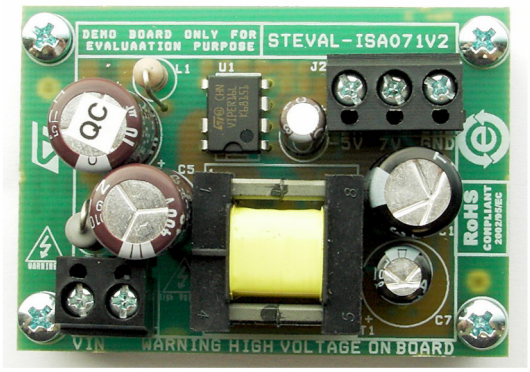
STEVAL-ISA071V2

4 W non-insulated, wide input voltage range SMPS based on the VIPer16

Data brief

Features

- Input:
  - V_{IN}: 85 - 264 V_{rms}
  - f: 45 - 66 Hz
- Output:
  - 12 V_{DC} ± 10% (referred to -5 V), 160 mA
  - -5 V_{DC} ± 4%, 400 mA
- Maximum output power: 4 W (range is up to 6 W for EU)
- Standby power: 35 mW at 230 V_{AC}
- Short-circuit protected
- Insulation: non-insulated; N connected to output GND
- EMI: in accordance with EN55022 class B
- RoHS compliant



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Description

The STEVAL-ISA071V2 demonstration board is a non-insulated SMPS capable of delivering a 4 W output over a wide input voltage range and is designed for a mains application requiring -5 V and +7 V, referred to neutral.

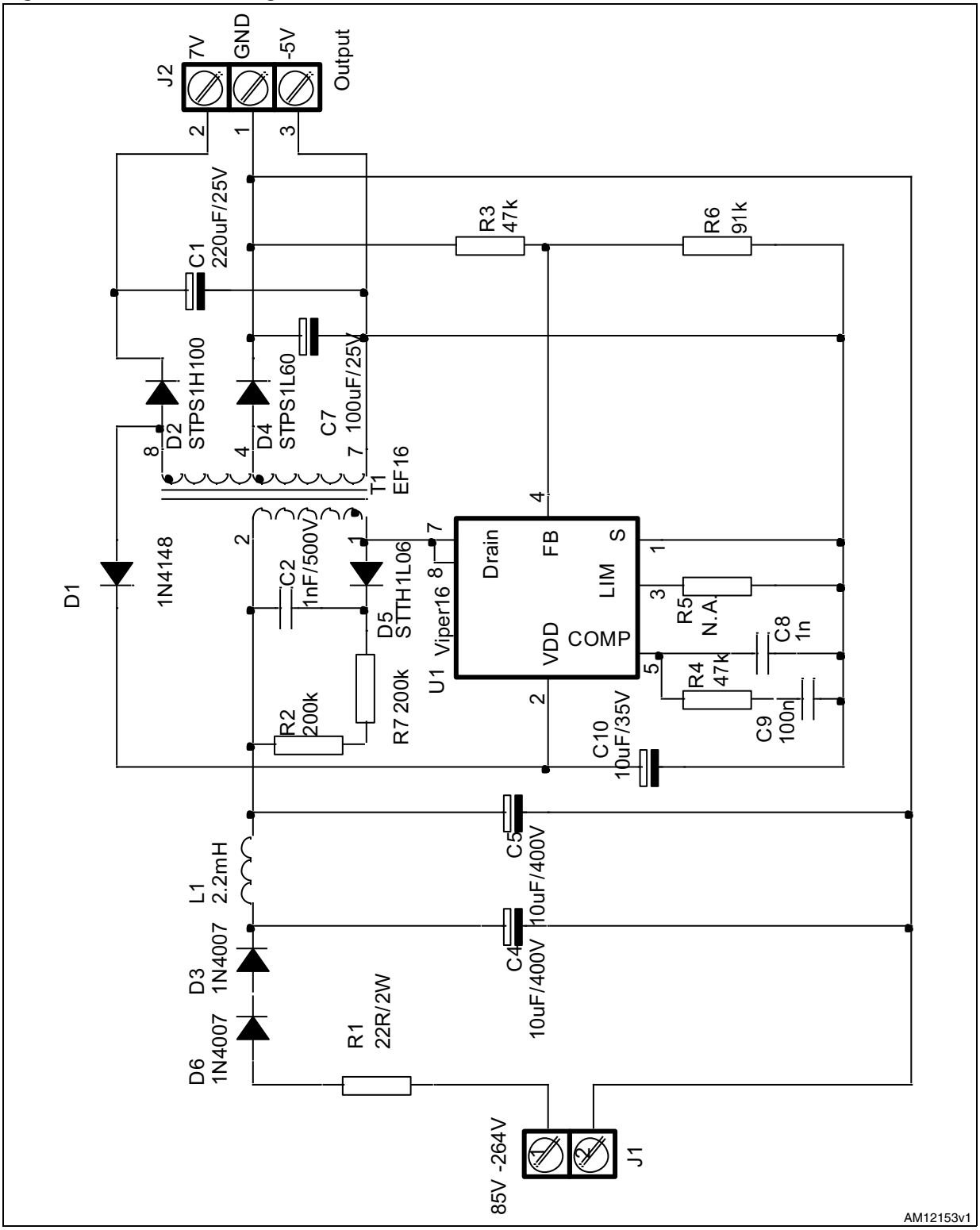
The basic concepts used in this design can also be applied for higher power outputs or different voltage ranges.

The SMPS generates outputs of 5 V and 12 V, referred to the output marked -5 V. The 5 V output is dedicated to supplying an MCU. This configuration allows the use of the MCU to directly drive a Triac (referred to neutral).

The 12 V output is used to supply additional circuits (relays, OA, etc.).

1 Schematic diagram

Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
18-Apr-2012	1	Initial release.