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## STEVAL-ILH005V2

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

Data brief

### Features

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



STEVAL-ILH005V2

### 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.

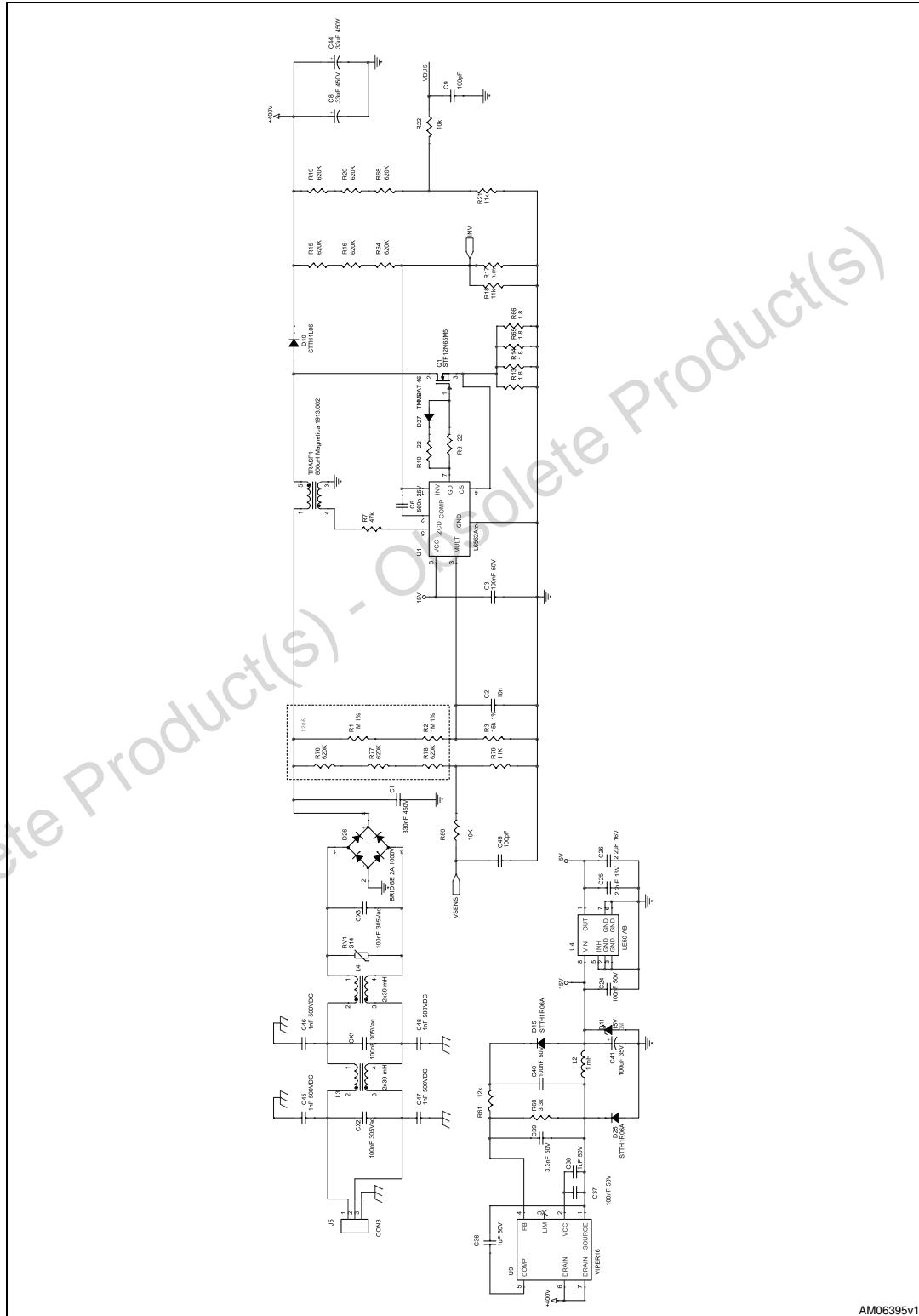
The ballast was developed for 185 - 265 Vac 50/ 60 Hz input mains and is able to drive 150 W metal halide and high-pressure sodium lamps.

