STEVAL-ILB004V1

Demonstration board: multipower ballast for T5 fluorescent tube lamps based on the ST7LIT19BF1 and STP5NK60Z

Data Brief

Features

- Improved efficiency
- Increased lamp life
- Lightweight with smaller dimensions
- Better lamp power control

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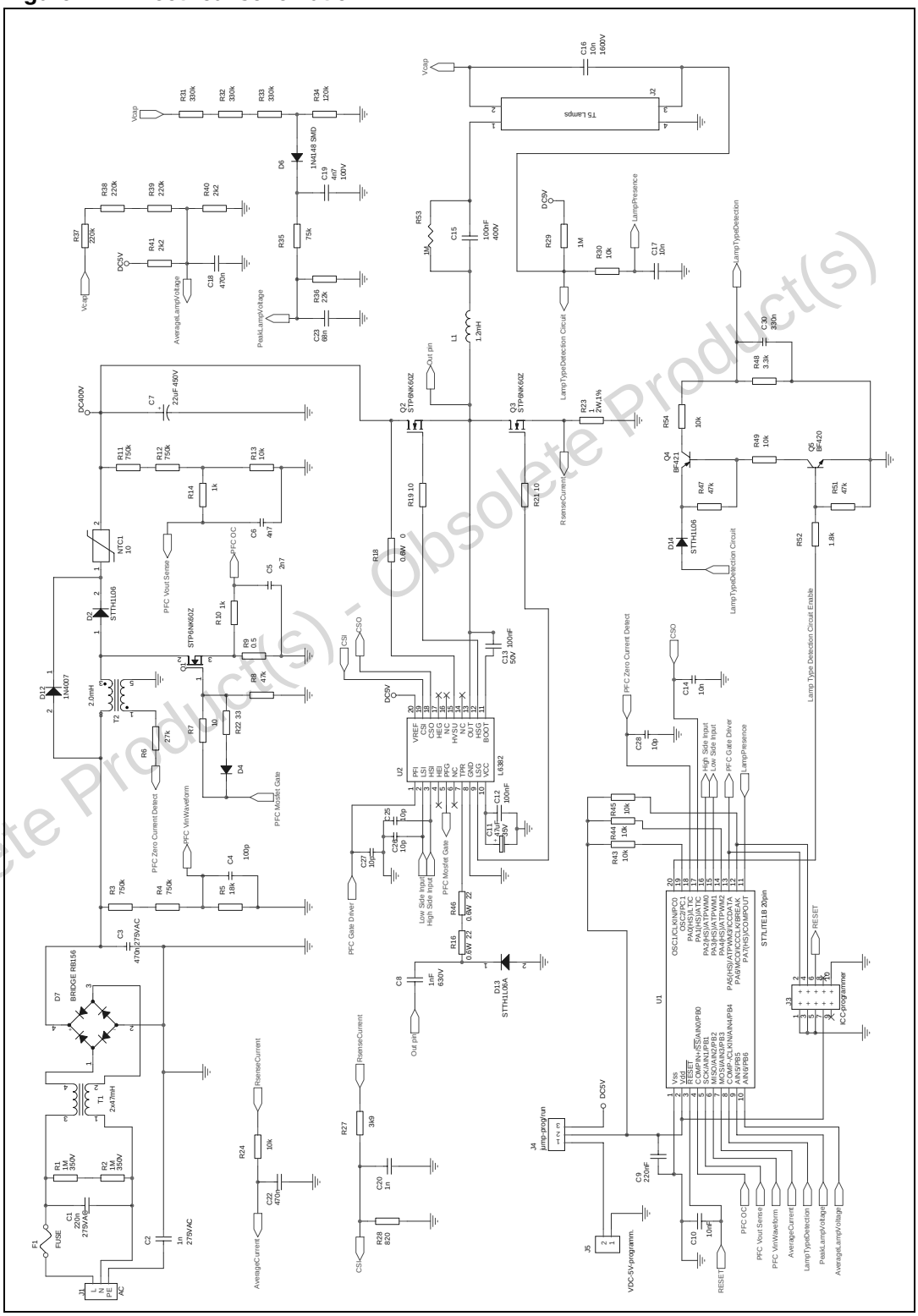
Description

The STEVAL-ILB004V1 demonstration board is an electronic ballast that adds “intelligence” to ballast circuits, thanks to the use of a microcontroller. Rather than having a dedicated circuit for each tube lamp with a single ballast, the STEVAL-ILB004V1 can drive many different lamp groups. The system is capable of recognizing T5-type fluorescent lamps, with power ratings of 24 W, 39 W, 54 W and 80 W. It consists of two main blocks: a boost converter (power factor controller) working in transition mode (fixed TON and variable frequency), and an inverter in half-bridge configuration working in zero-voltage switching. Both the ballast and PFC stages are controlled by the ST7LIT19BF1 microcontroller, which provides its signal to the L6382D5 power management unit. The power management unit delivers the right voltage and current levels to the STP5NK60Z power MOSFET. After tube recognition, the system sets the parameters to drive the lamp correctly.

1 Schematic diagram

Figure 1. Electrical schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
02-Dec-2008	1	Initial release.

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