

STEVAL-ISF001V2

New 3 kW FOT PFC based on the L6563S and STW88N65M5

Data brief

Features

- FOT power systems based on the L6563
- Single range input voltage from 185 V to 265 V© 50/60 Hz line
- Output voltage 400 V ±5%
- Inductor saturation protection
- Optimized EMC input filter (EN55014 and EN55022)
- Power factor > 0.98
- Efficiency higher than 95%
- THD below 10% starting from 1 kW
- RoHS compliant

Description

The STEVAL-ISF001V2 demonstration board provides a compact and ready-to-use solution for the implementation of a simple PFC system able to supply loads with a power close to the maximum delivered in the most typical domestic installations.

For such a power range the use of a continuous mode PFC operation becomes mandatory in order to drain from the net a current with an RMS value that does not surpass the maximum allowed from the metering system and to have a reasonable device size involved in the system operations.

Normally, the use of a standard continuous mode driver chip means the use of a more expensive and complex driver along with all the passive components required.

STMicroelectronics has patented a solution that allows the use of a simple driver, designed for transition mode operation, in a fixed off-time, variable frequency, PWM modulation.

This kind of modulation gives a current on the boost inductor of the PFC that is comparable with

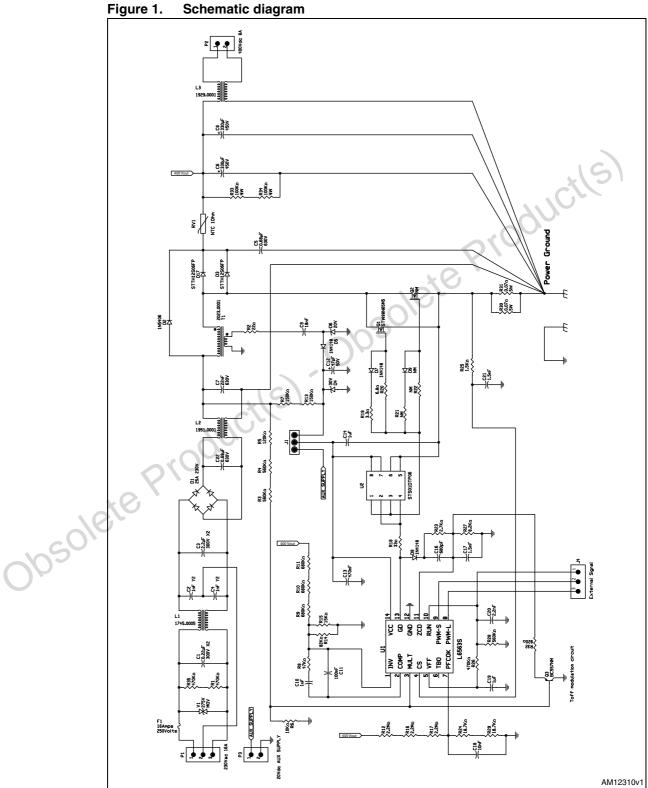


the current obtained using a classic continuous mode modulation.

Schematic diagram STEVAL-ISF001V2

Schematic diagram 1





STEVAL-ISF001V2 Revision history

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Table 1. Document revision history

Date	Revision	Changes
25-May-2012	1	Initial release.



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