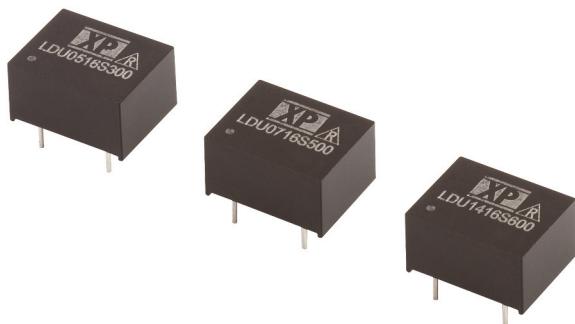


LDU05/07/14 Series



- Constant Current Output
- LED Drive Current up to 1000 mA
- LED Strings from 2 V to 14 V
- PWM & Analog Dimming Control
- High Efficiency – up to 93%
- Open or Short Circuit LED Protection
- 3 Year Warranty

Specification

Input

- Input Voltage • 7-16 VDC
 Input Filter • Capacitor
 Input Surge • 20 VDC for 0.5 s

Output

- Output Voltage • See tables
 (Vin must be at least 2 V greater than Vout)
 Output Current • See tables
 Output Current Trim • 25-100%
 Output Current Accuracy • See tables
 Ripple & Noise • See tables,
 measured with 20 MHz bandwidth
 Short Circuit Protection • Current is limited to the rated output
 Temperature Coefficient • $\pm 0.03/\text{ }^{\circ}\text{C}$ max
 Remote On/Off • On = 0.3-1.25 V or open circuit
 Off = ≤ 0.15 V (applied to control pin)
 Quiescent input current is 25 μA max,
 Remote On/Off Signal Current • 1 mA max

Dimming

- PWM**
- Output Current Range • 25% to 100%
 Operating Frequency • 1 kHz max
 On Time • 200 ns min
 Off Time • 200 ns min
 Amplitude • 1.25 V max
- DC Voltage Control**
- Output Current Range • 25% to 100%
 Control Input • 0.3 to 1.25 V max
- Variable Resistor**
- Output Current Range • 25% to 100%

General

- Efficiency • See tables
 Switching Frequency • LDU05: 60-300 kHz variable
 LDU07: 120-350 kHz variable
 LDU14: 90-400 kHz variable
 MTBF • >3.3 MHrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$,
 GB

Environmental

- Operating Temperature • -40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$ except LDU14
 1000 mA unit: -40 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$,
 Storage Temperature • -40 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$
 Humidity • Up to 95%, non-condensing
 Thermal Impedance • 35 $^{\circ}\text{C/W}$ model dependant

EMC

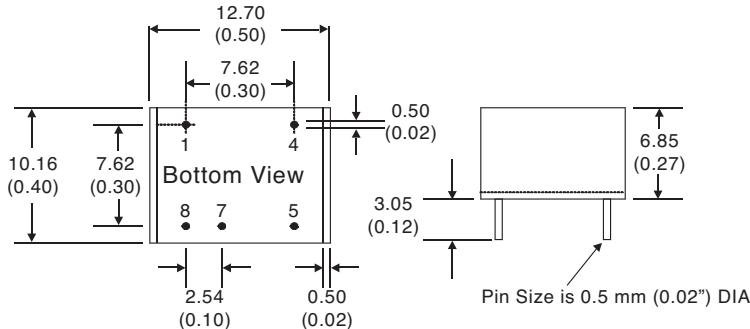
- Emissions • EN55022 class B conducted & radiated
 with external components - see
 application notes
- ESD Immunity • EN61000-4-2, level 2 Perf Criteria A
 Radiated Immunity • EN61000-4-3, level 2 Perf Criteria A
 EFT/Burst • EN61000-4-4, level 2 Perf Criteria A
 Surge • EN61000-4-5, level 2 Perf Criteria A
 Conducted Immunity • EN61000-4-6, level 2 Perf Criteria A

