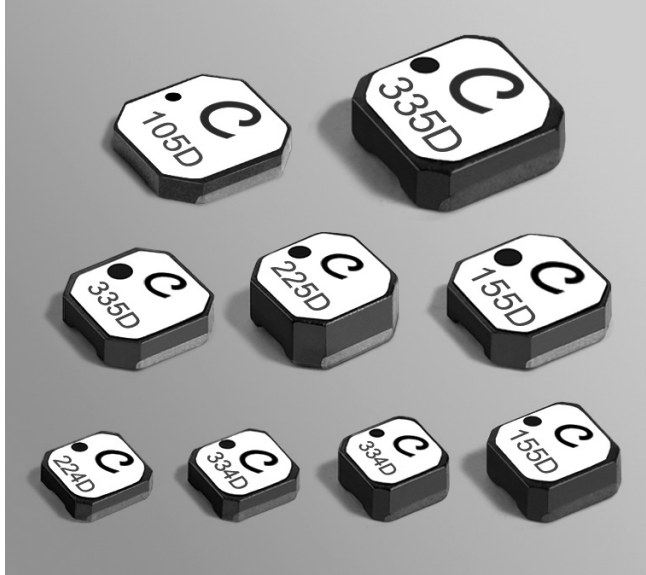


# Shielded Power Inductors High Inductance



- High inductance values (220 – 4700  $\mu\text{H}$ ) not available in the corresponding LPS series of parts
- Rugged construction improves pick and place operation
- LPZ3010, LPZ3015, LPZ4012 and LPZ4018 are rated AEC-Q200 Grade 3 ( $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ )

**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.

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  with Irms current

**Maximum part temperature**  $+125^{\circ}\text{C}$  (ambient + temp rise)

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .  
Tape and reel packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 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

**PCB washing** Tested with pure water or alcohol only. For other solvents, see [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>$\pm 20\%$ ( $\mu\text{H}$ ) | DCR max <sup>3</sup><br>(Ohms) | SRF typ <sup>4</sup><br>(MHz) | Isat (A) <sup>5</sup> |          |          | Irms (A) <sup>6</sup> |           |
|--------------------------|---------------------------------------------------------|--------------------------------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
|                          |                                                         |                                |                               | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| LPZ3008-224MR_           | 220                                                     | 11.5                           | 9.0                           | 0.067                 | 0.073    | 0.076    | 0.100                 | 0.145     |
| LPZ3008-334MR_           | 330                                                     | 18.0                           | 7.0                           | 0.059                 | 0.064    | 0.066    | 0.090                 | 0.130     |
| LPZ3010-334MR_           | 330                                                     | 18.5                           | 7.0                           | 0.10                  | 0.105    | 0.115    | 0.085                 | 0.11      |
| LPZ3015-334MR_           | 330                                                     | 23.0                           | 5.0                           | 0.10                  | 0.11     | 0.11     | 0.070                 | 0.095     |
| LPZ3314-105MR_           | 1000                                                    | 31.0                           | 3.0                           | 0.090                 | 0.099    | 0.100    | 0.082                 | 0.100     |
| LPZ3314-155MR_           | 1500                                                    | 44.0                           | 2.7                           | 0.080                 | 0.086    | 0.090    | 0.060                 | 0.080     |
| LPZ4012-335MR_           | 3300                                                    | 65.0                           | 0.95                          | 0.074                 | 0.078    | 0.080    | 0.050                 | 0.065     |
| LPZ4018-155MR_           | 1500                                                    | 25.0                           | 2.4                           | 0.095                 | 0.10     | 0.105    | 0.080                 | 0.11      |
| LPZ4018-185MR_           | 1800                                                    | 31.5                           | 2.3                           | 0.090                 | 0.095    | 0.10     | 0.070                 | 0.095     |
| LPZ4018-225MR_           | 2200                                                    | 32.5                           | 2.1                           | 0.088                 | 0.094    | 0.10     | 0.070                 | 0.090     |
| LPZ4018-335MR_           | 3300                                                    | 48.0                           | 1.6                           | 0.082                 | 0.092    | 0.094    | 0.055                 | 0.075     |
| LPZ4414-155MR_           | 1500                                                    | 26.4                           | 2.2                           | 0.096                 | 0.099    | 0.10     | 0.085                 | 0.11      |
| LPZ4414-185MR_           | 1800                                                    | 35.0                           | 1.9                           | 0.089                 | 0.094    | 0.097    | 0.075                 | 0.10      |
| LPZ4414-225MR_           | 2200                                                    | 42.5                           | 1.9                           | 0.082                 | 0.089    | 0.092    | 0.065                 | 0.080     |
| LPZ4414-335MR_           | 3300                                                    | 56.0                           | 1.3                           | 0.072                 | 0.078    | 0.083    | 0.055                 | 0.070     |
| LPZ5010-105MR_           | 1000                                                    | 28.0                           | 3.0                           | 0.087                 | 0.096    | 0.10     | 0.080                 | 0.11      |
| LPZ5015-335MR_           | 3300                                                    | 55.0                           | 1.7                           | 0.064                 | 0.072    | 0.076    | 0.055                 | 0.075     |
| LPZ5015-475MR_           | 4700                                                    | 80.0                           | 1.4                           | 0.062                 | 0.069    | 0.072    | 0.045                 | 0.065     |

1. When ordering, please specify **termination** and **packaging** codes:

**LPZ3008-334MRC**

**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).

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

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 an 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  $25^{\circ}\text{C}$  ambient.

