

DESCRIPTION

The MPQ2483 is a 55V, white LED driver suitable for either step-down or inverting step-up/down applications. It achieves 2.5A peak current over a wide input supply range with excellent load and line regulation. Current mode operation provides fast transient response and eases loop stabilization. Fault condition protection includes thermal shutdown, cycle-by-cycle peak current limiting, input over voltage protection, open strings protection and output short circuit protection.

The MPQ2483 incorporates both DC and PWM dimming onto a single control pin. The separate input reference ground pin allows for direct enable and/or dimming control for a positive to negative power conversion.

The MPQ2483 is package in SO-14.

MPQ2483-S DEMO BOARDS

Board number	Operating Mode	Input (V)	LED#	I _{LED} (mA)
EVQ2483-S-00A	Buck-boost	12	1-4	700

FEATURES

- Unique Step-up/down Operation (Buck-Boost Mode)
- Wide 4.5V to 55V Operating Input Range for Step-Down Applications (Buck Mode)
- 0.28Ω Internal Power MOSFET Switch
- Adjustable Switching Frequency
- Analog and PWM Dimming
- 0.198V Reference Voltage
- 5μA Shutdown Mode
- No minimum LED required
- Stable with Low ESR Output Ceramic Capacitors
- Cycle-by-Cycle Over Current Protection
- Thermal Shutdown Protection
- Open Strings Protection
- Output Short Circuit Protection
- Available in 14-Pin SO14 Package

APPLICATIONS

- General LED Illuminations
- LCD Backlight Panels
- Automotive Lighting

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EVQ2483-S-00A EVALUATION BOARD

