

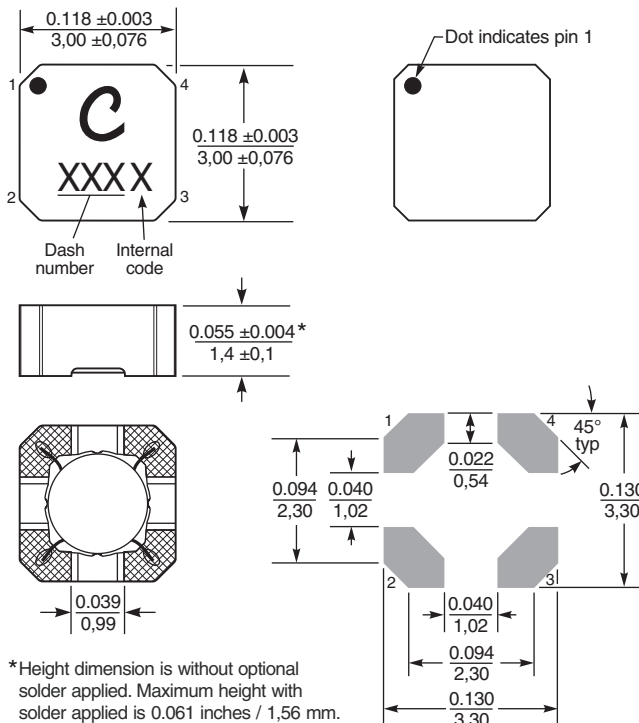


Coupled Inductors – LPD3015

For SEPIC and other Applications



- Only 1.4 mm high and 3 mm square
- Ideal for use in flyback, multi-output buck, SEPIC and Zeta 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.



Dimensions are in inches / mm



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Coupled Inductors for SEPIC - LPD3015 Series

| Part number ¹ | Inductance ² ±20% (µH) | DCR max ³ (Ohms) | SRF typ ⁴ (MHz) | Coupling coefficient typ | Leakage L typ ⁵ (µH) | Isat (A) ⁶ | | | Irms (A) | |
|--------------------------|--------------------------------------|--------------------------------|-------------------------------|--------------------------------|---------------------------------------|-----------------------|-------------|-------------|-------------------------------|-----------------------------|
| | | | | | | 10% drop | 20% drop | 30% drop | both windings ⁷ | one winding ⁸ |
| LPD3015-391MR_ | 0.39 | 0.071 | 289 | 0.89 | 0.08 | 3.2 | 3.3 | 3.4 | 1.45 | 2.05 |
| LPD3015-561MR_ | 0.56 | 0.079 | 235 | 0.93 | 0.08 | 2.7 | 2.8 | 2.8 | 1.37 | 1.94 |
| LPD3015-102MR_ | 1.0 | 0.129 | 160 | 0.95 | 0.09 | 2.0 | 2.1 | 2.2 | 1.08 | 1.52 |
| LPD3015-152MR_ | 1.5 | 0.204 | 140 | 0.96 | 0.11 | 1.6 | 1.7 | 1.8 | 0.86 | 1.20 |
| LPD3015-182MR_ | 1.8 | 0.273 | 135 | 0.96 | 0.13 | 1.5 | 1.6 | 1.6 | 0.78 | 1.10 |
| LPD3015-222MR_ | 2.2 | 0.300 | 110 | 0.97 | 0.14 | 1.5 | 1.6 | 1.6 | 0.75 | 1.05 |
| LPD3015-332MR_ | 3.3 | 0.337 | 90 | 0.98 | 0.16 | 1.0 | 1.1 | 1.2 | 0.67 | 0.94 |
| LPD3015-472MR_ | 4.7 | 0.503 | 79 | 0.98 | 0.18 | 0.86 | 0.87 | 0.88 | 0.54 | 0.76 |
| LPD3015-682MR_ | 6.8 | 0.622 | 58 | 0.98 | 0.22 | 0.77 | 0.78 | 0.79 | 0.49 | 0.69 |
| LPD3015-103MR_ | 10 | 1.040 | 48 | 0.99 | 0.28 | 0.58 | 0.59 | 0.60 | 0.38 | 0.53 |
| LPD3015-153MR_ | 15 | 1.420 | 35 | 0.99 | 0.37 | 0.49 | 0.50 | 0.51 | 0.32 | 0.46 |
| LPD3015-183MR_ | 18 | 1.550 | 33 | 0.99 | 0.42 | 0.46 | 0.47 | 0.48 | 0.31 | 0.44 |
| LPD3015-223MR_ | 22 | 1.89 | 30 | 0.99 | 0.48 | 0.42 | 0.43 | 0.44 | 0.28 | 0.40 |
| LPD3015-333MR_ | 33 | 2.84 | 23 | 0.99 | 0.63 | 0.34 | 0.35 | 0.36 | 0.23 | 0.32 |
| LPD3015-473MR_ | 47 | 4.03 | 17 | 0.99 | 0.81 | 0.28 | 0.29 | 0.30 | 0.19 | 0.27 |
| LPD3015-683MR_ | 68 | 6.11 | 14 | 0.99 | 1.13 | 0.24 | 0.25 | 0.26 | 0.16 | 0.22 |
| LPD3015-104MR_ | 100 | 8.54 | 11 | 0.99 | 1.50 | 0.20 | 0.21 | 0.22 | 0.13 | 0.19 |
| LPD3015-124MR_ | 120 | 9.23 | 9.0 | 0.99 | 1.76 | 0.19 | 0.20 | 0.20 | 0.13 | 0.18 |
| LPD3015-154MR_ | 150 | 12.40 | 8.0 | 0.99 | 2.22 | 0.16 | 0.17 | 0.18 | 0.11 | 0.16 |
| LPD3015-184MR_ | 180 | 15.32 | 7.5 | 0.99 | 2.79 | 0.15 | 0.16 | 0.17 | 0.10 | 0.14 |
| LPD3015-224MR_ | 220 | 18.56 | 6.0 | 0.99 | 3.56 | 0.13 | 0.14 | 0.15 | 0.09 | 0.13 |
| LPD3015-334MR_ | 330 | 27.70 | 5.0 | 0.99 | 5.18 | 0.11 | 0.12 | 0.12 | 0.07 | 0.10 |

1. When ordering, please specify **termination** and **packaging** codes:

LPD3015-334MRC

Termination: **R** = Matte tin over nickel over silver
Special order, added cost: **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).

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 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.
- DCR is for each winding. When leads are connected in parallel, DCR is half the value. When leads are connected in series, DCR is twice the value.
- SRF measured using an Agilent/HP 4191A or equivalent. When leads are connected in parallel, SRF is the same value.
- Leakage Inductance is for L1 and is measured with L2 shorted
- 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.
- 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.
- 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.
- Electrical specifications at 25°C.

Refer to Doc 639 "Selecting Coupled Inductors for SEPIC Applications."

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

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.](#)

Core material Ferrite

Core and winding loss [Go to online calculator](#)

Weight 45 – 52 mg

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

Ambient temperature -40°C to +85°C with (40°C rise) Irms current.

Maximum part temperature +125°C (ambient + temp rise).

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

Tape and reel packaging: -40°C to +80°C

Winding to winding isolation 100 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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

Packaging 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide,

0.26 mm thick, 8 mm pocket spacing, 1.65 mm pocket depth

Recommended pick and place nozzle OD: 3 mm; ID: ≤ 1.5 mm

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



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Coupled Inductors for SEPIC - LPD3015 Series

Typical L vs Current



Typical L vs Frequency



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

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- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

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«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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