

### 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.

Schematic diagram STEVAL-ISA144V1

### 1 Schematic diagram

VIN=3.3V to 18V Vout=3.3V L1 6.8uH 8 **★** D1 INH SYNCH STPS2L25U **L598**3 C2 GND 22uF C6 C1 10uF C4\_10nF FSW COMP R3 330 C3 2.2nF R4 2.49K R5 100K R2 1.1K C5 220pF

Figure 1. STEVAL-ISA144V1 circuit schematic

STEVAL-ISA144V1 Revision history

## 2 Revision history

**Table 1. Document revision history** 

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

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