

DESCRIPTION

The EV4688-N-00A is an evaluation board for high power LED driver. It is implemented by MP4688DN, an integrated Buck white LED driver which is suitable for automotive, industry and general lighting applications with MPS patented pending technology.

The EV4688-N-00A is recommended to drive a single-string LEDs. It can drive up to 19 LEDs in one string. It regulates the LED current at about 730mA.

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V _{IN}	4.5 to 80	V
Enable/Dimming	EN/DIM	5	V
LED Current	I _{LED}	730	mA
Over Current Protection	OCP	3.2	A

FEATURES

- Wide 4.5V to 80V Operating Input Range
- No Output Capacitor Required
- $\pm 5\%$ LED Current Accuracy
- Hysteretic Control: No Compensation
- Up to 2MHz Switching Frequency
- Up to 20kHz Dimming Frequency
- Dedicated PWM Dimming Control Input
- Short circuit protection with integrated high side MOSFET
- Optional Output Voltage Limitation
- Thermal shut down
- 200mV reference voltage for high efficiency
- Up to 95% Efficiency
- 120 μ A Quiescent Current
- Available in SOIC8 with Exposed Pad Packages

APPLICATIONS

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

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EV4688-N-00A EVALUATION BOARD



Components Area: 0.66" x 1.17" (1.7cm x 3cm)

Board Number	MPS IC Number
EV4688-N-00A	MP4688

PRINTED CIRCUIT BOARD LAYOUT

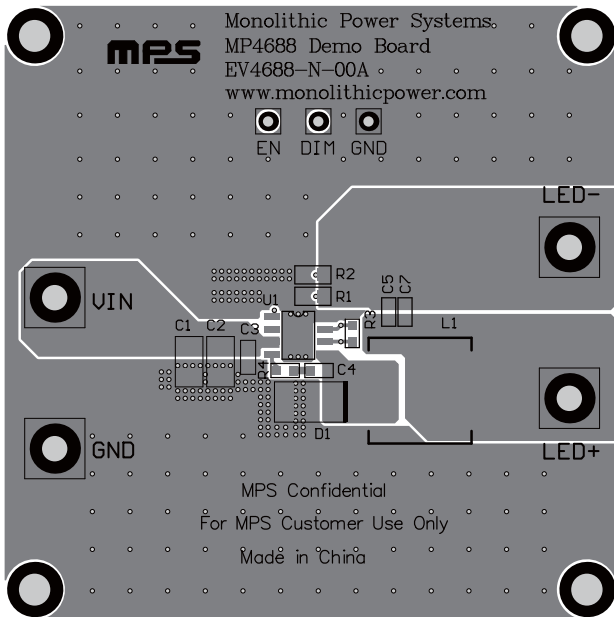


Figure 1—Top Layer

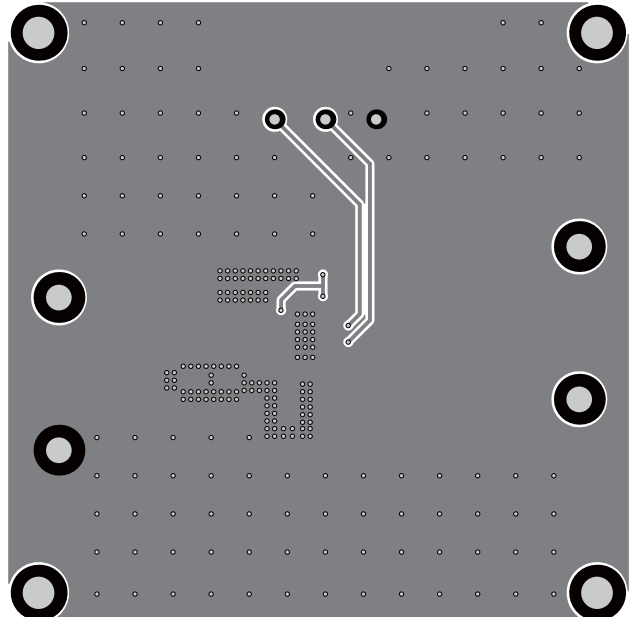


Figure 2—Bottom Layer

QUICK START GUIDE

1. Check the LED string voltage and preset the power supplies' Voltage for input. For example, 10 LEDs have about 32V forward voltage drop. So the power supply should be set higher than 32V, say set it to 60V. Set a second power supply to 5V for enable signal. Setup a signal generator to generate PWM signal with 5V amplitude, 20kHz frequency and 50% duty cycle.
2. Turn-off all power supplies.
3. Connect the LED+ to the anode of the string and LED- to the cathode of the string. Connect the VIN to the first power supply (60V). Connect the EN to the 5V power supply. Connect the DIM to signal generator.
4. Turn on the high voltage power supply (60V).
5. Turn on the signal generator.
6. Turn on the 5V power supply.

Note: If do not need dimming function, place a 0Ω resistor at R3, which will connect DIM to EN.

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