

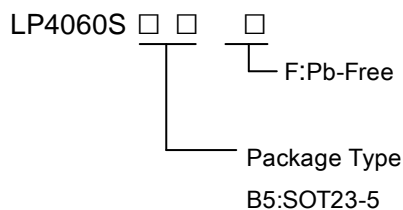


## 500mA Standalone Linear Li-Ion Battery Charger

### General Description

The LP4060S is a complete constant-current/constant-voltage linear charger for single cell lithium-ion batteries. Its SOT23-5 package and low external component count make the LP4060S ideally suited for portable applications. Furthermore, the LP4060S is specifically designed to work within USB power specifications. No external sense resistor is needed, and no blocking diode is required due to the internal MOSFET architecture. 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 LP4060S automatically terminates the charge cycle when the charge current drops to 1/10th the programmed value after the final float voltage is reached. When the input supply (wall adapter or USB supply) is removed, the LP4060S automatically enters a low current state, dropping the battery drain current to less than 1µA. Other features include charge current monitor, automatic recharge and a status pin to indicate charge termination and the presence of an input voltage.

### Order Information



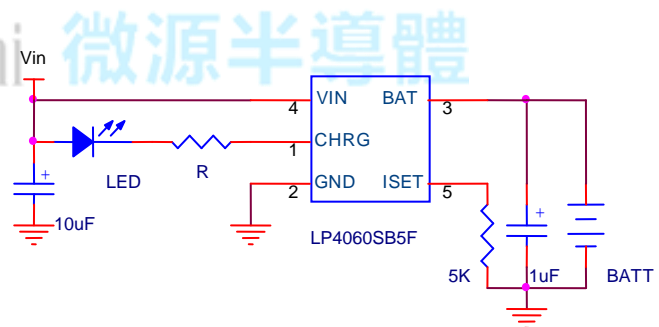
### Applications

- ◇ Portable Media Players/MP3 players
- ◇ Cellular and Smart mobile phone
- ◇ PDA/DSC
- ◇ Bluetooth Applications

### Features

- ◆ Programmable Charge Current Up to 500mA
- ◆ No MOSFET, Sense Resistor or Blocking Diode Required
- ◆ Constant-Current/Constant-Voltage Operation with Thermal Regulation to Maximize
- ◆ Charge Rate Without Risk of Overheating
- ◆ 4.2V Charge Voltage with ± 1% Accuracy
- ◆ Charge Current Monitor Output for Gas Gauging
- ◆ Automatic Recharge
- ◆ 2.9V Trickle Charge Threshold
- ◆ C/10 Charge Termination
- ◆ Output OCP
- ◆ Charging OTP
- ◆ Package in SOT23-5

### Typical Application Circuit



### Marking Information

Part	Marking	Package	Shipping
LP4060SB5F	LPS BBYWX	SOT23-5	3K/REEL
Marking indication: Y:Production year W:Production week X:Production batch.			



## Functional Pin Description

Package Type	Pin Configurations
SOT23-5	<p style="text-align: center;">Top View</p>

Pin	Name	Description
1	CHRG	Open-Drain Charge Status Output. When the battery is charging, the CHRG pin is pulled low by an internal N-channel MOSFET. When the LP4060S detects an under voltage lockout condition or charge complete, CHRG is forced high impedance.
2	GND	Ground.
3	BAT	Charge Current Output. Provides charge current to the battery and regulates the final float voltage to 4.2V. An internal precision resistor divider from this pin sets the float voltage.
4	VIN	Positive Input Supply Voltage.
5	ISET	Charge Current Program and Charge Current Monitor Pin. The charge current is programmed by connecting a 1% resistor, $R_{ISET}$ , to ground. When charging in constant-current mode, this pin serves to 1V. In all modes, the voltage on this pin can be used to measure the charge current using the following formula: $I_{BAT} = 1000/R_{ISET}$

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