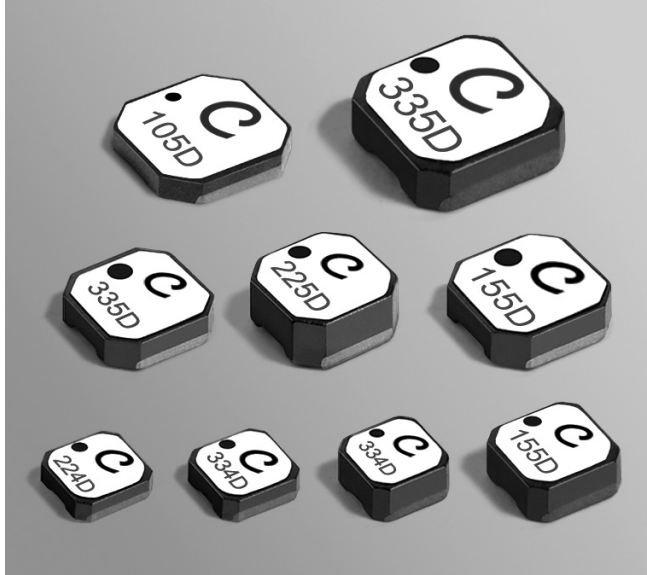


# Shielded Power Inductors High Inductance



- High inductance values (220 – 4700  $\mu$ 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> $\pm 20\%$ ( $\mu$ H)	DCR max <sup>3</sup> (Ohms)	SRF typ <sup>4</sup> (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.

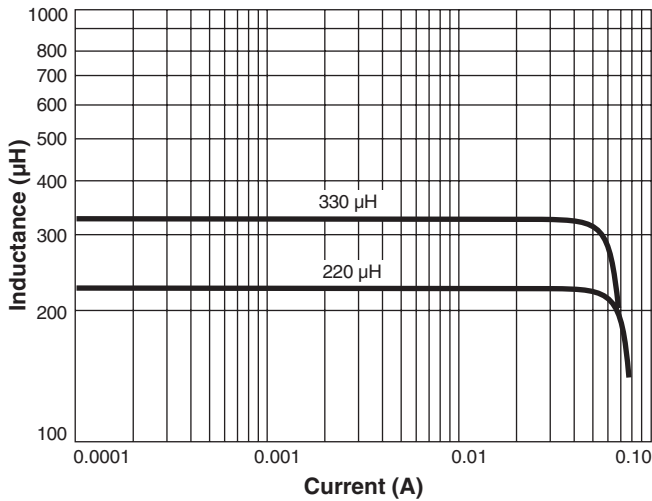
7. Electrical specifications at  $25^{\circ}\text{C}$ .

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

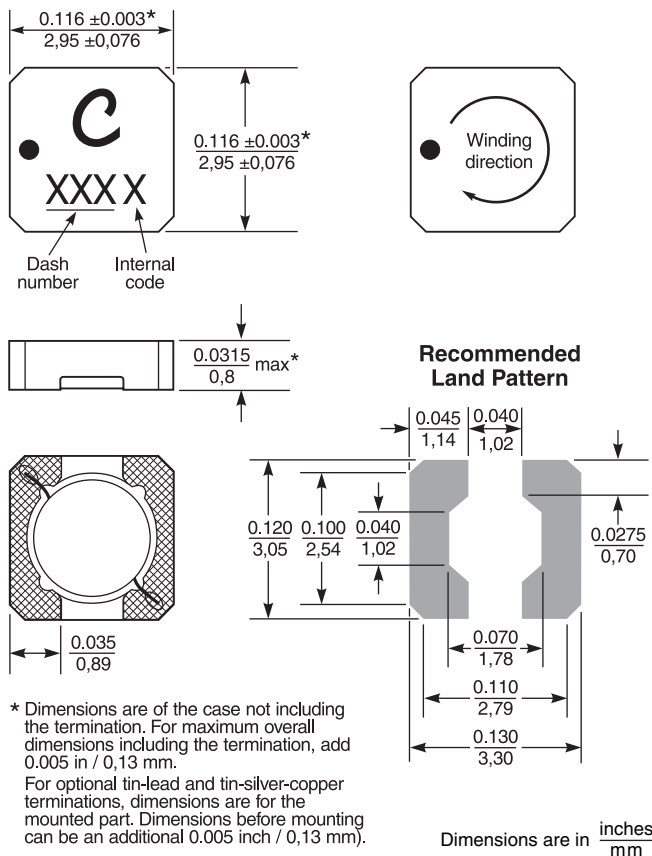
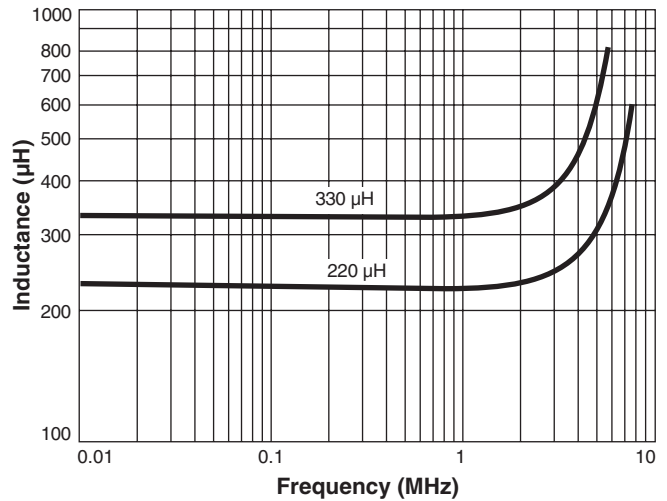


