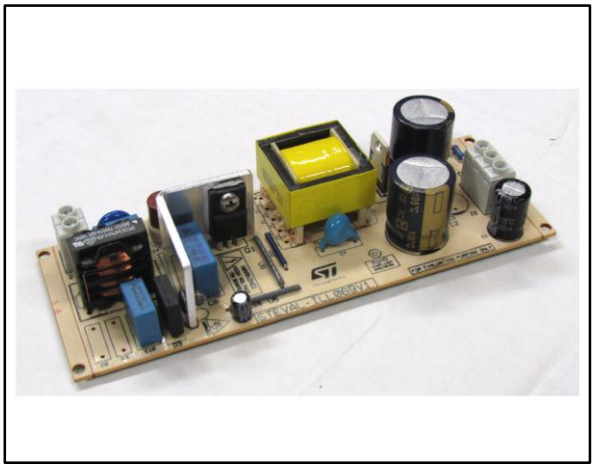
STEVAL-ILL069V1

35 W wide input range flyback converter using HVLED001 quasi resonant flyback controller

Data brief



Features

- Input voltage: V_{in} = 90 - 264 Vrms, f = 45 - 66 Hz
- Output voltage: 48 V / 730 mA
- High power factor, low THD
- No-load: better than 400 mW @ 230 Vin
- Full load efficiency: better than 90%
- Short circuit protection with auto restart
- Safety: Acc. to EN60065
- PCB board: 130 mm x 50 mm single side PCB
- RoHS compliant

Description

The STEVAL-ILL069V1 is designed to provide a stable and insulated 48 V voltage bus to supply secondary side circuitry (e.g., LED current generators) with a total output power of 35 W when a wide range of input voltages is applied at its input. An auxiliary 14 V output is also present to supply small circuitries which absorb a maximum current of 20 mA. A very high power factor is obtained thanks to the HVLED001's features, including management of protections for input voltage variations, excessive input voltages (overvoltage due to surges or bursts) and very low input voltages, thus improving the reliability of the application. The efficiency of the application is very high even at very low loads thanks to the improved frequency fold-back feature that simultaneously reduces the output voltage ripple at light loads. Output short circuit and overload protections feature auto-restart for safer operation in lighting environments.

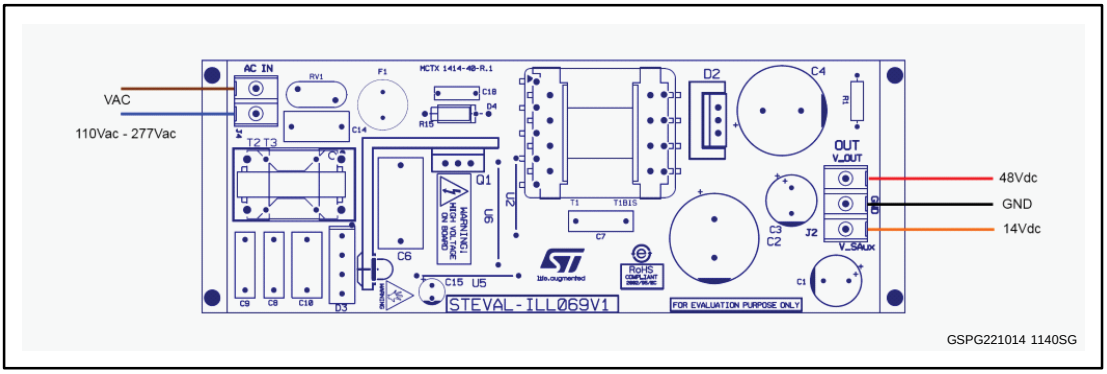
The board can operate with 305 Vrms input voltage replacing Q1 with STF5N95K5 Power MOSFET.

