Shielded Coupled Inductors LPD4012

- Only 1.1 mm high and 4 mm square
- Ideal for use in flyback, multi-output buck and SEPIC applications.
- High inductance, high efficiency and excellent current handling
- Can also be used as two single inductors connected in series or parallel or as a common mode choke.
- AEC-Q200 Grade 1 (−40°C to +125°C)

Typical Flyback Converter

Typical Buck Converter with auxiliary output

Typical SEPIC schematic

Core material Ferrite
Core and winding loss Go to online calculator
Weight 54 – 64 mg
Environmental RoHS compliant, halogen free
Terminations RoHS compliant matte tin over nickel over silver. Other terminations available at additional cost.
Maximum ambient temperature −40°C to +125°C with (40°C rise) Irms current.
Maximum part temperature +165°C (ambient + temp rise).
Storage temperature Component: −40°C to +165°C.
Tape and reel packaging: −40°C to +80°C
Winding to winding isolation 100 Vrms, one minute
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)
Packaging 1000/7” reel; 3500/13” reel Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 1.45 mm pocket depth
Recommended pick and place nozzle OD: 4 mm; ID: ±2 mm
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.
Coupled Inductors for SEPIC Applications – LPD4012 Series

1. Please specify termination and packaging codes:

LPD4012-334MR
Termination: R = RoHS compliant, matte tin over nickel over silver.
Special order: 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 (1000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.
D = 13" machine-ready reel. EIA-481 embossed plastic tape, Factory order only, not stocked (3500 parts per full reel).

2. Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 ADC on an Agilent/HP 4284A LCR meter or equivalent. When leads are connected in parallel, inductance is the same value. When leads are connected in series, inductance is four times the value.

3. DC current at 25°C that causes the specified inductance drop from its value without current. It is the sum of the current flowing in both windings.

4. Equal current when applied to each winding simultaneously that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

5. Leakage Inductance for L1 and is measured with L2 shorted.

6. DC current at 25°C that causes the specified inductance drop from its value without current. It is the sum of the current flowing in both windings.

7. Maximum current when applied to one winding that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

8. Coupled Inductor Core and Winding Loss Calculator
This web-based utility allows you to enter frequency, peak-to-peak (ripple) current, and Irms current to predict temperature rise and overall losses, including core loss. Go to online calculator.

Refer to Doc 639 “Selecting Coupled Inductors for SEPIC Applications.” Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
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Typical L vs Current

![Typical L vs Current Graph](image)

Typical L vs Frequency

![Typical L vs Frequency Graph](image)