STEVAL-ILL017V1

Offline constant current LED driver based on the VIPer17

Data Brief

Features

- Input voltage 220 VAC +/- 20%
- 800 V avalanche rugged power section
- Provides 500 mA constant current for LED
- High precision constant current with +/- 5% tolerance (1 sense resistor and 2 resistor bridges with +/- 1% precision)
- Overtemperature protection
- LED open-circuit protection
- LED short-circuit protection
- PWM operation with frequency jittering for low EMI
- Operating frequency:
  - 60 kHz for L type
  - 115 kHz for H type
- Standby power < 50 mW at 265 VAC
- Adjustable and accurate overvoltage protection
- On-board soft-start
- Safe auto-restart after a fault condition

Applications

- Adapters for PDAs, camcorders, electric shavers, cellular phones, videogames
- Auxiliary power supply for LCD/PDP TVs, monitors, audio systems, computers, industrial applications
- SMPS for set-top boxes, DVD players/ recorders, white goods

Description

The STEVAL-ILL017V1 demonstration board is a 2 W non-isolated offline constant current LED driver based on the VIPer17. The board operates with an input ranging from 176 V to 264 VAC and provides 500 mA of constant current from a 7



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VDC source, suitable for illuminating two LEDs in series.

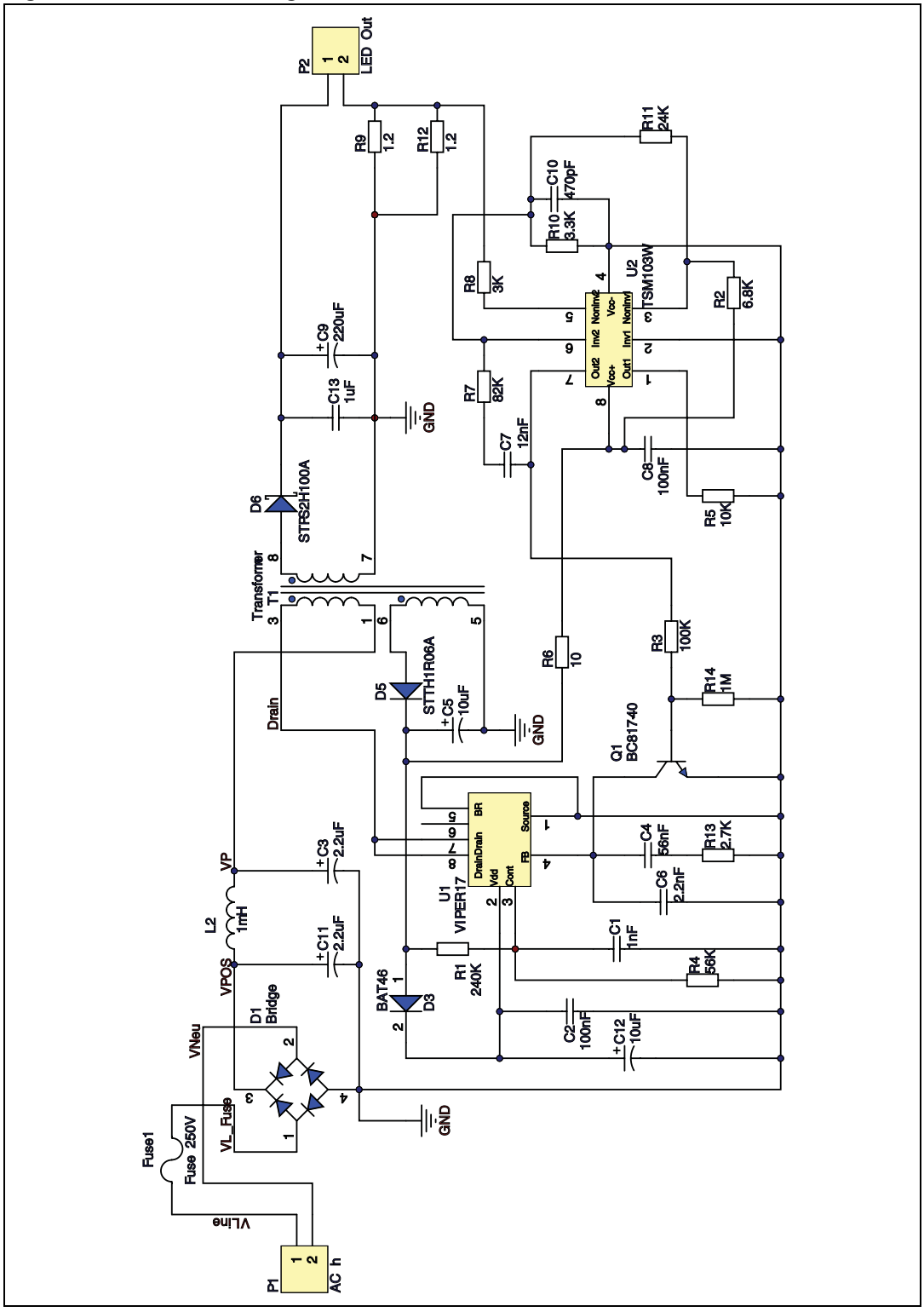
The VIPer17 device is an offline converter with an 800 V rugged power section, a PWM control, overcurrent protection, overvoltage and overload protection, hysteretic thermal protection, soft-start and safe auto-restart after the removal of a fault condition. The brown-out protection function is embedded into the high voltage start-up.

Burst mode operation and the very low consumption of the device combine to meet standby energy saving regulations. Advanced frequency jittering reduces EMI filter cost.

For further information contact your local STMicroelectronics sales office. www.st.com

1 Circuit schematic

Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Sep-2008	1	Initial release.

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