# Shielded Power Inductors – LPZ3008

## 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



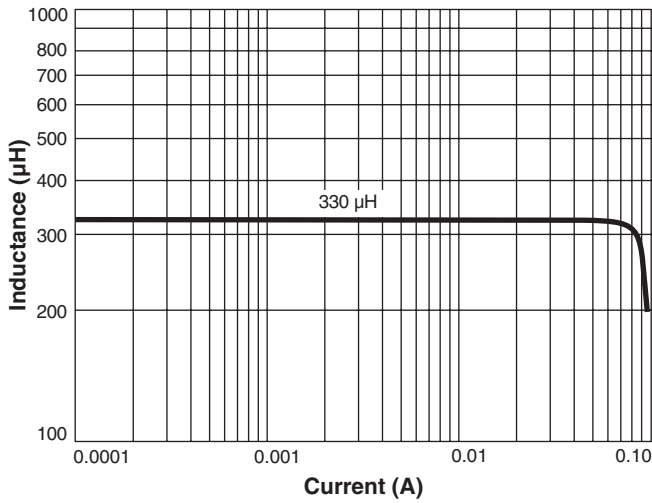
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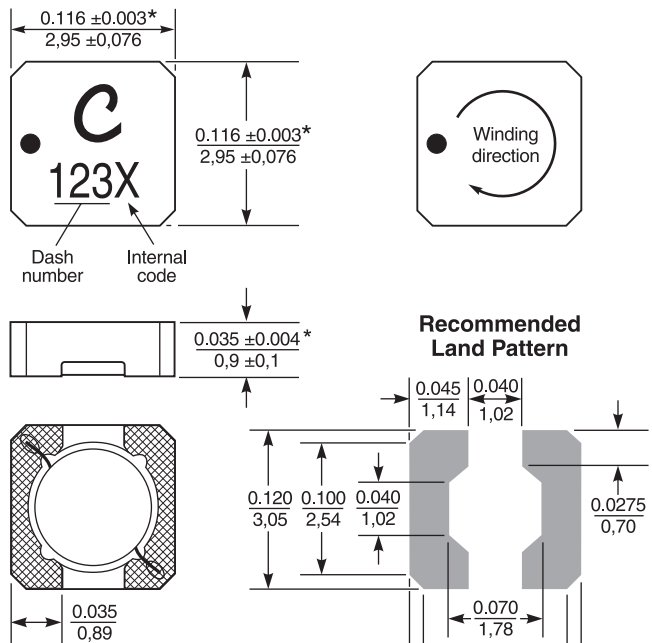
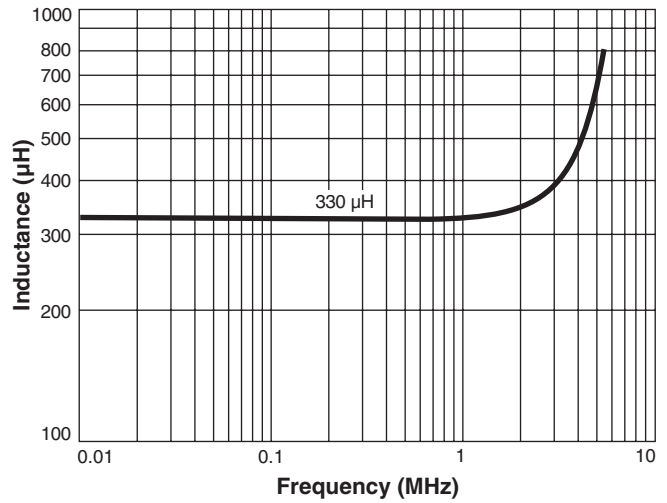


