STEVAL-ISA035V1

Non-isolated offline power supply demonstration board based on the VIPER22A-E

Data brief

Features

- Input voltage range: 85 Vac to 264 Vac
- Input voltage frequency: 50/60 Hz
- Lowest possible component count
- Integrated thermal overload protection
- No-load consumption: around 200 mW
- 70% to 80% efficiency at full load
- Integrated short-circuit protection

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Description

Many appliances today use non-isolated power supplies to furnish the low output power required to run a microcontroller, LED displays, and relays or AC switches. This type of power supply has a single rectifier to reference the neutral to output ground in order to fire Triacs or AC switches.

This demonstration board can use the VIPER12A-E or the VIPER22A-E, which are pin-for-pin compatible and can supply power for a wide variety of applications.

The VIPER12A-E is used for 12 V at 200 mA and 16 V at 200 mA, while the VIPER22A-E is used for 12 V at 350 mA and 16 V at 350 mA.

The same board can be used for any output voltage from 10 V to 35 V.

For more design details, please refer to application note AN1357.

For further information contact your local STMicroelectronics sales office. www.st.com

1 Schematic diagrams

Figure 1. Circuit schematic for 12 V at 350 mA

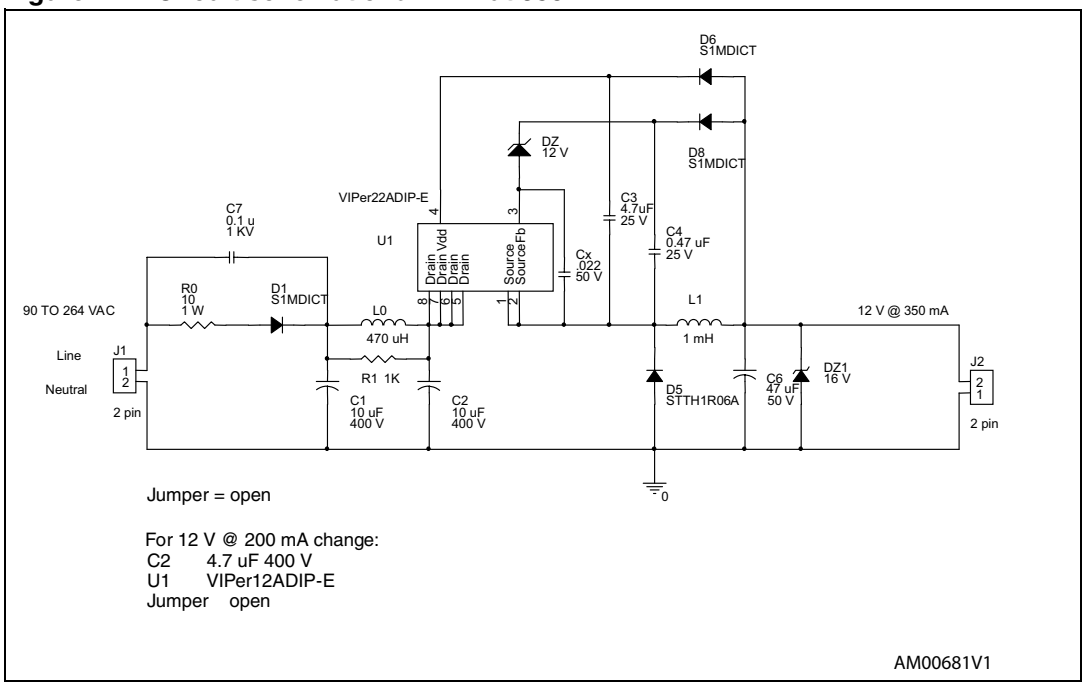
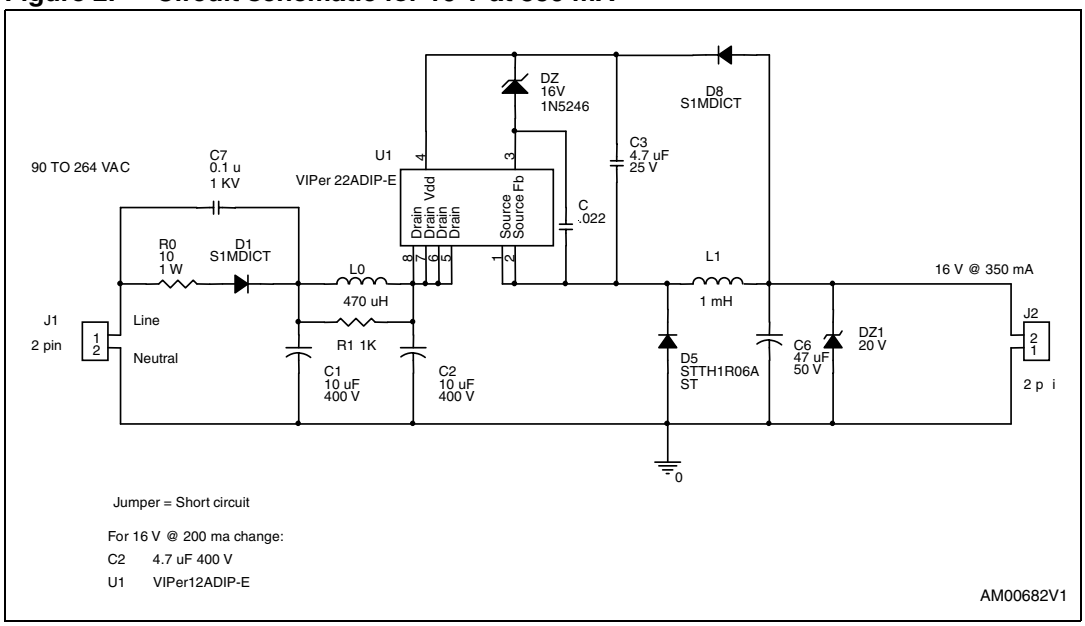


Figure 2. Circuit schematic for 16 V at 350 mA



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
15-Sep-2008	1	Initial release.
18-Jan-2010	2	Updated *Figure 1: Circuit schematic for 12 V at 350 mA*. Minor text and formatting changes.

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