## STEVAL-ISA082V1

## 4 A peak 800 kHz fixed-frequency PWM synchronous step-down demonstration board with enable on/off based on the ST1S40IPHR

## Features

■ Input voltage $\mathrm{V}_{\text {in }}: 4 \mathrm{~V}$ to 18 V
■ Output voltage $\mathrm{V}_{\text {out }}: 3.3 \mathrm{~V}$
■ Maximum output current: 4 A

- Switching frequency: 800 kHz
- Short-circuit protected
- RoHS compliant


## Description

The STEVAL-ISA082V1, based on the ST1S40IPHR, is an internally compensated 800 kHz fixed-frequency PWM synchronous stepdown converter demonstration board.

The ST1S40 operates from 4.0 V to 18.0 V input, while it regulates an output voltage as low as 0.8 V and up to $\mathrm{V}_{\mathrm{IN}}$ ( $100 \%$ duty cycle).

The ST1S40 integrates a $95 \mathrm{~m} \Omega$ high-side switch and a $69 \mathrm{~m} \Omega$ synchronous rectifier allowing very high efficiency with very low output voltage.

The peak current mode control with internal compensation delivers a very compact solution with a minimum component count.

The ST1S40 is protected through cycle-by-cycle current limiting in case of overload and is also protected by a current foldback function with frequency reduction in case of short-circuit.
The device is available with an enable on/off function.


## 1 Circuit schematic

Figure 1. Circuit schematic


## 2 Revision history

Table 1. Document revision history

| Date | Revision | Changes |
| :---: | :---: | :--- |
| $27-$ Sep-2011 | 1 | Initial release. |

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