# Shielded Power Inductors – LPZ3010

## L vs Current



## 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** 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



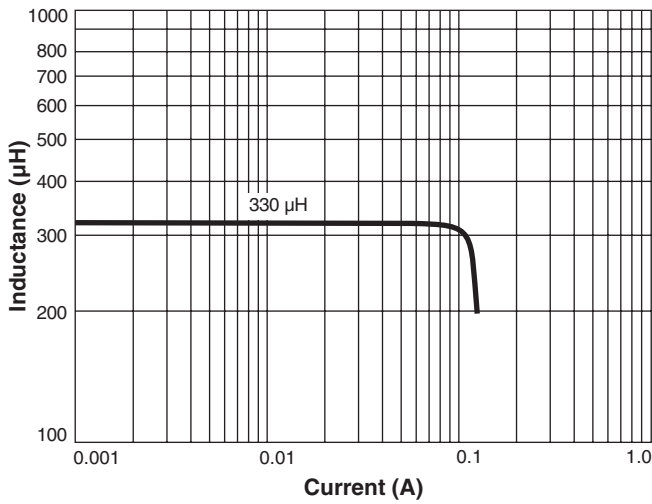
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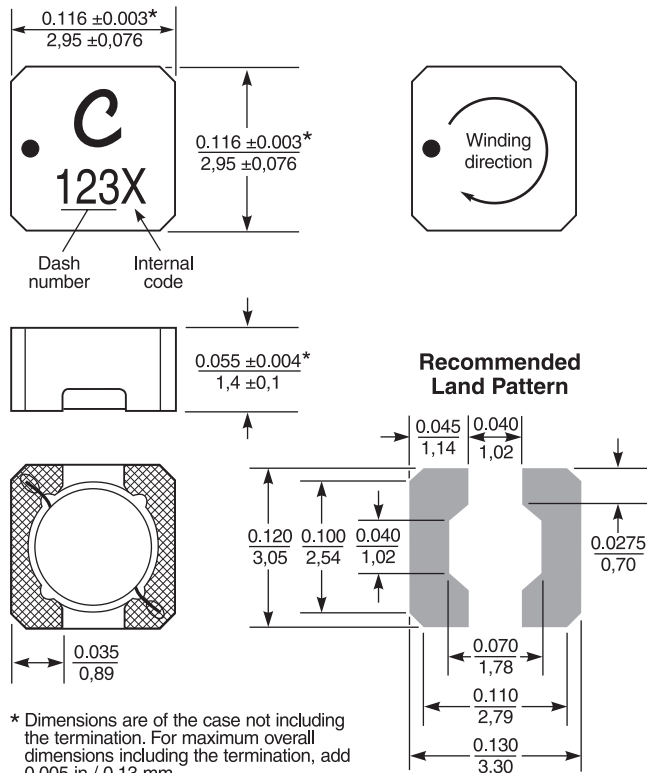
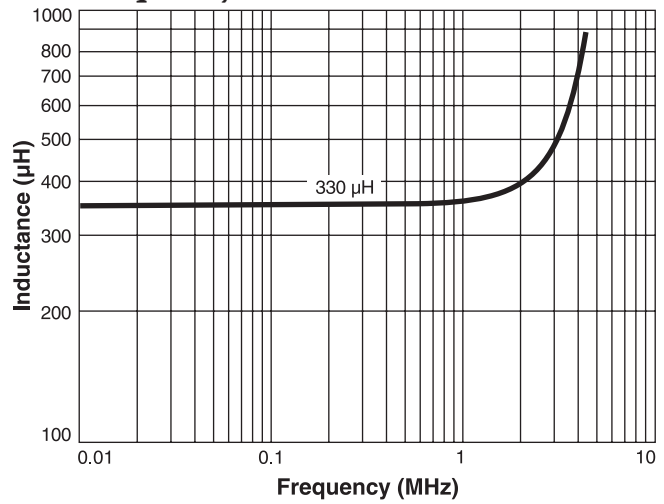