Models and Ratings

With Dimming Control

Output Power	Input Voltage Range	Output Voltage	Output Ripple & Noise	Output Current	Output Current Accuracy	Efficiency	Model Number
4.2 W	7-16 V	2-14 V	120 mV	300 mA	±5%	93%	LDU0516S300
4.9 W	7-16 V	2-14 V	150 mV	350 mA	±6%	93%	LDU0516S350
7.0 W	7-16 V	2-14 V	200 mV	500 mA	±7%	93%	LDU0716S500
8.4 W	7-16 V	2-14 V	200 mV	600 mA	±7%	93%	LDU1416S600
9.8 W	7-16 V	2-14 V	250 mV	700 mA	±7%	93%	LDU1416S700
14.0 W	7-16 V	2-14 V	250 mV	1000 mA	±8%	93%	LDU1416S1000

Mechanical Details



Pin Connections		
1	+V Input	+DC supply
4	+V Output	LED anode connection
5	-V Output	LED cathode connection
7	V Adj	Dimming Control
8	-V Input	-DC supply

Notes

- All dimensions are in inches (mm)
- Weight: 0.003 lbs (1.8 g) approx.
- Pin diameter: 0.02±0.002 (0.5±0.05)
- Pin pitch tolerance: ±0.014 (±0.35)
- Case tolerance: ±0.02 (±0.5)

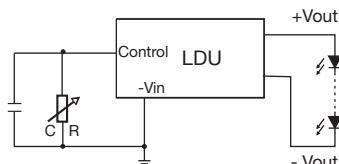
Application Notes

Output Current Adjustment by Variable Resistor

By connecting a variable resistor between Control and GND, simple dimming can be achieved. Capacitor C is optional for HF noise rejection, recommended value is 0.22 µF.

The output current can be determined using the equation: $I_{out} = \frac{\text{Rated Max I} \times R}{(R + 200 \text{ k})}$

Where the value of R is between 0 and 2 MΩ, the maximum adjustment range of output current is 25% to 90% (For Vin-Vout <20 VDC)

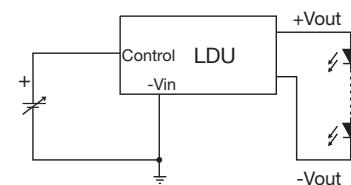


Shorting out the Control pin to GND will turn the output off.

Output Current Adjustment by DC Voltage

Control Voltage Range: 0.3 V to 1.25 VDC

The output current is given by: $I_{out \text{ nom}} = \text{Rated Max I} \times \text{Control Voltage}$



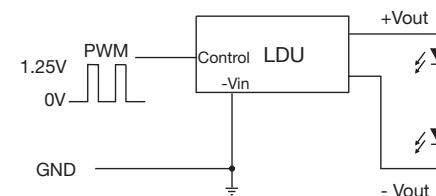
A Control Voltage lower than 0.15 V will turn the output off

Output Current Adjustment by PWM

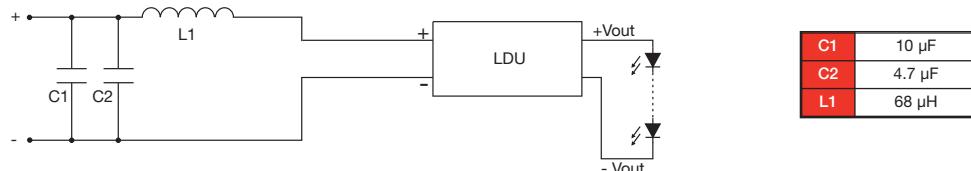
A Pulse Width Modulated (PWM) signal with duty cycle DPWM can be applied to the control pin.

The output current can be determined using the equation : $I_{out} = \text{Rated Max I} \times D_{PWM}$

D_{PWM} = PWM duty cycle



Input Filter to meet Class B Conducted Emissions



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В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибуторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ Р В 0015-002 и ЭС РД 009

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