STEVAL-ILL078V1

1 A, up to 60 V input buck LED driver evaluation board based on the LED6000

Data brief



Features

- 4.5 V to 60 V input voltage
- Step-down conversion
- 1 A programmed LED current
- 500 kHz switching frequency
- Digital dimming
- Uses ceramic output capacitors
- 180° out-of-phase synchronization available
- Auto-recovery overcurrent and thermal protection
- RoHS compliant

Description

The STEVAL-ILL078V1 product evaluation board is based on the LED6000 monolithic current source for high power LED driving. Digital dimming is implemented by driving the dedicated DIM pin. Low drop-out operation with almost 100% duty cycle can be achieved. The LED6000 is a 61 V asynchronous switching regulator with embedded power MOSFET, designed to source up to 3 A of DC current depending on the application conditions. The 250 mV typical R_{SENSE} voltage drop, the embedded switch-over feature on the VBIAS pin and light load management (pulse skipping) are intended to maximize power conversion efficiency across the entire load range.

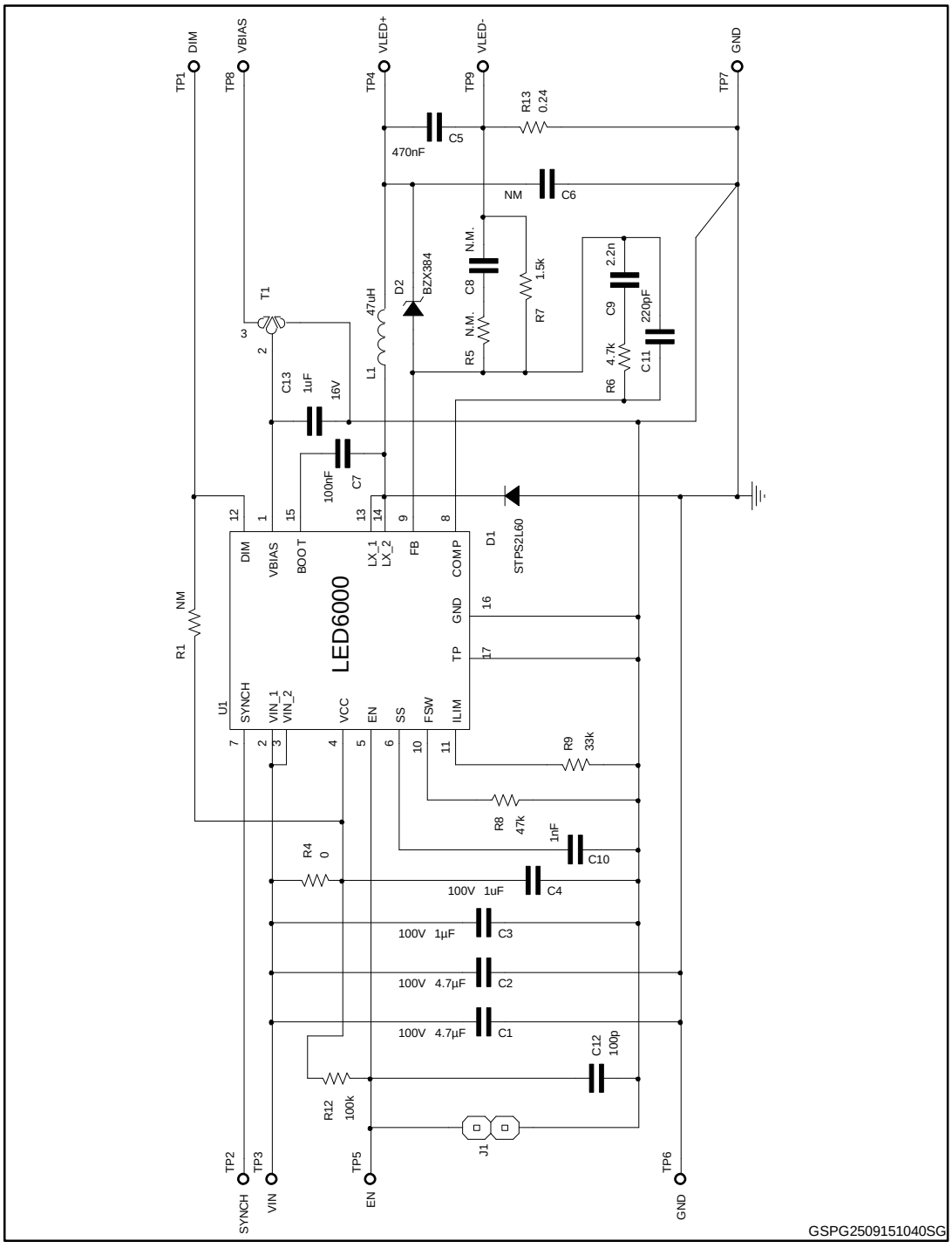
The current limit threshold and the switching frequency are adjustable for application optimization. The device includes an internal 250 kHz oscillator that can be externally adjusted up to 1.5 MHz. The size of the overall application is minimized thanks to its high switching frequency and compatibility with ceramic output capacitors. Two LED6000 regulators can be synchronized in a 180° out-of-phase configuration for reduced total input RMS current.

For further information contact your local STMicroelectronics sales office

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1 Schematic diagram

Figure 1: STEVAL-ILL078V1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Version	Changes
01-Oct-2015	1	Initial release.

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