# Shielded Power Inductor – LPZ3015

## L vs Current



## 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** 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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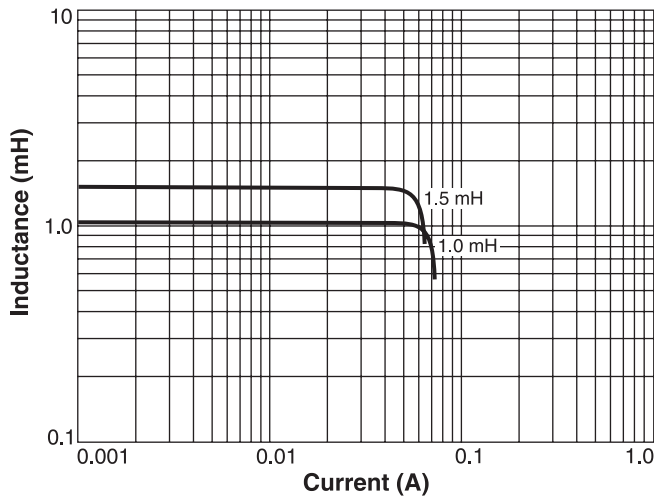
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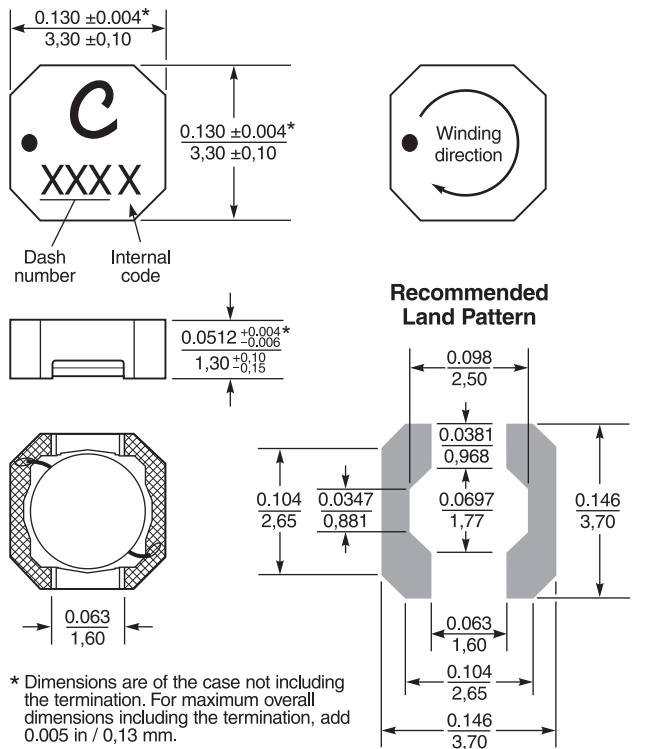
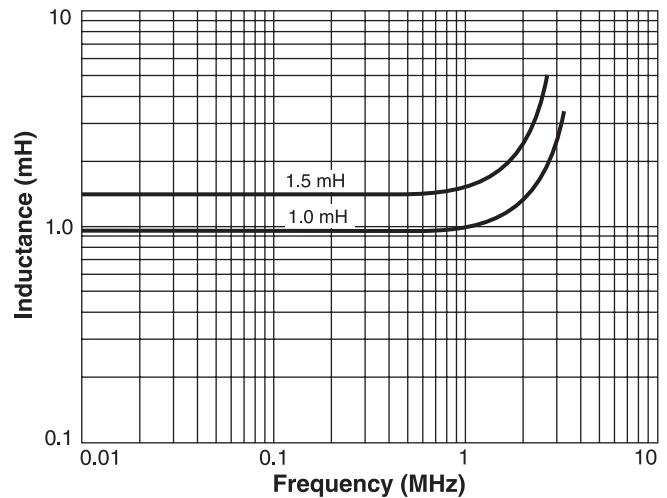


# Shielded Power Inductors – LPZ3314

## Typical L vs Current



## Typical L vs Frequency



\* 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** 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



