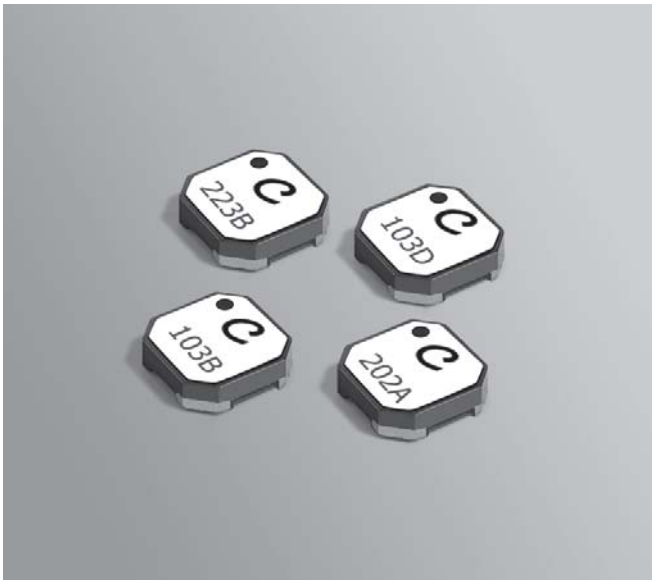
NEW!

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 Isat 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] ± 20% (µH)	Turns ratio	DCR max (Ohms) L1	DCR max (Ohms) L2	SRF typ[3] (MHz)	Isat (A)[4] 10% drop	Isat (A)[4] 20% drop	Isat (A)[4] 30% drop	Irms (A)[5] 20°C rise	Irms (A)[5] 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:

LPR4012-223XML C

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).

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. When leads are connected in parallel, SRF is the same value.
4. DC current applied to L1, at which the inductance drops the specified amount from its value without current.
5. 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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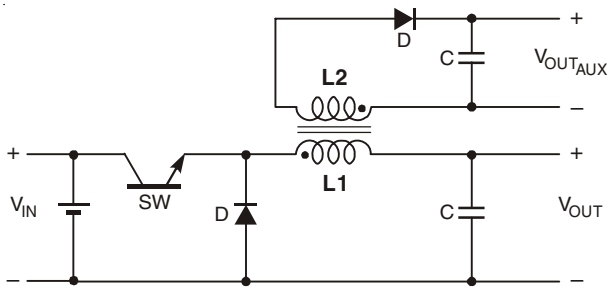
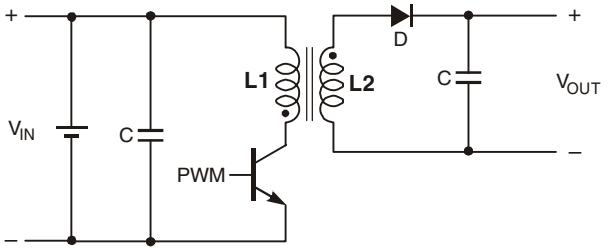
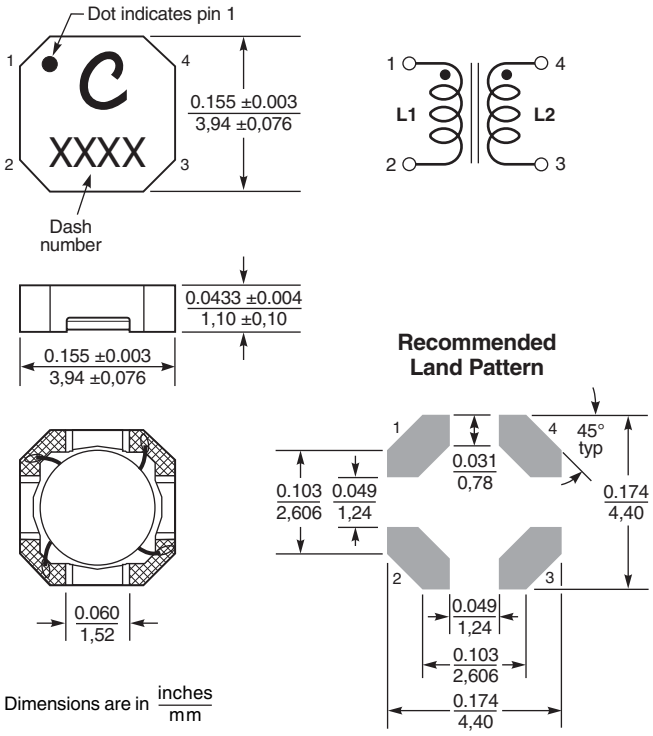
Coupled Inductors – LPR4012 Series



Typical Buck Converter with auxiliary output



Typical Flyback Converter



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 Irms 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

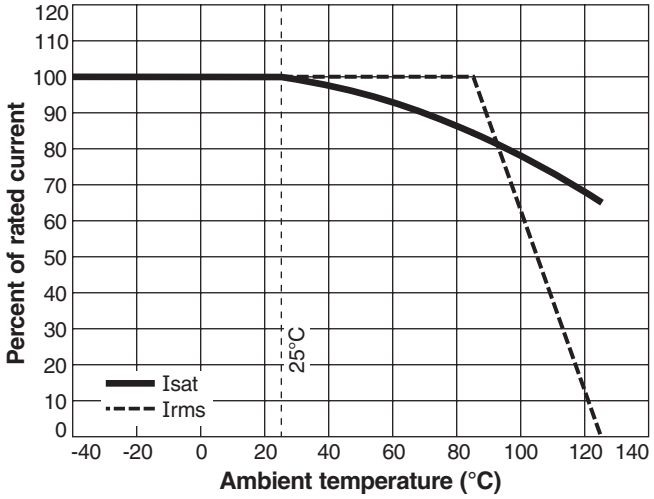
Failures in Time (FIT) 38 per one billion hours

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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