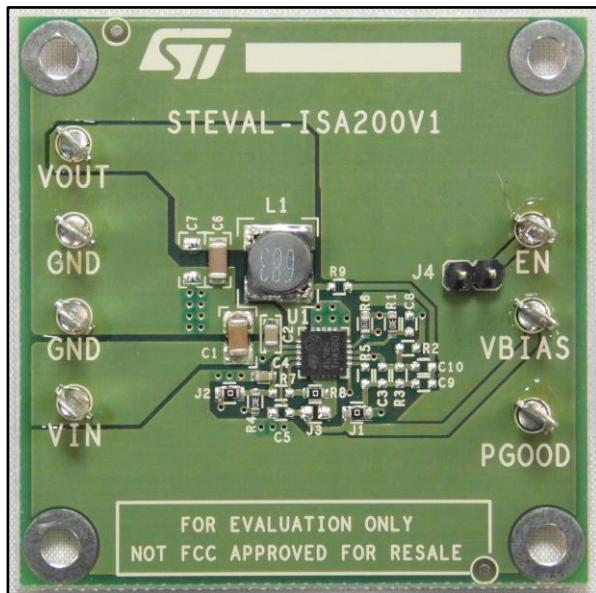


High efficiency synchronous step-down regulator based on the A6984

Data brief



Features

- AECQ100 qualification
- 400 mA DC output current
- 4.5 V to 36 V operating input voltage
- Synchronous rectification
- Low consumption mode or low noise mode
- 100 μ A I_Q at light load (LCM $V_{OUT} = 3.3$ V)
- 13 μ A I_Q -SHTDW
- Adjustable f_{sw} (250 kHz - 600 kHz)
- Output voltage adjustable from 0.9 V
- No resistor divider required for 3.3 V V_{OUT}

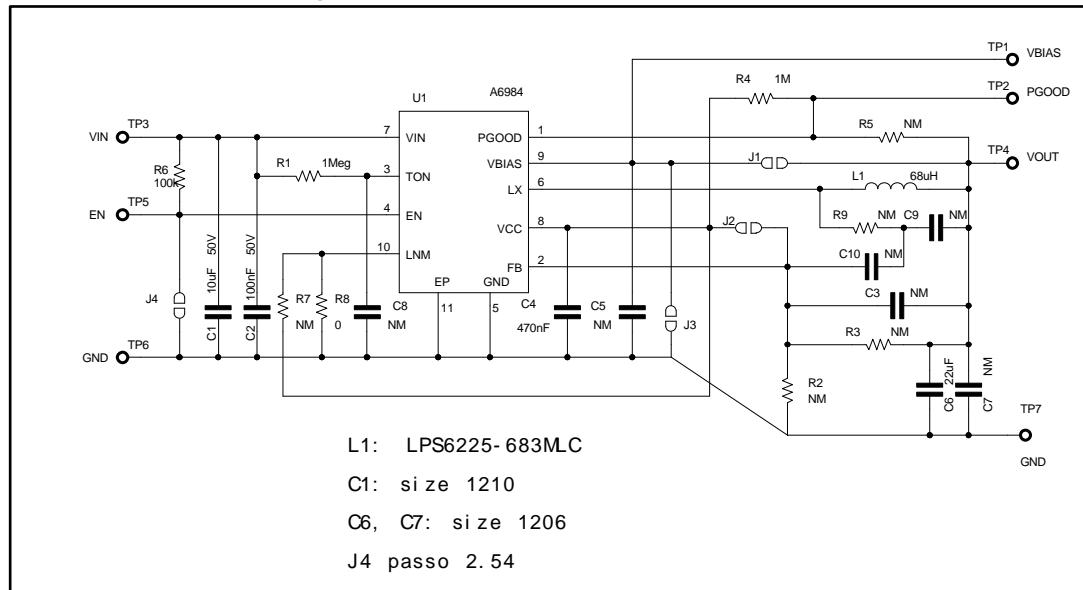
- V_{BIAS} maximizes efficiency at light load
- 350 mA valley current limit
- Constant on-time control scheme
- PGOOD open collector
- Thermal shutdown
- RoHS compliant

Description

The STEVAL-ISA200V1 product evaluation board is based on the A6984 high-efficiency monolithic synchronous step-down regulator, capable of delivering up to 400 mA of DC current. The fixed 3.3 V output requires no external resistor divider. The A6984 is especially suited for automotive systems. The low consumption mode (LCM) is designed for automotive applications that remain active while the car is parked, maximizing efficiency at light load with controlled output voltage ripple. The low noise mode (LNM) renders the switching frequency nearly constant over the load current range, serving low noise application specifications such as audio and sensors. The PGOOD open collector output can implement output voltage sequencing during the power-up phase. The synchronous rectification, designed for high efficiency at medium-heavy load, and the high switching frequency capability ensure a compact application size. Pulse-by-pulse current sensing on the low-side power element implements effective constant current protection.

1 Schematic diagrams

Figure 1: STEVAL-ISA200V1 circuit schematic



2 Revision history

Table 1: Document revision history

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

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