



STEVAL-ISA052V2

Evaluation board for the PM6675AS high efficiency step-down controller with embedded 2 A LDO regulator

Data Brief

Features

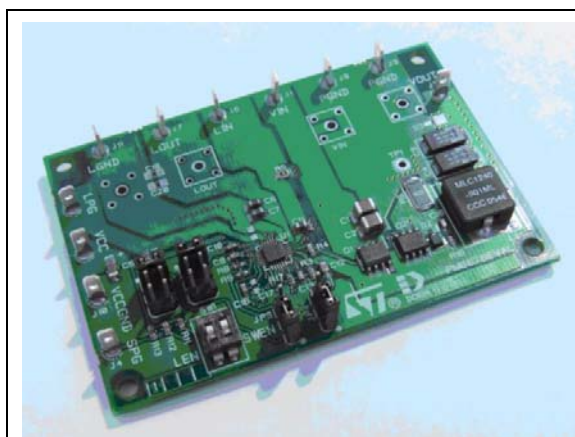
- 4.5 V to 36 V input voltage range
- 0.6 V, $\pm 1\%$ voltage reference
- 1.5 V fixed output voltage
- 0.6 V to 3.3 V adjustable output voltage
- 1.237 V $\pm 1\%$ reference voltage available
- Very fast load transient response using constant on-time (COT) control loop
- No RSENSE current sensing using $R_{DS(ON)}$ of the low-side MOSFETs
- Negative current limit
- Latched OVP, UVP and thermal shutdown
- Fixed 3 ms soft-start
- Selectable pulse-skipping at light load
- Selectable no-audible (33 kHz) pulse-skip mode
- All ceramic output capacitors application supported
- Output voltage ripple compensation
- Output soft-end

Description

This evaluation board is based on the PM6675AS device, which consists of a single high efficiency step-down controller and an independent low-dropout (LDO) linear regulator.

The constant on-time (COT) architecture assures fast transient response supporting both electrolytic and ceramic output capacitors. An embedded integrator control loop compensates the DC voltage error due to the output ripple.

Selectable low-consumption mode allows the highest efficiency over a wide range of load conditions. The low-noise mode sets the minimum switching frequency to 33 kHz for audio-sensitive applications. The LDO linear regulator can sink



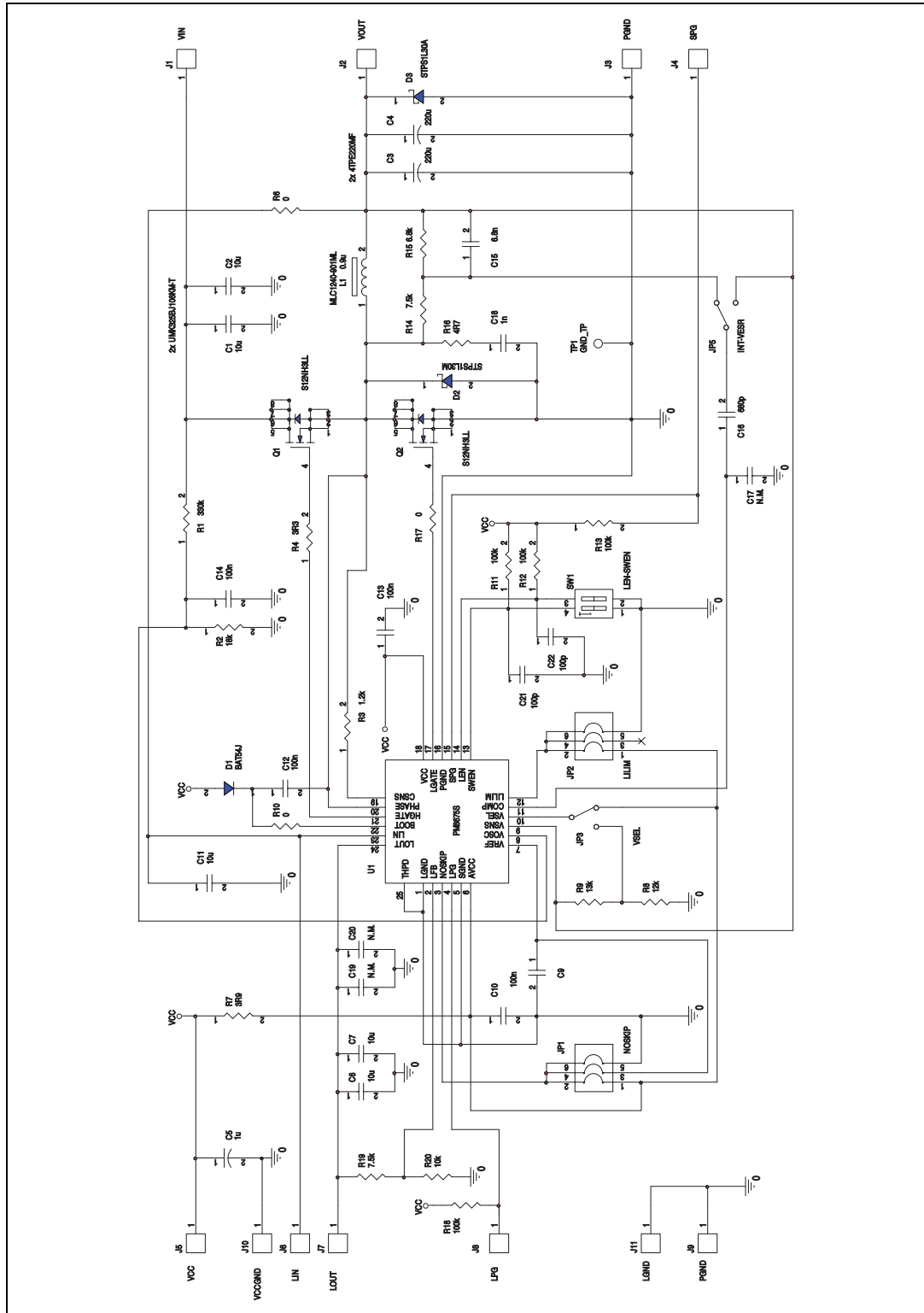
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and source up to 2 Apk. Two fixed current limits (± 1 A and ± 2 A) can be chosen.

An active soft-end is independently performed on both the switching and the linear regulator outputs when disabled.

1 Circuit schematic

Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
05-May-2008	1	Initial release.

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