7. Electrical specifications at  $25^{\circ}\text{C}$ .

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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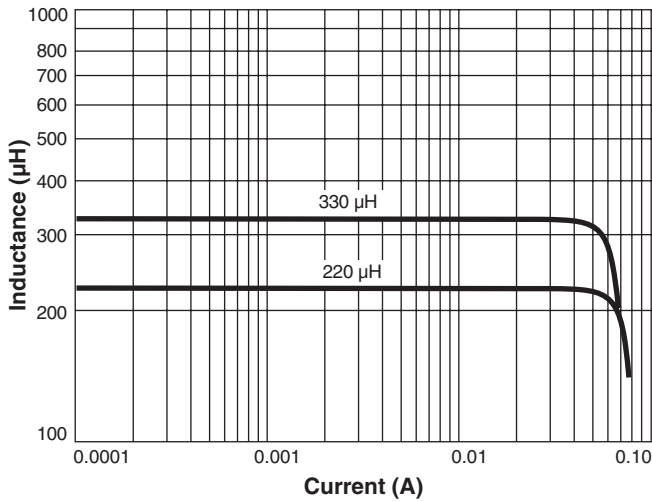
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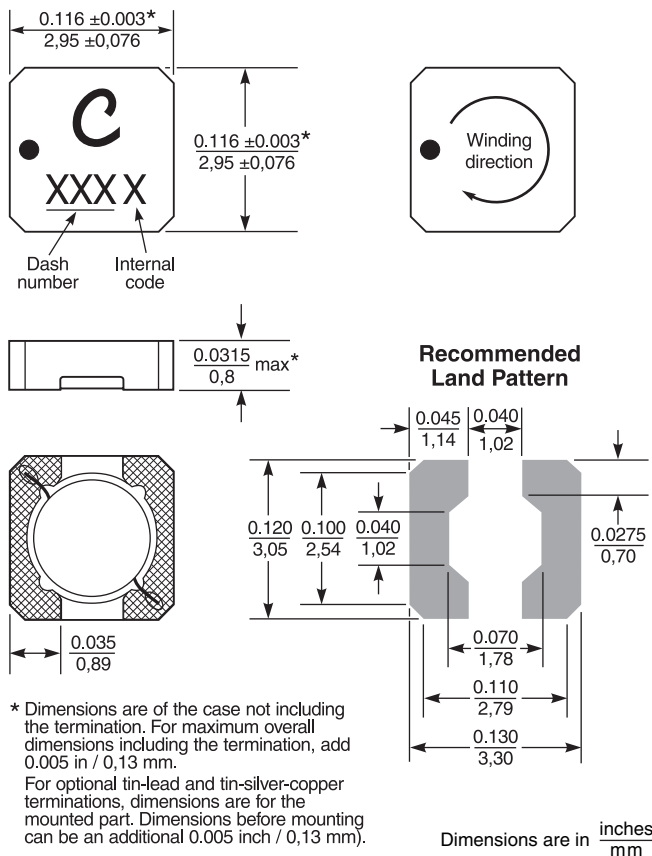
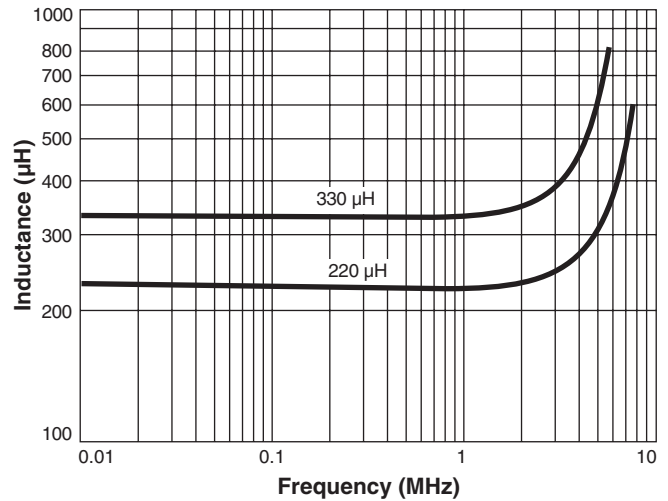


