



STEVAL-ILH001V1

250 W electronic ballast demonstration board for metal halide lamps based on the L6562 and ST7LITE39F2

Data Brief

Features

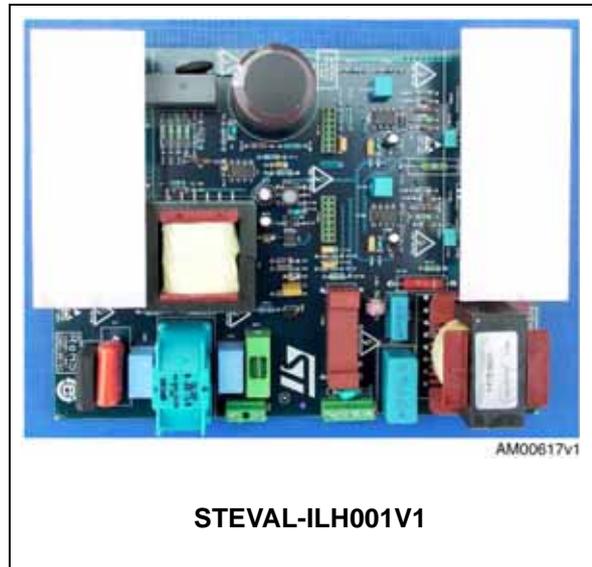
- Input voltage: 90 to 265 Vac, 50 - 60 Hz
- P_{OUT} : 250 W
- Power factor: ≥ 0.94 at 230 Vac
- Full-bridge for output stage working at low frequency to avoid acoustic resonance
- PFC (power factor correction) implemented using the L6562 PFC controller
- Total system efficiency up to 94%
- Current control during warm-up phase
- Power control during steady state

Description

The STEVAL-ILH001V1 demonstration board implements a two-stage electronic ballast for 250 W, HID (high-intensity discharge) metal halide lamps.

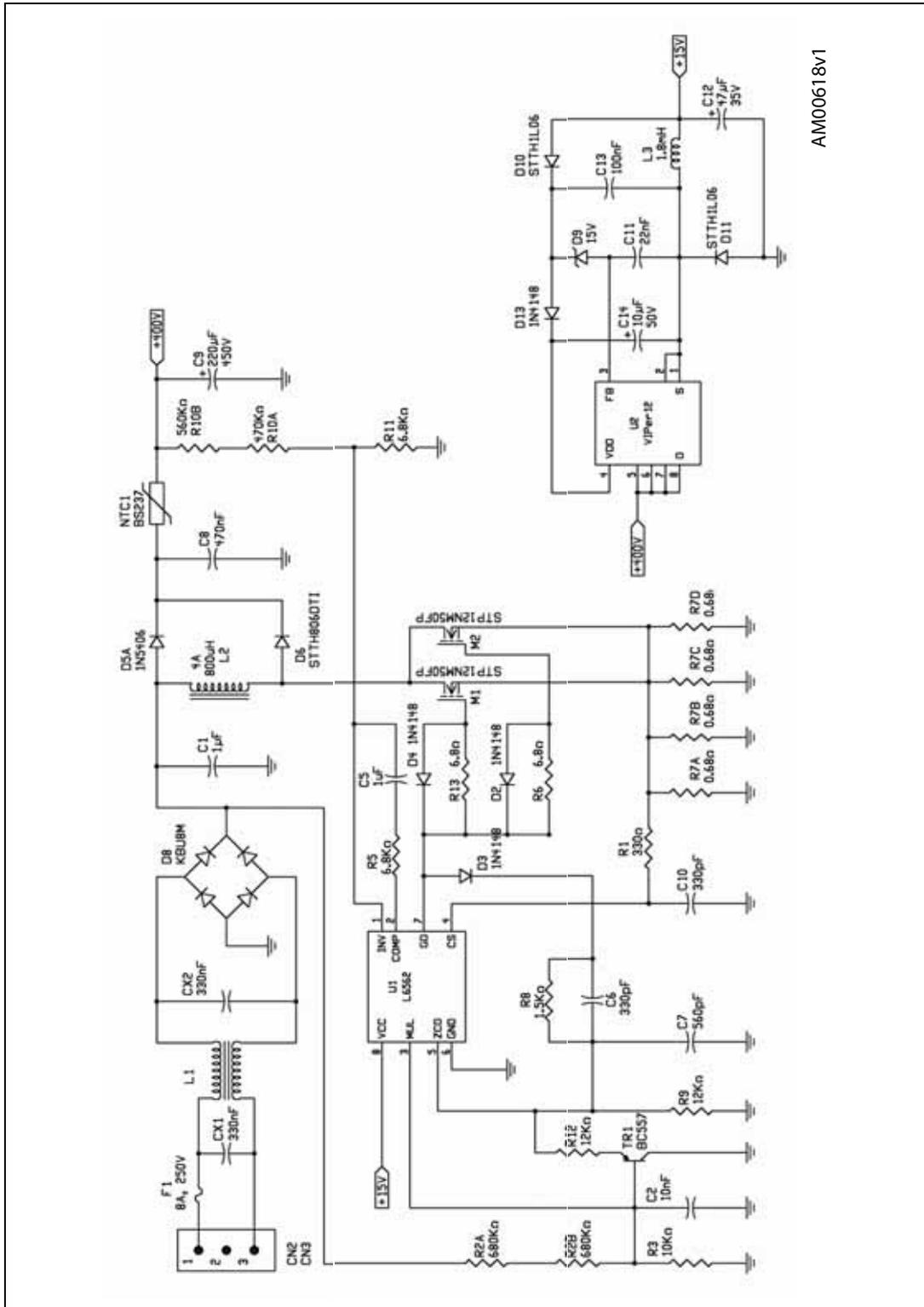
The ballast features a boost converter (PFC controller) working in fixed OFF-time, and a full-bridge inverter to drive a lamp using a low frequency square wave.

