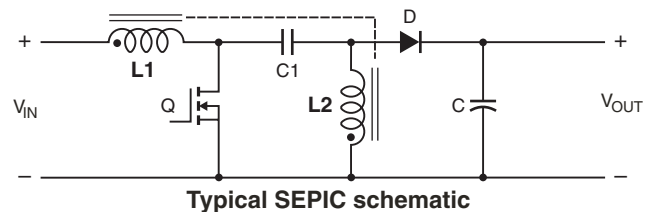
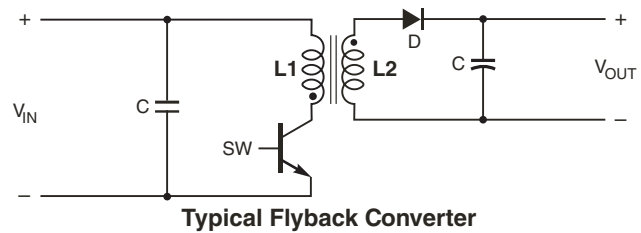




Coupled Inductors - MSD7342 For Flyback, SEPIC and other Applications



- Tight coupling ($k \geq 0.97$) and 200V isolation make the MSD7342 series of coupled inductors ideal for use in a variety of circuits including flyback, multi-output buck and SEPIC.
- They provide high inductance, high efficiency and excellent current handling in a rugged, low cost part.
- Can also be used as two single inductors connected in series or parallel, as a common mode choke or as a 1 : 1 transformer.



Core material Ferrite

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

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

Weight 0.76 – 0.87g

Ambient temperature -40°C to $+85^{\circ}\text{C}$ with I_{rms} current, $+85^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ with derated current

Storage temperature Component: -40°C to $+125^{\circ}\text{C}$.
Tape and reel packaging: -40°C to $+80^{\circ}\text{C}$

Winding to winding isolation 200 Vrms

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 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 250/7" reel; 1000/13" reel Plastic tape: 16 mm wide, 0.4 mm thick, 12 mm pocket spacing, 4.9 mm pocket depth

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.