# Shielded Power Inductors – LPZ3008

## L vs Current



## L vs Frequency



**Weight** 22 – 25 mg

**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



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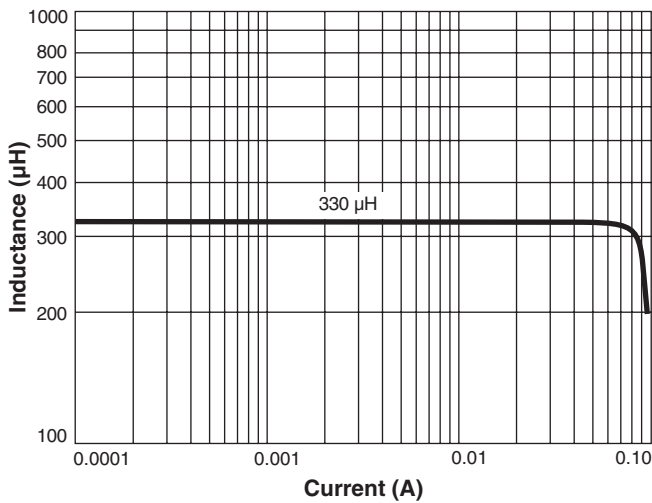
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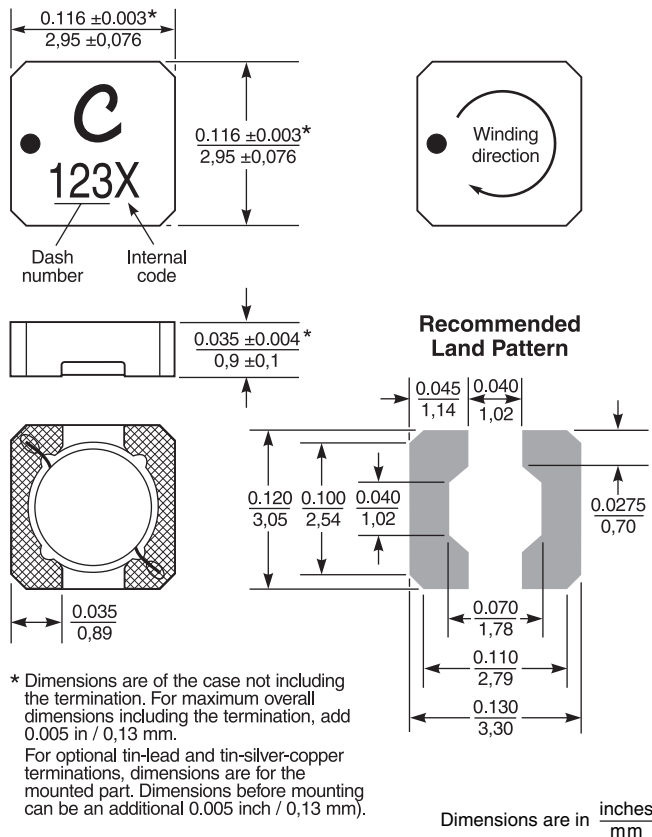
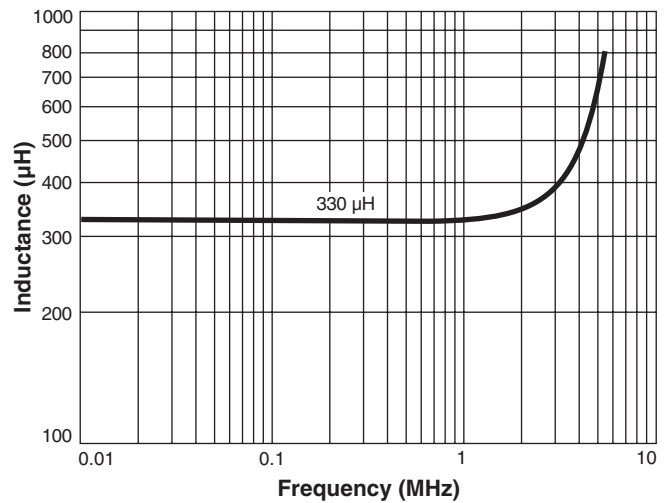


# Shielded Power Inductors – LPZ3010

## L vs Current



## L vs Frequency



**Weight** 25 – 32 mg

**Packaging** 1000/7" reel; 3500/13" reel; Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.4 mm pocket depth

**Recommended pick and place nozzle** OD: 3 mm; ID: ≤ 1.5 mm



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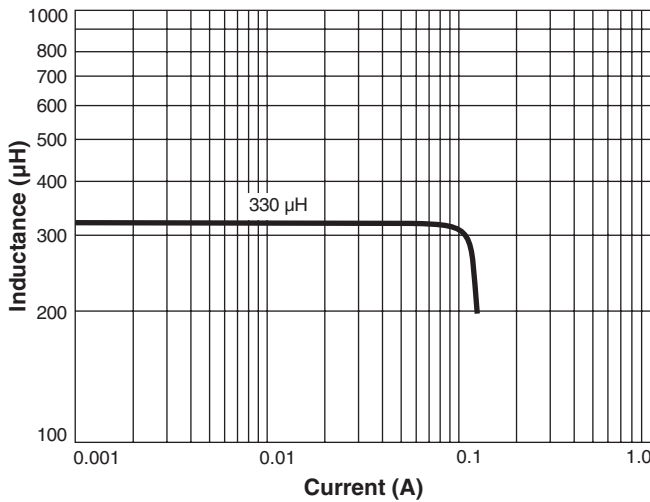
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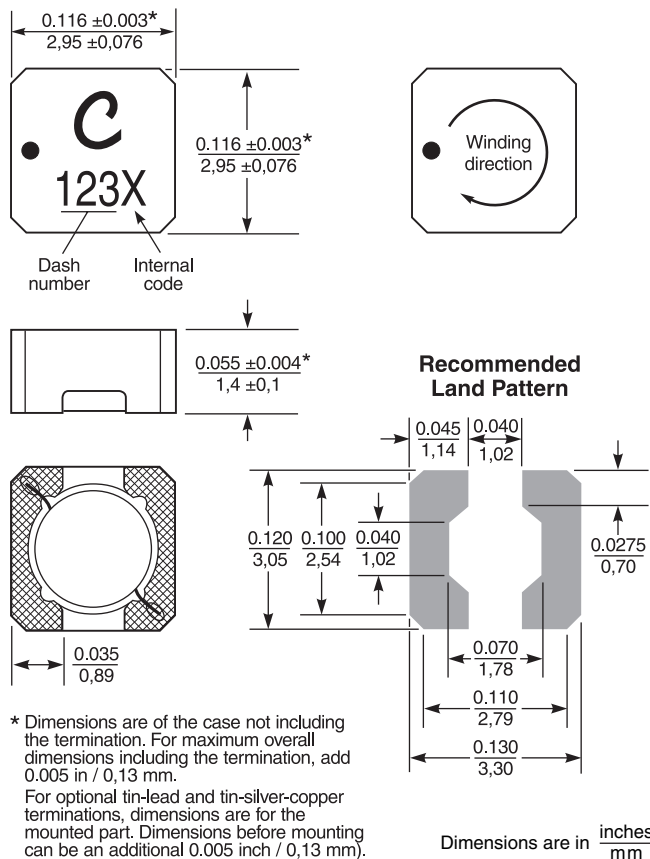
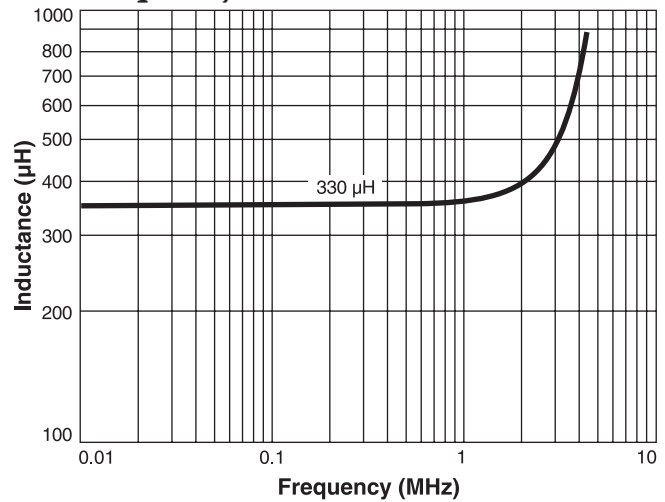


