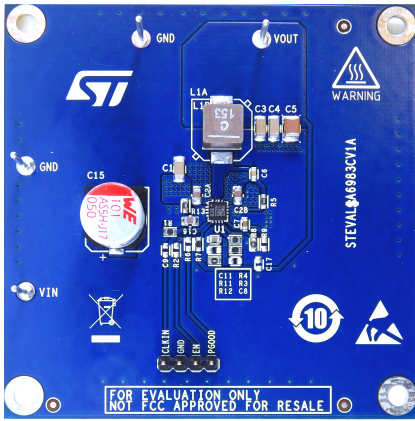


Evaluation board based on DC-DC converter buck regulator A6983CQTR



Features

- AECQ100 Grade 1 qualified
- Operating temperature range: -40 to +150 °C for Tj
- 3.5 to 38 V operating input voltage
- Output voltage from 0.85 V to VIN
- 3A DC output current
- 25µA operating quiescent current
- Internal compensation network
- High efficiency at light loads
- 2µA shutdown current
- Internal soft-start
- High voltage VIN compatible enable
- Output overvoltage protection
- Output voltage sequencing
- Thermal protection
- 200 to 2.2 MHz programmable switching frequency. Stable with low ESR capacitor min 22 µF
- Optional spread spectrum for improved EMC
- Power good
- QFN16 (3 x 3mm) package

Description

The **STEVAL-A6983CV1** is an easy to use synchronous monolithic step-down regulator capable of delivering up to 3 A DC to the load.

The wide input voltage range makes the device suitable for a broad range of applications.

The **STEVAL-A6983CV1** is based on a peak current mode architecture and is packaged in a QFN16 (3 x 3 mm) with internal compensation thus minimizing design complexity and size.

The device is designed for applications active during car parking, so it maximizes the efficiency at the light-load with the controlled output voltage ripple.

The **STEVAL-A6983CV1** allows the switching frequency to be selected in the 200 kHz - 2.3 MHz range with optional spread spectrum for improved EMC.

The EN pin provides enable/disable functionality. The typical shutdown current is 2 µA when disabled.

As soon as the EN pin is pulled-up the device is enabled and the internal 1.3 ms soft-start takes place.

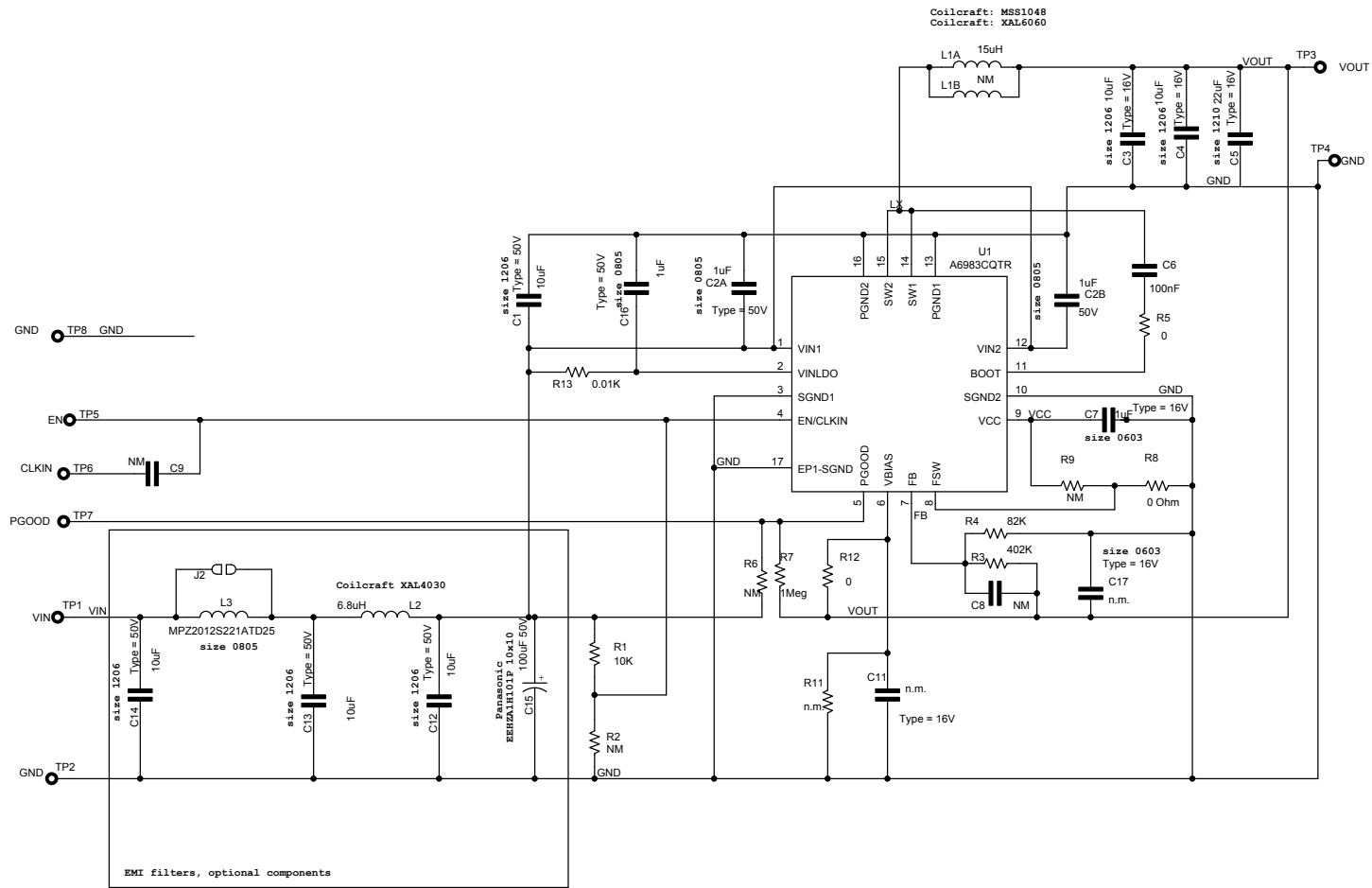
The **STEVAL-A6983CV1** features Power Good opencollector that monitors the FB voltage.

