



Shielded Power Inductors - LPS5015



- Very low DCR; excellent current handling
- 5.0 × 5.0 mm footprint; less than 1.5 mm tall

Designer's Kit C350 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 102 – 107 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. 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, 1.57 mm pocket depth

Recommended pick and place nozzle OD: 5 mm; ID: ≤ 2.5 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 | | | Irms (A) ⁶ | |
|--------------------------|--------------------------------------|-----------------------------------|----------------------------------|-----------------------|-------------|-------------|-----------------------|--------------|
| | | | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| LPS5015-102ML_ | 1.0 | 0.050 | 183 | 3.6 | 3.8 | 3.9 | 1.90 | 2.65 |
| LPS5015-132ML_ | 1.3 | 0.065 | 150 | 2.5 | 2.6 | 2.8 | 1.70 | 2.35 |
| LPS5015-182ML_ | 1.8 | 0.075 | 128 | 2.6 | 2.8 | 2.9 | 1.50 | 2.15 |
| LPS5015-222ML_ | 2.2 | 0.090 | 116 | 2.4 | 2.6 | 2.7 | 1.40 | 2.00 |
| LPS5015-332ML_ | 3.3 | 0.125 | 88 | 1.9 | 2.0 | 2.0 | 1.30 | 1.80 |
| LPS5015-472ML_ | 4.7 | 0.150 | 73 | 1.6 | 1.7 | 1.8 | 1.20 | 1.62 |
| LPS5015-562ML_ | 5.6 | 0.175 | 67 | 1.6 | 1.6 | 1.6 | 1.10 | 1.45 |
| LPS5015-682ML_ | 6.8 | 0.225 | 57 | 1.3 | 1.4 | 1.5 | 0.90 | 1.25 |
| LPS5015-822ML_ | 8.2 | 0.280 | 49 | 1.3 | 1.3 | 1.4 | 0.85 | 1.05 |
| LPS5015-103ML_ | 10 | 0.300 | 44 | 1.2 | 1.3 | 1.3 | 0.80 | 0.95 |
| LPS5015-123ML_ | 12 | 0.350 | 40 | 1.0 | 1.1 | 1.2 | 0.75 | 0.84 |
| LPS5015-153ML_ | 15 | 0.360 | 38 | 0.80 | 0.84 | 0.86 | 0.73 | 0.84 |
| LPS5015-183ML_ | 18 | 0.550 | 35 | 0.75 | 0.77 | 0.80 | 0.70 | 0.83 |
| LPS5015-223ML_ | 22 | 0.675 | 31 | 0.70 | 0.73 | 0.75 | 0.60 | 0.82 |
| LPS5015-333ML_ | 33 | 0.750 | 24 | 0.55 | 0.59 | 0.60 | 0.50 | 0.70 |
| LPS5015-473ML_ | 47 | 1.00 | 18 | 0.46 | 0.48 | 0.49 | 0.45 | 0.57 |
| LPS5015-563ML_ | 56 | 1.13 | 17 | 0.40 | 0.43 | 0.45 | 0.40 | 0.52 |
| LPS5015-683ML_ | 68 | 1.45 | 15 | 0.33 | 0.38 | 0.39 | 0.35 | 0.47 |
| LPS5015-104ML_ | 100 | 1.95 | 12 | 0.30 | 0.33 | 0.34 | 0.30 | 0.42 |
| LPS5015-124ML_ | 120 | 2.50 | 10 | 0.25 | 0.28 | 0.30 | 0.27 | 0.37 |
| LPS5015-154ML_ | 150 | 3.40 | 9.3 | 0.23 | 0.25 | 0.26 | 0.25 | 0.33 |
| LPS5015-224ML_ | 220 | 4.50 | 7.3 | 0.20 | 0.21 | 0.22 | 0.22 | 0.29 |
| LPS5015-334ML_ | 330 | 7.40 | 5.7 | 0.15 | 0.17 | 0.18 | 0.17 | 0.22 |
| LPS5015-474ML_ | 470 | 7.50 | 4.9 | 0.12 | 0.12 | 0.13 | 0.16 | 0.21 |
| LPS5015-564ML_ | 560 | 8.50 | 4.3 | 0.10 | 0.11 | 0.12 | 0.14 | 0.190 |
| LPS5015-684ML_ | 680 | 10.6 | 4.0 | 0.10 | 0.11 | 0.11 | 0.13 | 0.175 |
| LPS5015-105ML_ | 1000 | 15.0 | 3.2 | 0.080 | 0.090 | 0.093 | 0.10 | 0.150 |
| LPS5015-155ML_ | 1500 | 25.0 | 2.5 | 0.080 | 0.086 | 0.088 | 0.090 | 0.140 |
| LPS5015-185ML_ | 1800 | 28.0 | 2.2 | 0.078 | 0.083 | 0.086 | 0.085 | 0.130 |
| LPS5015-225ML_ | 2200 | 36.0 | 2.1 | 0.072 | 0.078 | 0.080 | 0.065 | 0.090 |
| LPS5015-335ML_ | 3300 | 55.0 | 1.7 | 0.064 | 0.072 | 0.076 | 0.055 | 0.075 |
| LPS5015-475ML_ | 4700 | 80.0 | 1.4 | 0.062 | 0.069 | 0.072 | 0.045 | 0.065 |

