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STEVAL-ILL010V1

High intensity LED dimming driver evaluation board based on the L6902

Data Brief

Features

- Input voltage V_{in} = 8 V to 30 Vdc
- Dimming interface
- Analog current control
- Average current control by PWM

Description

Thanks to their high efficiency and reliability, super high-brightness LEDs are becoming more and more popular as a substitute for conventional light sources. Although LEDs can be supplied directly from a simple voltage source (like a battery with resistor), for most applications it is better to use a switching current source to achieve not only higher efficiency but also better light output.

This evaluation board is designed around an L6902D-based DC-DC converter with dimming interface. It board implements both of two well known dimming methods:

- Analog current control
- Average current control by PWM

While there is only a single dimming input connector on the board, it can be used for both dimming methods.

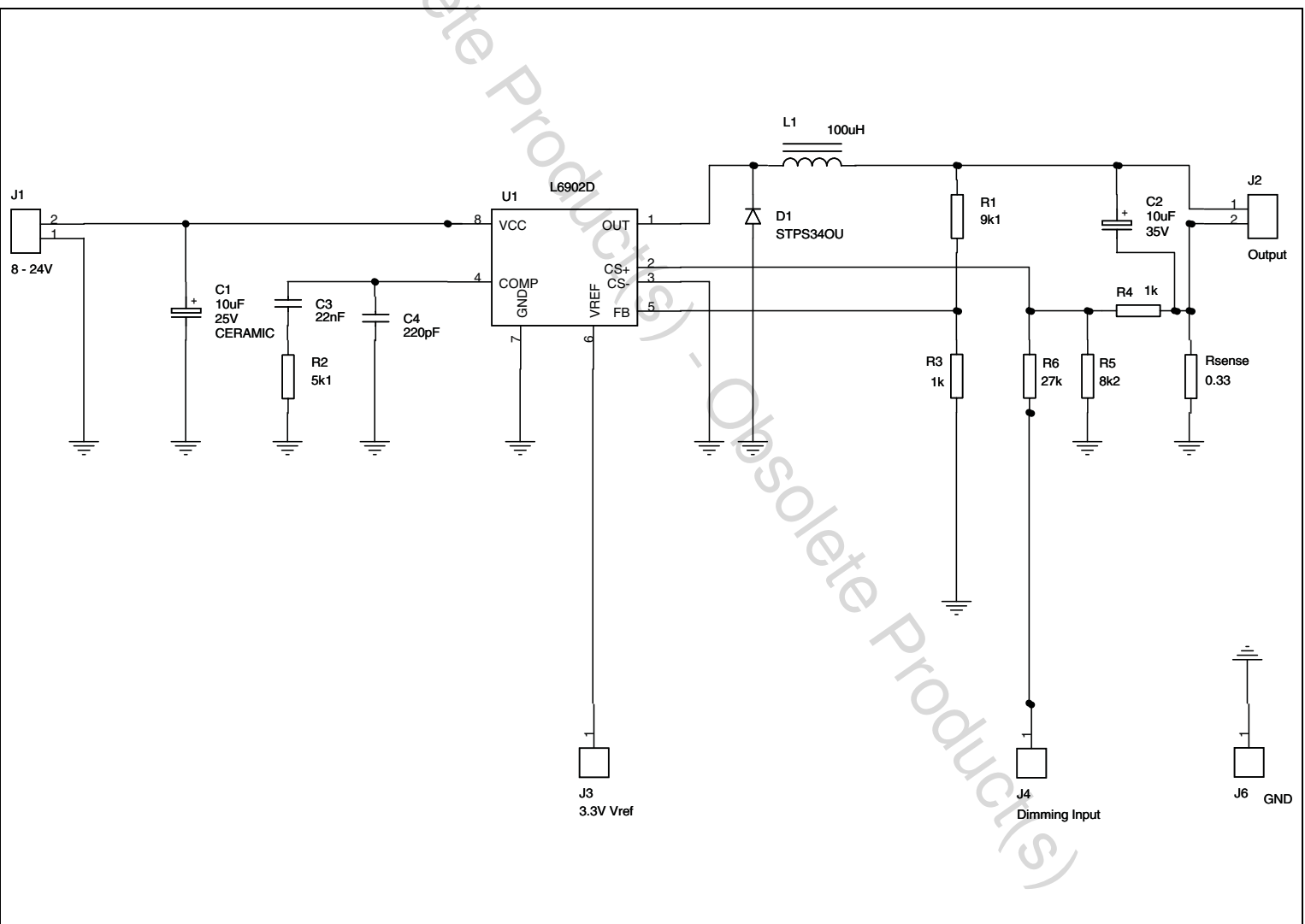
A signal between 0 and 3.3 V should be used for analog (peak current) dimming. When the dimming pin is grounded (0 V), the 350 mA maximum output current is provided. Likewise, when 3.3 V is applied to the pin, the current provided is zero and the LED is off.



The second dimming method implemented on this board is PWM control of average LED current. This control requires a digital PWM signal (with an amplitude of either 3.3 V or 5 V) between the dimming pin and the ground pin. Varying the duty-cycle on the board will then change the brightness of the LED (100% = LED off, and 0% = LED fully on).

1 Circuit schematic

Figure 1. Schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Feb-2008	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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