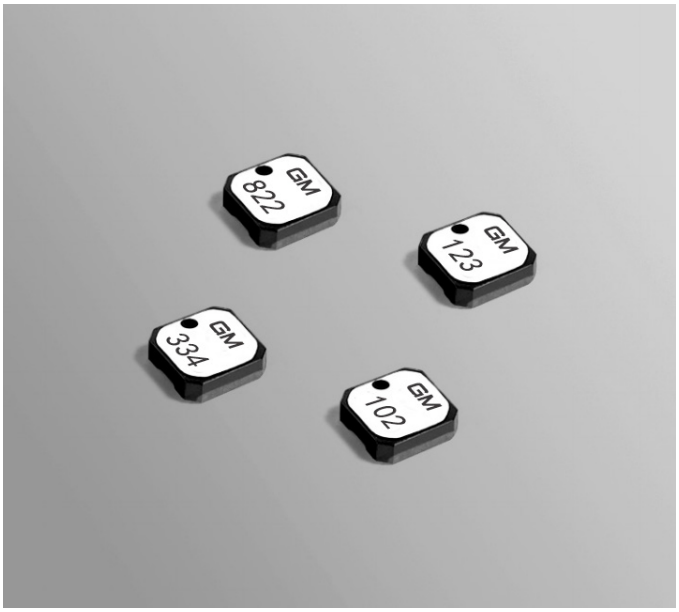
# Shielded Power Inductors – LP3008




- Very low DCR; excellent current handling
- Only 0.8 mm tall; 3.0 × 3.0 mm footprint

**Core material** Ferrite
**Core and winding loss**
**Environmental** RoHS compliant, halogen free
**Terminations** RoHS compliant matte tin over nickel over silver. Other terminations available at additional cost.
**Weight** 22 – 25 mg
**Ambient temperature** –40°C to +85°C with (40°C rise) Irms current. **Maximum part temperature** +125°C (ambient + temp rise). **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, 0.23 mm thick, 8 mm pocket spacing, 1.37 mm pocket depth
**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.

| Part number | Inductance ±20% (µH) | DCR max (Ohms) | SRF typ (MHz) | Isat (A) 10% drop | Isat (A) 20% drop | Isat (A) 30% drop | Irms (A) 20°C rise | Irms (A) 40°C rise |
|---|---|---|---|---|---|---|---|---|
| LP3008-561MR_ | 0.56 | 0.072 | 330 | 1.8 | 2.0 | 2.1 | 1.4 | 2.0 |
| LP3008-801MR_ | 0.80 | 0.092 | 255 | 1.6 | 1.7 | 1.8 | 1.1 | 1.6 |
| LP3008-102MR_ | 1.0 | 0.125 | 220 | 1.3 | 1.4 | 1.5 | 0.90 | 1.3 |
| LP3008-152MR_ | 1.5 | 0.134 | 170 | 1.1 | 1.3 | 1.3 | 0.87 | 1.2 |
| LP3008-222MR_ | 2.2 | 0.175 | 150 | 1.0 | 1.1 | 1.1 | 0.85 | 1.1 |
| LP3008-332MR_ | 3.3 | 0.285 | 114 | 0.81 | 0.86 | 0.88 | 0.74 | 0.95 |
| LP3008-472MR_ | 4.7 | 0.350 | 87 | 0.68 | 0.73 | 0.74 | 0.68 | 0.80 |
| LP3008-562MR_ | 5.6 | 0.450 | 78 | 0.62 | 0.67 | 0.70 | 0.58 | 0.73 |
| LP3008-682MR_ | 6.8 | 0.500 | 75 | 0.58 | 0.61 | 0.63 | 0.50 | 0.67 |
| LP3008-822MR_ | 8.2 | 0.600 | 61 | 0.52 | 0.56 | 0.58 | 0.45 | 0.60 |
| LP3008-103MR_ | 10 | 0.650 | 56 | 0.46 | 0.51 | 0.52 | 0.42 | 0.56 |
| LP3008-123MR_ | 12 | 0.790 | 49 | 0.45 | 0.48 | 0.50 | 0.38 | 0.50 |
| LP3008-183MR_ | 18 | 1.25 | 38 | 0.35 | 0.38 | 0.40 | 0.33 | 0.44 |
| LP3008-223MR_ | 22 | 1.50 | 35 | 0.29 | 0.33 | 0.34 | 0.29 | 0.38 |
| LP3008-333MR_ | 33 | 2.30 | 23 | 0.27 | 0.30 | 0.31 | 0.25 | 0.32 |
| LP3008-473MR_ | 47 | 3.00 | 21 | 0.22 | 0.23 | 0.24 | 0.21 | 0.27 |
| LP3008-683MR_ | 68 | 4.75 | 18 | 0.18 | 0.19 | 0.20 | 0.175 | 0.23 |
| LP3008-104MR_ | 100 | 6.85 | 14 | 0.15 | 0.16 | 0.16 | 0.160 | 0.21 |
| LP3008-124MR_ | 120 | 7.00 | 13 | 0.084 | 0.094 | 0.10 | 0.140 | 0.190 |
| LP3008-154MR_ | 150 | 8.00 | 11 | 0.080 | 0.088 | 0.092 | 0.130 | 0.175 |
| LP3008-184MR_ | 180 | 9.00 | 10 | 0.070 | 0.078 | 0.082 | 0.120 | 0.160 |