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

LPS5015-335MLC

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 using an Agilent/HP 4192A.
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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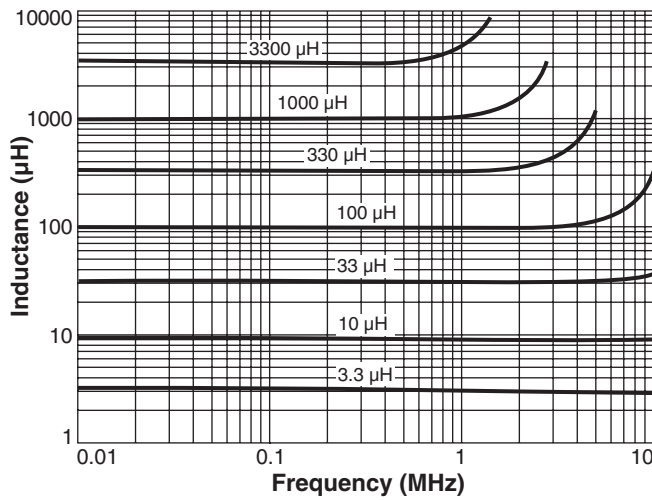
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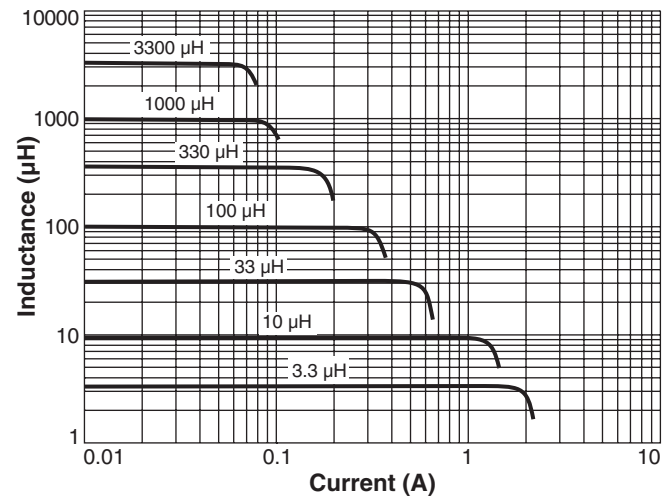


Shielded Power Inductors - LPS5015 Series

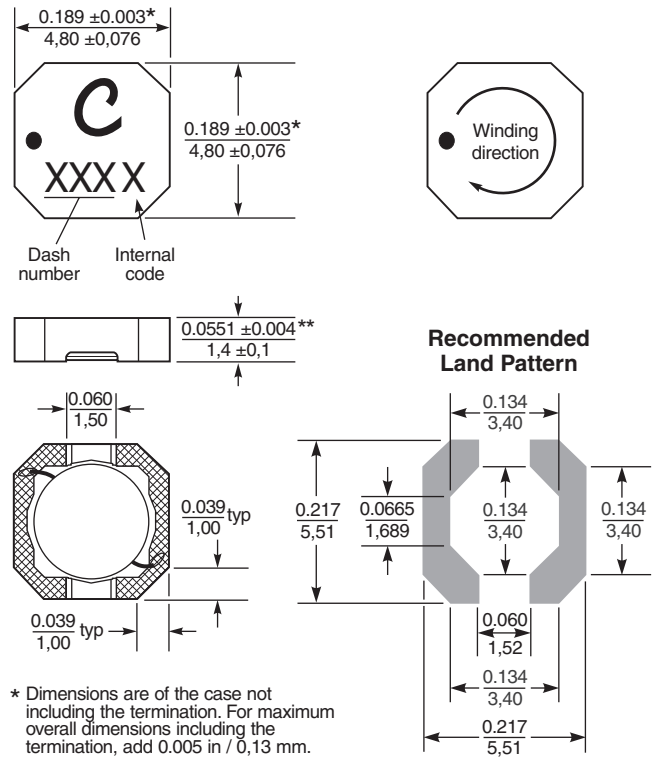
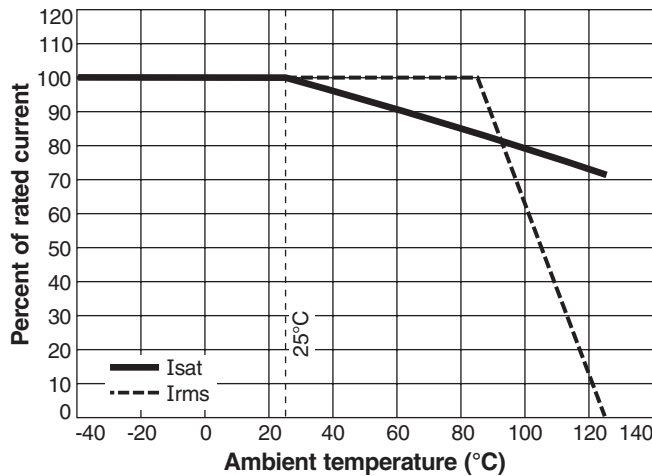
Typical L vs Frequency



Typical L vs Current



Typical Current Derating



* 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 $\frac{\text{inches}}{\text{mm}}$



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