Project summary

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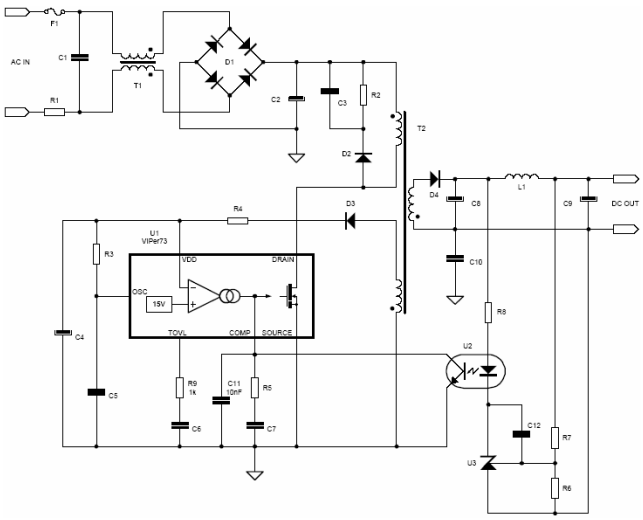
Main Objective
The design of an industrial switching mode power supply (SMPS).

Sub-Objectives
To make students become more familiar with the major stages in development process;
To design and manufacture the DASB prototype board;
To prepare a comprehensive report on the design.

Abstract
The power supply shall be used to power-on several devices in Elster's AMR (Automated Meter Reading) systems installed in different places. The requirements of the SMPS are:

- Type: Single-phase
- Input: 85… 265 VAC / VDC
- Output power: 12W
- Output: 1x 9Vcc, 0.5A; 1x 13Vcc, 0.5A
- Converter topology: Fly-Back
- Regulation type: Secondary
- Efficiency: min. 80%
- Switching frequency: min. 100kHz, max. 130kHz
- Operating temperature range: -40…+85°C
- Features: current mode control with adjustable limitation, output short-circuit and overload protection, thermal shutdown protection.



Development Tools
Current Mode PWM Controllers: ST Microelectronics, Fairchild Semiconductor.
Oscilloscope, Signal Generator, Digital Counter
Testing boards, electronic components
PC, Documentation

Skills and Requirements
The student should have very good knowledge of semiconductor devices, analog integrated circuits, power electronics, electronic measurements and instrumentation. English is compulsory.

Elster Rometrics
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