### Shielded Power Inductors

*High Inductance values (220 – 4700 µH) 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°C to +85°C)*

#### Core material
Ferrite

#### Environmental
RoHS compliant, halogen free

#### Terminations
RoHS compliant matte tin over nickel over silver.

#### Ambient temperature
−40°C to +85°C with Irms current

#### Maximum part temperature
+125°C (ambient + temp rise)

#### Storage temperature
Component: −40°C to +85°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

#### PCB washing
Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

### Specifications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance ±20% (µH)</th>
<th>DCR max (Ohms)</th>
<th>SRF typ (MHz)</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
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<td></td>
<td></td>
<td></td>
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<td>10% drop</td>
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<tr>
<td>LPZ3008-224MR_</td>
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<td>0.064</td>
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<td>0.099</td>
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</table>

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°C ambient.  
7. Electrical specifications at 25°C.  
   Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Shielded Power Inductors – LPZ3008

L vs Current

L vs Frequency

Dimensions are in inches

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

* 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.

Recommended Land Pattern

Dimensions are in inches

Dash number Internal code

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Specification subject to change without notice.
Please check web site for latest information.
Shielded Power Inductors – LPZ3010

L vs Current

0.001 0.01 0.1
Current (A)

100 200 300 400 500 600 700 800 900 1000
Inductance (µH)

L vs Frequency

0.01 0.1 1 10
Frequency (MHz)

100 200 300 400 500 600 700 800 900 1000
Inductance (µH)

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).

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
Shielded Power Inductor – LPZ3015

L vs Current

L vs Frequency

0.001 0.01 0.1 1.0
0.116 ±0.003*
2.95 ±0.076

Dimensions are in 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.

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
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 inches

Dimensions are in 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
Shielded Power Inductors – LPZ4012

**Typical L vs Current**

![Graph showing typical L vs Current](image)

**Typical L vs Frequency**

![Graph showing typical L vs Frequency](image)

**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).

**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.

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
Shielded Power Inductors – LPZ4414

Typical L vs Current

Typical L vs Frequency

Dimensions are in inches (mm).

Dash number
Internal code

Recommended Land Pattern

* 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).

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
Shielded Power Inductor – LPZ5010

Typical L vs Current

![Typical L vs Current Graph]

Typical L vs Frequency

![Typical L vs Frequency Graph]

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

*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.
Shielded Power Inductors – LPZ5015

Typical L vs Current

<table>
<thead>
<tr>
<th>Inductance (μH)</th>
<th>Current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0.001</td>
</tr>
<tr>
<td>8</td>
<td>0.01</td>
</tr>
<tr>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td>4</td>
<td>1.0</td>
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</tbody>
</table>

Typical L vs Frequency

<table>
<thead>
<tr>
<th>Inductance (mH)</th>
<th>Frequency (MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7</td>
<td>0.01</td>
</tr>
<tr>
<td>3.3</td>
<td>0.1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

Dimensions are in inches

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