

**NEW!**

Coupled Inductors-LPR4012

For DC-DC converters
and other applications



The LPR4012 miniature shielded coupled inductors are only 1,1 mm high and 4 mm square. The excellent coupling coefficient ($k = 0.95$) makes them ideal for use as flyback transformers in DC-DC converters or as coupled inductors in buck regulators to provide multiple outputs. The wide selection of turns ratios makes them suitable for a variety of voltage step-up and step-down applications. They can also be used in autotransformer applications.

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

Custom inductance values and turn ratios are available upon request.

Part number ¹	Primary (L1) inductance ² $\pm 20\%$ (μH)	Turns ratio	DCR max (Ohms)		SRF typ ³ (MHz)	Isat (A) ⁴			Irms (A) ⁵	
			L1	L2		10% drop	20% drop	30% drop	20°C rise	40°C rise
LPR4012-202AML_	2.0	1:1.5	0.240	0.255	61.5	1.71	1.73	1.74	1.10	1.45
LPR4012-202BML_	2.0	1:2	0.240	0.400	49.4	1.71	1.73	1.74	1.10	1.45
LPR4012-202DML_	2.0	1:3	0.240	1.15	31.0	1.71	1.73	1.74	1.10	1.45
LPR4012-202LML_	2.0	1:10	0.240	9.64	7.43	1.71	1.73	1.74	1.10	1.45
LPR4012-103BML_	10.0	1:2	0.600	1.55	19.5	0.62	0.64	0.65	0.52	0.70
LPR4012-103DML_	10.0	1:3	0.600	3.71	12.8	0.62	0.64	0.65	0.52	0.70
LPR4012-223BML_	22.0	1:2	1.16	3.65	11.2	0.43	0.45	0.46	0.43	0.57
LPR4012-223DML_	22.0	1:3	1.16	7.08	8.00	0.43	0.45	0.46	0.43	0.57

1. Please specify **termination** and **packaging** codes:

LPR4012-223XMLC

Termination: L = RoHS compliant Silver-palladium-platinum-glass frit.
Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or
S = non-RoHS tin-lead (63/37).

Packaging: C = 7" machine-ready reel. EIA-481 embossed plastic tape (1000 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 (3500 parts per full reel).

- Inductance is measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.
 - SRF measured using an Agilent/HP 4191A or equivalent. When leads are connected in parallel, SRF is the same value.
 - DC current applied to L1, at which the inductance drops the specified amount from its value without current.
 - Current applied to L1 that causes the specified temperature rise from 25°C ambient.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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Specifications subject to change without notice.
Please check our website for latest information.

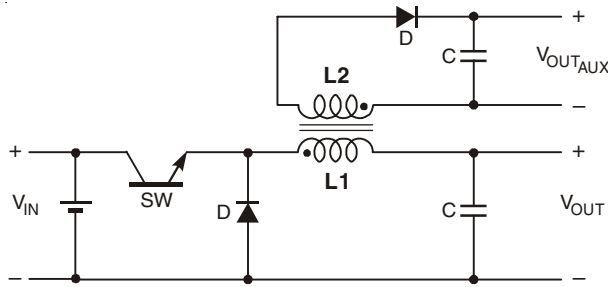
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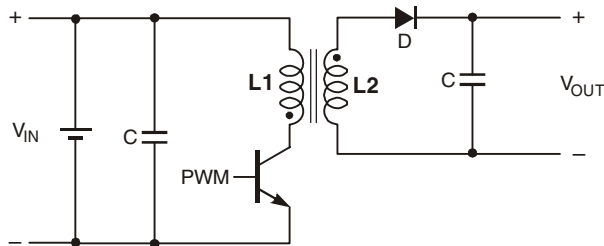
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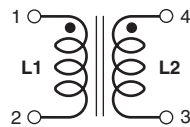
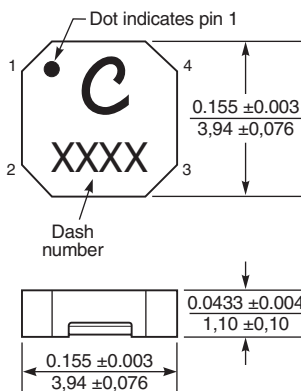
NEW! Coupled Inductors - LPR4012 Series



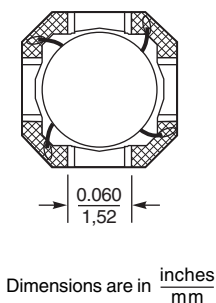
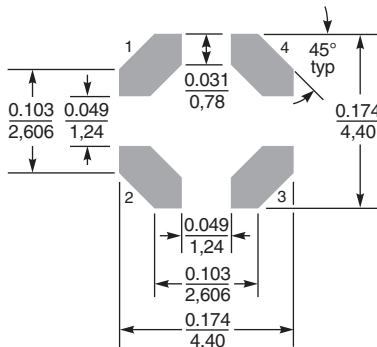
Typical Buck Converter with auxiliary output



Typical Flyback Converter



Recommended Land Pattern



Dimensions are in inches
mm

Core material Ferrite

Weight 54 – 64 mg

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

Ambient temperature -40°C to +85°C with I_{rms} current, +85°C to +125°C with derated current

Storage temperature Component: -40°C to +125°C. Packaging: -40°C to +80°C

Winding to winding isolation 100 V

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

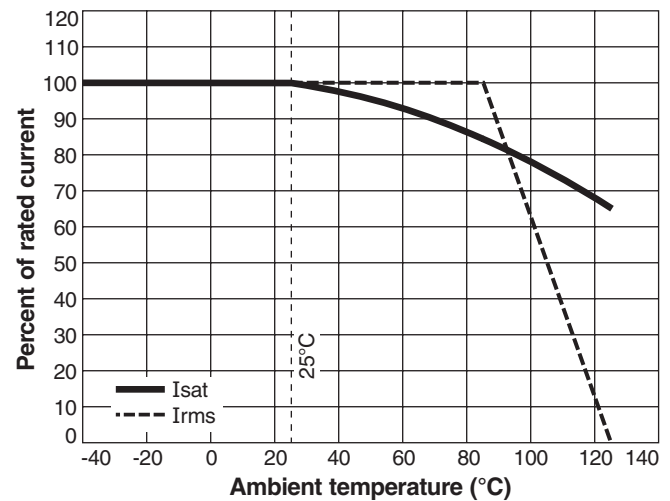
Failures in Time (FIT) 38 per one billion hours

Packaging 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

PCB washing Only pure water or alcohol recommended

Current Derating



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