



STEVAL-ILL046V1

HB LED driver with inhibit based on the ST1CC40 in a QFN package

Data brief

Features

- 3 to 18 V operating input voltage range
- 850 kHz fixed switching frequency
- 100 mV (typ) current sense voltage drop
- 6 μ A standby current in inhibit mode
- $\pm 7\%$ output current accuracy
- Synchronous rectification
- Embedded compensation network
- Internal current limiting
- Ceramic output capacitor compliant
- Thermal shutdown
- RoHS compliant



Description

The STEVAL-ILL046V1 demonstration board is based on the ST1CC40, which is an 850 kHz fixed switching frequency monolithic step-down DC-DC converter designed to operate as a precise constant current source with an adjustable current capability of up to 3 A DC.

In closed loop operation, the ST1CC40 feedback pin voltage is 100 mV thus the sensing resistor calculation is expressed as $R_s = 100\text{mV}/I_{\text{LED}}$

The STEVAL-ILL046V1 is provided with 660 mA by connecting a 150 m Ω sensing resistor to the feedback pin.

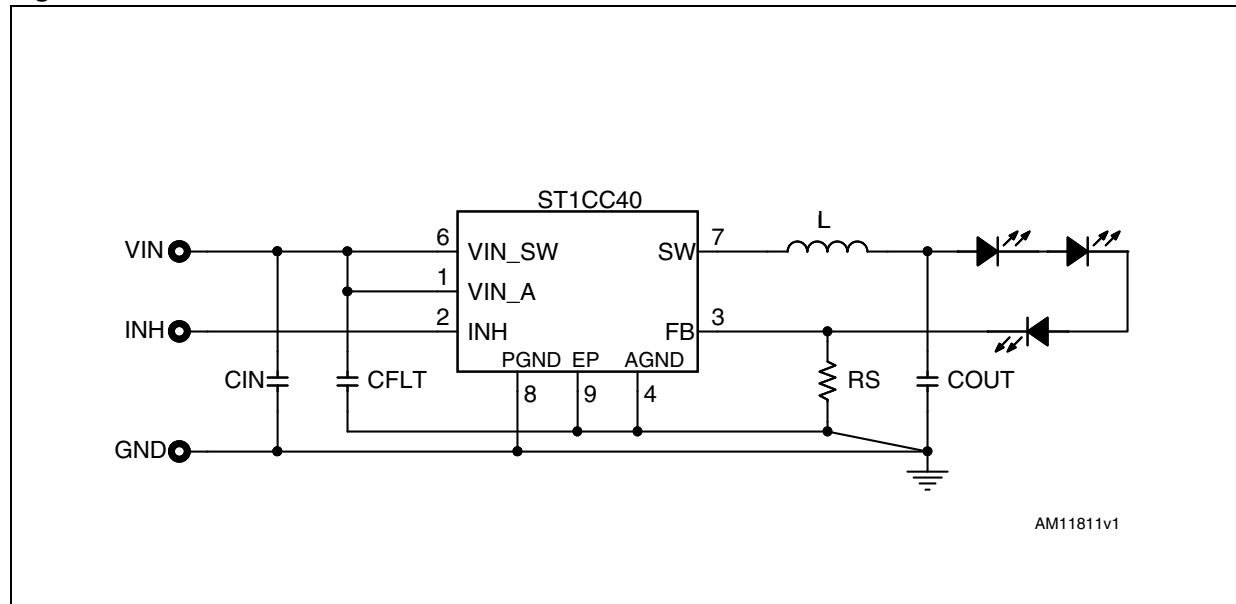
The overall application size is minimized, thanks to the high switching frequency and ceramic output capacitor compatibility.

The STEVAL-ILL046V1 demonstration board is fully protected against overheating, overcurrent and output short-circuit.

The inhibit mode minimizes the current consumption in standby (6 μ A) to maximize battery life in portable devices.

1 Schematic diagram

Figure 1. STEVAL-ILL046V1 circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Feb-2013	1	Initial release.

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