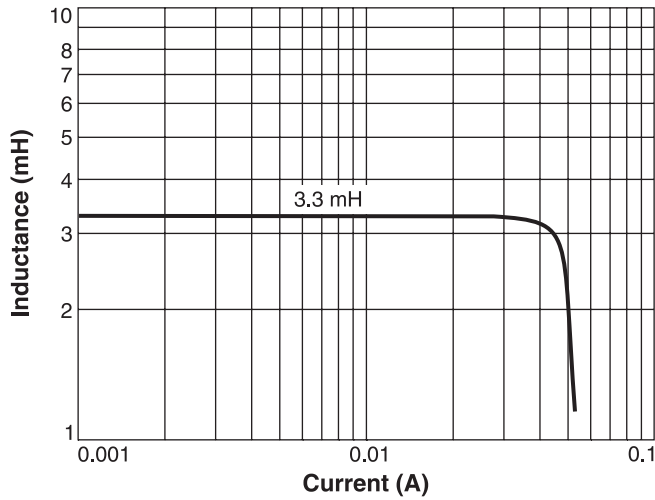
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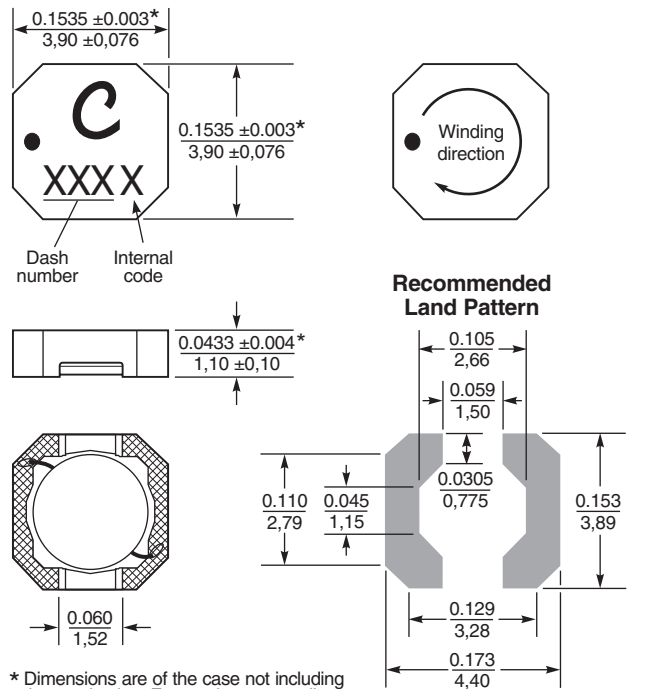
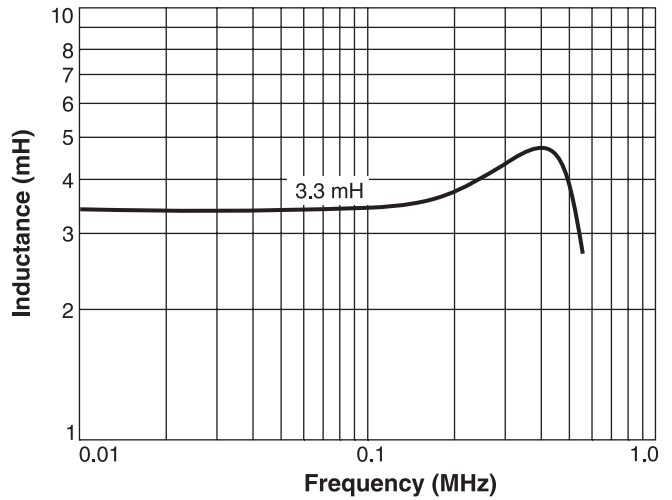


