

## DESCRIPTION

The EV3305DD-00A is an evaluation board for the MP3305DD, a monolithic step-up converter designed for driving arrays of WLEDs from 5V input or a single cell Lithium Ion battery. The EV board is optimized for the load of 3 white LEDs in series, 10 strings panel.

The MP3305 uses current mode, fixed frequency architecture to regulate the LED current, which is measured through an external current sense resistor. Its low 200mV feedback voltage reduces power loss and improves efficiency.

The MP3305 features up to 50kHz true PWM dimming, which allows the flexible control of the backlighting luminance under wide range of the ambient brightness, and also avoids the possibility of PWM dimming audible noise.

The MP3305 is turned off if an over-voltage condition is present due to an open circuit condition. Use one external resistor voltage divider to program OVP threshold. MP3305 also includes under-voltage lockout, current limiting and thermal overload protection preventing damage in the event of an output overload.

The MP3305 is available in small 8-pin QFN (2mm x 3mm) package.

## FEATURES

- 5V Input Voltage Range
- Drives up to 30 White LEDs
- Programmable Open Load Shutdown Threshold
- Up to 88% Efficiency
- Fully Assembled and Tested

## APPLICATIONS

- Cell Phones
- Handheld Computers and PDAs
- Digital Still Cameras
- Small LCD Displays

## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	$V_{IN}$	5	V
# of WLEDs		30(3 in series, 10 strings paralleled)	
LED Current	$I_{LED}$	200	A

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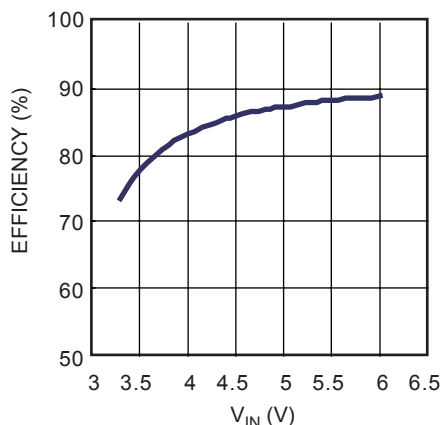
## EV3305DD-00A EVALUATION BOARD



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

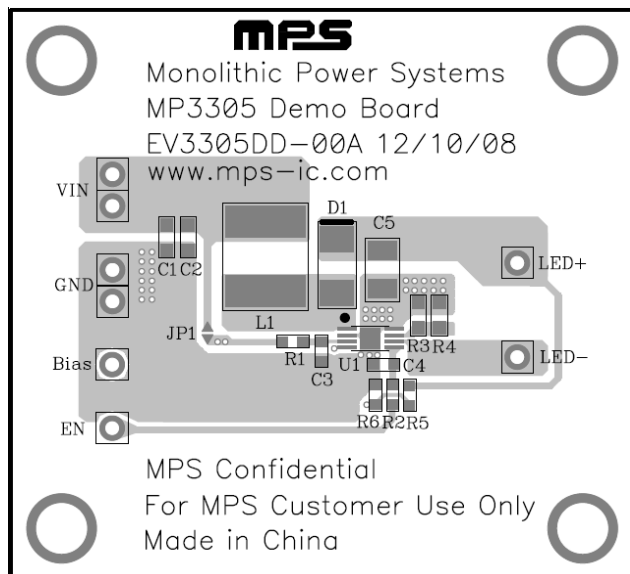
Board Number	MPS IC Number
EV3305DD-00A	MP3305DD

$V_{IN}$  vs. Efficiency

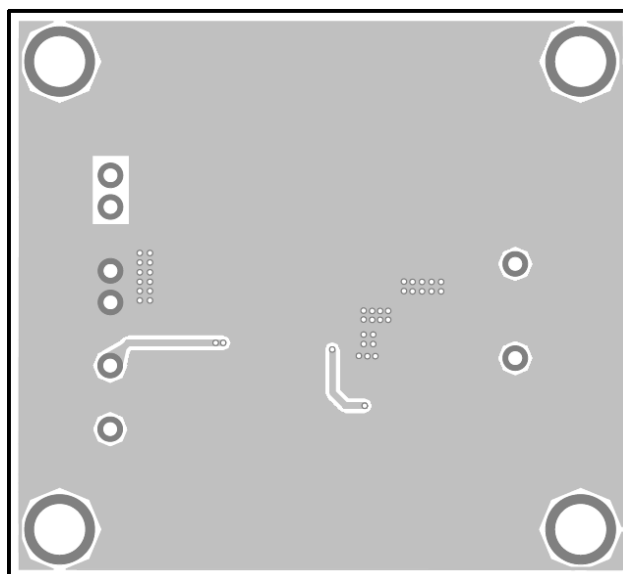




## PRINTED CIRCUIT BOARD LAYOUT



**Figure 1—Top Layer**



**Figure 2—Bottom Layer**

## QUICK START GUIDE

1. Connect the positive and negative terminals of the load panel (3 white LEDs in series, 10 strings paralleled, each string have a 43ohm droop resistor) to the LED+ and LED- pins on the EV board, respectively.
2. Connect the positive and negative terminals of the power supply (5V) to the VIN and GND pins on the EV board, respectively. Turn the power supply on.
3. Drive EN pin high ( $V_{EN} > 2V$ ) to enable the MP3305.
4. For PWM dimming mode, apply a PWM rectangular waveform with a minimum voltage less than 0.5V and a maximum greater than 2V on EN pin. The frequency of the PWM signal is recommended between 250Hz to 50kHz.

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