

Li-Ion battery charger evaluation board based on STNS01

Data brief



Description

The STEVAL-ISB032V1 is a product evaluation board based on the STNS01, which is a linear charger for single-cell Li-Ion batteries integrating an LDO regulator and several battery protection functions. The device uses a CC/CV algorithm to charge the battery. The fast-charge current can be programmed using an external resistor. Pre-charge current and termination current are scaled accordingly. The floating voltage value is 4.2 V. The input supply voltage is normally used to charge the battery and provide power to the LDO regulator. When a valid input voltage is not present and the battery is not empty, the device automatically switches to battery power.

The STNS01 integrates over-charge, over-discharge and overcurrent protection circuitry to prevent the battery from being damaged under fault conditions. It also features a charger enable input to stop the charging process when battery overtemperature is detected by external circuitry.

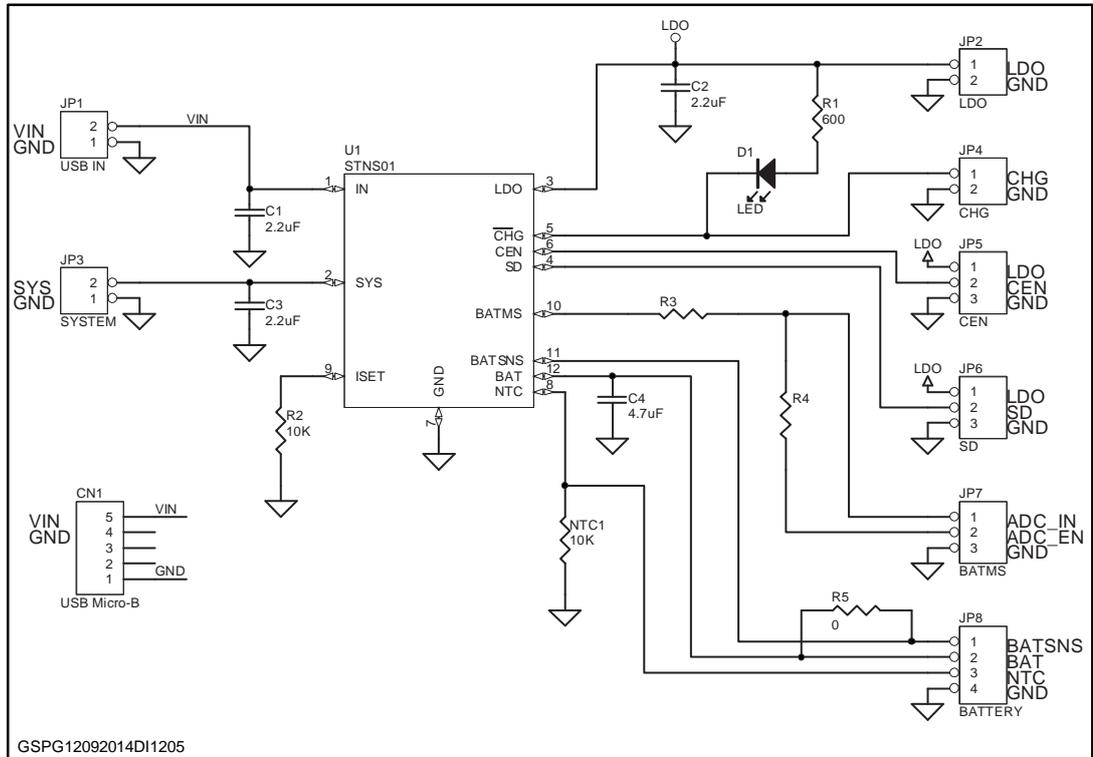
When shutdown mode is activated, the battery power consumption is reduced to less than 500 nA to maximize battery life during shelf time.

Features

- Charges single-cell Li-Ion batteries with CC-CV algorithm and charge termination
- Charge current programmable up to 400 mA
- 1% accuracy on floating voltage (4.2 V)
- Integrated 3.1 V LDO regulator
- Automatic power path management
- Battery over-charge protection
- Battery over-discharge protection
- Battery overcurrent protection
- Charging timeout
- Very low battery leakage in over-discharge/shutdown mode
- Low quiescent current
- Charge/fault status output
- Charger enable input
- RoHS compliant

1 Schematic diagram

Figure 1: STEVAL-ISB032V1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Rev	Changes
21-Oct-2014	1	First release.
13-Nov-2014	2	Updated figure on the cover page.
26-Jan-2016	3	Updated title on the cover page.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2016 STMicroelectronics – All rights reserved

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Power Management IC Development Tools](#) category:

Click to view products by [STMicroelectronics](#) manufacturer:

Other Similar products are found below :

[EVAL-ADM1168LQEBZ](#) [EVB-EP5348UI](#) [MIC23451-AAAYFL EV](#) [MIC5281YMME EV](#) [DA9063-EVAL](#) [ADP122-3.3-EVALZ](#) [ADP130-0.8-EVALZ](#) [ADP130-1.2-EVALZ](#) [ADP130-1.5-EVALZ](#) [ADP130-1.8-EVALZ](#) [ADP1712-3.3-EVALZ](#) [ADP1714-3.3-EVALZ](#) [ADP1715-3.3-EVALZ](#) [ADP1716-2.5-EVALZ](#) [ADP1740-1.5-EVALZ](#) [ADP1752-1.5-EVALZ](#) [ADP1828LC-EVALZ](#) [ADP1870-0.3-EVALZ](#) [ADP1871-0.6-EVALZ](#) [ADP1873-0.6-EVALZ](#) [ADP1874-0.3-EVALZ](#) [ADP1882-1.0-EVALZ](#) [ADP199CB-EVALZ](#) [ADP2102-1.25-EVALZ](#) [ADP2102-1.875EVALZ](#) [ADP2102-1.8-EVALZ](#) [ADP2102-2-EVALZ](#) [ADP2102-3-EVALZ](#) [ADP2102-4-EVALZ](#) [ADP2106-1.8-EVALZ](#) [ADP2147CB-110EVALZ](#) [AS3606-DB](#) [BQ24010EVM](#) [BQ24075TEVM](#) [BQ24155EVM](#) [BQ24157EVM-697](#) [BQ24160EVM-742](#) [BQ24296MEVM-655](#) [BQ25010EVM](#) [BQ3055EVM](#) [NCV891330PD50GEVB](#) [ISLUSBI2CKIT1Z](#) [LM2744EVAL](#) [LM2854EVAL](#) [LM3658SD-AEV/NOPB](#) [LM3658SDEV/NOPB](#) [LM3691TL-1.8EV/NOPB](#) [LM4510SDEV/NOPB](#) [LM5033SD-EVAL](#) [LP38512TS-1.8EV](#)