# Shielded Power Inductors – LPZ4012

## 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** 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



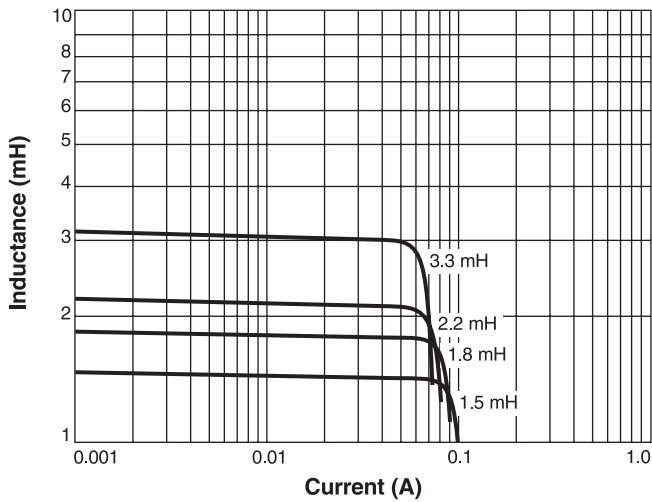
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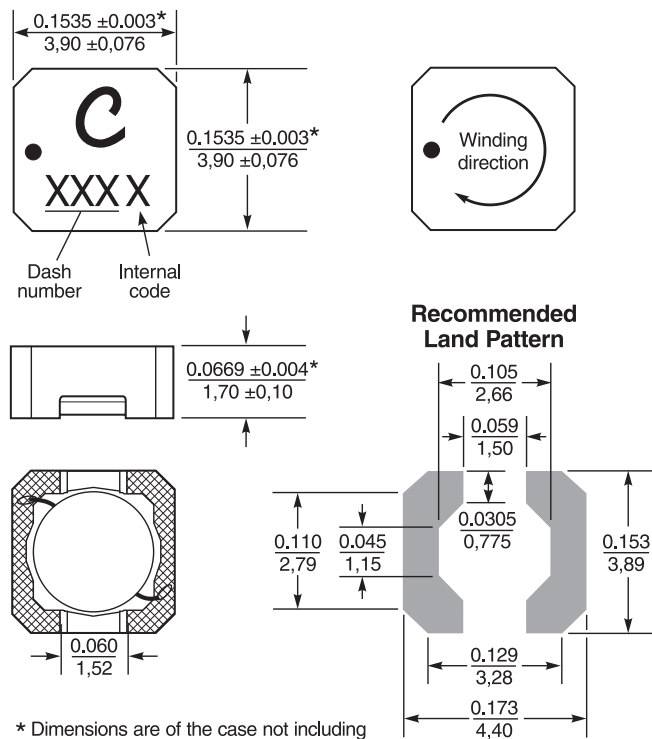
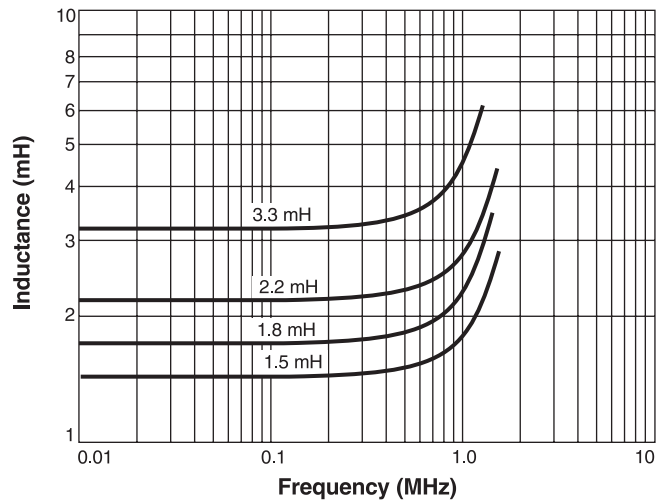


# Shielded Power Inductors – LPZ4018

## 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 inches / 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: ≤ 2 mm



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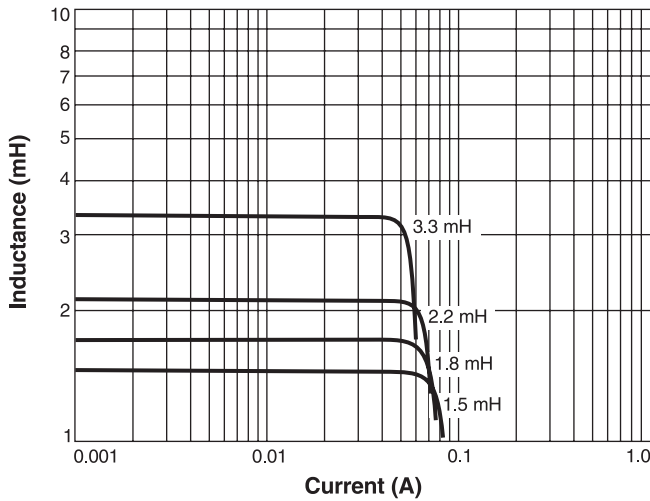
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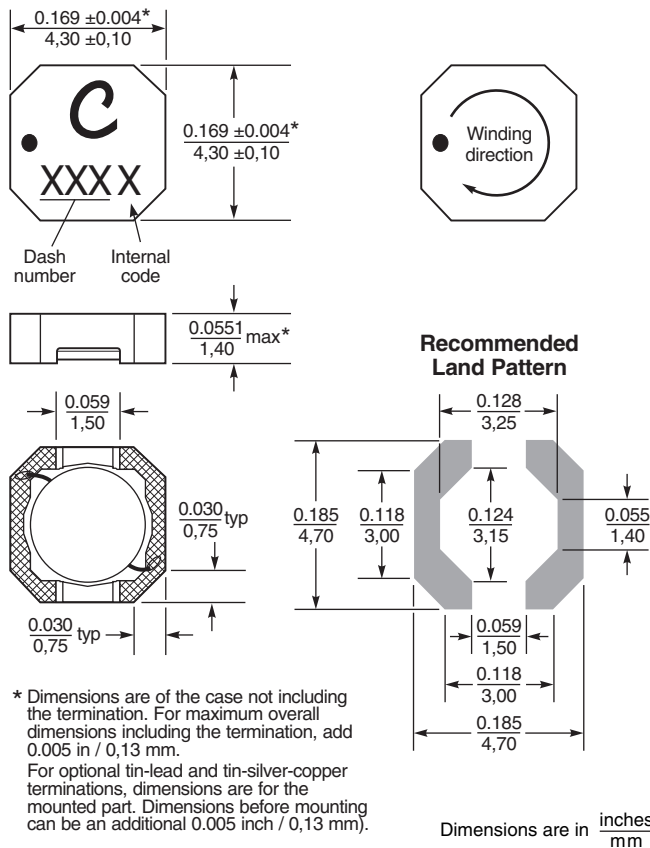
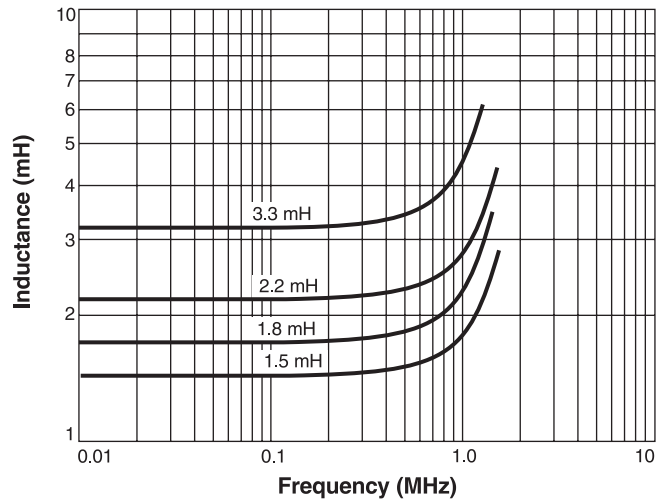