Pulse by pulse current sensing on both power elements implements an effective constant current protection and thermal shutdown prevents thermal run-away.

Product summary	
Evaluation board based on DC-DC converter buck regulator A6983CQTR	STEVAL-A6983CV1
Automotive-grade 38 V, 3 A synchronous step-down converter with 25 µA quiescent current	A6983CQTR
Applications	Automotive Body and Convenience

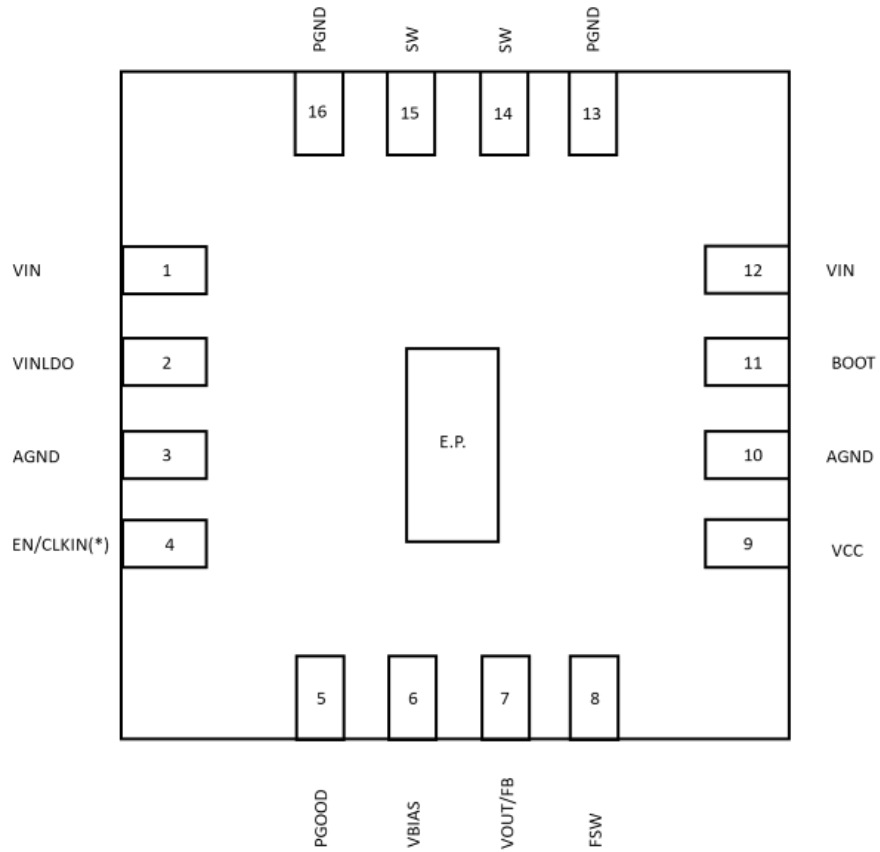
1 Schematic diagrams

Figure 1. STEVAL-A6983CV1 schematic diagrams



2 Pin connection

Figure 2. Pin connection QFN16



3 Board versions

Table 1. STEVAL-A6983CV1 versions

PCB version	Schematic diagrams	Bill of materials
STEVAL\$A6983CV1A ⁽¹⁾	STEVAL\$A6983CV1A schematic diagrams	STEVAL\$A6983CV1A bill of materials

1. This code identifies the STEVAL-A6983CV1 evaluation board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
09-Feb-2024	1	Initial release.

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