# Shielded Power Inductor – LPZ3015

## L vs Current



## L vs Frequency



**Weight** 40 – 45 mg

**Packaging** 1000/7" reel; 3500/13" reel; Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 1.65 mm pocket depth

**Recommended pick and place nozzle** OD: 3 mm; ID: ≤ 1.5 mm



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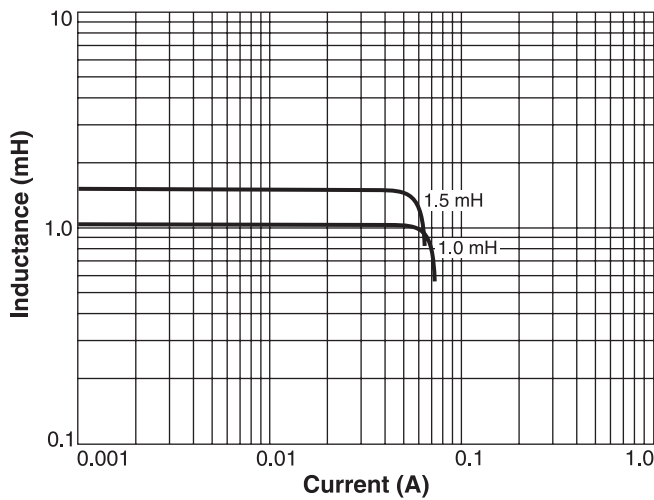
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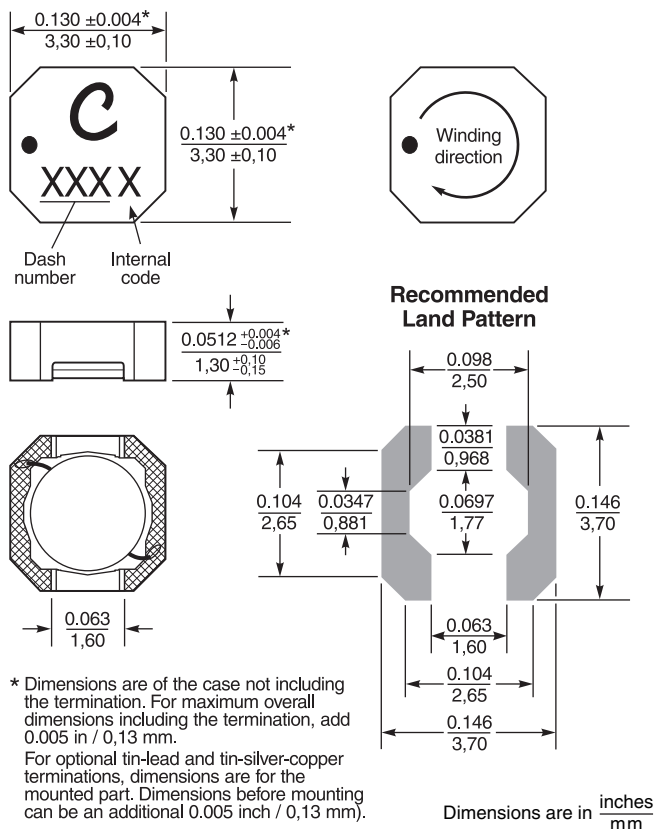
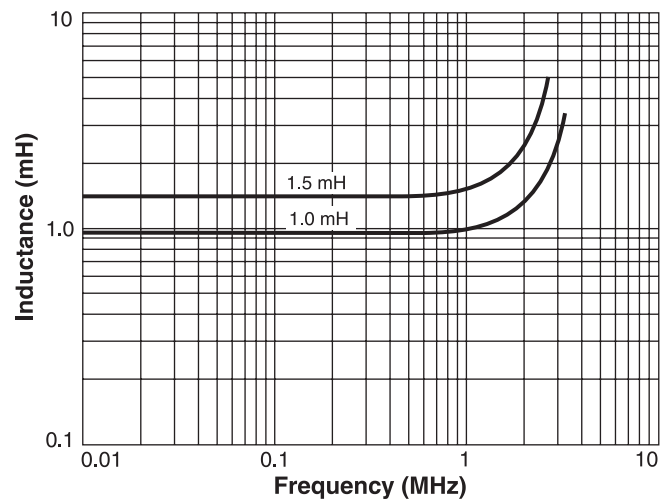


