

500mA/1.5A Standalone Linear Li-Ion Battery Charge

DESCRIPTION

The BL8573 is a single cell, fully integrated constant current (CC)/constant voltage (CV) Li-ion battery charger. Its compact package with minimum external components requirement makes the BL8573 ideal for portable applications.

No external sense resistor or blocking diode is necessary for the BL8573. Build-in thermal feedback mechanism regulates the charge current to control the die temperature during high power operation or at elevated ambient temperature.

The BL8573 has a pre-charge function for trickle charging deeply discharged batteries. The fast charge current can be programmed by an external resistor. CV regulation mode is automatically enabled once the battery's charging curve reaches the constant voltage portion. The output current then decays and is finally terminated once the charge current drops to 1/10th of the programmed value. The BL8573 keeps monitoring the battery voltage and enables a new charge cycle once the voltage drops by 150mV below the CV value.

Power supply state is constantly monitored and the battery drain current is reduced to minimum value automatically when the BL8573 senses a lack of input power. In its shutdown mode, the BL8573 can reduce the supply current to less than 25µA. A status pin outputs a logic HIGH/LOW to indicate the charging status and the presence of power supply.

Other features include charge current monitor, under-voltage lockout.

FEATURES

- Standalone Capability with no Requirement of External MOSFET, Sense Resistor or Blocking Diode.
- Complete Linear Charger in Compact Package for Single Cell Lithium-Ion Batteries
- Programmable Pre-charge, Fast Charge and Termination Current.
- Constant-Current/Constant-Voltage Operation with Thermal Regulation to Maximize Charge Rate Without Risk of Overheating
- Charges Single Cell Li-Ion Batteries Directly from USB Port
- Preset 4.2V/4.35V Charge Voltage with $\pm 1\%$ Accuracy
- Automatic Recharge
- Charge Status Output Pin
- C/10 Charge Termination
- 25µA Supply Current in Shutdown
- 2.9V Trickle Charge Threshold
- Soft-Start Limits Inrush Current
- Available in SOT-23-6 and ESOP8 Package

APPLICATIONS

- Cellular Telephones, PDAs, MP3 Players
- Charging Docks and Cradles
- Bluetooths Applications

TYPICAL APPLICATION

