Battery charger demonstration board with integrated power switch for Li-Ion/Li-Polymer batteries based on the L6924D

Features

- Operating input voltage up to 12 V
- Fully integrated solution with power MOSFET, reverse blocking diode, sense resistor, and thermal control
- Both linear and quasi-pulse operation
- Programmable charge current both in fast charge (up to 1 A) and in pre-charge mode
- Selectable 4.1 V and 4.2 V output voltage (±1% accuracy)
- Programmable termination current
- Programmable pre-charge mode voltage threshold
- Programmable charge timer
- Multifunction pin for flexible charge process termination
- Status outputs to drive LEDs or host processor interface
- Battery absence detection
- Closed loop thermal control
- NTC or PTC thermistor interface for battery temperature monitoring and protection
- RoHS compliant

Description

The STEVAL-ISA076V1 demonstration board is based on the L6924D battery charger system with integrated power switch. The L6924D device is a fully monolithic battery charger dedicated to single-cell lithium-ion polymer (Li-Pol) battery packs, and is the ideal solution for space-limited applications such as PDAs, handheld equipment, cellular phones, and digital cameras.

When an external voltage-regulated wall adapter is used, the L6924D works in linear mode, and charges the battery using a constant current/constant voltage (CC/CV) profile.

When a current-limited adapter is used, the device can operate in quasi-pulse mode, dramatically reducing power dissipation.
1 Schematic diagram

Figure 1. Internal 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>18-Oct-2010</td>
<td>1</td>
<td>Initial release.</td>
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</table>
| 03-May-2011| 2        | – Minor text changes to the Title and *Description on page 1.*
|            |          | – Reformatted *Internal schematic on page 2.*             |
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