# Shielded Power Inductors – LPZ3314

## Typical L vs Current



## Typical L vs Frequency



**Weight** 44.1 – 46.5 mg

**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



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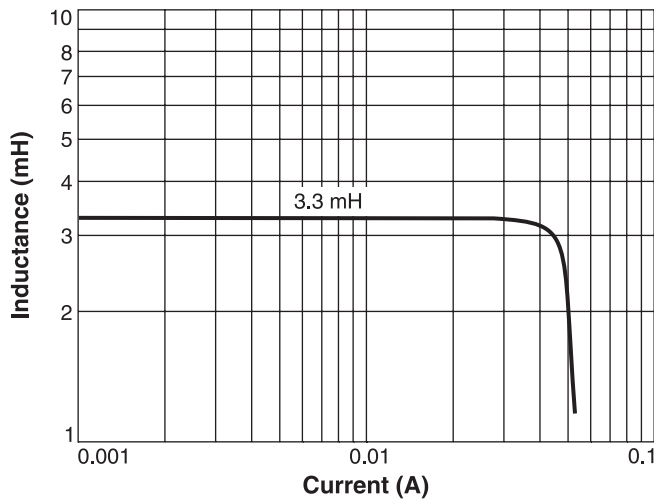
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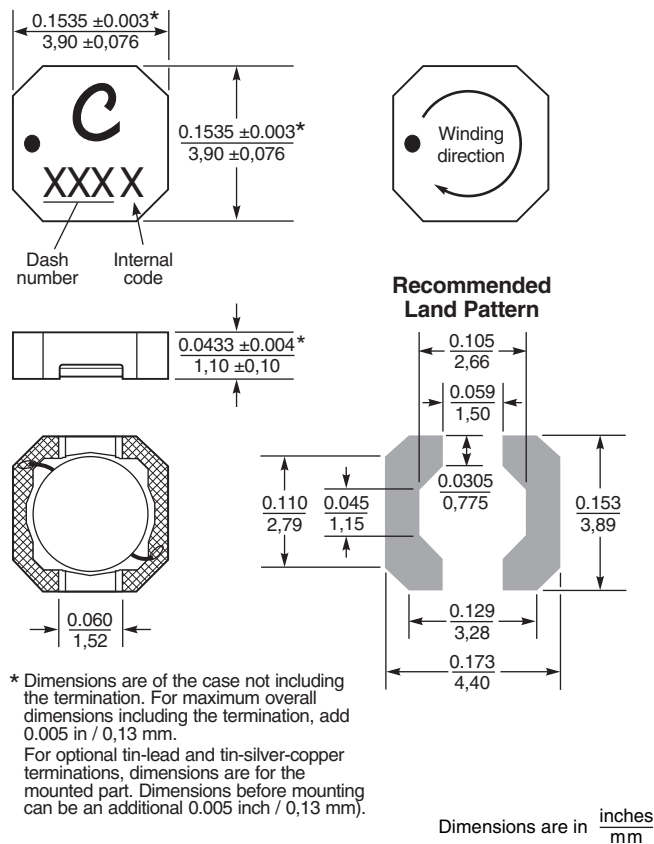
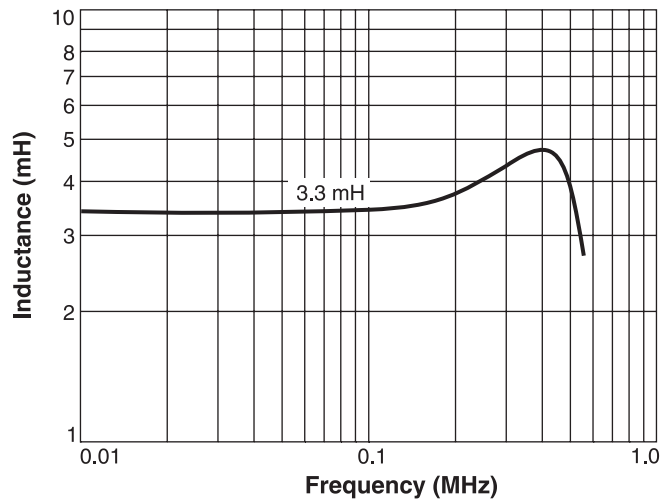


