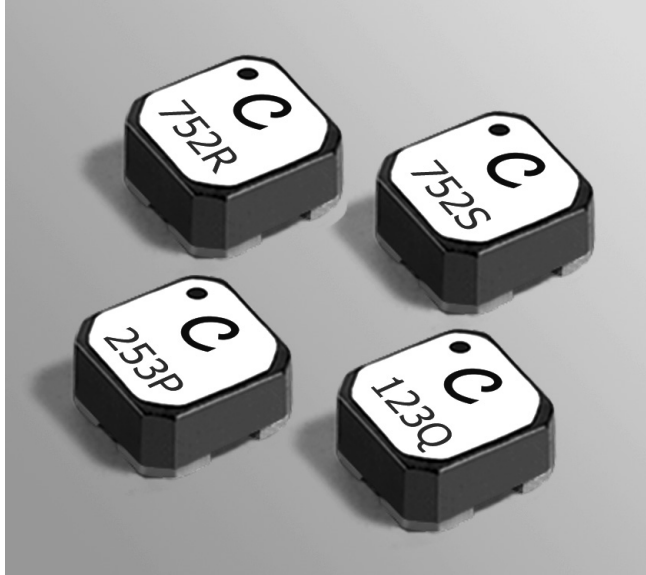




Coupled Inductors - LPR6235

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 ¹ | Turns ratio | Primary (L1) inductance ² $\pm 20\%$ (μH) | DCR max (Ohms) | | SRF typ ³ (kHz) | I_{sat} ⁴ (A) |
|--------------------------|-------------|--|----------------|------|----------------------------|----------------------------|
| | | | L1 | L2 | | |
| LPR6235-253LMR_ | 1 : 10 | 25 | 0.74 | 13.7 | 1300 | 1.3 |
| LPR6235-253PMR_ | 1 : 20 | 25 | 0.20 | 72 | 580 | 0.7 |
| LPR6235-123QMR_ | 1 : 50 | 12.5 | 0.085 | 200 | 360 | 0.9 |
| LPR6235-752RMR_ | 1 : 90 | 7.5 | 0.085 | 285 | 257 | 1.6 |
| LPR6235-752SMR_ | 1 : 100 | 7.5 | 0.085 | 340 | 230 | 1.6 |

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

LPR6235-253PMRC

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).

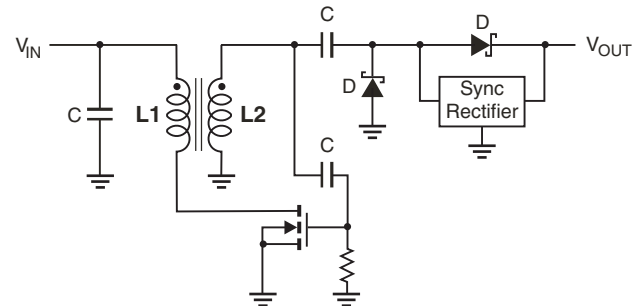
2. Inductance is measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.

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

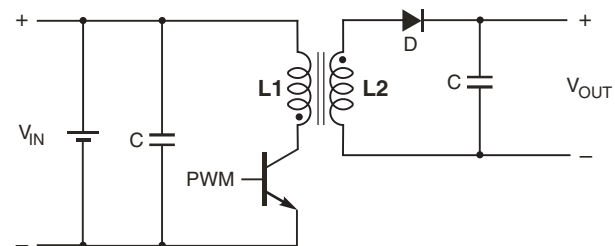
4. DC current applied to L1, at which the inductance drops 10% from its value without current.

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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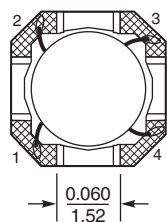
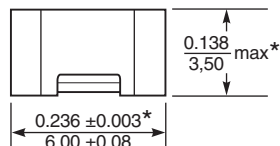
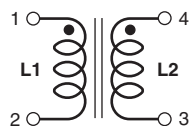
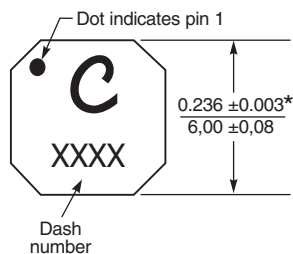
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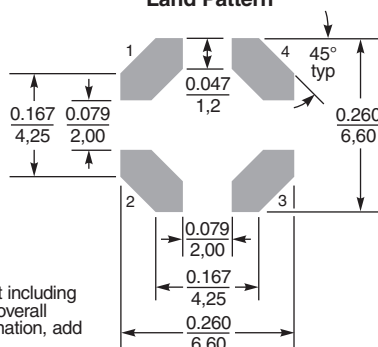
Step-Up/Flyback Transformers – LPR6235



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

Core material Ferrite

Weight 460 – 480 mg

Environmental RoHS compliant, halogen free

Terminations RoHS compliant matte tin over nickel over silver. Other terminations available at additional cost.

Ambient temperature –40°C to +85°C

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 to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).



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