



STEVAL-ISA049V2

Synchronous dual buck converter with inhibit demonstration board based on the ST2S06B

Data brief

Features

- Step-down current mode PWM (1.5 MHz) DC-DC converter
- Fixed or adjustable output voltage from 0.8 V
- 2% DC output voltage tolerance
- Synchronous rectification
- Inhibit function
- Internal soft start for start-up current limitation and power ON delay of 50-100 μ s
- Typical efficiency: > 90%
- 0.5 A output current capability
- Non-switching quiescent current: max 1 mA overtemperature range
- $R_{DS(on)}$ 150 m Ω (typ.)
- Uses tiny capacitors and inductors
- RoHS compliant

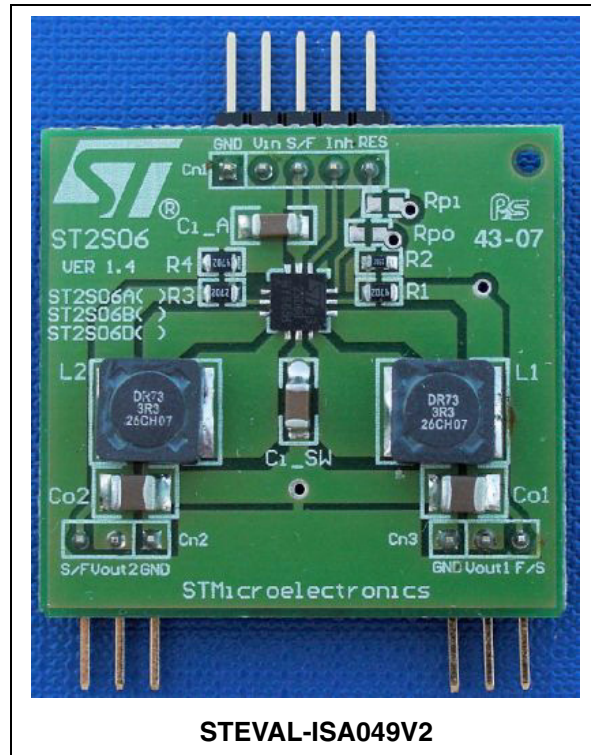
Description

This demonstration board is based on the ST2S06B, a dual synchronous step-down DC-DC converter optimized for powering low-voltage digital cores in ODD applications and, generally, used to replace the high current linear solution when the power dissipation may cause a high heating of the application environment.

It provides up to 0.5 A over an input voltage range of 2.5 V to 5.5 V.

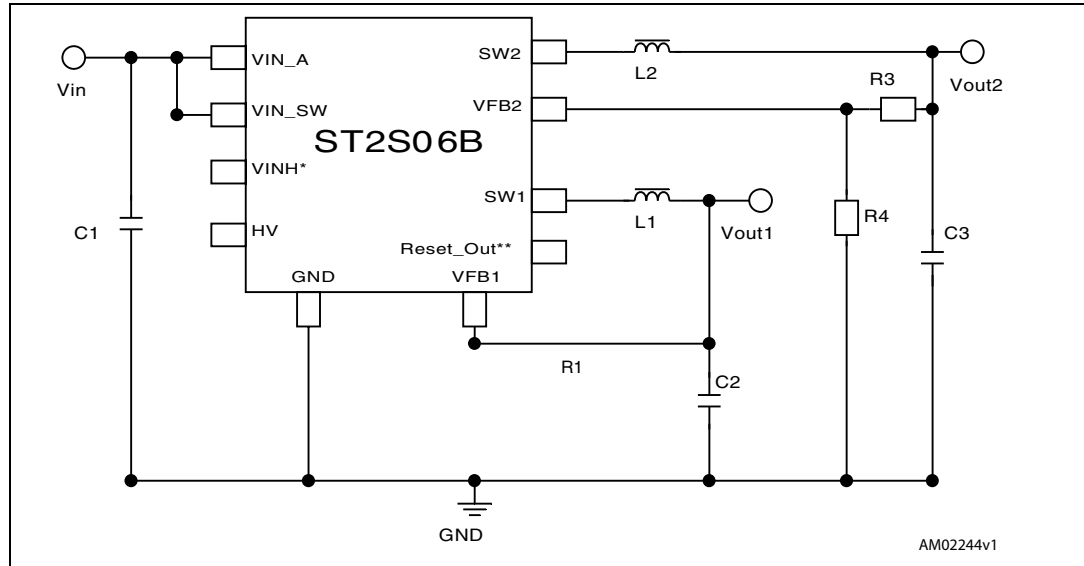
A high switching frequency (1.5 MHz) allows the use of tiny surface-mount components. A resistor divider to set the output voltage value, an inductor and two capacitors are required for every channel. In addition, a low output ripple is guaranteed by the current mode PWM topology and by the use of low ESR surface-mount ceramic capacitors.

The demoboard is thermal protected and current limited to prevent damage due to accidental short-circuit.



1 Circuit schematic

Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Jul-2009	1	Initial release.

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