General Description

SY7636 is a single-chip IC specially designed for charging/discharging applications of small-capacity lithium batteries, integrating a linear charger with charging current of 0.4 A, a synchronous boost output with maximum discharge current of 0.5A, and a built-in power MOS. The integrated battery status detection, LED driver and KEY function provide a simple and easy-to-use solution for the small-capacity lithium batteries (lithium ion or lithium polymer). There are two versions depending on customer needs in terms of KEY function and discharging module on/off function.

SY7636 is available in a SOP8 package.

Applications

- Charge/discharge applications of small-capacity lithium batteries

Features

- Linear charger with 0.4A charging current
- Charging in three stages: trickle current mode, constant current mode and constant voltage mode
- Adjustable charging current based on temperature
- 40mA charge cut-off current, automatic recharge
- Preset 4.2V floating charge voltage with ±1% accuracy
- 5.1V synchronous boost output, 1MHz switch frequency for discharger
- 92% discharging efficiency, 10mA discharge cut-off current
- Original temperature management technology for boost
- Over-current, short-circuit, over-voltage and over-temperature protections of discharging module
- KEY function and LED indication, customizable version and function

- **SY7636_2L:** Boost constant output; click KEY to display the battery status (if not required, the KEY pin must be NULL); LED automatic off at low load; 2 LEDs for charge/discharge indication.
- **SY7636_KEY2L:** Click KEY to display the battery status and turn on/off the boost, automatic shutdown (VOUT down to 0V); 2 LEDs for charge/discharge indication.
- **SY7636_4L:** Boost constant output; click KEY to display the battery status (if not required, the KEY pin must be NULL); LED automatic off at low load; 4 LEDs for charge/discharge indication.
- **SY7636_KEY4L:** Click KEY to display the battery status and turn on/off the boost, automatic shutdown (VOUT down to 0V); 4 LEDs for charge/discharge indication.

Typical Application Circuit (5.1V / 0.5A)