# Shielded Power Inductors – LPZ4414

## Typical L vs Current



## Typical L vs Frequency



**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: ≤2 mm



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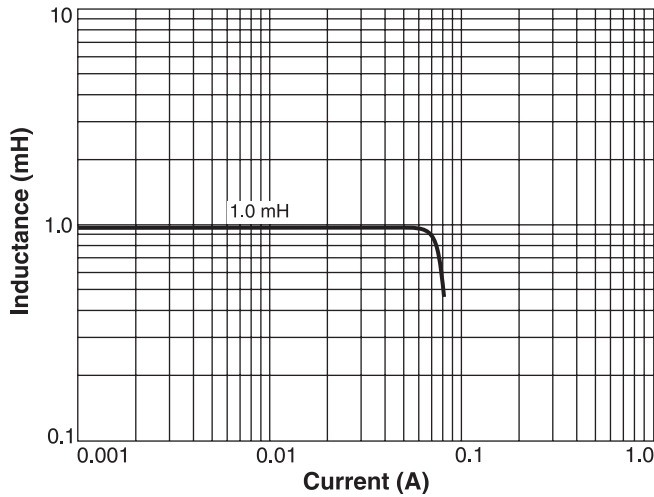
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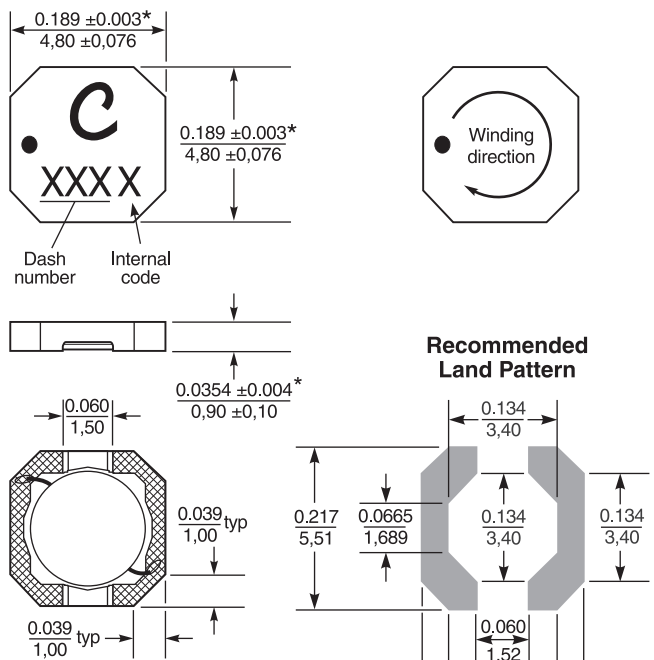
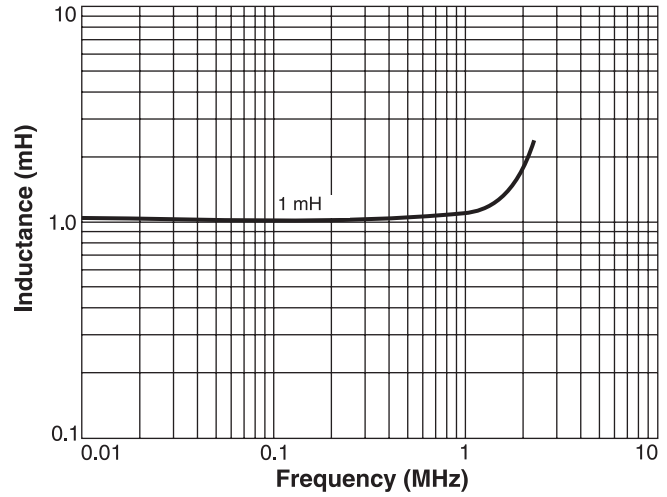


