

3 A step-down switching regulator evaluation board based on the L5987

Data brief



Description

The STEVAL-ISA201V1 product evaluation board provides design engineers with a fully functional step-down switching regulator with an output current of up to 3 A. The STEVAL-ISA201V1 integrates the STMicroelectronics L5987 step-down switching regulator together with all the external components required for a typical application. The rated voltage of the input capacitor and the Schottky diode rectifier repetitive peak reverse voltage are both 25 V, rendering the board capable of covering the entire 2.9 V - 18 V input voltage range of the L5987 device.

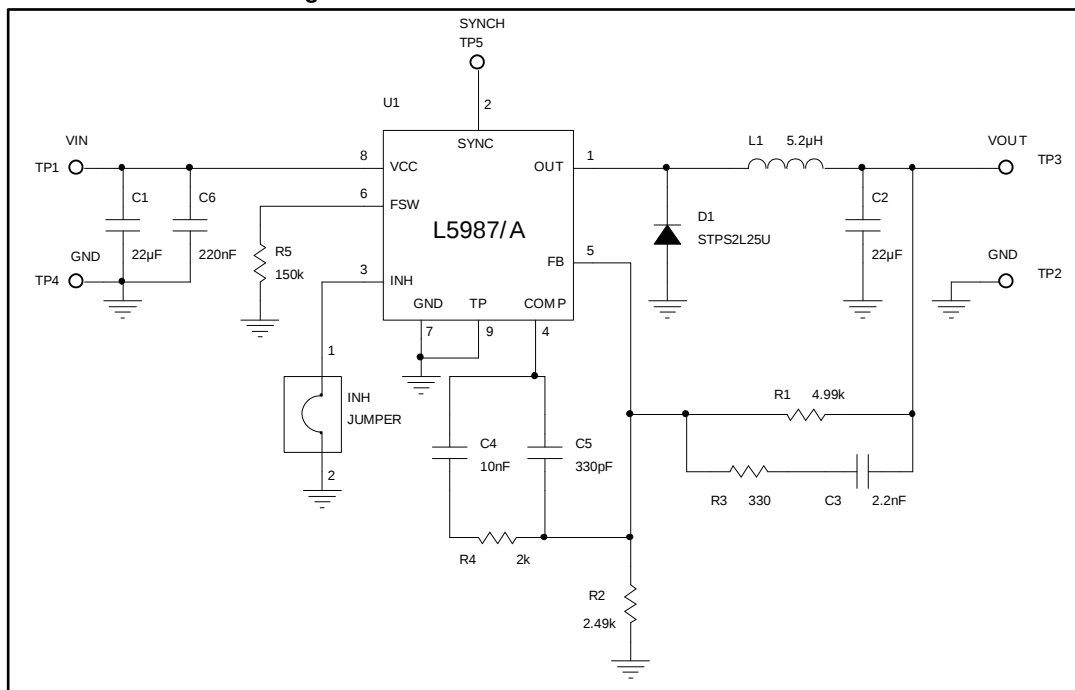
The board features an external resistor divider (R1 and R2) designed for an output voltage of 1.8 V. The output voltage can be set to a level from 0.6 V up to V_{IN} . The compensation network on the evaluation board allows the use of an MLCC as output filter to keep the loop stable. The switching frequency on the board is set to 430 kHz by means of the R5 resistor connected to pin F_{SW} .

Features

- 1.8 V, up to 3 A DC output current
- 2.9 V to 18 V input voltage
- Output voltage adjustable from 0.6 V to V_{IN}
- 430 kHz switching frequency, programmable in the range 250 kHz – 1 MHz
- Internal soft-start and inhibit
- Low dropout operation: 100% duty cycle
- Zero-load current operation
- Overcurrent and thermal protection
- VFQFPN8 (3 x 3 mm) package
- RoHS compliant

1 Schematic diagram

Figure 1: STEVAL-ISA201V1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Version	Changes
15-Mar-2017	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2017 STMicroelectronics – All rights reserved