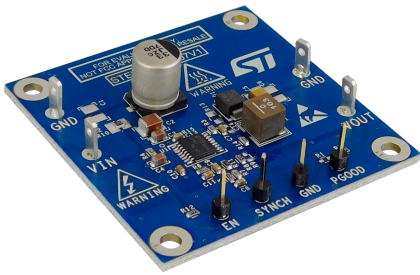


3 A step down DC/DC switching regulator (VIN = 4.5 V to 60 V) based on the A7987



Features

- 4.5 V to 60 V input voltage
- Step-down (buck) conversion
- 3.3 V output voltage
- Up to 3 A DC output current
- 500 kHz switching frequency
- 3.5 ms programmed soft-start
- Compliant with ceramic output capacitors
- 180° out-of-phase synchronization available
- Auto recovery overcurrent and thermal protection
- RoHS and China RoHS compliant
- WEEE compliant (2012/19/UE RAEE II)

Description

The [STEVAL-ISA207V1](#) evaluation board is a step-down switching power supply based on the [A7987](#) regulator in an HTSSOP16 package. It is designed for automotive system battery-powered applications. The output voltage can be set starting from 0.8 V. Almost low drop-out operation, due to the advanced integrated switch management, can be achieved.

The [A7987](#) is a 61 V, 3 A step-down asynchronous switching regulator with embedded high-side power MOSFET is capable of delivering up to 3 A of current, depending on the application conditions.

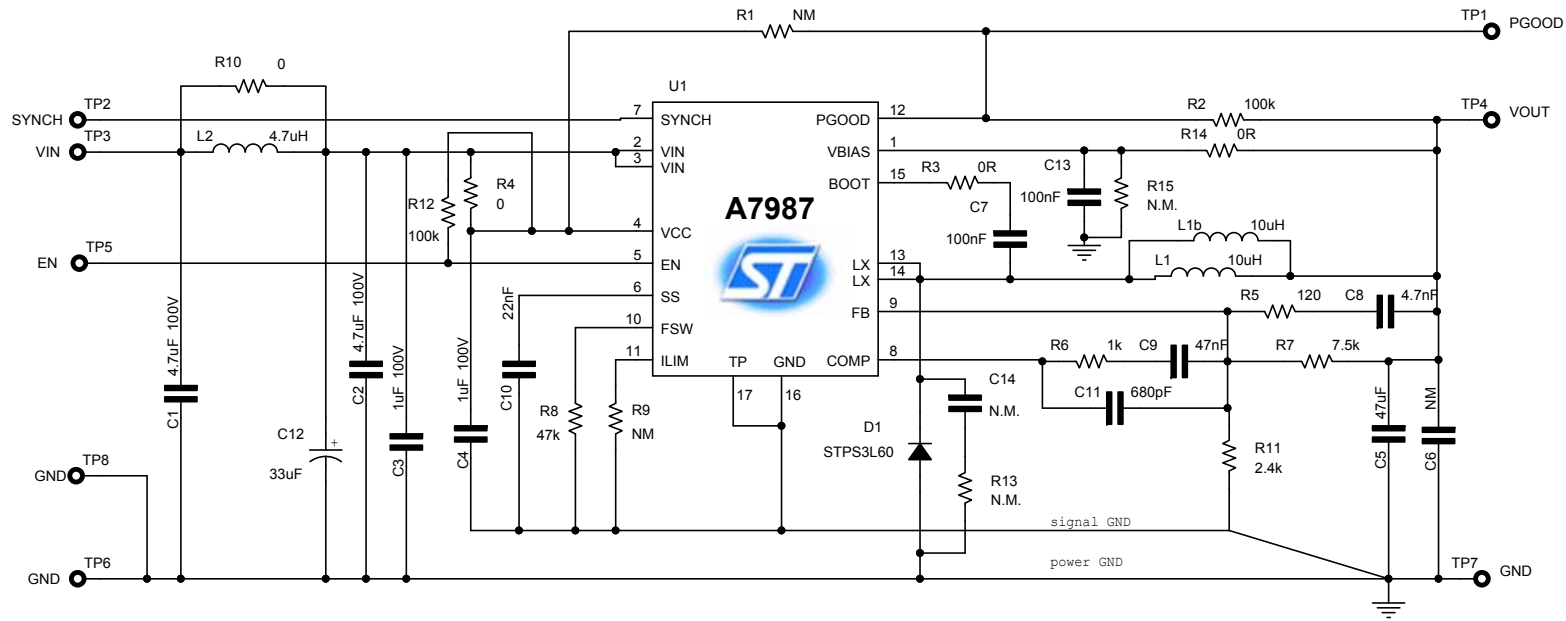
The embedded switchover feature on the VBIAS pin and the light load management (pulse skipping) are included to maximize power conversion efficiency across the entire load range, and the soft-start current limit threshold and switching frequency can be adjusted according to specific application requirements.

The device includes an internal 250 kHz oscillator that can be set up to 1.5 MHz by changing an on-board resistor. Two [A7987](#) regulators can be synchronized in a 180° out-of-phase configuration for reduced total input RMS current.

Product summary	
3 A step down DC/DC switching regulator (VIN = 4.5V to 60 V) based on the A7987	STEVAL-ISA207V1
61 V 3 A asynchronous step-down switching regulator with adjustable current limitation for automotive	A7987

1 Schematic diagram

Figure 1. STEVAL-ISA207V1 board schematic



Revision history

Table 1. Document revision history

Date	Version	Changes
02-Apr-2019	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. For additional information about ST trademarks, please refer to www.st.com/trademarks. 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.

© 2019 STMicroelectronics – All rights reserved