# Shielded Power Inductors – LPZ4012

## Typical L vs Current



## Typical L vs Frequency



**Weight** 54 – 64 mg

**Packaging** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 1.32 mm pocket depth

**Recommended pick and place nozzle** OD: 4 mm; ID: ≤ 2 mm



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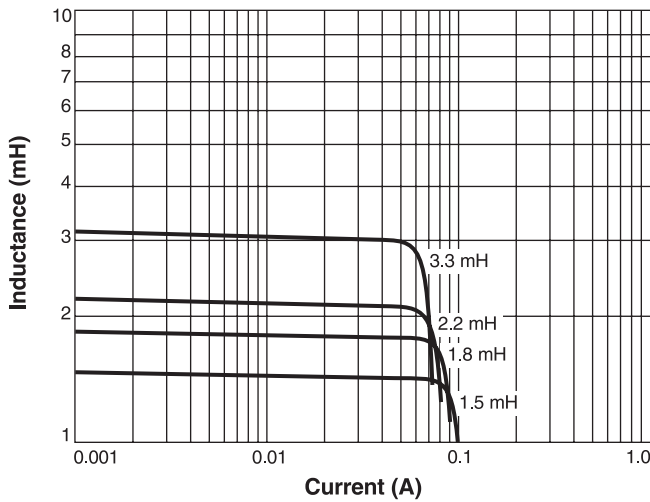
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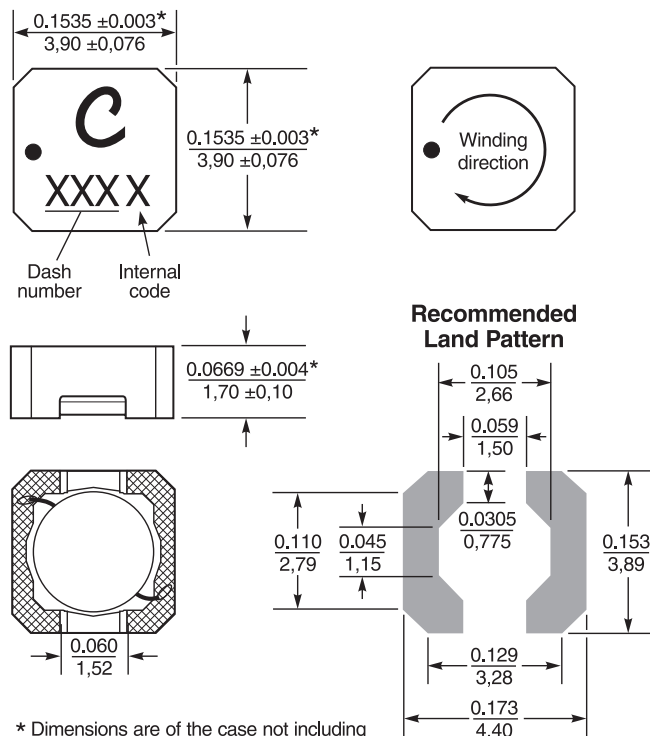
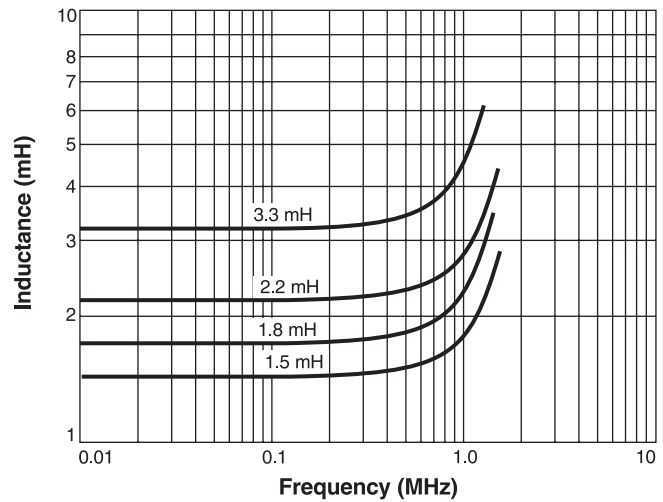