Coupled Inductors – MSD7342 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 |
| MSD7342-252ML_ | 2.5 | 0.033 | 55 | 0.97 | 0.14 | 6.0 | 6.2 | 6.3 | 2.17 | 3.06 |
| MSD7342-332ML_ | 3.3 | 0.037 | 43 | 0.99 | 0.09 | 5.2 | 5.3 | 5.4 | 2.05 | 2.89 |
| MSD7342-472ML_ | 4.7 | 0.051 | 35 | 0.99 | 0.11 | 4.1 | 4.3 | 4.6 | 1.74 | 2.46 |
| MSD7342-562ML_ | 5.6 | 0.063 | 32 | 0.99 | 0.09 | 3.9 | 4.1 | 4.2 | 1.57 | 2.22 |
| MSD7342-682ML_ | 6.8 | 0.070 | 30 | 0.99 | 0.14 | 3.7 | 3.8 | 3.9 | 1.49 | 2.10 |
| MSD7342-822ML_ | 8.2 | 0.075 | 27 | 0.98 | 0.25 | 3.3 | 3.4 | 3.5 | 1.44 | 2.03 |
| MSD7342-103ML_ | 10 | 0.100 | 22 | 0.98 | 0.30 | 2.8 | 2.9 | 3.0 | 1.24 | 1.76 |
| MSD7342-123ML_ | 12 | 0.120 | 20 | 0.98 | 0.36 | 2.5 | 2.6 | 2.7 | 1.14 | 1.61 |
| MSD7342-153ML_ | 15 | 0.130 | 18 | 0.98 | 0.49 | 2.2 | 2.3 | 2.4 | 1.09 | 1.54 |
| MSD7342-183ML_ | 18 | 0.170 | 15 | >0.99 | 0.16 | 2.0 | 2.2 | 2.3 | 0.95 | 1.35 |
| MSD7342-223ML_ | 22 | 0.220 | 13.5 | >0.99 | 0.20 | 1.9 | 2.0 | 2.1 | 0.84 | 1.19 |
| MSD7342-273ML_ | 27 | 0.250 | 12.0 | >0.99 | 0.20 | 1.7 | 1.8 | 1.9 | 0.79 | 1.11 |
| MSD7342-333ML_ | 33 | 0.270 | 11.0 | >0.99 | 0.15 | 1.5 | 1.6 | 1.7 | 0.76 | 1.07 |
| MSD7342-393ML_ | 39 | 0.380 | 10.0 | 0.99 | 0.70 | 1.3 | 1.4 | 1.5 | 0.64 | 0.90 |
| MSD7342-473ML_ | 47 | 0.420 | 9.5 | >0.99 | 0.30 | 1.2 | 1.3 | 1.4 | 0.61 | 0.86 |
| MSD7342-563ML_ | 56 | 0.460 | 8.7 | >0.99 | 0.51 | 1.1 | 1.2 | 1.3 | 0.58 | 0.82 |
| MSD7342-683ML_ | 68 | 0.600 | 7.3 | >0.99 | 0.51 | 1.0 | 1.1 | 1.2 | 0.51 | 0.72 |
| MSD7342-823ML_ | 82 | 0.680 | 6.2 | 0.99 | 1.17 | 0.90 | 1.00 | 1.1 | 0.48 | 0.67 |
| MSD7342-104ML_ | 100 | 0.770 | 5.5 | >0.99 | 0.96 | 0.80 | 0.92 | 0.98 | 0.45 | 0.63 |
| MSD7342-124ML_ | 120 | 1.03 | 4.5 | >0.99 | 0.61 | 0.70 | 0.80 | 0.90 | 0.39 | 0.55 |
| MSD7342-154ML_ | 150 | 1.35 | 4.0 | >0.99 | 0.54 | 0.65 | 0.76 | 0.80 | 0.34 | 0.48 |
| MSD7342-184ML_ | 180 | 1.52 | 3.8 | >0.99 | 0.75 | 0.62 | 0.66 | 0.73 | 0.32 | 0.45 |
| MSD7342-224ML_ | 220 | 1.72 | 3.5 | >0.99 | 1.43 | 0.59 | 0.62 | 0.66 | 0.30 | 0.42 |
| MSD7342-274ML_ | 270 | 2.41 | 3.3 | >0.99 | 1.56 | 0.55 | 0.57 | 0.60 | 0.25 | 0.36 |
| MSD7342-334ML_ | 330 | 2.70 | 3.0 | >0.99 | 1.65 | 0.49 | 0.52 | 0.54 | 0.24 | 0.34 |
| MSD7342-394ML_ | 390 | 3.05 | 2.8 | 0.99 | 4.73 | 0.45 | 0.47 | 0.50 | 0.23 | 0.32 |
| MSD7342-474ML_ | 470 | 4.00 | 2.6 | 0.99 | 5.50 | 0.41 | 0.43 | 0.46 | 0.20 | 0.28 |
| MSD7342-564ML_ | 560 | 4.43 | 2.5 | >0.99 | 4.85 | 0.38 | 0.40 | 0.42 | 0.19 | 0.26 |
| MSD7342-684ML_ | 680 | 5.00 | 2.3 | 0.99 | 7.59 | 0.36 | 0.37 | 0.38 | 0.18 | 0.25 |
| MSD7342-824ML_ | 820 | 6.80 | 2.2 | >0.99 | 8.01 | 0.30 | 0.32 | 0.35 | 0.15 | 0.21 |
| MSD7342-105ML_ | 1000 | 7.80 | 2.0 | >0.99 | 8.69 | 0.27 | 0.29 | 0.31 | 0.14 | 0.20 |

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

MSD7342-105MLC

Termination: L = RoHS compliant matte tin over nickel over phos bronze.
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 (250 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 C instead.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1000 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 which the inductance drops the specified amount 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. See temperature rise calculation.
- Maximum current when applied to one winding that causes a 40°C temperature rise from 25°C ambient. See temperature rise calculation.
- 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](#)



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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.



Coupled Inductors – MSD7342 Series

Typical L vs Current



Typical L vs Frequency



Irms Derating





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

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
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Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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