



STEVAL-ILH005V2

150 W electronic ballast for HID lamps
based on the L6562A and ST7LITE39F2

Data brief

Features

- Minimum mains voltage: $V_{ac(min)} = 185 \text{ V}$
- Maximum mains voltage: $V_{ac(max)} = 265 \text{ V}$
- Minimum mains frequency: $f_{min} = 47 \text{ Hz}$
- Output current: $I_{out} = 0.38 \text{ A}$
- Rated lamp power: $P_{Lamp} = 150 \text{ W}$
- Expected bridge efficiency: $\eta_{bridge} = 95\%$
- Regulated DC output voltage (DC value):
 $V_{out} = 420 \text{ V}$
- Maximum output overvoltage (DC value):
 $\Delta OVP = 50 \text{ V}$
- Maximum output low-frequency ripple:
 $\Delta V_{outx} = 20 \text{ V}$
- PFC minimum switching frequency:
 $f_{min} = 28 \text{ kHz}$
- Expected PFC efficiency: $\eta_{PFC} = 96\%$
- Expected input section efficiency: $\eta_{in} = 99\%$
- Expected power factor: 0.99
- RoHS compliant



Description

The STEVAL-ILH005V2 demonstration board implements a two-stage electronic ballast for 150 W HID metal halide lamps. The ballast is composed of a boost converter (power factor controller PFC) working in transition mode and an inverter consisting of a full bridge that drives the lamp at low-frequency square wave.

The ballast was developed for 185 - 265 Vac 50/ 60 Hz input mains and is able to drive 150 W metal halide and high-pressure sodium lamps.

