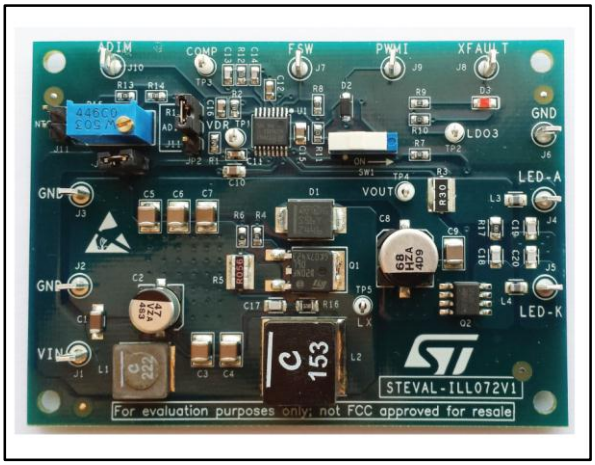
STEVAL-ILL072V1

Single channel, 1 A automotive LED driver with boost controller for interior/exterior lights

Data brief



Features

- Wide DC input voltage (8 V - 24 V)
- Single channel, 1000 mA constant-current output with PWM brightness control
- 500 kHz switching frequency
- Up to 10 high-brightness white LEDs (40 V OVP threshold)
- High efficiency (92% @V_{in}=12 V, V_{out}=32 V, I_{out}=1 A)
- RoHS compliant
- All automotive grade components

Description

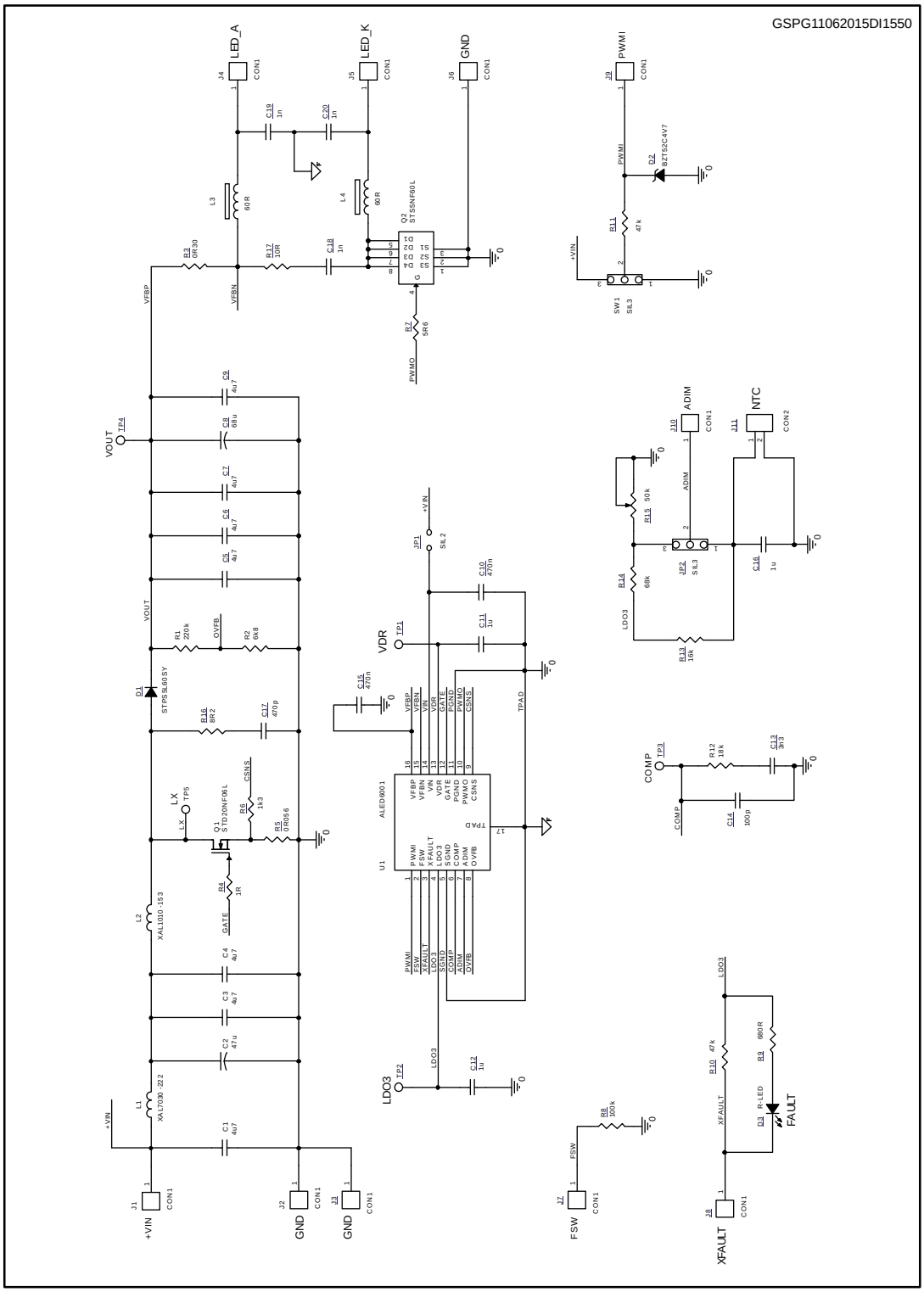
The purpose of this evaluation board is to provide an application example of a single-channel, high-current LED driver using the ALED6001 chip operating with a boost topology. The brightness of the LED string connected to its output can be controlled through a PWM signal (0%-100% dimming) or a control voltage (10:1 analog dimming). Open LED, feedback disconnection & LED overcurrent fault conditions are detected and managed. The evaluation board has been designed to provide an example of a compact solution for all automotive applications involving several LEDs arranged is a single string, and day-time running lights (DTRL) in particular.

For further information contact your local STMicroelectronics sales office

www.st.com

1 Schematic diagram

Figure 1: STEVAL-ILL072V1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Version	Changes
12-Jun-2015	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.