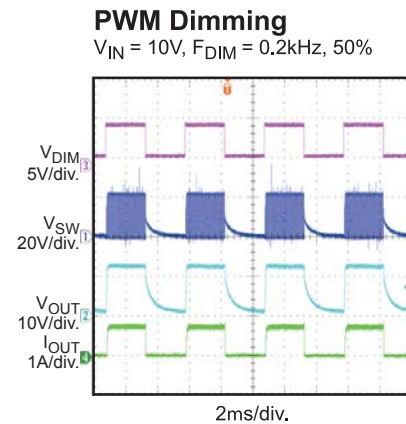
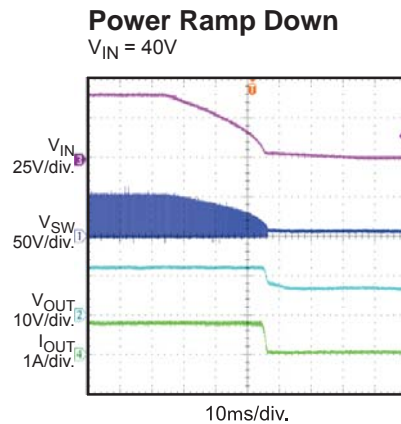
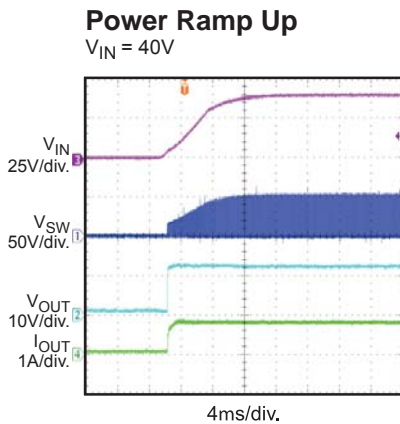
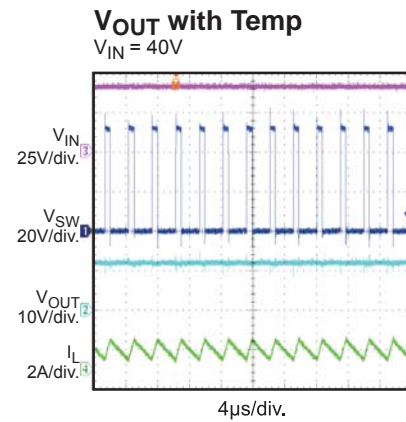
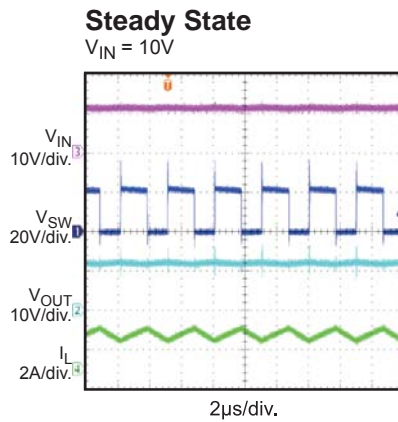
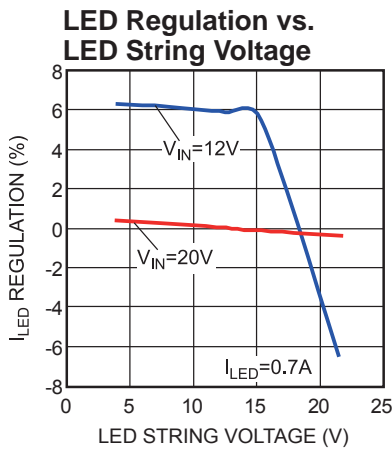
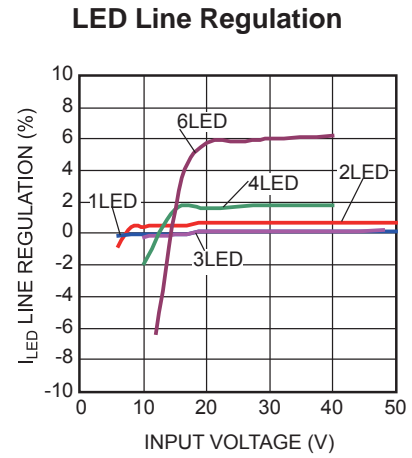
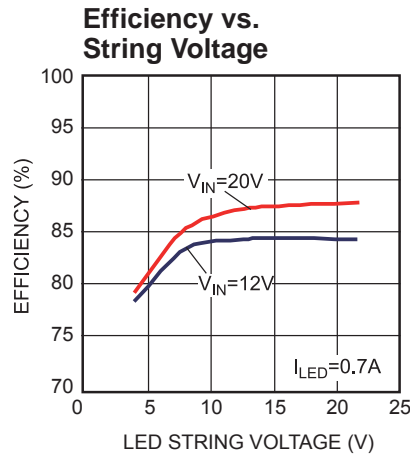
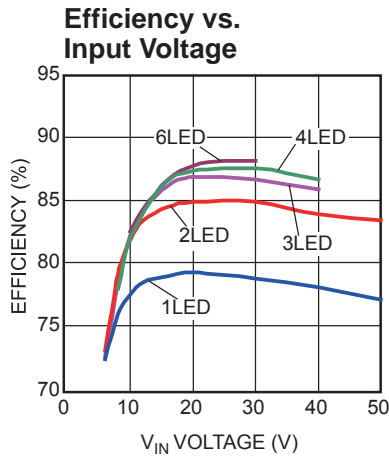


(L x W x H) 5cm x 4.5cm x 0.7cm

Board Number	MPS IC Number
EVQ2483-S-00A	MPQ2483DS

EVB TEST RESULTS

Buck Boost Mode, $L = 10\mu\text{H}$, $F_{\text{SW}} = 330\text{kHz}$, 3LED, $I_{\text{OUT}} = 0.7\text{A}$, $T_A = 25^\circ\text{C}$, unless otherwise noted.



