

6 W dual output SMPS demonstration board based on the VIPER17

Data brief

Features

- Input voltage range: 85 Vac to 264 Vac
- Input frequency: 47 Hz to 63 Hz
- Temperature range from: 0° to 85 °C 105°C possible
- Output voltage and current # 1: 5 V @ 0.5 A
- Output voltage and current # 2: 12 V @ 0.25 A
- Load and cross regulation #1: +/-1%
- Load and cross regulation #2: +/-10%
- Output power: 5.5 W
- Line regulation: +/- 0.2%
- Efficiency: 80% typical at 12 V output
- Safety: overvoltage, overcurrent, brown out
- EMI: EN55022 class "B"

Description

This demonstration board is based on the new VIPer17H device, that is a converter that offers in one package a PWM controller built in BCD6 technology and a 800 V avalanche rugged vertical power section.

The VIPer17H switches at 115 kHz and can deliver 6 W from wide range operation from 85 Vac to 305 Vac. It can also deliver 10 W when operating from European range of 175 Vac to 264 Vac.

This demonstration board has additional features asked by many customers:

Standby wattage as low as 50 mW at no load. Frequency jittering is implemented to make EMI measurement meet today's standards. Adjustable overload. Output short-circuit protection for hard short such as transformer saturation or shorted diode. Adjustable brown out and brown in feature. Output over voltage protection.

The same PCB board has been designed in such a way that can be populated for either the double



or even single output. The only difference between them is the extra output parts, the transformer, and the voltage divider for the feedback loop.

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Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Jun-2009	1	Initial release.

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