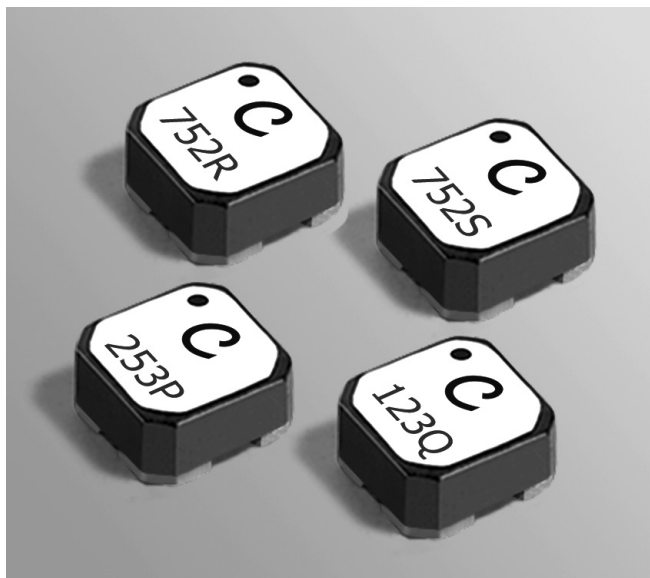




# Coupled Inductors – LPR6235

## For Step-Up, Resonant & Flyback Applications



- Can be used as step-up or flyback transformers in DC-DC converters or as autotransformers
- Perfect for low voltage step-up in energy harvesting applications
- Selected by Linear Technology for the LTC3108 and LTC3109 Ultralow Voltage Step-Up Converter and Power Managers

These shielded parts are only 3.5 mm high and 6 mm square. The excellent coupling coefficient ( $k = 0.95$ ) makes them ideal for use in a variety of applications. They can be used as flyback transformers and step-up pulse transformers.

The high  $I_{sat}$  and low DCR ratings of these parts provide high efficiency and excellent current handling in a rugged, low cost design.

Custom inductance values and turn ratios may be available upon request.

| Part number <sup>1</sup> | Turns ratio | Primary (L1) inductance <sup>2</sup><br>$\pm 20\%$ ( $\mu\text{H}$ ) | DCR max (Ohms) |      | SRF typ <sup>3</sup> (kHz) | $I_{sat}$ <sup>4</sup> (A) |
|--------------------------|-------------|--|----------------|------|----------------------------|----------------------------|
|                          |             |  | L1             | L2   |                            |                            |
| LPR6235-253LML_          | 1 : 10      | 25   | 0.74           | 13.7 | 1300                       | 1.3                        |
| LPR6235-253PML_          | 1 : 20      | 25   | 0.20           | 72   | 580                        | 0.7                        |
| LPR6235-123QML_          | 1 : 50      | 12.5   | 0.085          | 200  | 360                        | 0.9                        |
| LPR6235-752RML_          | 1 : 90      | 7.5  | 0.085          | 285  | 257                        | 1.6                        |
| LPR6235-752SML_          | 1 : 100     | 7.5  | 0.085          | 316  | 230                        | 1.6                        |

1. When ordering, please specify **packaging** code:

**LPR6235-253PMLC**

**Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (350 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 D instead.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1500 parts per full reel).

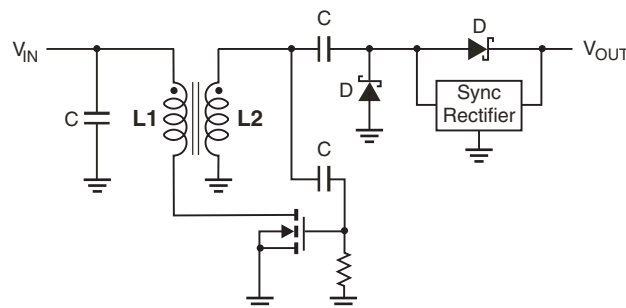
2. Inductance is measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.

3. SRF measured using an Agilent/HP 4191A or equivalent.

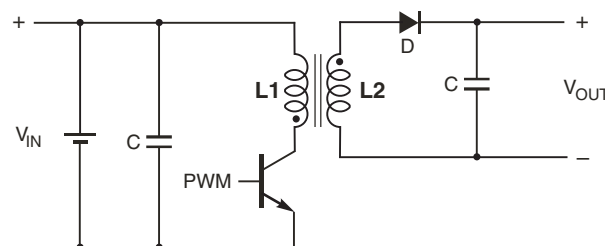
4. DC current applied to L1, at which the inductance drops 10% from its value without current.

5. Electrical specifications at 25°C.

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



**Typical Step-Up Converter**



**Typical Flyback Converter**



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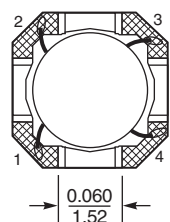
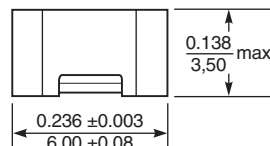
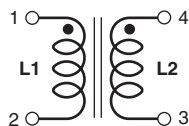
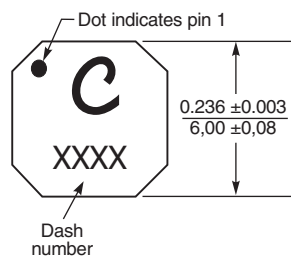
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

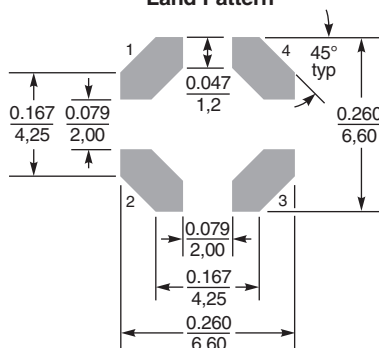


# Step-Up/Flyback Transformers – LPR6235



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

## Recommended Land Pattern



**Core material** Ferrite

**Weight** 460 – 480 mg

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**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

**Winding to winding isolation** 300 Vrms

**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)

**Mean Time Between Failures (MTBF)** 26,315,789 hours

**Failures in Time (FIT)** 38 per one billion hours

**Packaging** 350/7" reel; 1500/13" reel Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 3.68 mm pocket depth

**Recommended pick and place nozzle** OD: 6.2 mm; ID: ≤ 3.1 mm

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

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