



STEVAL-ISA016V1

Power supply for STB based on L6565 (EU-220V)

Data Brief

Features

- Switch mode Quasi-Resonant Flyback Power Supply
- Input: 185 to 265 Vac (European version)
- Switching frequency: 50/60 Hz
- Output1: 12V @ 500mA delivering 6W with $\pm 10\%$ of stability
- Output2: 8V @ 40mA delivering 0.32W with $\pm 15\%$ of stability
- Output3: 5V @ 1A delivering 5W with $\pm 5\%$ of stability
- Output4: 3.3V @ 450mA delivering 1.485W with $\pm 2\%$ of stability
- Output5: 1.23V @ 1A delivering 5W with $\pm 5\%$ of stability
- Output6: 2.5V @ 0.7A delivering 1.75W with $\pm 2\%$ of stability

General description

This document describes a reference design of a 17W Switch Mode Power Supply dedicated to Set-Top Box applications. The board accepts European input voltages (90 to 265Vrms) and delivers up to 6W outputs. It is based on the L6565 quasi resonant SMPS controller, working in variable frequency mode.

The Quasi-resonant operation and the high flexibility of the L6565 make it a very suitable device, able to satisfy all the requirements with only few external components.

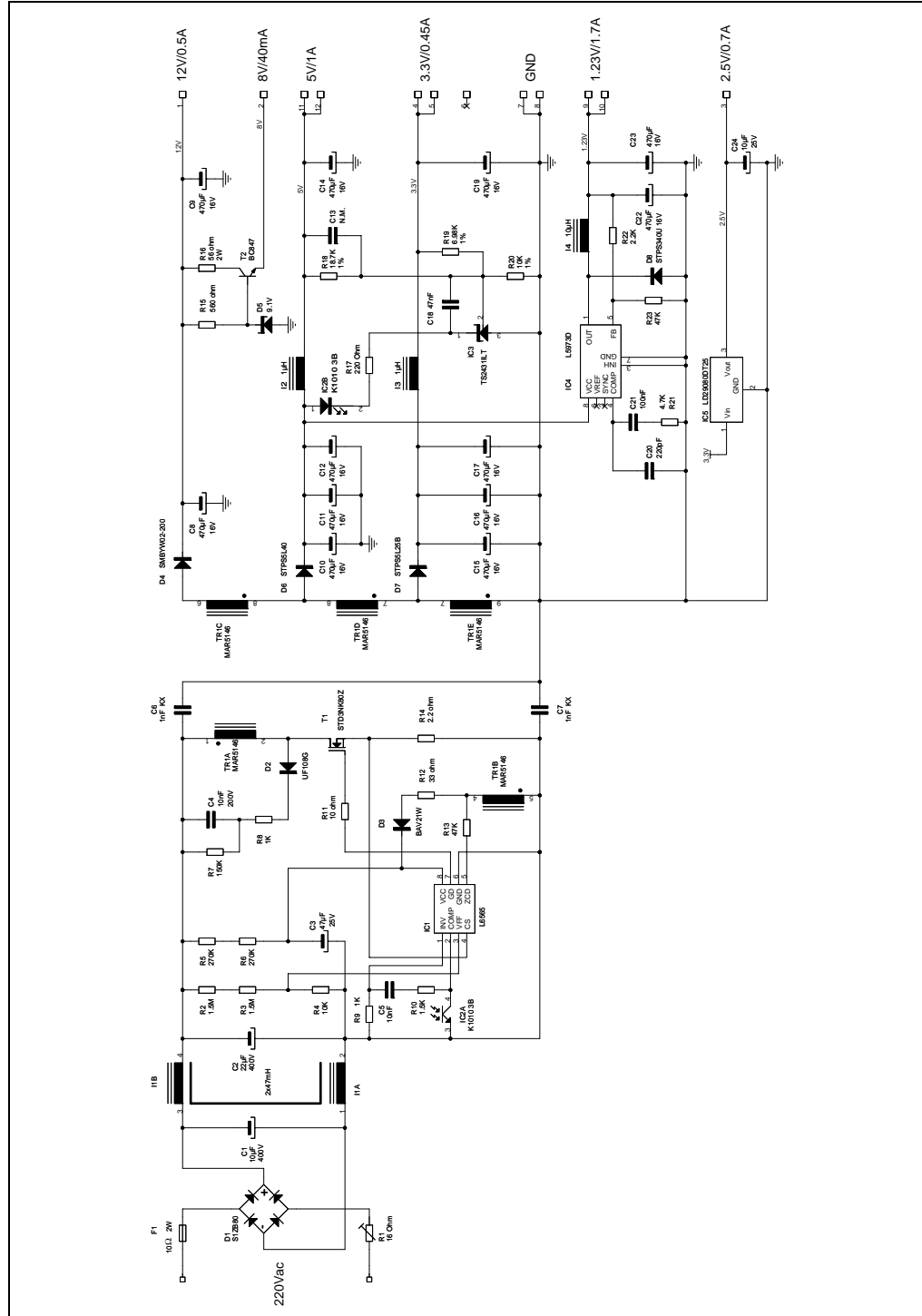


ST components

- STTH108 High Voltage Ultrafast Rectifier, 1A, 800V
- SMBYW02-200 High Efficiency Fast Recovery Rectifier Diode, 2A, 200V
- STPS5L40 Power Schottky Rectifier, 5A, 40V
- STPS5L25B low drop power Schottky Rectifier, 3A, 40V
- STPS340 Power Schottky Rectifier, 3A, 40V
- L6565 Quasi Resonant SMPS controller
- L5973D step down switching regulator up to 2.5A
- LD29080DT25, 800mA fixed and adjustable output, very low dropout voltage regulator
- STD3NK80Z N-channel zener protected SuperMESH Power MOSFETs, 800V, 3.2 Ohm, 2.5A

1 Board schematic

Figure 1. Board schematic



2 Revision history

Table 1. Revision history

| Date | Revision | Changes |
|-------------|----------|-------------|
| 09-Oct-2006 | 1 | First issue |

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