For further information contact your local STMicroelectronics sales office

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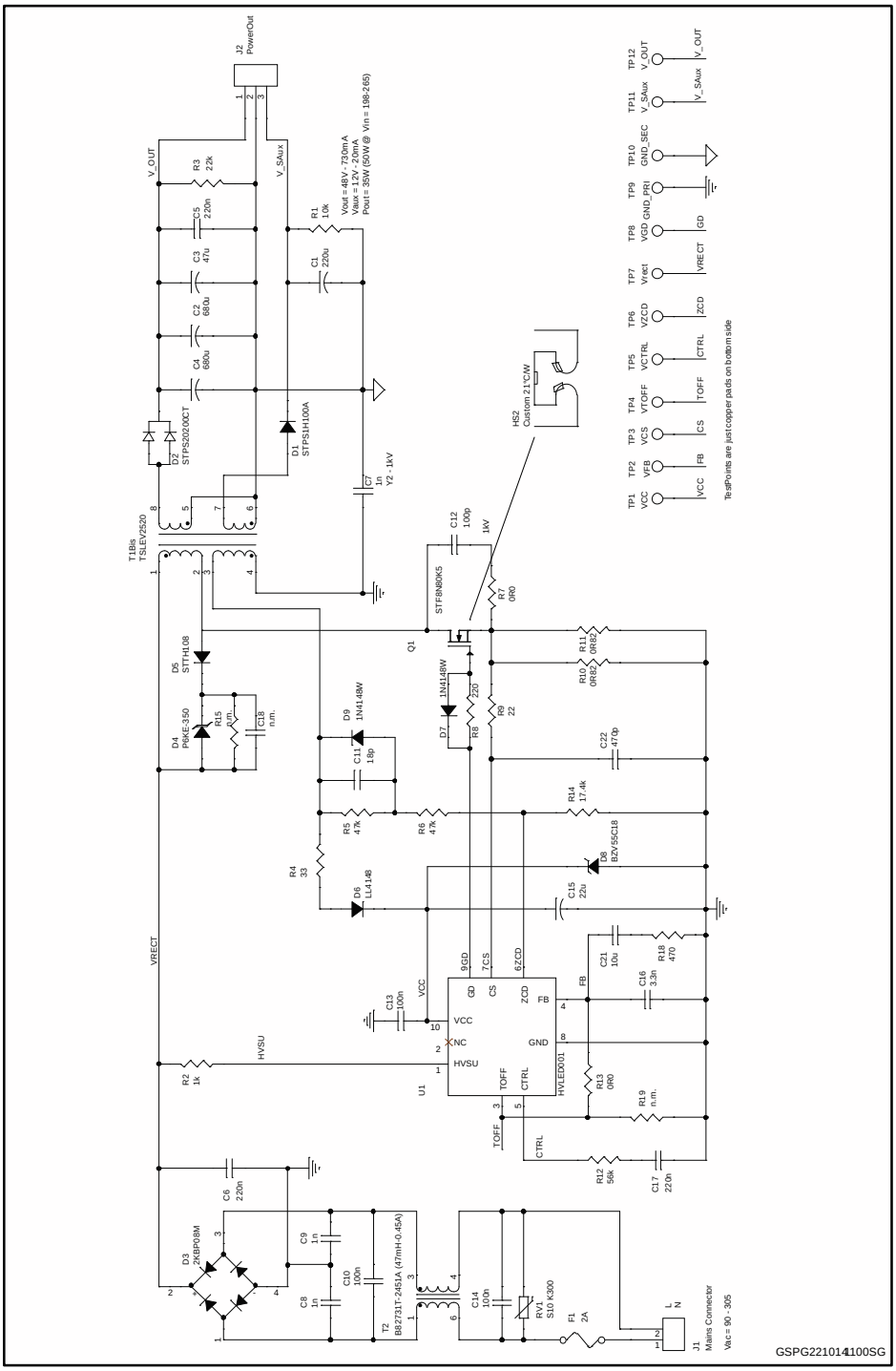
1 STEVAL-ILL069V1 board

Figure 1: Jumpers and connectors location



2 Schematic diagram

Figure 2: STEVAL-ILL069V1 circuit schematic



Change Q1 with STF5N95K5 when input voltage is up to 305 Vrms.

3 Revision history

Table 1: Document revision history

Date	Rev	Changes
18-Nov-2014	1	First release.
02-Jul-2015	2	Updated features and description on the cover page.

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