STEVAL-ISB009V1
Li-Ion battery monitoring and gas-gauge demonstration board based on the STC3100

Features

■ Accurate battery voltage measurement
■ Coulomb counter to keep track of the battery's state-of-charge
■ Internal temperature sensor
■ Internal or external 32 kHz time base
■ I²C interface for battery monitoring and device control
■ 0.5 % battery voltage accuracy
■ 1 % Coulomb counter accuracy using an external RTC signal (3.5 % using the internal time base).
■ Low power consumption: 100 µA in operating conditions, 2 µA in stand-by mode
■ RoHS compliant

Description

The STEVAL-ISB009V1 demonstration board, based on the STC3100, is able to monitor the critical parameters of a single-cell Li-Ion battery (voltage, temperature, and current) and includes hardware functions to implement a gas-gauge for battery charge monitoring, based on a programmable 12-bit to 14-bit A/D converter.

The battery current can be up to 2.5 A and the accumulator system provides a capacity up to +/-7000 mAh with a resolution of 0.2 mAh.

The device is programmable through an I²C interface.
1 Circuit schematic

Figure 1. STEVAL-ISB009V1 demonstration board schematic
2  Revision history

Table 1.  Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Changes</th>
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<tbody>
<tr>
<td>05-Nov-2010</td>
<td>1</td>
<td>Initial release.</td>
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