1A Li-Ion/Polymer Charger IC with Thermal Regulation and OVP

DESCRIPTION

The EUP8060X series are highly integrated single cell Li-Ion/Polymer battery charger IC designed for handheld devices. The EUP8060X integrates internal power FET, current sensor, charge status, reverse current protection and overvoltage protection (OVP) in a single monolithic devices. When AC-adapter is applied, an external resistor sets the magnitude of the charge current, which may be programmed up to 1A. Thermal feedback also regulates the charge current to limit the die temperature when fast charging or while exposed to high ambient temperature.

The EUP8060X charges the battery in three phases: conditioning, constant current, and constant voltage. Charge is terminated based on minimum current. An internal charge timer provides a backup safety for charge termination. The EUP8060X can operate in an LDO mode which is used primary during system level testing of the handset to eliminate the need for battery insertion. The EUP8060X automatically re-starts the charge if the battery voltage falls below an internal threshold. The EUP8060X also automatically enters sleep mode when DC supplies are removed. No external sense resistor or blocking diode is required for charging.

FEATURES

- Programmable Charge Current up to 1A
- ± 1% Voltage Regulation Accuracy
- Thermal Regulation to Maximize Charge Rate
- Input Overvoltage Protection: 6.6V and 11V Options
- Charge Termination by Minimum Current and Time
- Precharge Conditioning with Safety Timer
- Status Outputs to Indicate Charge, Fault, and Power good Outputs
- Reverse Leakage Protection Prevents Battery Drainage
- Short-Circuit and Thermal Protection
- Automatic Sleep Mode for Low Power Consumption
- LDO Mode Operation for System Level Testing without Battery Insertion
- 3mm×3mm TDFN Package
- RoHS Compliant and 100% Lead (Pb)-Free

APPLICATIONS

- Mobile Phone, PDA, MP3 Players, Digital Cameras
- Mobile Internet Devices (M1D)

Typical Application Circuit

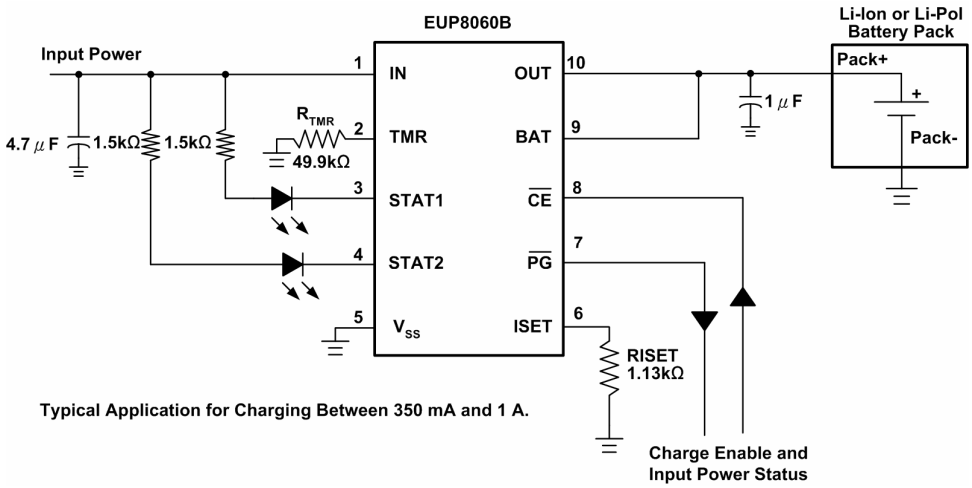

Figure 1. EUP8060B