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STEVAL-ISA144V1

1.5 A step-down switching regulator evaluation board based on the L5983

Data brief

Features

- 1.5 A DC output current
- 2.9 V to 18 V input voltage
- Output voltage adjustable from 0.6 V to 16 V
- 250 kHz switching frequency, programmable up to 1 MHz
- Internal soft-start and inhibit
- Low dropout operation: 100% duty cycle
- Zero-load current operation
- Overcurrent and thermal protection
- VFQFPN8 3 mm x 3 mm package
- RoHS compliant

Description

The STEVAL-ISA144V1 product evaluation board provides the design engineer with a fully functional step-down switching regulator with an output current of up to 1.5 A. The L5983 integrates STMicroelectronics' step-down switching regulator, together with all the external components required for a typical application.

The rated voltage of the input capacitor and Schottky diode rectifier's repetitive peak reverse voltage are both 25 V, making the board capable of covering the entire 2.9 V - 18 V input voltage range of the L5983 device.

The board features an external resistor divider (R1 and R2) designed for an output voltage of 3.3 V.

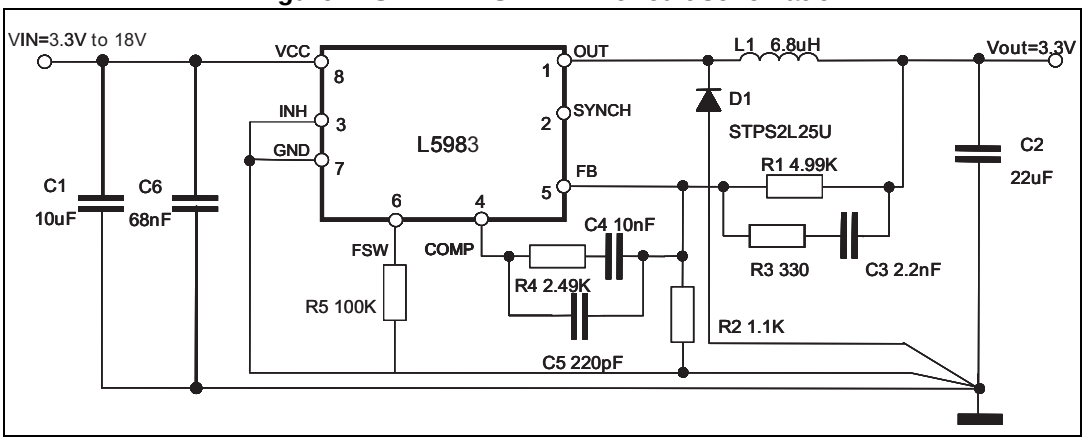
The output voltage can be set to a level from 0.6 V up to the rated voltage of the output capacitor (16 V).

The compensation network on the evaluation board allows the use of MLCC as output filter to keep the loop stable. The inductor saturation current and forward current of the Schottky diode are within the current limit values.

The switching frequency on the board is set to 500 kHz by means of the R5 resistor connected to pin Fsw.

1 Schematic diagram

Figure 1. STEVAL-ISA144V1 circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
15-Jan-2014	1	Initial release.

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