

### Description

The TCS6135 is a constant current/constant voltage linear charger for single-cell Li-ion batteries with excellent performance. TCS6135 adopts SOT23-5L package with less peripheral components, making it very suitable for portable products, and suitable for USB power supply and adapter power supply.

Based on the special internal MOSFET structure and anti-reverse charging circuit, the TCS6135 does not require external sense resistors and blocking diodes. When the external ambient temperature is too high or in high-power applications, thermal feedback can adjust the charging current to reduce the chip temperature. The charge voltage is fixed at 4.35V, while the charge current can be set externally with a resistor. When the charge current drops to 1/10 of the set value after reaching the final float voltage, the chip will terminate the charge cycle.

When the input voltage is disconnected, the TCS6135 goes to sleep and the battery leakage current will drop below 1uA. TCS6135 can also be set in shutdown mode, at this time the chip quiescent current is reduced to 25uA.

TCS6135 also includes other features: under voltage lockout, automatic recharge and charge status flag.

### Features

- ◆ Programmable charge current up to 500mA
- ◆ No MOSFETs, sense resistors and blocking diodes required
- ◆ Small size enables fully linear charge management for Li-ion batteries
- ◆ Constant current/constant voltage operation and thermal regulation for maximum battery management without risk of overheating
- ◆ Manage Monolithic Li-Ion Batteries from USB Interface
- ◆ 4.35V Preset Charge Voltage with  $\pm 1\%$  Accuracy
- ◆ Charge current output monitoring
- ◆ Charging status indicator
- ◆ 1/10 Charge Current Termination
- ◆ 2.9V Trickle Charge Threshold Voltage
- ◆ Soft Start Limits Inrush Current
- ◆ Battery reverse connection protection
- ◆ Battery under-voltage protection activates charging

### Applications

- ◆ Mobile Phone、PDA、MP3
- ◆ Bluetooth
- ◆ Single cell charger

Package Type : SOT-23-5L