# Shielded Power Inductors – LPZ4018

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

**Weight** 90 – 100 mg

**Packaging** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.9 mm pocket depth

**Recommended pick and place nozzle** OD: 4 mm; ID:  $\leq 2$  mm



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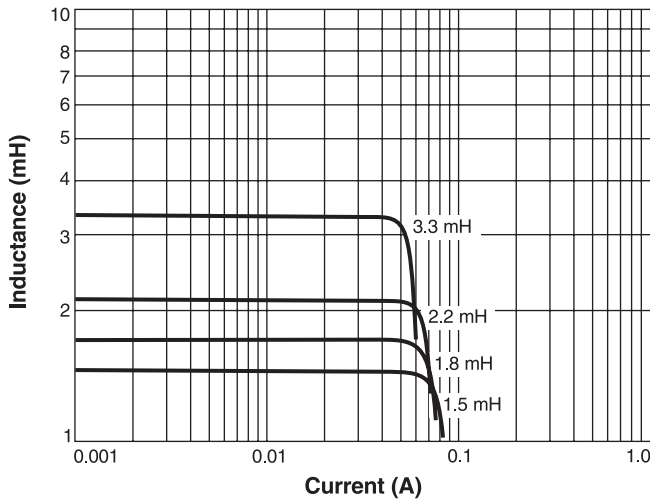
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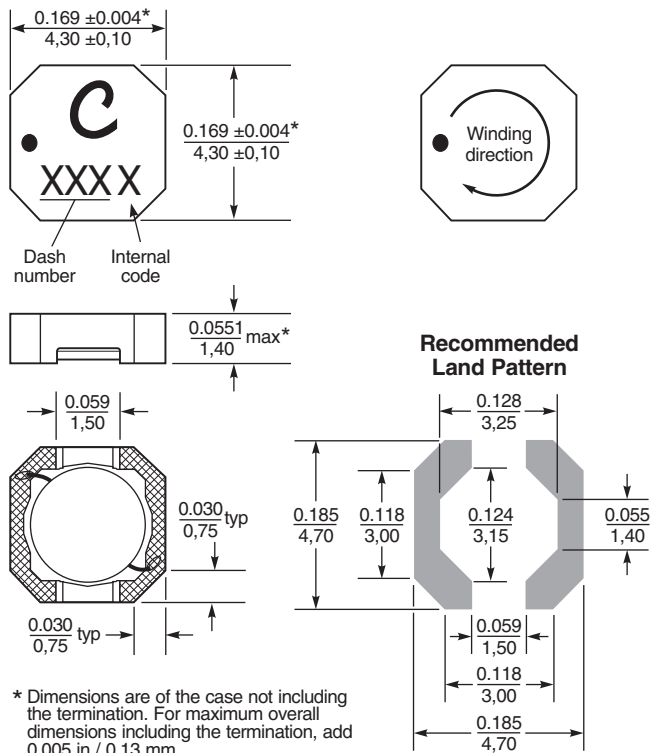
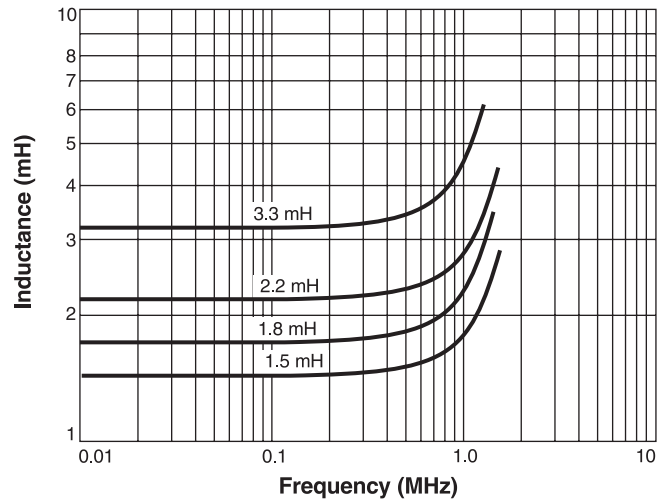


# Shielded Power Inductors – LPZ4414

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

**Weight** 82.3 – 89.8 mg

**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: 4.5 mm; ID:  $\leq 2$  mm



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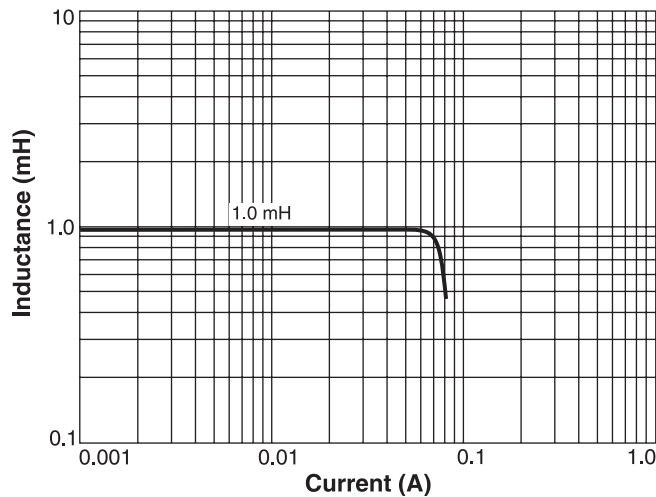
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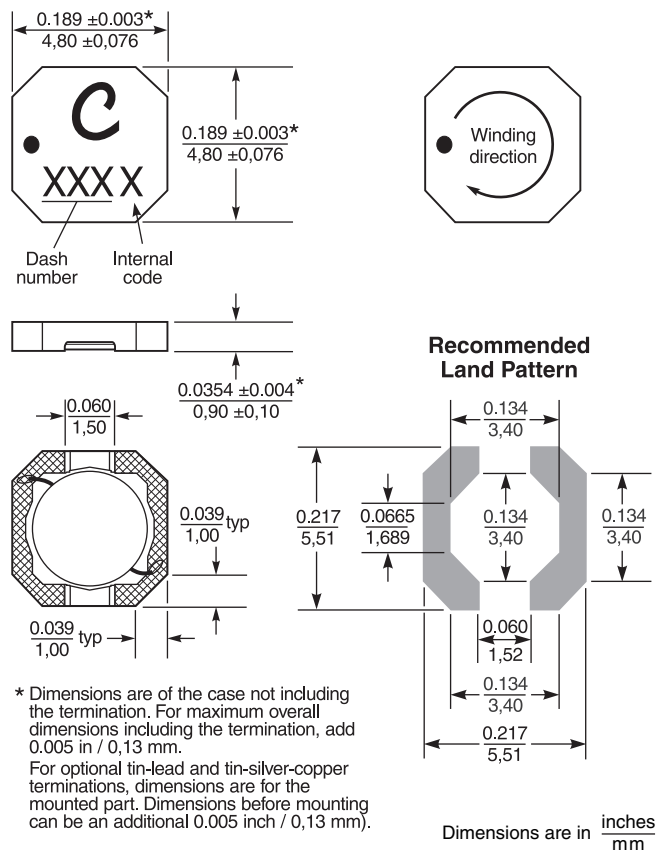
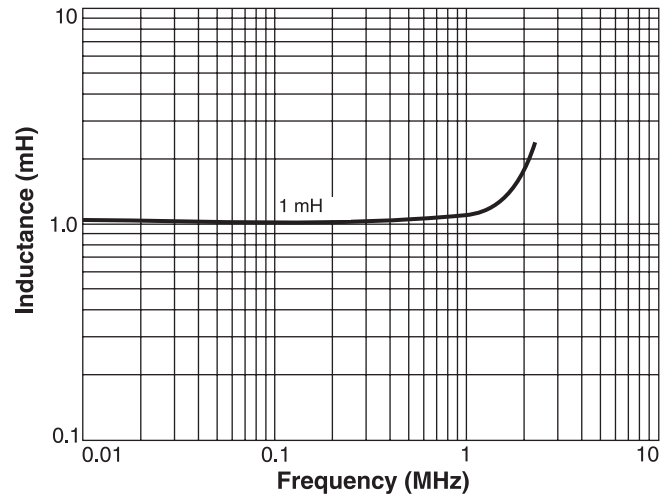


