

## 38 V, 2 A synchronous step-down switching regulator evaluation board based on L6986H



### Features

- 2 A DC output current
- 4 V to 38 V operating input voltage.
- Low consumption mode or low noise mode
- Programmable  $I_{SKIP}$  current
- 30  $\mu$ A  $I_Q$  at light load (LCM  $V_{IN} = 12$  V and  $V_{OUT} = 3.3$  V)
- 8  $\mu$ A  $I_{Q-SHTDWN}$
- Adjustable  $f_{SW}$  (250 kHz - 2 MHz)
- Output voltage adjustable from 0.85 V to  $V_{IN}$
- Embedded output voltage supervisor
- Synchronization (in all  $f_{SW}$  range)
- Adjustable soft-start time
- Internal current limiting
- Overvoltage protection
- Output voltage sequencing
- Peak current mode architecture
- $R_{DS(on)HS} = 180$  m $\Omega$ ;  $R_{DS(on)LS} = 150$  m $\Omega$
- Thermal shutdown
- RoHS and WEEE compliant

### Product summary

38 V, 2 A synchronous step-down switching regulator evaluation board based on L6986H	STEVAL-ISA206V1
38 V, 2 A synchronous step-down switching regulator with 30 $\mu$ A quiescent current	L6986H

### Description

The [STEVAL-ISA206V1](#) product evaluation board is based on the [L6986H](#) synchronous step-down switching regulator that can deliver up to 2 A and withstand cold cranking across 100% duty cycle, which, along with its wide input operating voltage range, render the [L6986H](#) the ideal choice for 12 V - 24 V industrial standard Bus.

Synchronous rectification helps to achieve higher efficiency at full load as well as application compactness, while high-frequency switching (programmable up to 2 MHz) helps to cut on power passive costs and size while staying outside of the AM band.

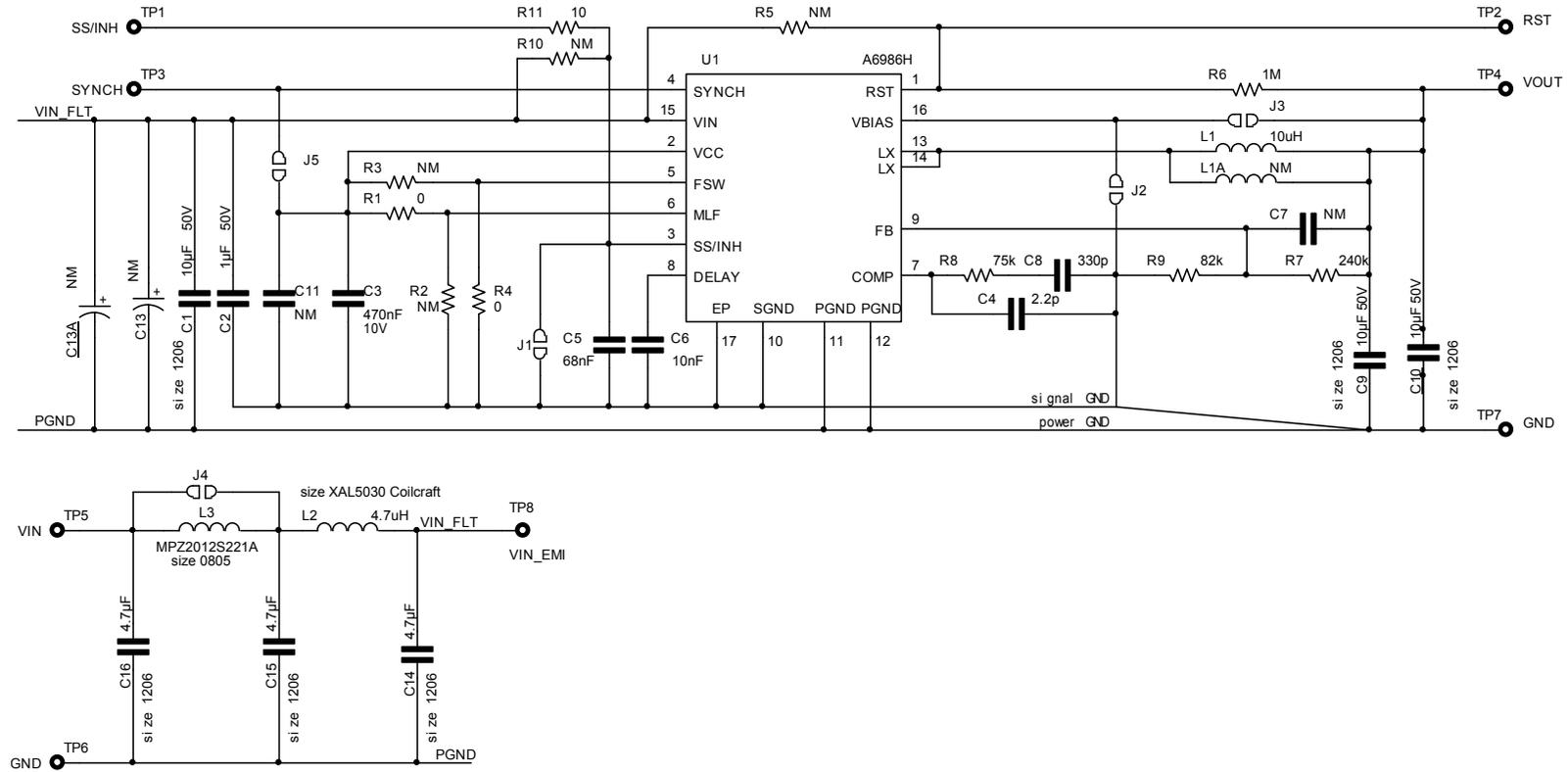
The device can operate in a low consumption mode (LCM) with a quiescent current down to 30  $\mu$ A at  $V_{IN} = 12$  V and  $V_{OUT} = 3.3$  V, hence assuring high efficiency at light loads, as required by typical car body applications that active during car parking.

A low noise mode (LNM) is also available to meet the requirements of infotainment applications of forced PWM mode in all loading conditions.

The default configuration of the board is output voltage set to 3.3 V configured in LCM, 500 kHz switching frequency,  $I_{SKIP}$  current set to high level and the switchover feature disabled. All of these configurations can be easily changed by the user to evaluate different application scenarios.

# 1 Schematic diagram

Figure 1. STEVAL-ISA206V1 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](http://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

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)