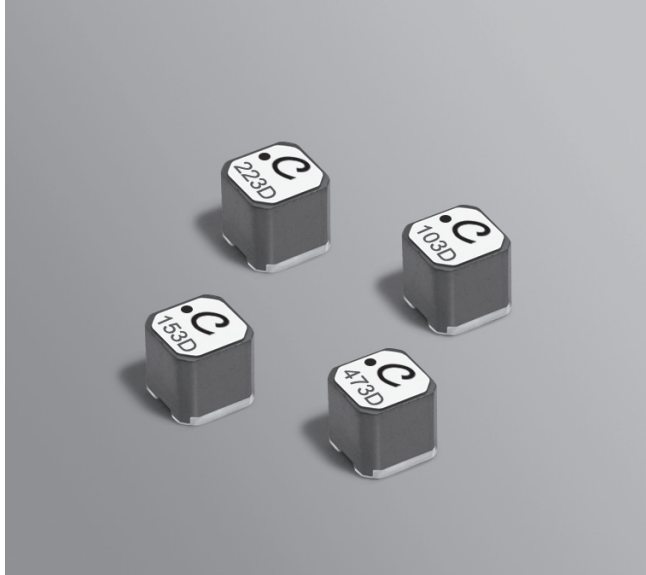


# Shielded Power Inductors - LPS3030



- Small 3.0 × 3.0 mm footprint
- Very low DCR; excellent current handling
- AEC-Q200 Grade 1 qualified (−40°C to +125°C ambient)
- Samples of all values are available in Designer's Kit C485

**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** 80 – 90 mg

**Ambient temperature** −40°C to +125°C with (40°C rise) Irms current.

**Maximum part temperature** +165°C (ambient + temp rise). [Derating](#).

**Storage temperature** Component: −40°C to +165°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

**Recommended pick and place nozzle** OD: 3 mm; ID: ≤ 1.5 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 |
| LPS3030-103MR_           | 10                                   | 0.150                             | 42.8                             | 0.64                  | 0.68        | 0.70        | 0.90                  | 1.20         |
| LPS3030-153MR_           | 15                                   | 0.240                             | 35.7                             | 0.54                  | 0.56        | 0.60        | 0.75                  | 1.00         |
| LPS3030-183MR_           | 18                                   | 0.270                             | 26.1                             | 0.50                  | 0.52        | 0.54        | 0.70                  | 0.90         |
| LPS3030-223MR_           | 22                                   | 0.310                             | 26.0                             | 0.42                  | 0.46        | 0.48        | 0.65                  | 0.85         |
| LPS3030-333MR_           | 33                                   | 0.390                             | 19.6                             | 0.36                  | 0.40        | 0.42        | 0.60                  | 0.80         |
| LPS3030-473MR_           | 47                                   | 0.580                             | 14.6                             | 0.32                  | 0.32        | 0.33        | 0.50                  | 0.65         |
| LPS3030-683MR_           | 68                                   | 0.730                             | 12.1                             | 0.24                  | 0.26        | 0.27        | 0.45                  | 0.62         |
| LPS3030-104MR_           | 100                                  | 1.12                              | 9.8                              | 0.21                  | 0.22        | 0.23        | 0.35                  | 0.46         |
| LPS3030-124MR_           | 120                                  | 1.44                              | 8.7                              | 0.19                  | 0.20        | 0.21        | 0.32                  | 0.42         |
| LPS3030-154MR_           | 150                                  | 1.94                              | 7.4                              | 0.17                  | 0.18        | 0.19        | 0.26                  | 0.34         |
| LPS3030-184MR_           | 180                                  | 2.11                              | 7.0                              | 0.16                  | 0.16        | 0.17        | 0.24                  | 0.32         |
| LPS3030-224MR_           | 220                                  | 2.52                              | 6.0                              | 0.14                  | 0.15        | 0.16        | 0.22                  | 0.30         |
| LPS3030-334MR_           | 330                                  | 4.30                              | 4.9                              | 0.11                  | 0.12        | 0.13        | 0.18                  | 0.23         |
| LPS3030-474MR_           | 470                                  | 5.60                              | 4.1                              | 0.10                  | 0.10        | 0.11        | 0.16                  | 0.20         |
| LPS3030-564MR_           | 560                                  | 7.92                              | 3.3                              | 0.08                  | 0.09        | 0.10        | 0.12                  | 0.16         |
| LPS3030-684MR_           | 680                                  | 8.89                              | 2.9                              | 0.07                  | 0.08        | 0.09        | 0.11                  | 0.15         |
| LPS3030-824MR_           | 820                                  | 10.9                              | 2.9                              | 0.06                  | 0.07        | 0.08        | 0.10                  | 0.14         |

