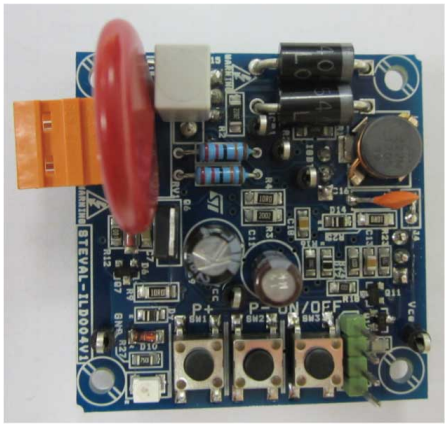
STEVAL-ILD004V1

Digital wall dimmer for halogen and low-consumption lamps

Data brief



Description

The STEVAL-ILD004V1 evaluation board is designed to propose an innovative and low cost power topology for a light wall dimmer using two sensitive TS820-600FP SCRs and a single STGF10NC60KD IGBT to dim the following lamp types: 100 - 240 V halogen lamps, SELV halogen lamps through magnetic or electronic transformers, and new CFL and LED dimmable lamps.

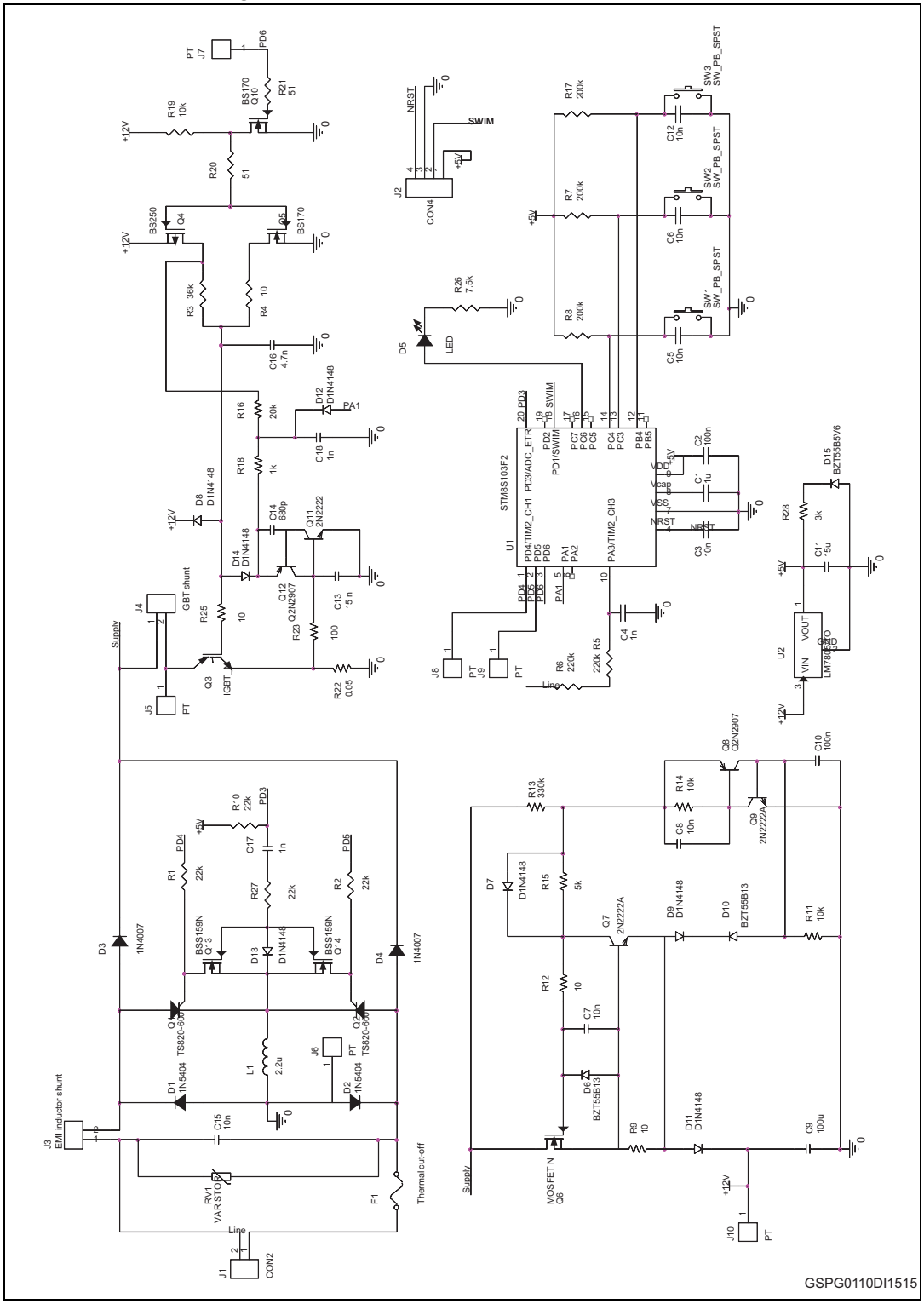
Control of the board is achieved with the STM8S103F2 microcontroller.

Features

- Operation for 2-wire wall dimmer
- Leading-edge control only (compatible with all commonly-available lamps on the market)
- Operation at 110 V or 230 V line rms voltage and 50 Hz or 60 Hz line frequency
- Dimmable power range (higher power is possible with larger heatsink):
  - 6 W to 600 W for 230 V rms line
  - 6 W to 300 W for 110 V rms line
- Power efficiency @ 600 W - 230 V > 99%
- Standby losses @ 230 V < 0.3 W
- Short-circuit protection at startup
- Enhanced interface with push-buttons; soft-start and soft-stop; memory of last setting
- Compliance with EMC standards:
  - IEC 61000-4-5: criteria A for 2 kV surge
  - IEC 61000-4-4: criteria A for more than 2.5 kV
- Compliant with EN55015 with 600 W - 230 V halogen lamp
- RoHS compliant

1 Schematic diagram

Figure 1. STEVAL-ILD004V1 circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
09-Jan-2013	1	Initial release.
06-Nov-2014	2	*Figure 1: STEVAL-ILD004V1 circuit schematic* has been updated.