

EV2487DN-00A

High voltage White LED Driver Evaluation Board

The Future of Analog IC Technology

DESCRIPTION

The EV2487DN-00A is an evaluation board for the MP2487DN, a step down converter designed for driving up to 10 white LEDs in series with 330mA current.

The MP2487 is a peak current mode control, fixed frequency regulator to deliver a constant current of up to 1A to high power white LEDs. Its low 200mV feedback voltage reduces power loss and improves efficiency.

The wide 4.5V to 55V input range accommodates a variety of step-down applications, making it ideal for automotive, industry and general lighting application.

The MP2487 is available in a SOIC8E package.

FEATURES

- Wide 4.5V to 55V Operating Input Voltage
- Drive up to 10 WLEDs in series of 330mA
- Up to 200kHz programmable Switching Frequency
- 130µA Quiescent Current
- Up to 97.5% Efficiency
- 220mΩ Internal Power MOSFET
- 200mV reference voltage

APPLICATIONS

- High Power white LED Driver
- Automotive, Industry and General Lighting
- Constant Current Source

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	40 – 55	V
# of WLEDs		10 (in series)	
LED Current	I_{LED}	330	mA

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EV2487DN-00A EVALUATION BOARD



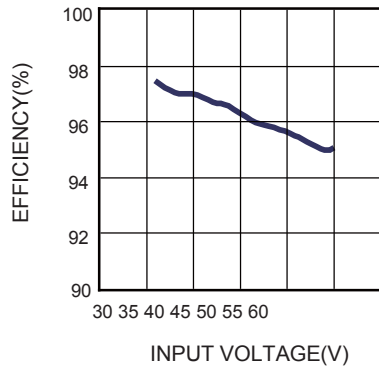
(L x W x H) 2" x 1.8" x 0.4"
5.3cm x 4.6cm x 1.0cm

EV2487DN-00A

MP2487DN

Efficiency vs. Input Voltage

10 WLED@330mA





PRINTED CIRCUIT BOARD LAYOUT

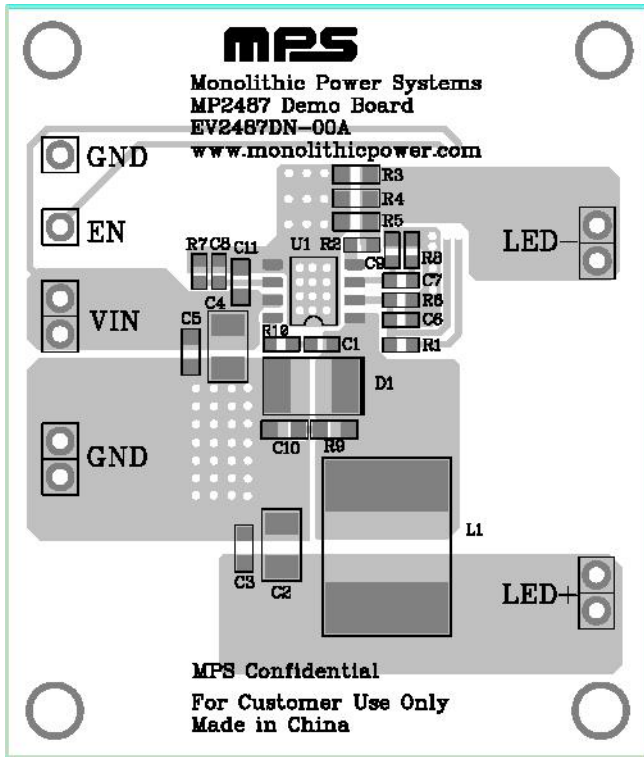


Figure 1—Top Layer

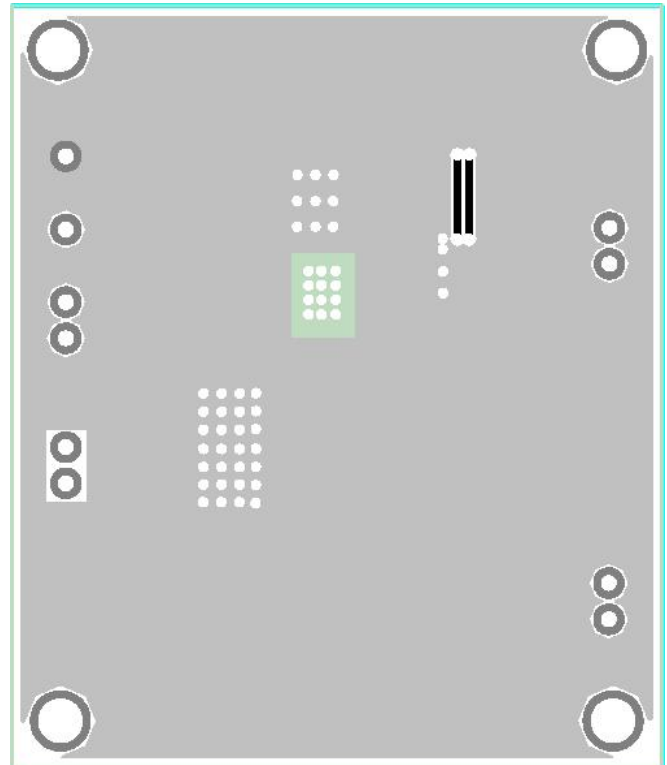


Figure 2—Bottom Layer

QUICK START GUIDE

1. Connect the positive and negative terminals of the WLED (10WLED in series) load to the LED+ and LED- pins on the EV board, respectively.
2. Connect the positive and negative terminals of the power supply (40V ~ 55V) to the VIN and GND pins on the EV board, respectively. Turn the power supply on.
3. Drive EN pin high ($V_{EN} > 1.7V$) to enable the MP2487.
4. For PWM dimming mode, apply a PWM signal with high level greater than 1.7V to the EN pin. The typical PWM frequency should be around 200Hz. The WLED brightness can be controlled by the PWM dimming duty cycle.

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