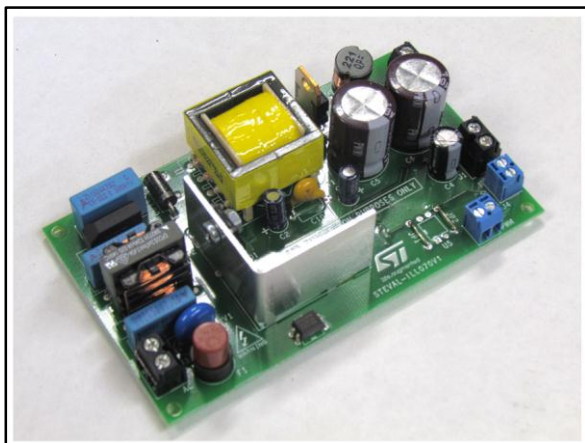

35 W, 0-10 V dimmable single-string LED driver based on the HVLED001 quasi resonant flyback controller

Data brief



Features

- Input voltage: $V_{IN} = 90$ to $305 V_{rms}$, 45 to 66 Hz
- Output current: 700 mA ($V_{LED} = 0$ to 48 V)
- Dimming: 100% to 10% (any condition)
- Dimming interfaces: 0 to 10 V and PWM input
- High power factor, low THD
- Efficiency: > 90% @ full load
- No-load: better than 300 mW @ 230 V_{IN}
- Open load voltage limiting
- RoHS compliant

Description

The STEVAL-ILL070V1 is an evaluation platform that drives a single LED string with a maximum output current of 700 mA. The LED current can be finely adjusted using either a 0 - 10 V interface or a PWM signal (provided by a microcontroller, for example) on the SELV portion of the board. The extremely wide output voltage range and the universal input capability make this board very flexible. An auxiliary 12 V output is also present to supply small circuitry (e.g. a potentiometer to drive the 0 - 10 V input) providing a maximum current of 10 mA. A very high power factor and high efficiency are obtained thanks to the HVLED001 features. Input voltage variations, excessive input voltage (overvoltage such as surges or bursts) or very low input voltages are managed by the HVLED001's protection features, improving the reliability of the application. Output open-circuit and overload protection are auto-restarted for safe operation in lighting environments.

1 STEVAL-ILL070V1 board layout

Figure 1: Location of jumpers and connectors

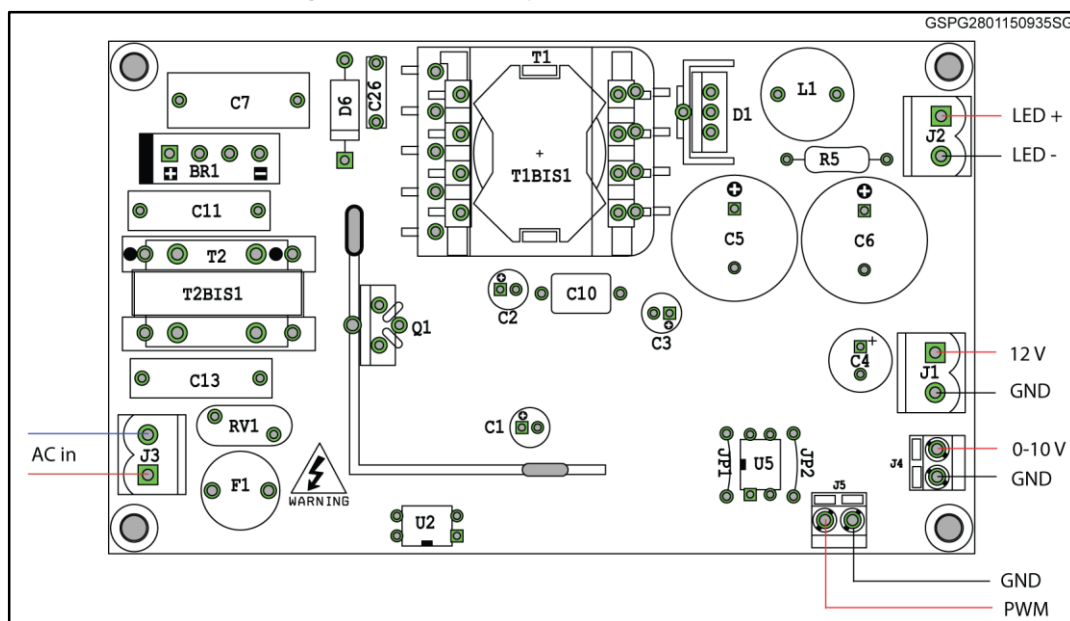


Figure 2: STEVAL-ILL070V1 circuit schematic - constant current regulation section

