



STEVAL-ISA057V1

15 W wide range SMPS for metering based on the ESBT™
STC03DE220HV and L6565 PWM controller

Data Brief

Features

- Minimum input voltage: 125 VDC
- Maximum input voltage: 1250 VDC
- Output voltage: 5 V to 3.0 A
- Maximum output power: 15 W
- Short-circuit protection based on auto-restart feature
- Minimum switching frequency limited to 30 kHz
- Safety compliant according EN60950
- Overall converter efficiency > 60%
- Not galvanic isolated solution used in most metering applications
- PCB type and size:
 - Material of PCB: FR4
 - Double side layout
 - Total diameter of demonstration board 58 x 120 mm



single package to reduce application complexity, EMI, price and increase reliability and performance.

Description

This demonstration board implements a 15 W flyback SMPS which is a very popular and much known topology in applications switch mode power supplies where the required output power is in the range of 5 W to 200 W.

The converter is based on the L6565 PWM driver working in quasi resonant mode, it means zero voltage switching or at least switching in valley during turn-off phases and current mode primary control.

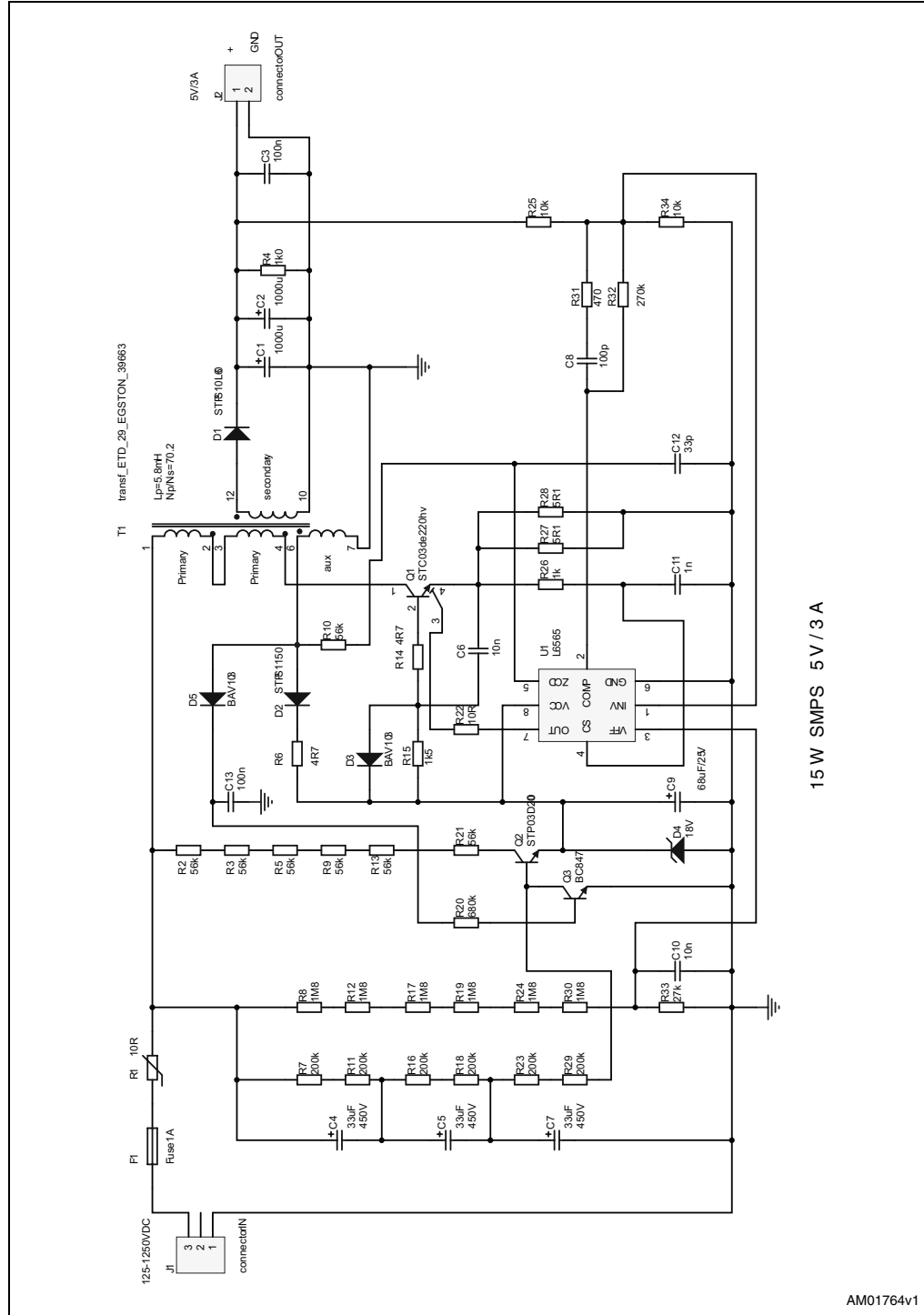
Excellent wide voltage input range from 125 VDC to 1250 VDC with good efficiency.

For this application is used an ESBT™ switch: STC03DE220HV.

The ESBT™ is a cascade configuration of a high voltage BJT and a low voltage power MOSFET. STMicroelectronics optimizes performance of both devices and offers this kind of switch in one

1 Circuit schematic

Figure 1. Schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
12-Nov-2008	1	Initial release.

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