



# STEVAL-ILL038V1

## LED resonant driver demonstration board based on the L6585DE

Data brief

### Features

- Extended input mains range: 90 ~ 265 VAC - frequency 50/60 Hz
- Output voltage: 48 V at 2.08 A
- Long-life, electrolytic capacitors are not used
- Mains harmonics according to EN61000-3-2 Class-D
- Efficiency at full load is better than 90%
- RoHS compliant

### Description

The STEVAL-ILL038V1 demonstration board implements a 100 W LED switched-mode power supply (SMPS) based on the L6585DE. This device embeds a high-performance transition mode (TM) Power Factor Correction (PFC) controller, Half-Bridge (HB) controller and all the relevant drivers necessary to build a combo IC.

The L6585DE embeds a wide range of features to provide an energy-saving and cost-effective solution for LED SMPS.

The PFC section of this IC has superior performance in terms of harmonic content mitigation. High Power Factor (PF) and Total Harmonic Distortion (THD) reduction are obtained as required by international norms, especially concerning universal input voltage operations. The TM PFC operation and high-efficiency performance of the half-bridge topology provide very good overall circuit efficiency.

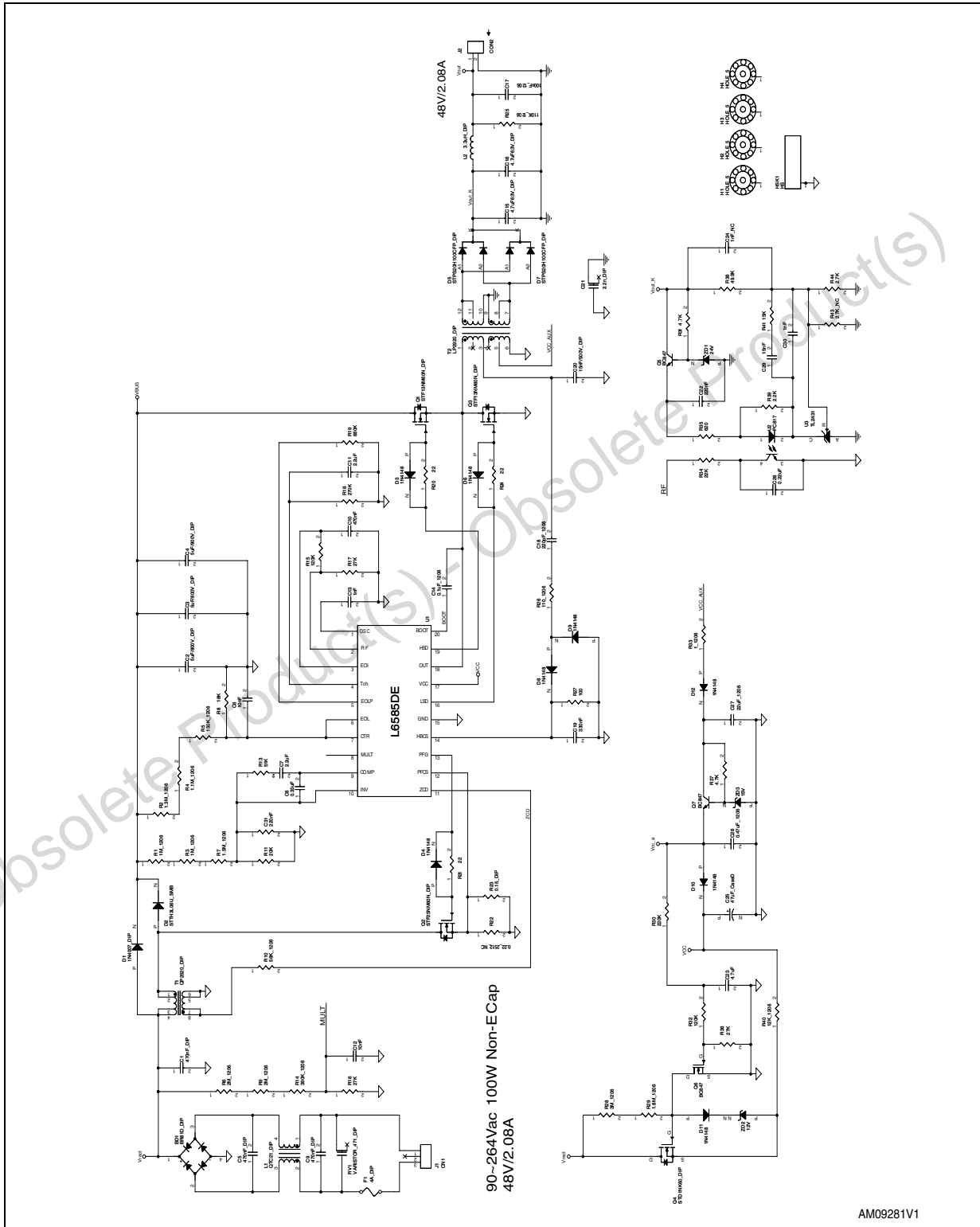
In order to guarantee maintenance-free operation required by this kind of application during the LED's lifetime, the STEVAL-ILL038V1 board doesn't use any electrolytic capacitors which have been replaced by safer film capacitors.

Other features, such as half-bridge overcurrent with frequency increase and PFC overvoltage, allow designers to build a reliable and flexible solution with a reduced component count.



# 1 Schematic

Figure 1. STEVAL-ILL038V1 demonstration board schematic



## 2 Revision history

Table 1. Document revision history

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 20-Jul-2011 | 1        | Initial release. |

Obsolete Product(s) - Obsolete Product(s)

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