# Shielded Power Inductor – LPZ5010

## Typical L vs Current



## Typical L vs Frequency



**Weight** 70 – 75 mg

**Packaging** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.02 mm pocket depth

**Recommended pick and place nozzle** OD: 5 mm; ID: ≤ 2.5 mm



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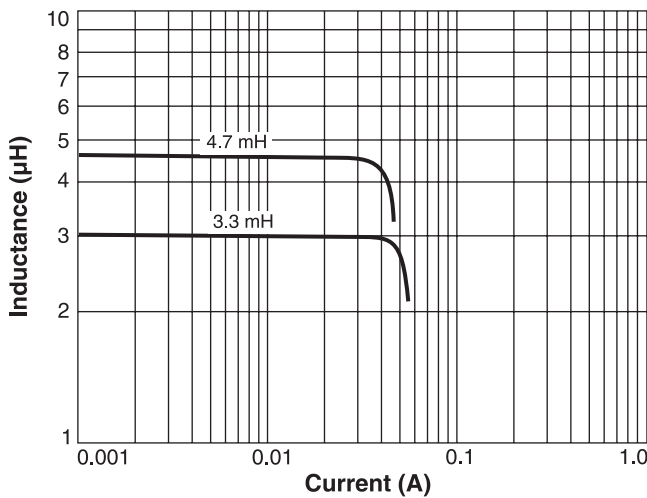
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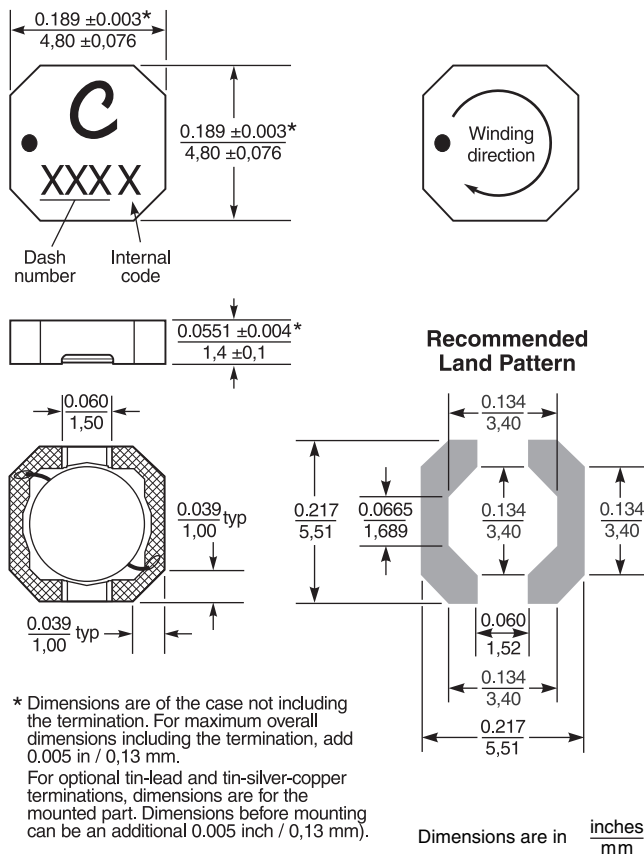
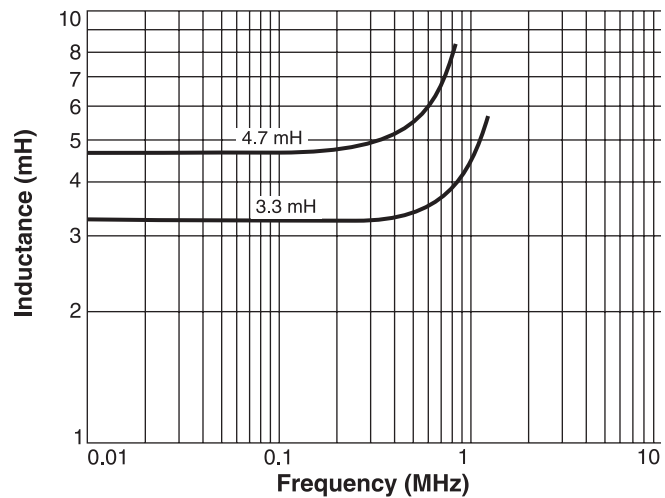


# Shielded Power Inductors – LPZ5015

## Typical L vs Current



## Typical L vs Frequency



**Weight** 102 – 107 mg

**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



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