1 Circuit schematics

Figure 1. PFC and auxiliary power supply schematic

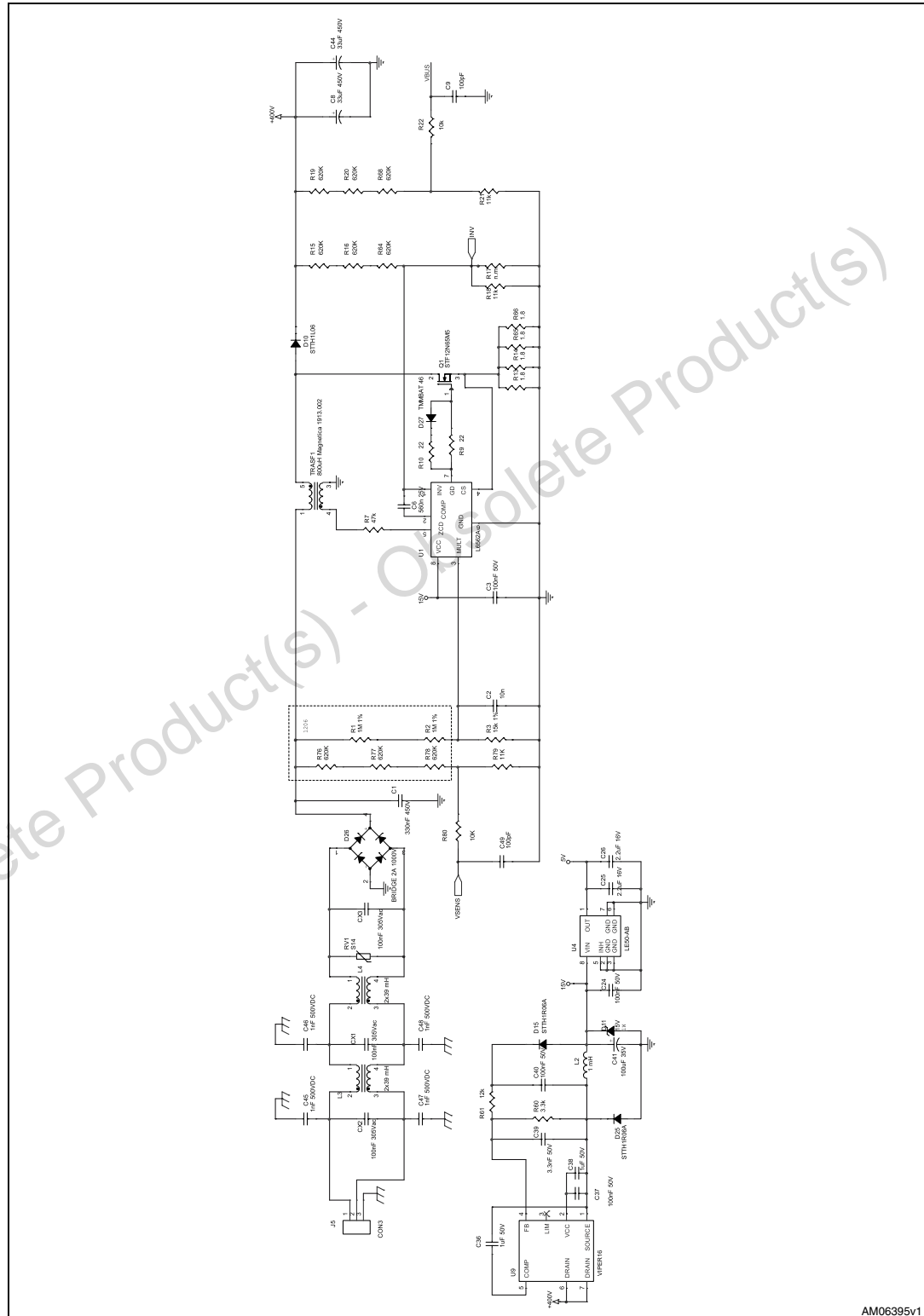
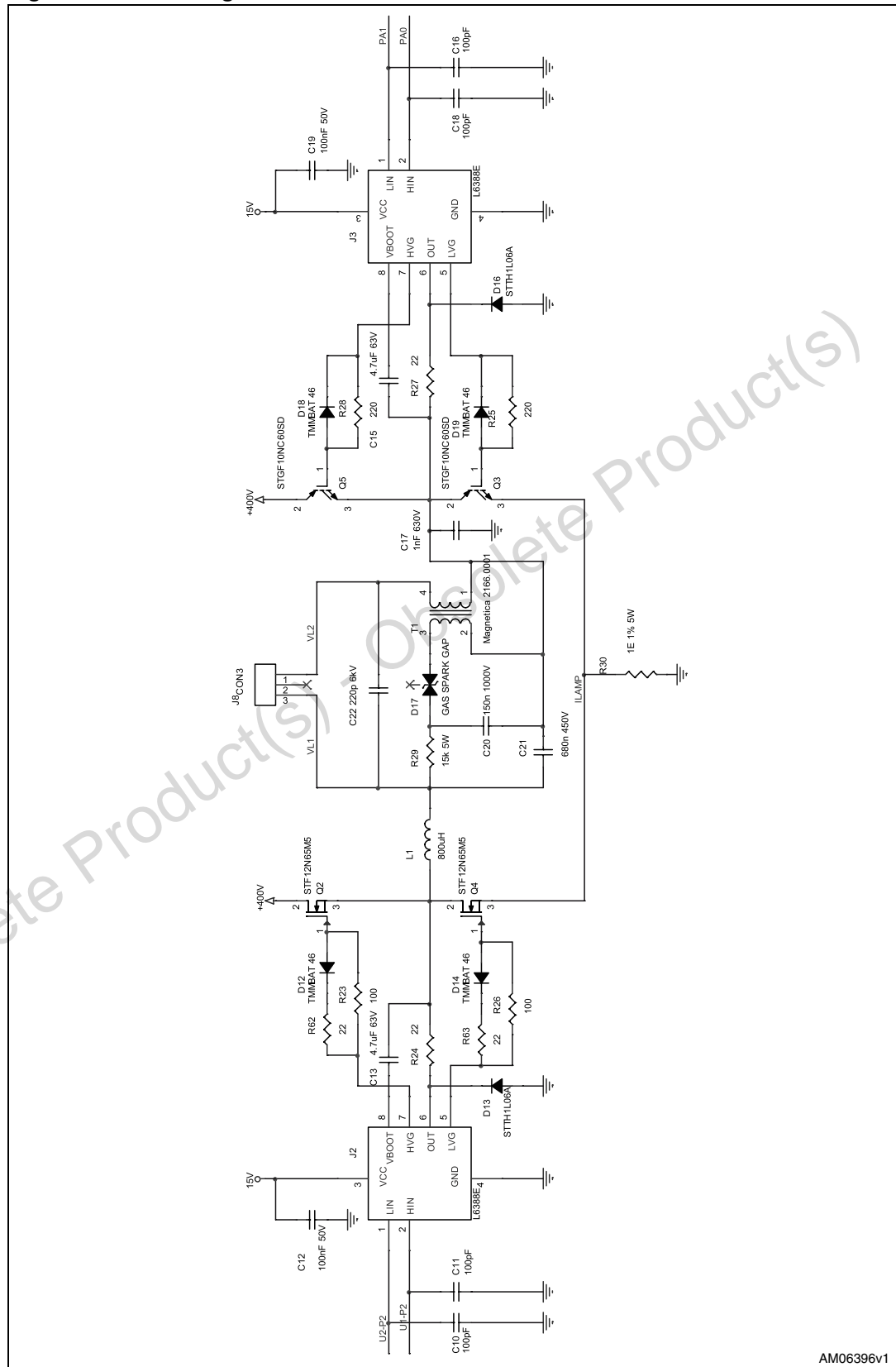
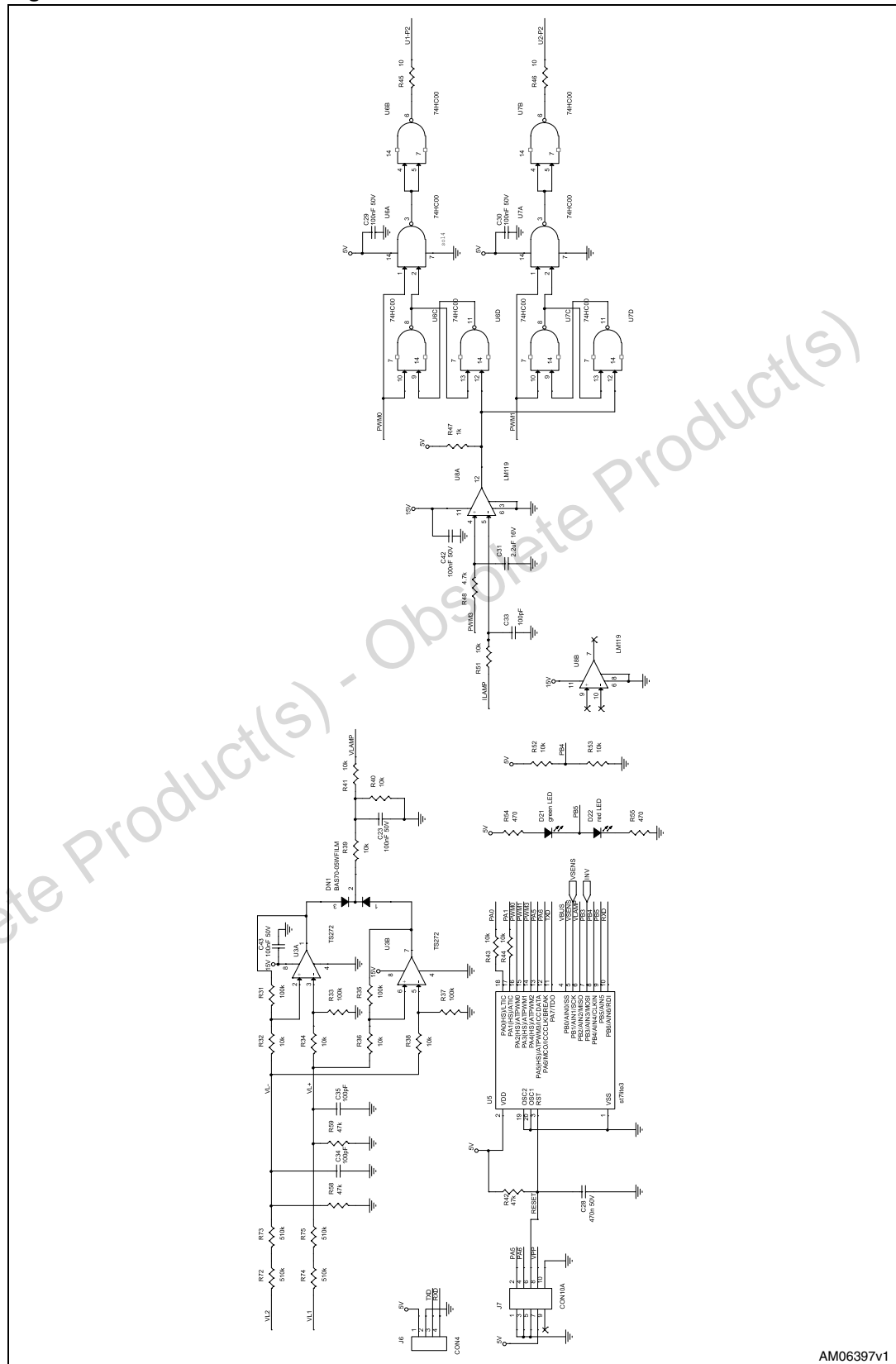


Figure 2. Full-bridge schematic



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Figure 3. Control section schematic



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2 Revision history

Table 1. Document revision history

Date	Revision	Changes
04-Nov-2011	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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