## Circuit schematics

STEVAL-ILH005V2

## 1 Circuit schematics

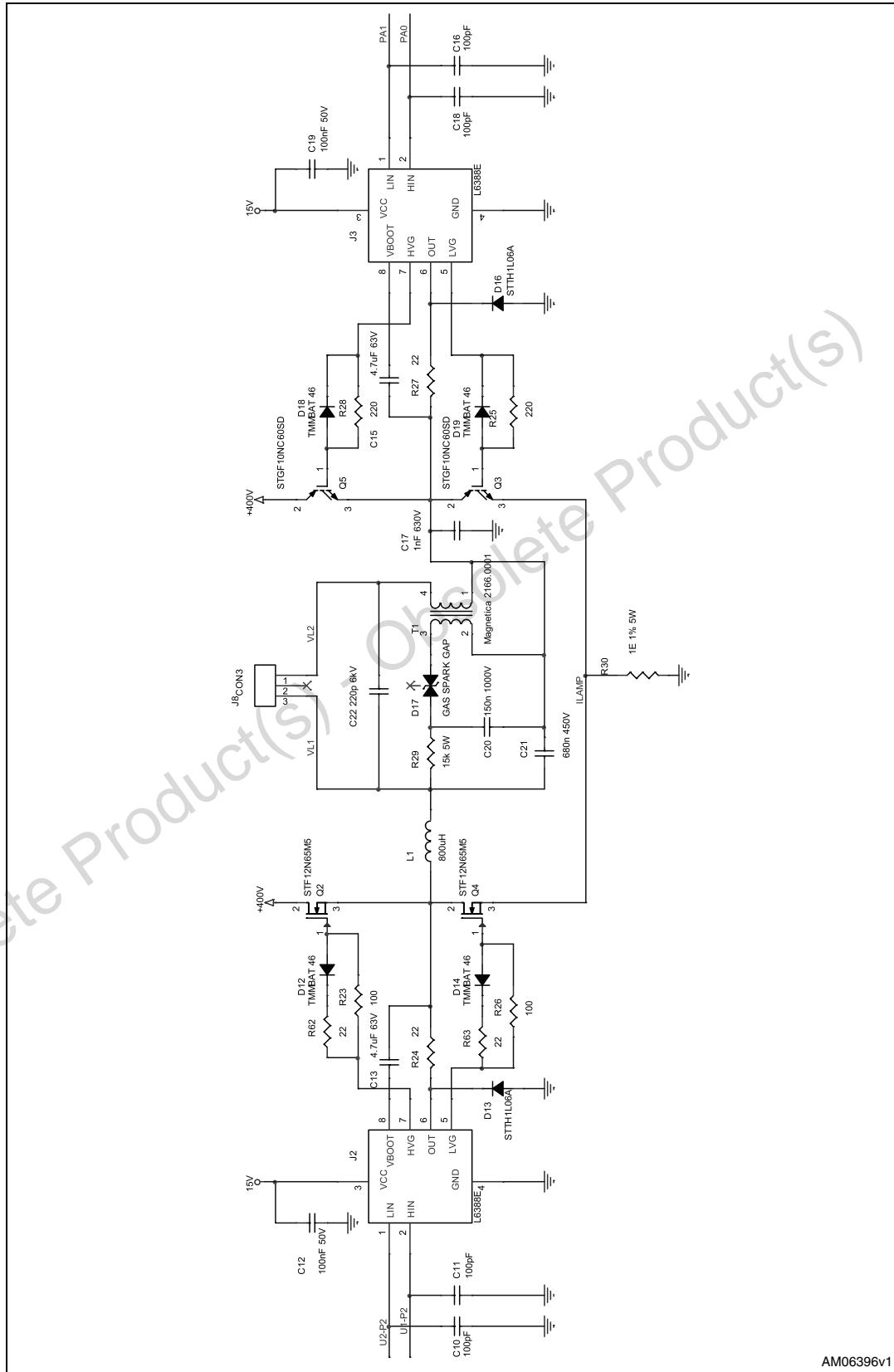
**Figure 1. PFC and auxiliary power supply schematic**



