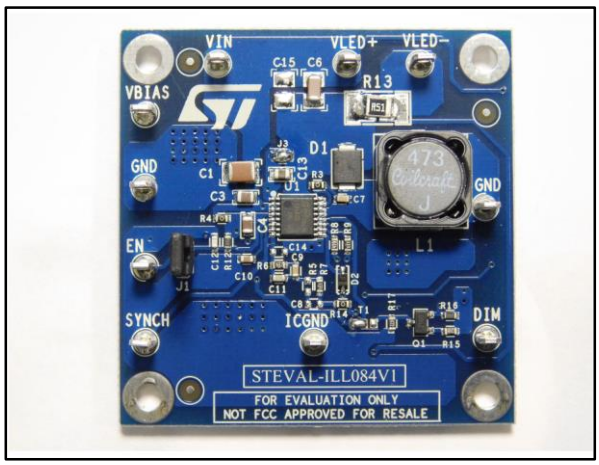
STEVAL-ILL084V1

0.5 A, floating boost LED driver board based on the LED6000

Data brief



Features

- 18 V to 36 V input voltage
- Step-up conversion (up to 15 LEDs)
- 0.5 A programmed LED current
- 500 kHz switching frequency
- Digital dimming
- Compliant with ceramic output capacitors
- 180° out-of-phase synchronization available
- Auto recovery overcurrent and thermal protection
- RoHS compliant

Description

The STEVAL-ILL084V1 product evaluation board is based on the LED6000 monolithic current source for high power LED driving. The floating boost topology can benefit from the LED6000 wide input voltage range to drive many power LED in series. The LED6000 is a 61 V asynchronous switching regulator with embedded power MOSFET, designed to supply up to 3 A DC currents depending on the application conditions. The 250 mV typical R_{SENSE} voltage drop, embedded switch-over feature on the V_{BIAS} pin and light load management (pulse skipping) maximize power conversion efficiency across the entire load range. Digital dimming is implemented by driving the dedicated DIM pin.

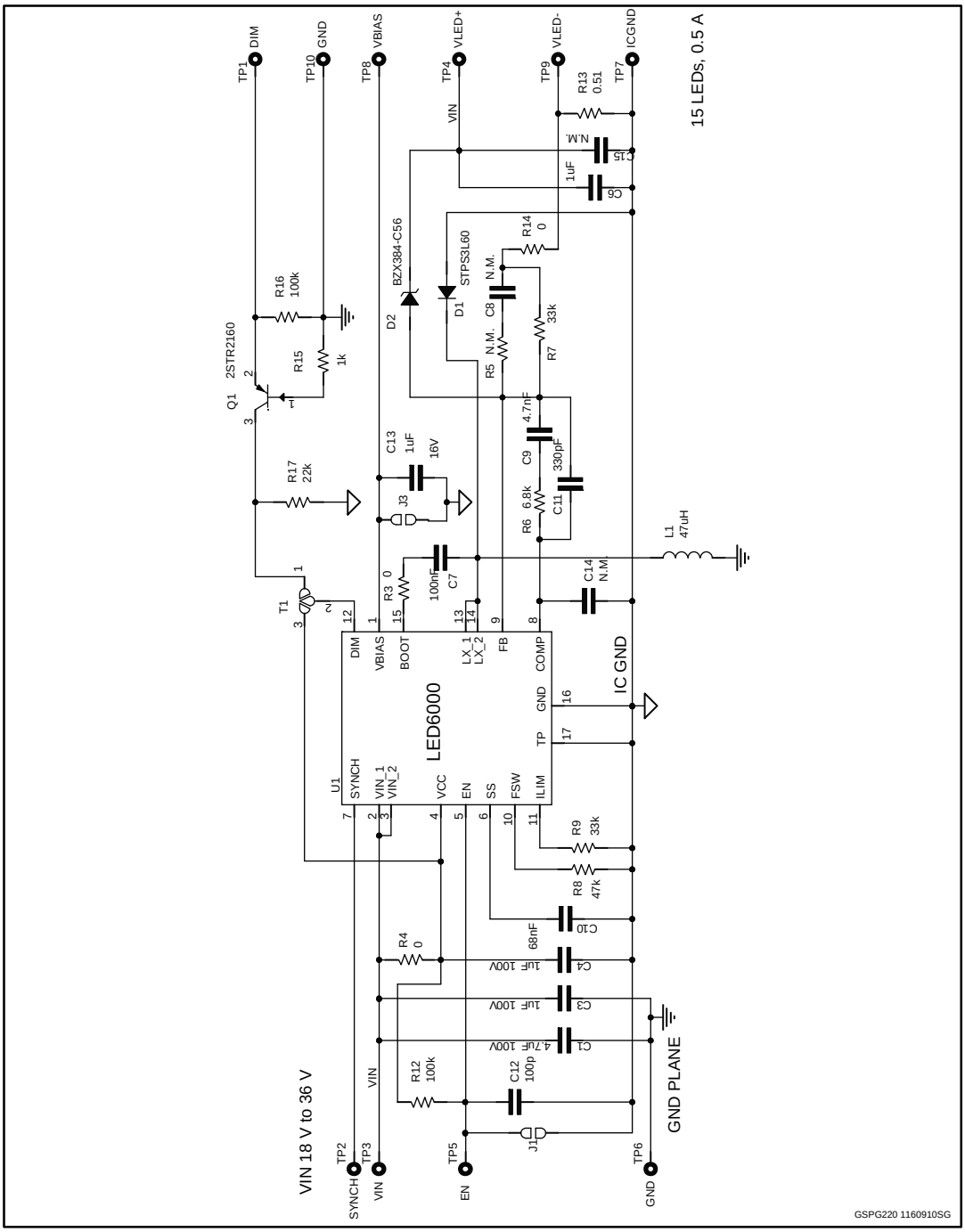
The current limit threshold and the switching frequency are adjustable for application optimization. The device includes an internal 250 kHz oscillator that can be externally adjusted up to 1.5 MHz. The size of the overall application is minimized thanks to the high switching frequency and its compatibility 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-ILL084V1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Version	Changes
25-Jan-2016	1	Initial release.

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