

## TP4056 1A Standalone Linear Li-Ion Battery Charger with Thermal Regulation in SOP-8

### DESCRIPTION

The TP4056 is a complete constant-current/constant-voltage linear charger for single cell lithium-ion batteries. Its SOP package and low external component count make the TP4056 ideally suited for portable applications. Furthermore, the TP4056 can work within USB and wall adapter.

No blocking diode is required due to the internal PMOSFET architecture and have prevent to negative Charge Current Circuit. Thermal feedback regulates the charge current to limit the die temperature during high power operation or high ambient temperature. The charge voltage is fixed at 4.2V, and the charge current can be programmed externally with a single resistor. The TP4056 automatically terminates the charge cycle when the charge current drops to 1/10th the programmed value after the final float voltage is reached.

TP4056 Other features include current monitor, under voltage lockout, automatic recharge and two status pin to indicate charge termination and the presence of an input voltage.

### FEATURES

- Programmable Charge Current Up to 1000mA
- No MOSFET, Sense Resistor or Blocking Diode Required
- Complete Linear Charger in SOP-8 Package for Single Cell Lithium-Ion Batteries
- Constant-Current/Constant-Voltage
- Charges Single Cell Li-Ion Batteries Directly from USB Port
- Preset 4.2V Charge Voltage with 1.5% Accuracy
- Automatic Recharge
- two Charge Status Output Pins
- C/10 Charge Termination
- 2.9V Trickle Charge Threshold (TP4056)
- Soft-Start Limits Inrush Current
- Available Radiator in 8-Lead SOP Package, the Radiator need connect GND or impending

### ABSOLUTE MAXIMUM RATINGS

- Input Supply Voltage( $V_{CC}$ ):  $-0.3V \sim 8V$
- TEMP:  $-0.3V \sim 10V$
- CE:  $-0.3V \sim 10V$
- BAT Short-Circuit Duration: Continuous
- BAT Pin Current: 1200mA
- PROG Pin Current: 1200uA
- Maximum Junction Temperature:  $145^{\circ}C$
- Operating Ambient Temperature Range:  $-40^{\circ}C \sim 85^{\circ}C$
- Lead Temp.(Soldering, 10sec):  $260^{\circ}C$

### APPLICATIONS

- Cellular Telephones, PDAs, GPS
- Charging Docks and Cradles
- Digital Still Cameras, Portable Devices
- USB Bus-Powered Chargers,Chargers

### PACKAGE/ORDER INFORMATION

SOP-8	
	<b>ORDER PART NUMBER</b> TP4056-42-SOP8-PP
	<b>PART MARKING</b> TP4056

### Complete Charge Cycle (1000mAh Battery)