## STEVAL-ILH005V2

## Circuit schematics

**Figure 2. Full-bridge schematic**

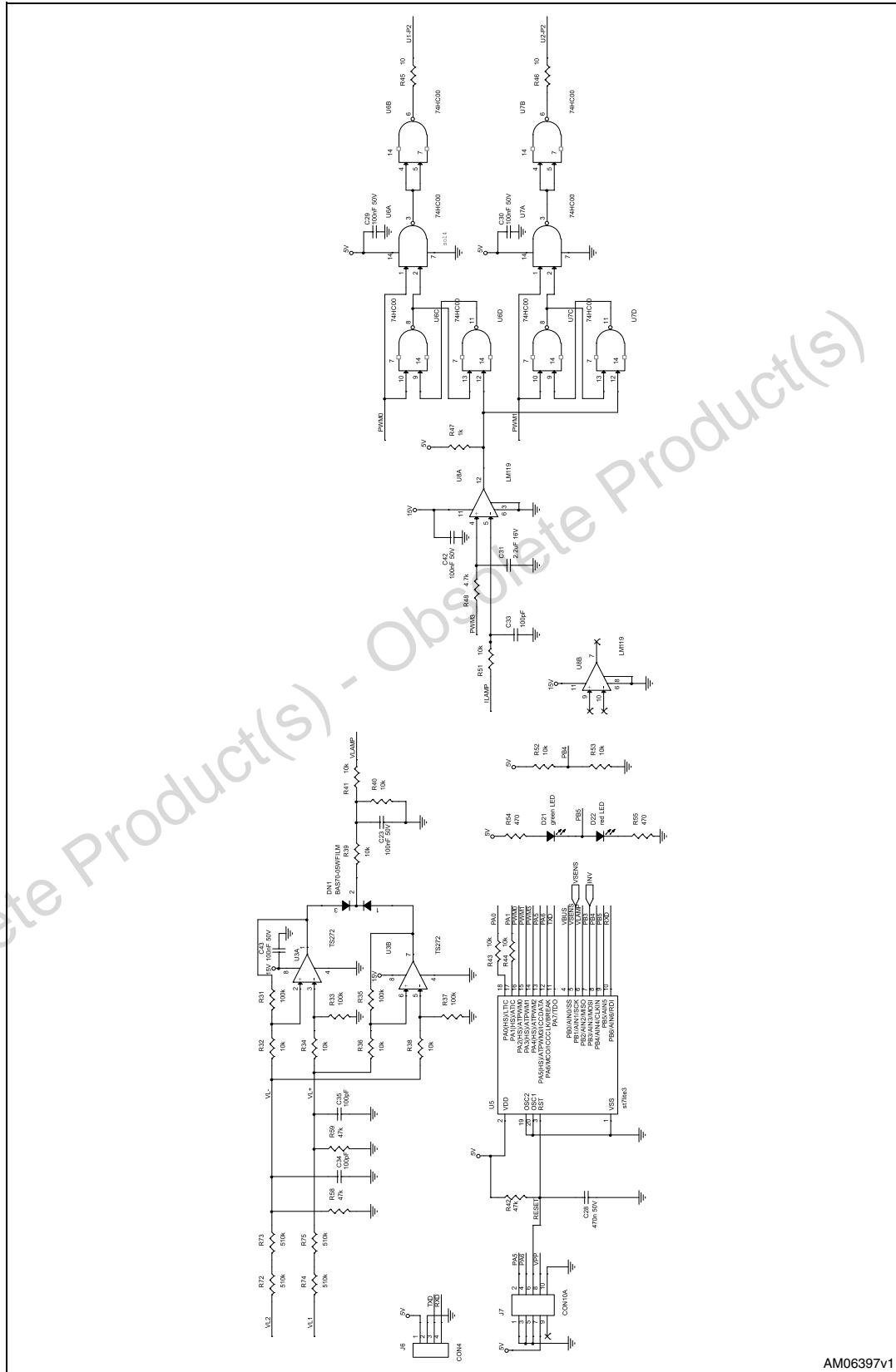


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## Circuit schematics

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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.

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