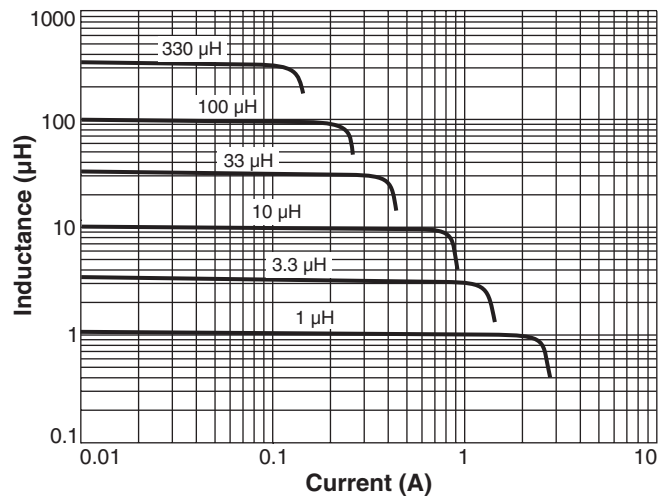


# Shielded Power Inductors – LPS3314 Series

## Typical L vs Frequency



## Typical L vs Current



\* Height dimension tolerance is +0.004 in/0.10 mm, -0.006 in/0.15 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).

**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

**NOTE NEW PART ORIENTATION** Parts are rotated 90° in the packaging tape compared to previous versions of this product.