# Shielded Power Inductor – LPZ5010

## 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** 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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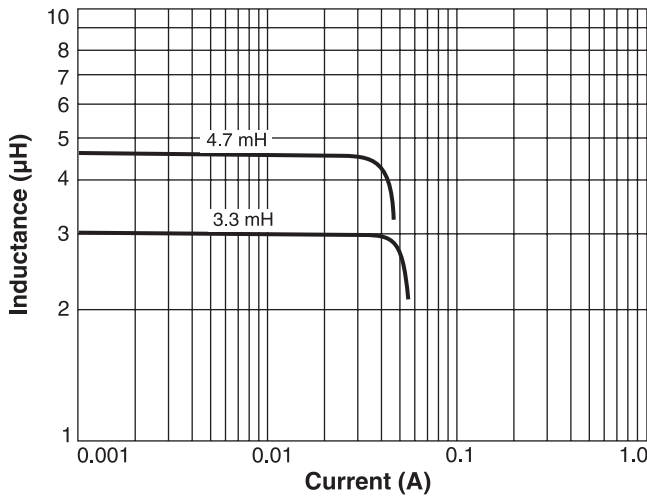
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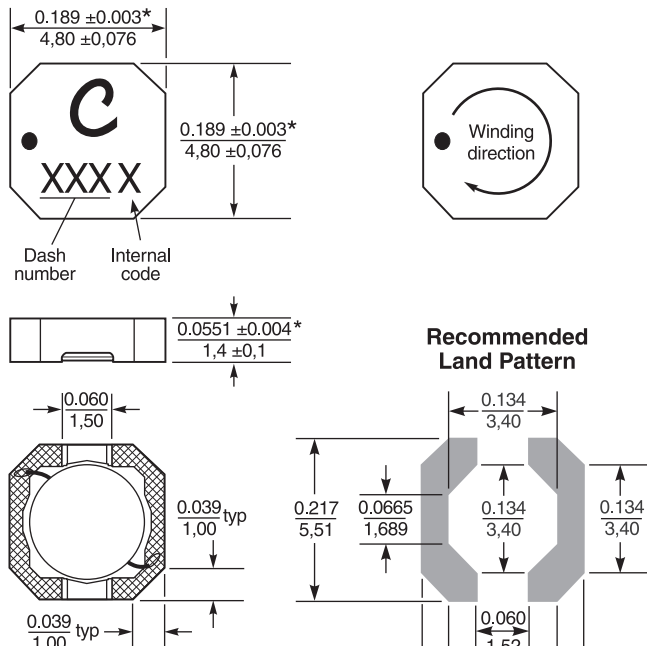
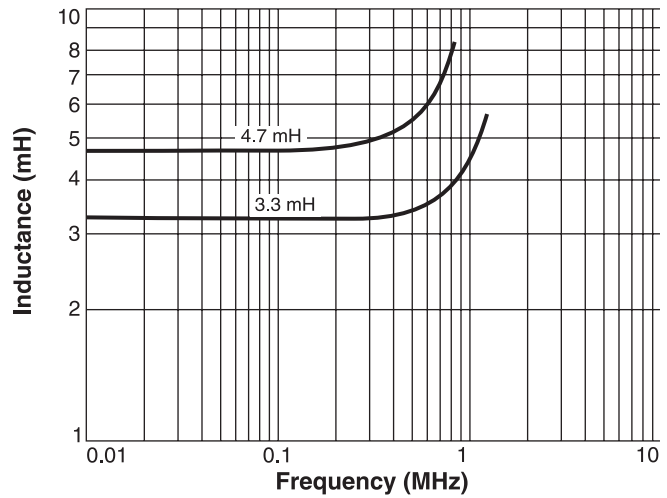


# Shielded Power Inductors – LPZ5015

## Typical L vs Current



## Typical L vs Frequency



\* 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** 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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