

## STEVAL-ISA082V1

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

Data brief



#### **Features**

- Input voltage Vin = 4 V to 18 V
- Output voltage Vout = 3.3 V
- Maximum output current: 3 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 evaluation 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 VIN (100% duty cycle).

The ST1S40 integrates a 95 m $\Omega$  high-side switch and a 69 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.

Schematic diagram STEVAL-ISA082V1

## 1 Schematic diagram

L 3.3µH VOUT (3.3V) VIN (12V) VINSW SWVINA Cin\_a R1 ST1S40 EN/PG 0.1 – 1 μF FΒ Cout Cin\_sw R2 PGND/AGND 22μF 10 μF GSPG1410151545SG

Figure 1: Circuit schematic

STEVAL-ISA082V1 Revision history

# 2 Revision history

Table 1: Document revision history

Date	Version	Changes
27-Sep-2011	1	Initial release.
15-Oct-2015	2	Updated title on the cover page.

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