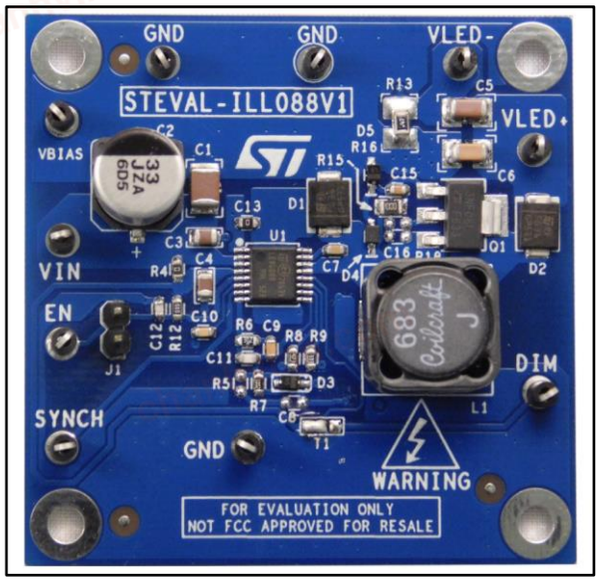
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STEVAL-ILL088V1

0.55 A, positive buck-boost LED driver board based on LED6000

Data brief



Features

- 24 to 60 V input voltage
- Step-up and step-down conversion (up to 14 LEDs)
- 0.55 A programmed LED current
- 500 kHz switching frequency
- Digital dimming
- Compatible with ceramic output capacitors
- 180° out-of-phase synchronization
- Auto-recovery overcurrent and thermal protection
- RoHS compliant

Description

The STEVAL-ILL088V1 evaluation board is based on a monolithic current source for high power LED driving, the LED6000, a 61 V asynchronous switching regulator. With embedded power MOSFET, it is designed to source up to 3 A DC current depending on the application conditions.

The 250 mV typical RSENSE voltage drop, the VBIAS pin embedded switch-over feature and the 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 also includes a 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 to reduce the total input RMS current.

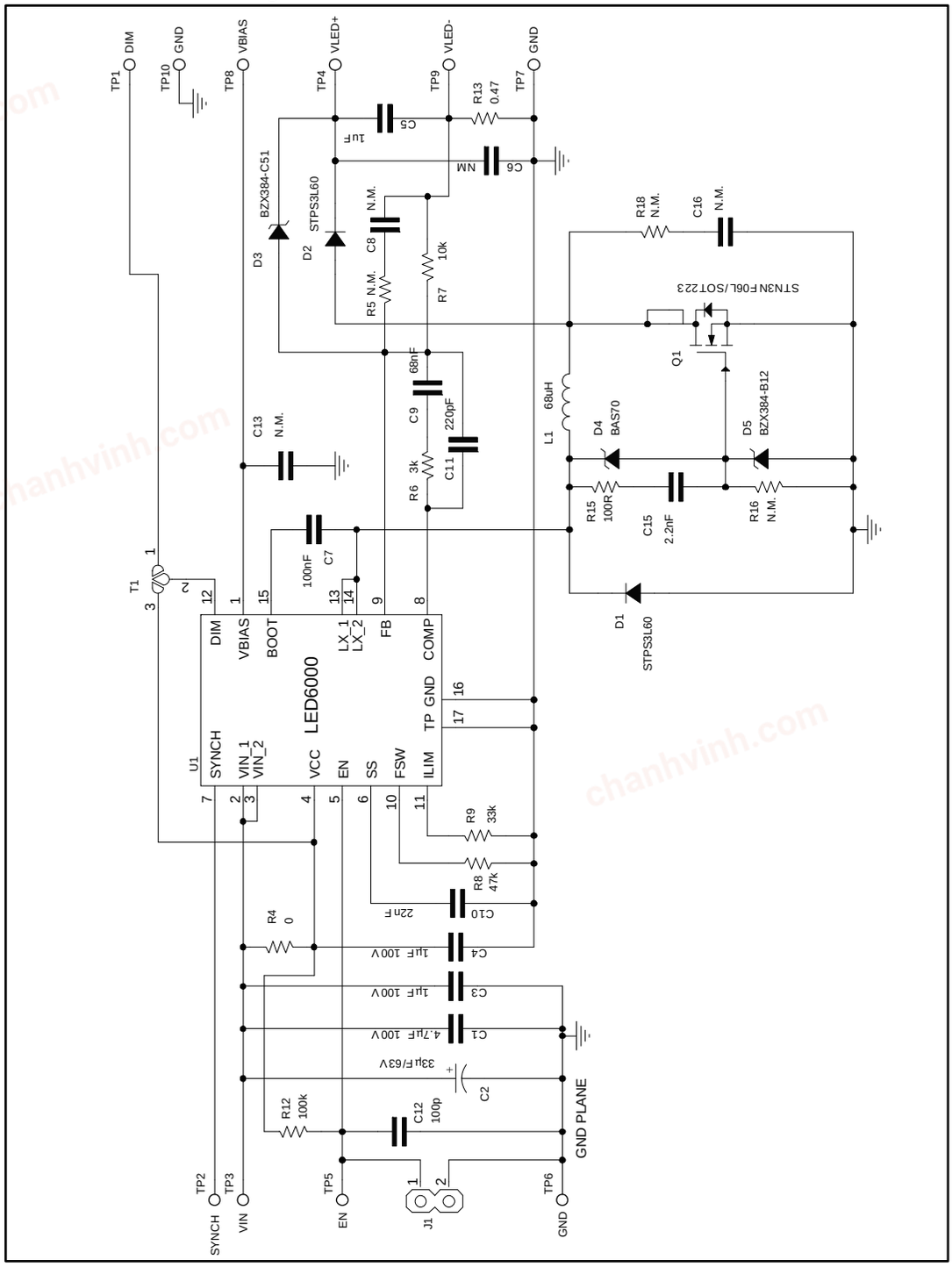
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1 Schematic diagram

Figure 1: STEVAL-ILL088V1 circuit schematic



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2 Revision history

Table 1: Document revision history

Date	Version	Changes
16-Feb-2017	1	Initial release.

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