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

**LP3008-104MRC**

**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 using an Agilent/HP 4192A. 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.
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.
7. Electrical specifications at 25°C.
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

PulseGM **Designer’s Kit C392** contains samples of 0.80 µH to 33 µH parts (3 each) from LP3008, LP3010 and LP3015. **Kit C401** contains samples of 0.56 µH to 33 µH parts (3 each) from LP4012 and LP4018. **Kit C402** contains samples of 220 µH to 3300 µH parts (3 each) from all five series. For details of kit contents and to order, contact PulseGM or visit **http://WWW.PulseGM.com**.

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Specification subject to change without notice.
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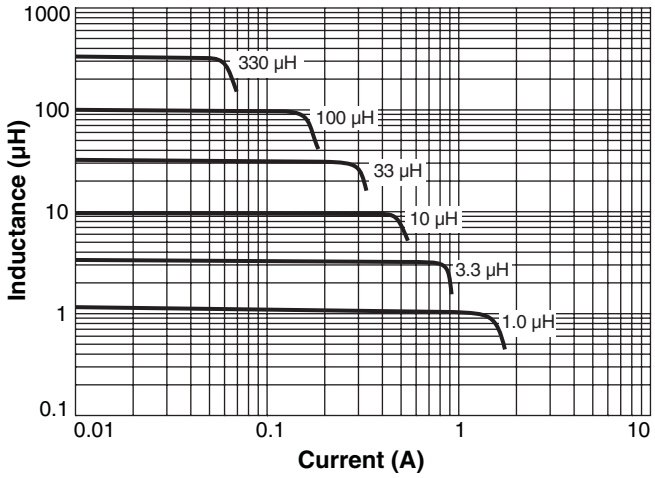
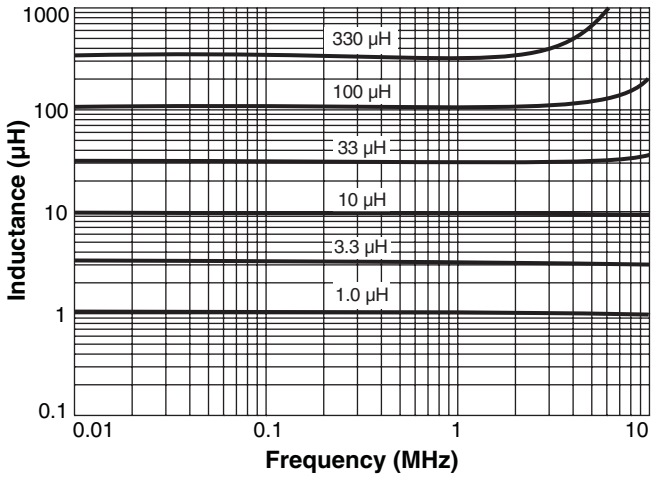
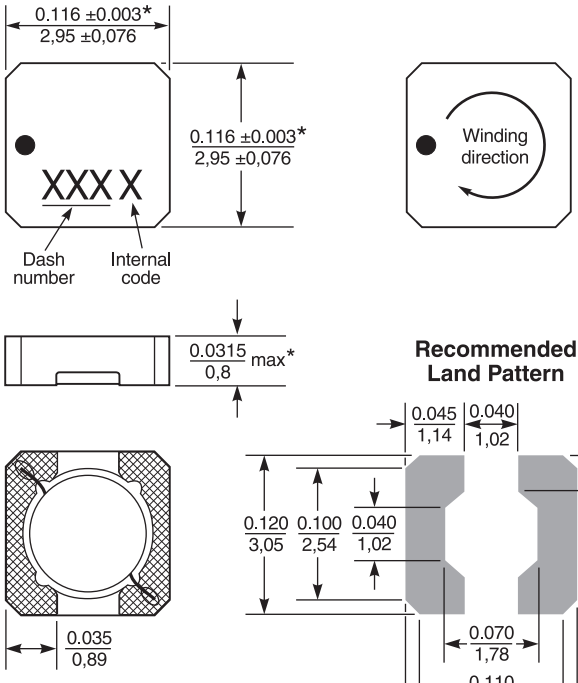
# Shielded Power Inductors – LP3008 Series

## Typical L vs Current




## Typical L vs Frequency



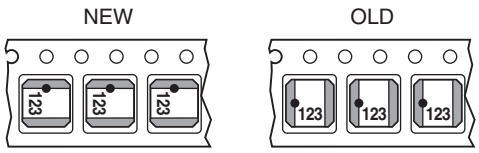




* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.
For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0,13 mm).

Dimensions are in inches / mm

**Packaging** 1000/7″ reel; 3500/13″ reel; Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.37 mm pocket depth

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





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