



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

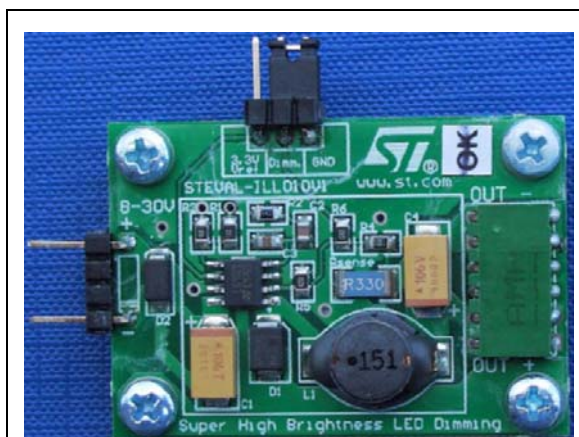
Thanks to their high efficiency and reliability, super high-brightness LEDs are becoming more and more popular as a substitute for conventional light sources. Although LEDs can be supplied directly from a simple voltage source (like a battery with resistor), for most applications it is better to use 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.

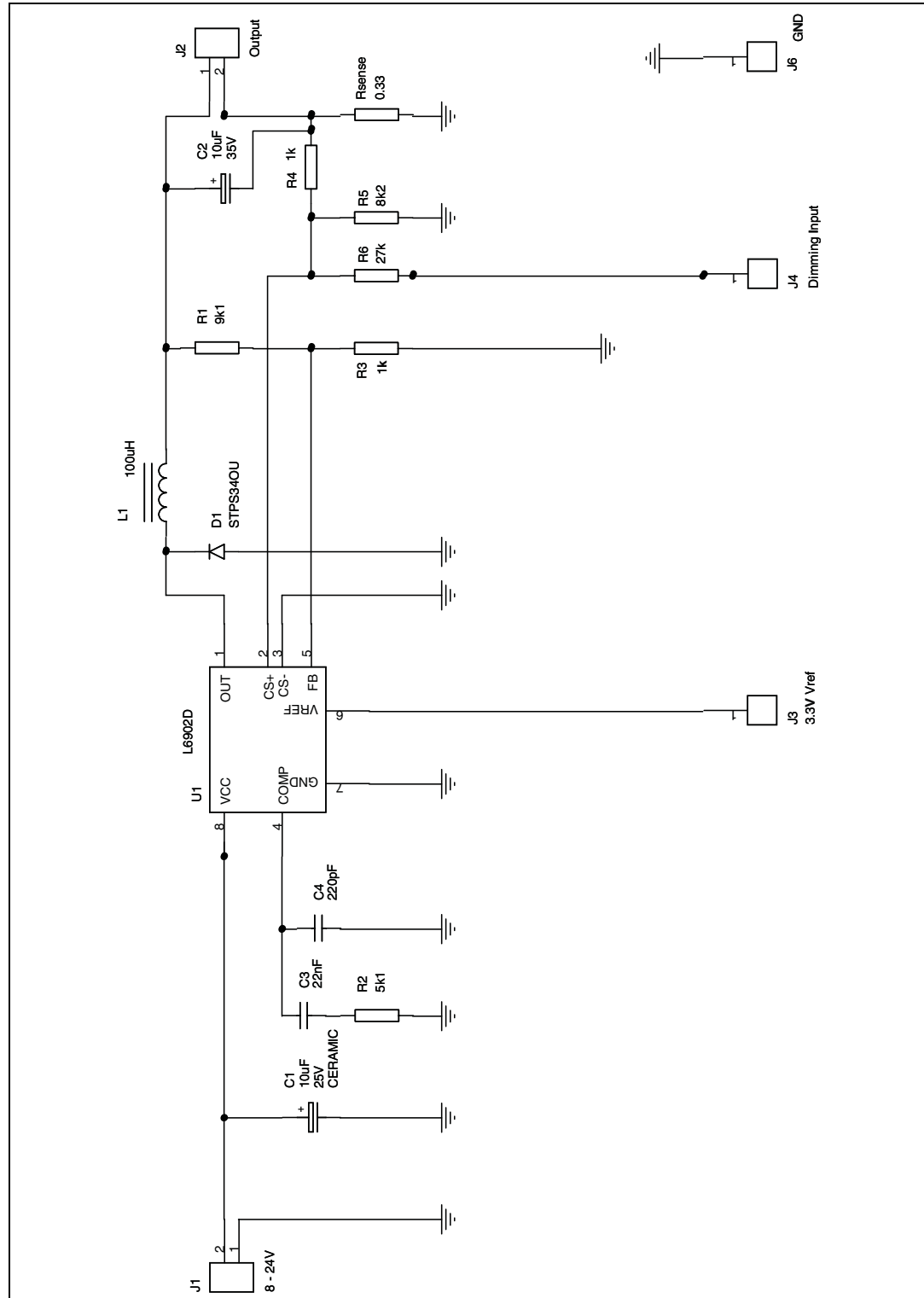


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The second dimming method implemented on this board is PWM control of average LED current. This control requires a digital PWM signal (with an amplitude of either 3.3 V or 5 V) between the dimming pin and the ground pin. Varying the duty-cycle on the 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.

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