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

#### LPS3030-824MRC

**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 (600 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

D= 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2000 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 an 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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Document 1513-1 Revised 06/22/20

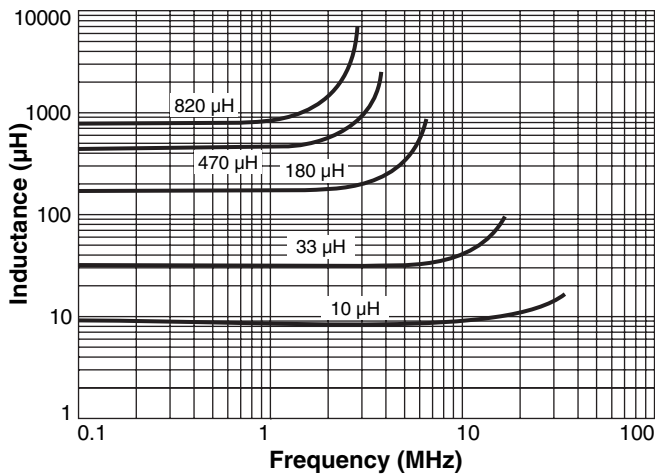
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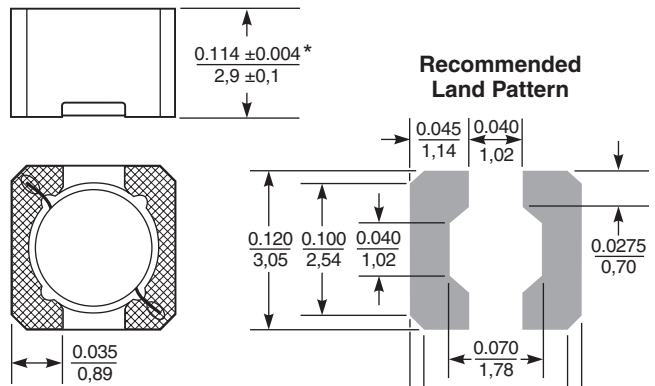
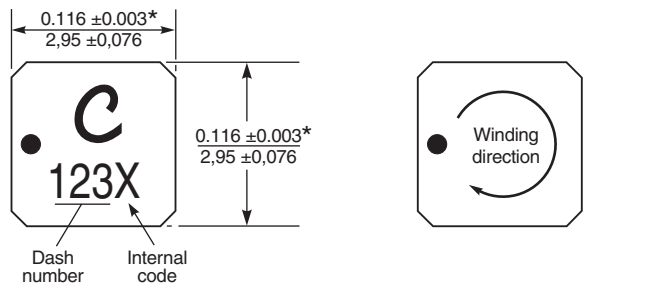
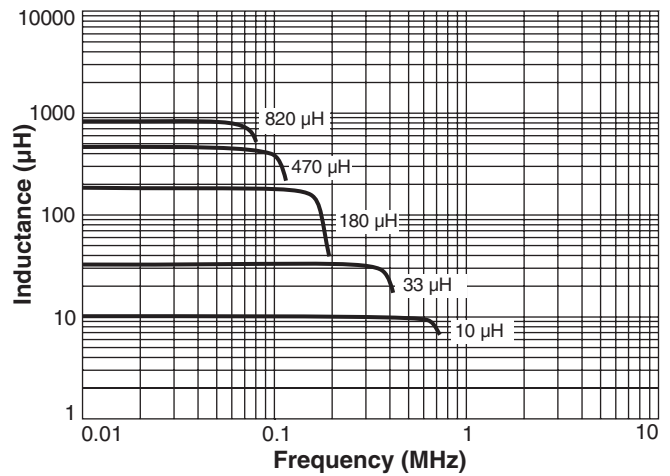


# Shielded SMT Power Inductors – LPS3030 Series

## L vs Frequency



## Typical L vs Current



\* 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 inches/mm

**Packaging** 600/7" reel; 2000/13" reel; Plastic tape: 12 mm wide, 0.30 mm thick, 8 mm pocket spacing, 3.3 mm pocket depth



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