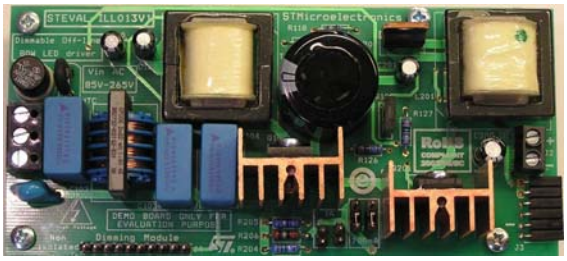
STEVAL-ILL013V1

80 W offline PFC and LED driver demonstration board with dimming based on the L6562A

Data Brief

Features

- 80 W LED driver
- 350 mA, 700 mA and 1 A LED current settings
- High efficiency (~90%)
- Wide input voltage range: 88 V to 265 VAC
- High power factor: 0.982 for 230 V/50 Hz AC
- Universal PWM input for dimming (external board required)
- Non-isolated SMPS
- Brightness regulation between 0 and 100%
- EMI filter implemented
- EN55015 and EN61000-3-2 compliant



STEVAL-ILL013V1

This demonstration board design is complaint with standard EN61000-3-2 (limits for harmonic current emissions).

Description

The use of high power LEDs in lighting applications is becoming increasingly popular due to rapid improvements in lighting efficiency, longer life, higher reliability and overall cost effectiveness. Dimming funtions are more easily implemented in LEDs, and they are more robust and offer wider design flexibility compared to other light sources.

The STEVAL-ILL013V1 demonstration board is an 80 W offline dimmable LED driver with high power factor (PF) intended for 350 mA, 700 mA and 1 A LEDs.

The converter is designed as a constant current source to achieve the best lighting performance from the LEDs, and can be used for lighting applications from low power, low voltage to high power, high voltage. This allows designers to cover a wide range of different LED systems using a single topology.

Additionally, in lighting applications where the input active power is higher than 25 W and a high power factor is required, the high PF converter can be connected as the first stage, before the modified BUCK converter.

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1 Circuit schematic

Figure 1. Schematic diagram

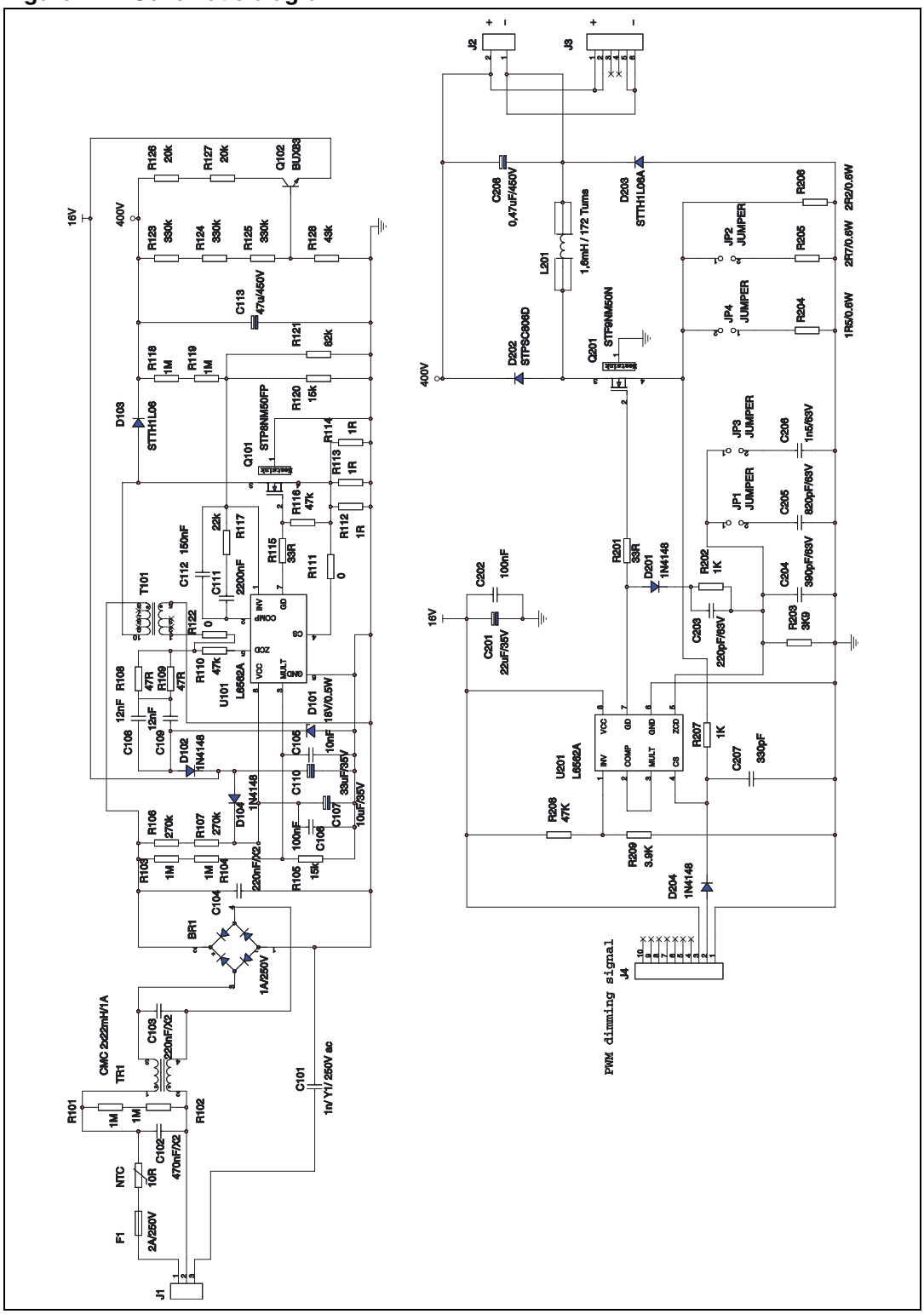


Table 1. Jumpers settings

I_LED	JP1	JP2	JP3	JP4
350 mA	0	0	0	0
700 mA	1	1	0	0
1 A	0	0	1	1

2 Revision history

Table 2. Document revision history

Date	Revision	Changes
06-Mar-2009	1	Initial release.

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