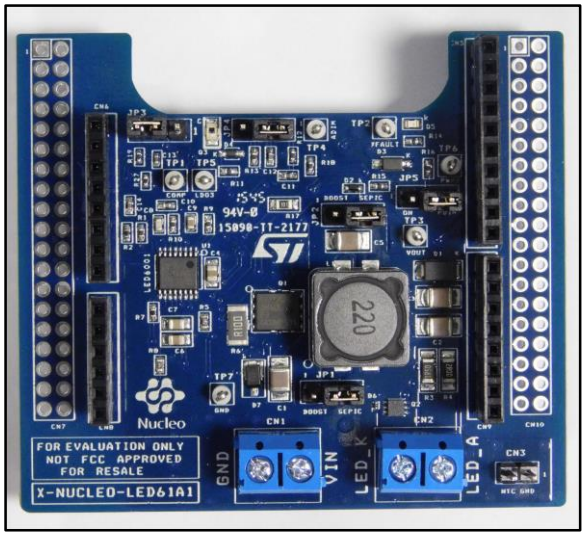
X-NUCLEO-LED61A1

DC-DC LED driver expansion board based on LED6001 for STM32 Nucleo

Data brief



Features

- Single channel LED Driver, 350 mA constant current
- PWM and analog brightness control with the STM32 Nucleo board
- Selectable boost or SEPIC converter topology
- Up to 92% efficiency (boost converter)
- Open LED, feedback disconnection, LED overcurrent and output-to-ground short-circuit (SEPIC only) fault detection and management
- Onboard photo-transistor for ambient light switch function (analog dimming)
- Wide DC input voltage range: 8 V – 24 V
- Compatible with Arduino™ UNO R3 connectors
- Compatible with STM32 Nucleo boards
- RoHS compliant

Description

The X-NUCLEO-LED61A1 is an expansion board designed to provide a sample application for the compact LED driver based on LED6001. The expansion board is equipped with a single-channel, constant-current LED driver for boost or SEPIC topologies.The X-NUCLEO interfaces with the STM32 microcontroller. It is compatible with the Arduino™ UNO R3 connector.

The brightness of the LED string connected to its output can be controlled through a PWM signal (0 % - 100 % dimming) or a control voltage (analog dimming). Open/Short LED fault, feedback disconnection, LED overcurrent and output-to-ground short-circuit (SEPIC only) faults are detected and managed through the LED driver.

The expansion board is designed to provide examples for applications involving several LEDs arranged is a single string (e.g., indoor and architectural LED lighting, off-grid street lighting, emergency LED lighting, white goods, gaming, etc.).

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Schematic diagram

Figure 1: X-NUCLEO-LED61A1 board schematic (1 of 3)

