

## 38 V, 2 A synchronous step-down switching regulator evaluation board based on the L6982CDR



### Features

- 3.5 V to 38 V operating input voltage
- Programmable output voltage from 0.85 V to VIN
- 3.3 V and 5 V fixed output voltage versions
- 2 A DC output current
- Low operating quiescent current (LCM and fixed Vout part numbers)
- Internal compensation network
- Two different versions: LCM for high efficiency at light loads and LNM for noise sensitive applications
- 2  $\mu$ A shutdown current
- Internal soft-start
- Enable function
- Overvoltage protection
- Output voltage sequencing
- Thermal protection
- SO 8L package
- Synchronization with external clock for LNM devices

### Description

The **STEVAL-L6982CDR** evaluation board is based on the **L6982CDR** synchronous monolithic step-down regulator capable of delivering up to 2 A DC to the load.

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

The device implements peak current mode architecture in an SO 8L package with internal compensation to minimize design complexity and size.

The **L6982** is available in low consumption mode version (LCM) as **L6982CDR** and low noise mode version (LNM) as **L6982NDR**.

LCM maximizes efficiency at light load with controlled output voltage ripple, making the device extremely suitable for battery-powered applications.

LNM makes the switching frequency constant and minimizes the output voltage ripple overload current range, meeting the specification for noise sensitive applications.

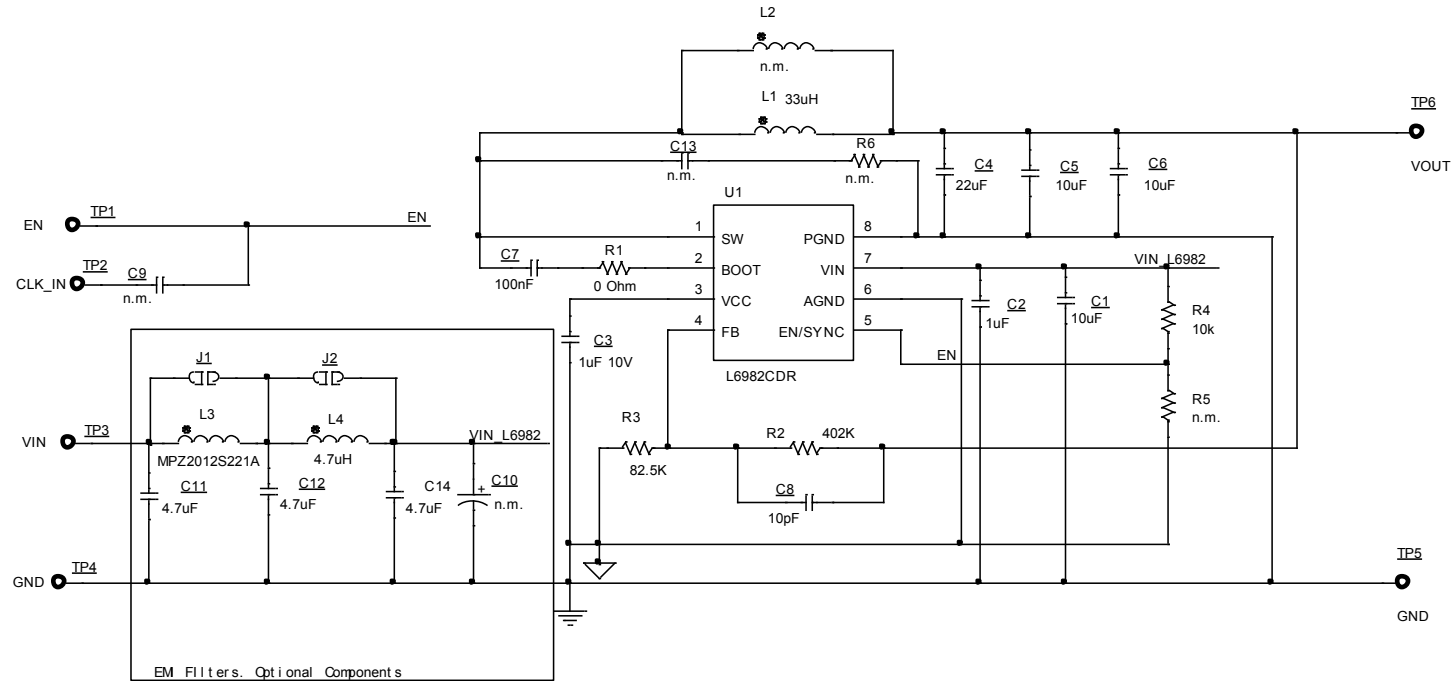
The EN pin manages the enable/disable function. The typical shutdown current is 2  $\mu$ A when disabled. When the EN pin is pulled up, the device is enabled and the internal 1.3 ms soft-start takes place.

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

Product summary	
38 V, 2 A synchronous step-down switching regulator evaluation board based on the L6982CQTR (Low Noise Mode, Adjustable Vout)	<b>STEVAL-L6982CDR</b>
38 V, 2 A synchronous step-down converter with low quiescent current	<b>L6982CDR</b>
Applications	Power tools

# 1 Schematic diagrams

Figure 1. STEVAL-L6982CDR circuit schematic



## Revision history

**Table 1. Document revision history**

Date	Revision	Changes
21-Jun-2021	1	Initial release.
16-Sep-2021	2	Updated schematic.

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