PRINTED CIRCUIT BOARD LAYOUT

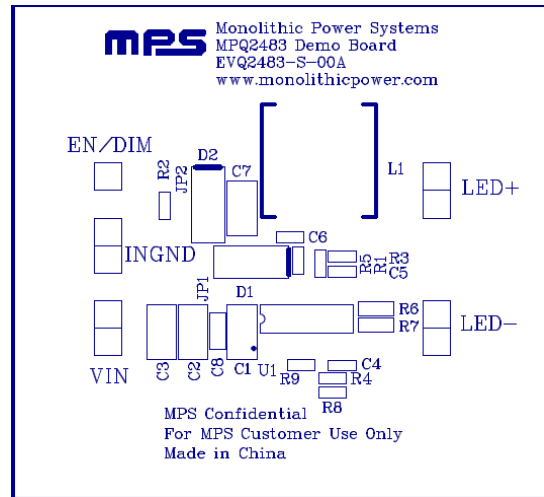
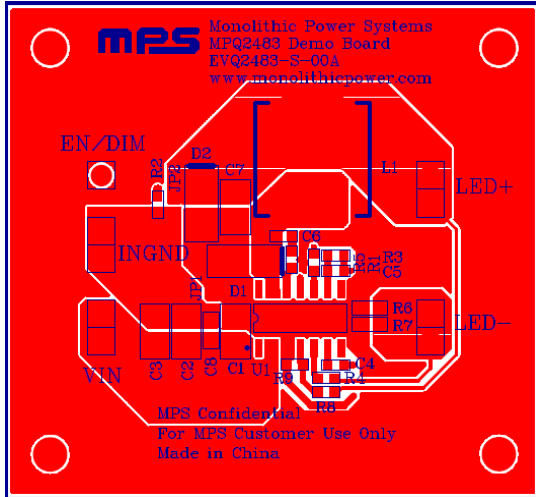


Figure 1—Top Layer

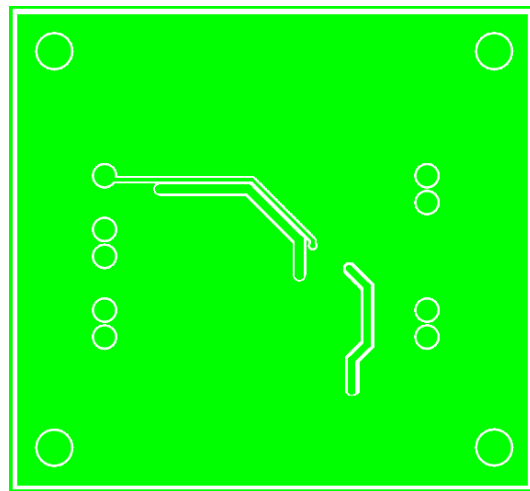
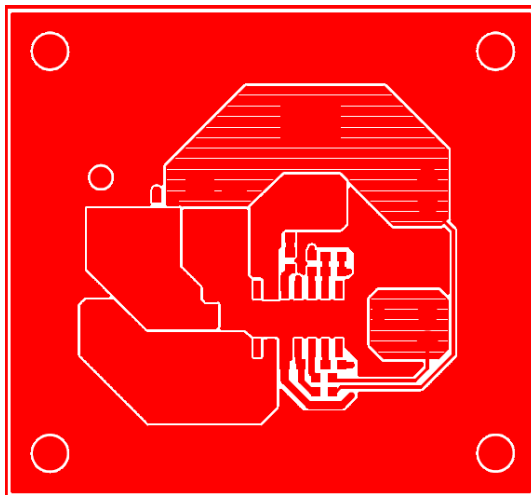


Figure 2—Bottom Layer

QUICK START GUIDE

1. Connect the load (3LEDs or less) to the output. The Anode of the load to “LED+” and the Cathode of the load to “LED -”.
2. Connect the input voltage source to the input VIN and INGND. The input voltage source should be initialed 10V - 45V.
3. Connect the EN or dimming signal to EN/Dim pin.

For PWM dimming, connect the PWM signal to EN/Dim pin, the high level should be higher than 1.4V, the low level should be lower than 0.7V.

For analog dimming, connect a DC dimming signal in range of 0.7V~1.4V to EN/Dim pin.

4. Power up the input voltage source, and then power up the EN/Dim signal, the LEDs should be ignited.

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