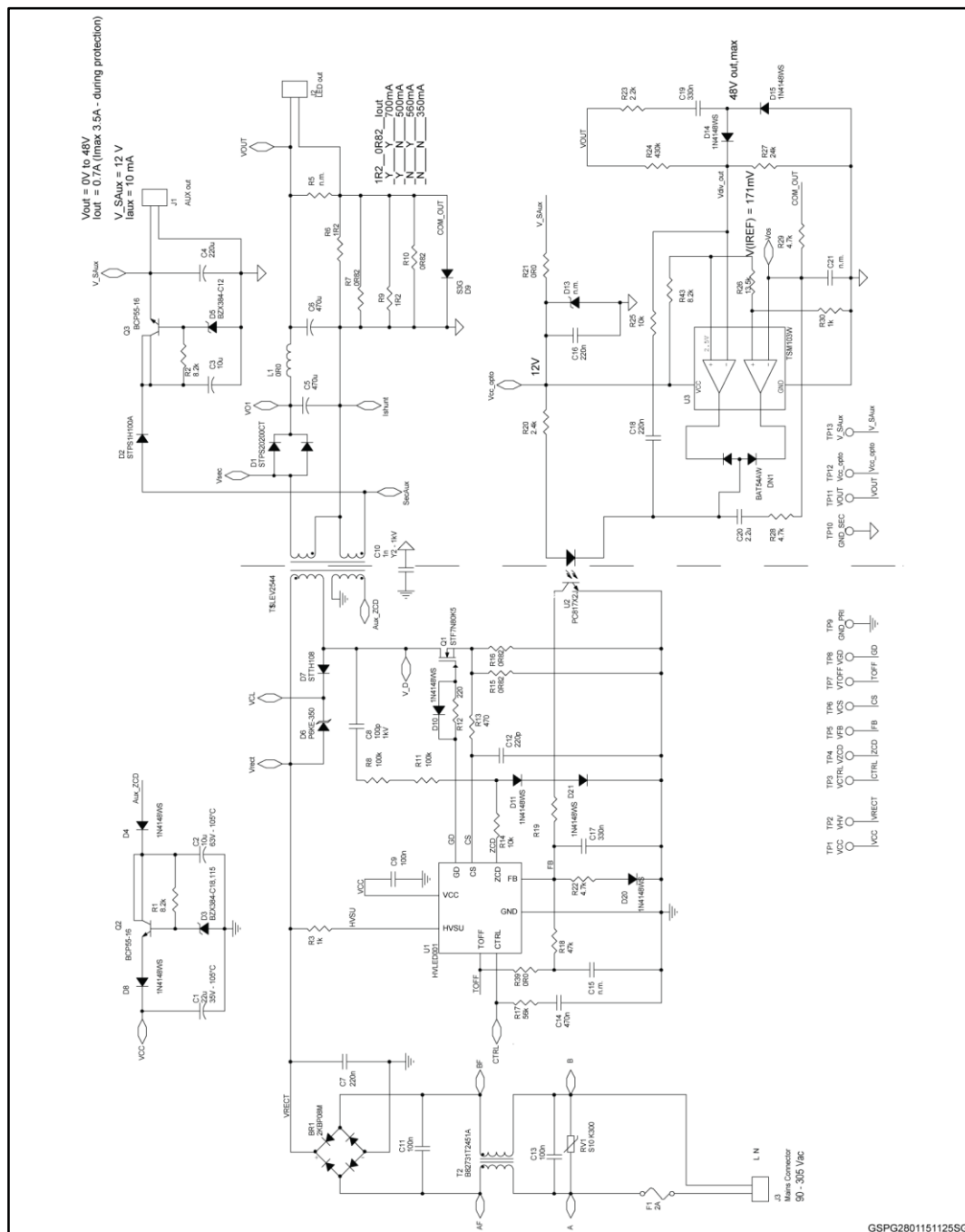
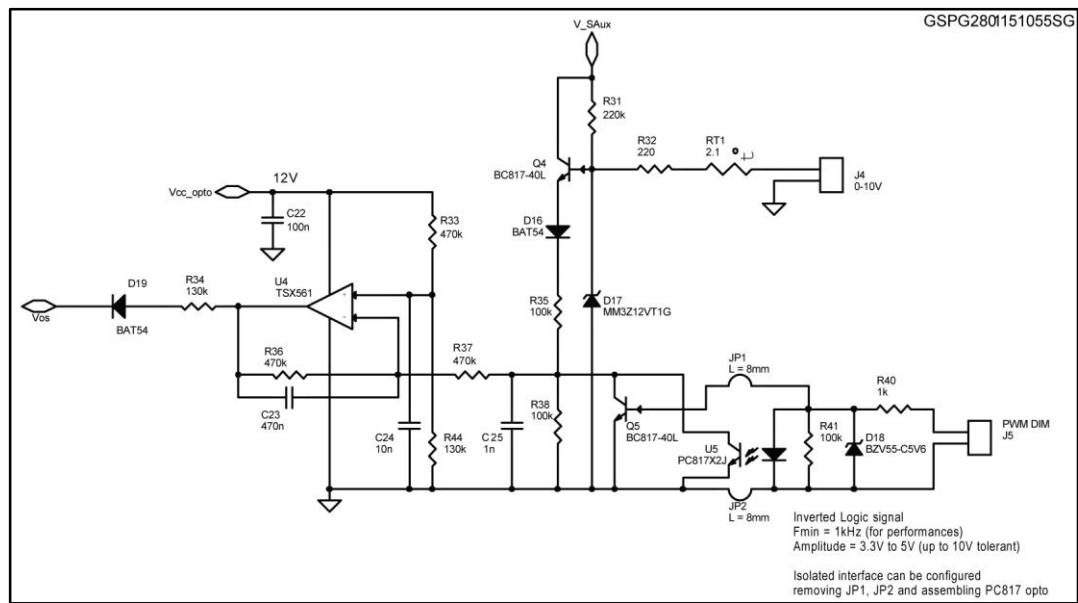


Figure 3: STEVAL-ILL070V1 circuit schematic - dimming interface section



3 Revision history

Table 1: Document revision history

Date	Rev	Changes
02-Feb-2015	1	First release.

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