The design of the STEVAL-ILH001V1 takes advantage of STMicroelectronics' very large product portfolio. ST components used in the design include: PFC drivers, an inverter driver microcontroller, auxiliary power supply, voltage reference, logic part, amplifier, comparators, and power devices such as power MOSFETs, IGBTs, and fast diodes.



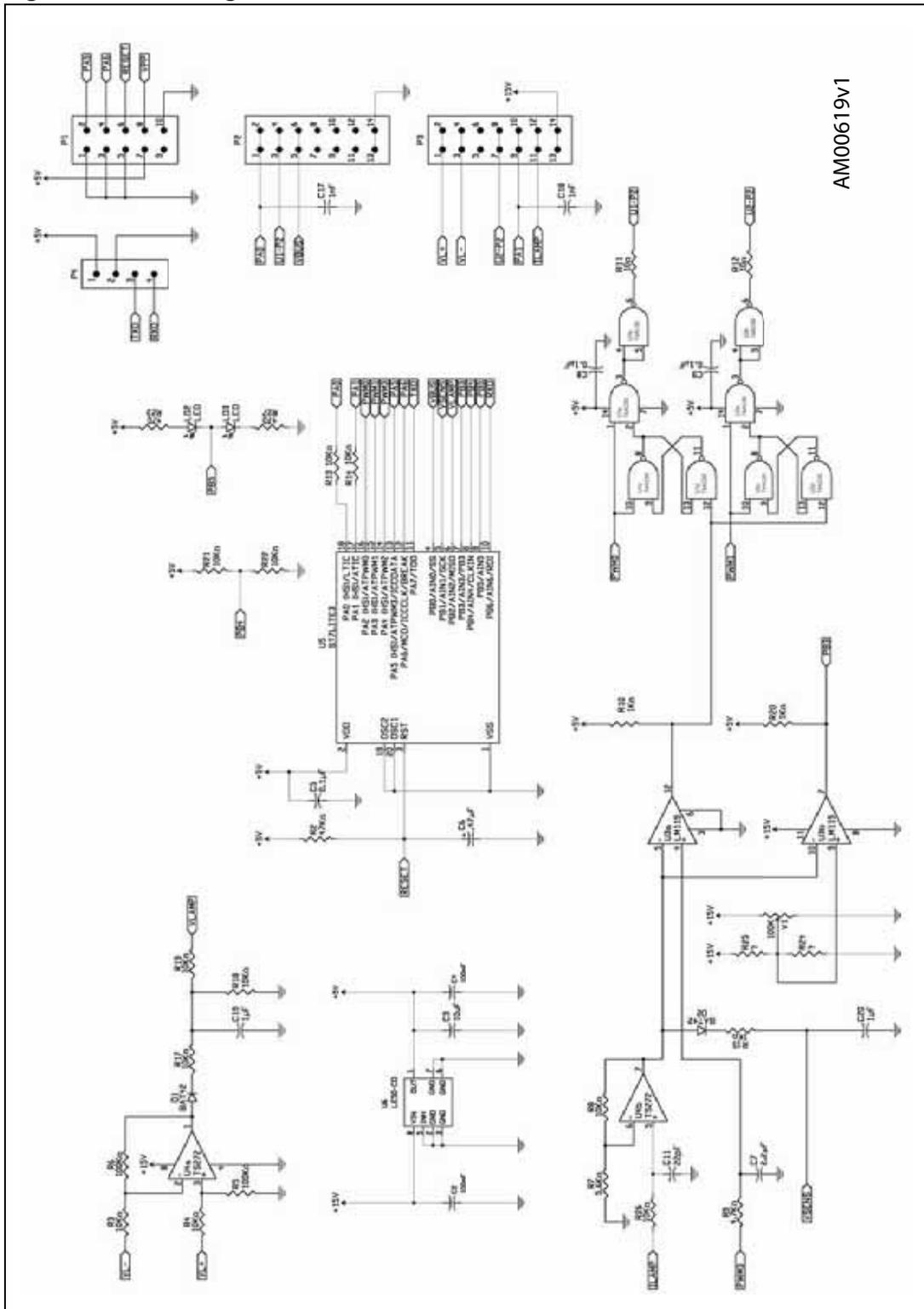
1 Circuit schematic

Figure 1. PFC electrical schematic



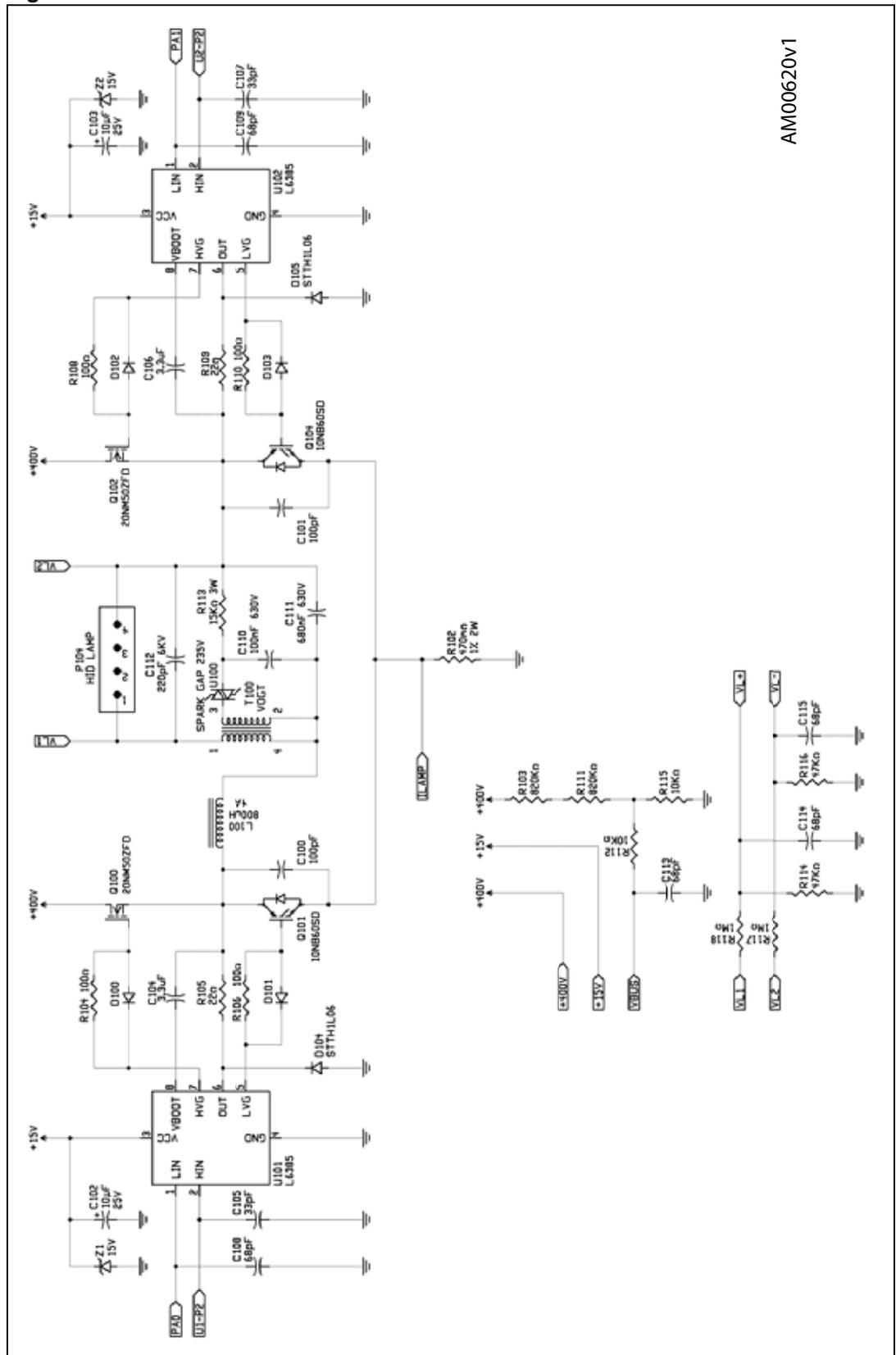
AM00618V1

Figure 2. Full bridge electrical scheme



AM00619V1

Figure 3. Electrical schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
05-Jun-2008	1	Initial release.

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