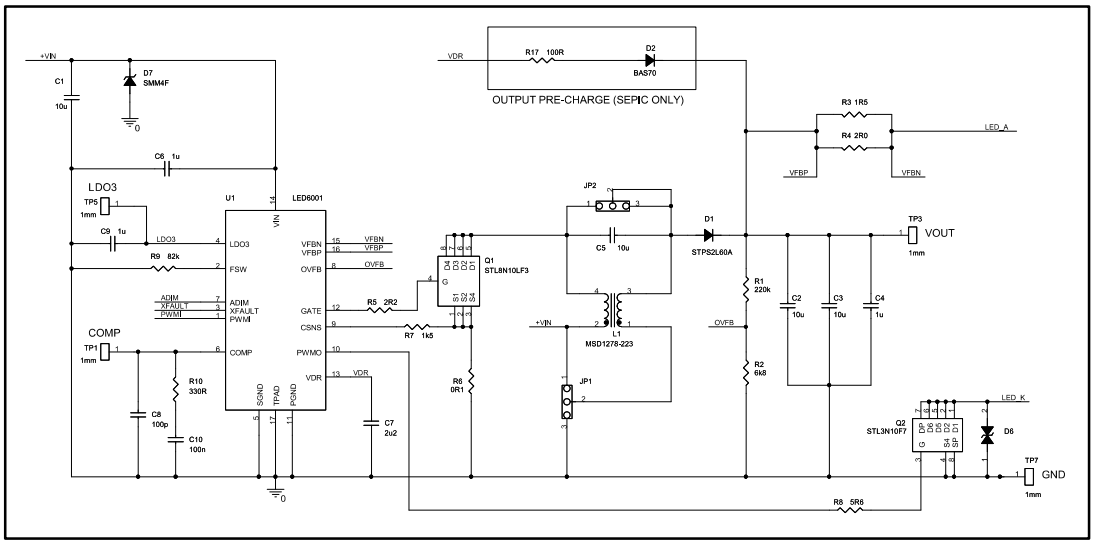


Figure 2: X-NUCLEO-LED61A1 board schematic (2 of 3)

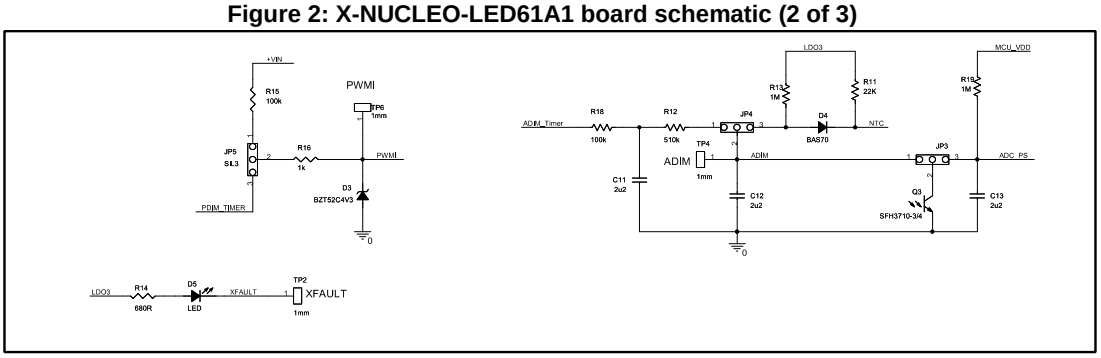
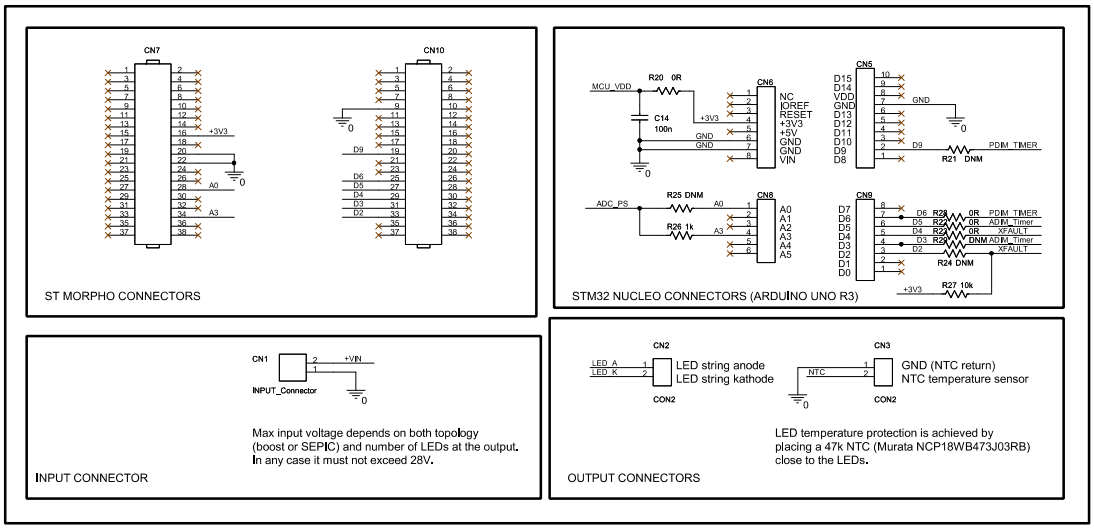


Figure 3: X-NUCLEO-LED61A1 board schematic (3 of 3)



Revision history

Table 1: Document revision history

Date	Version	Changes
11-Dec-2015	1	Initial release.

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