800mA Fully Integrated Linear Charger for 1Cell Li-ion Battery with VINDPM

1 Descriptions

The SC70562A is a highly integrated linear charger for 1cell Li-ion battery applications. It supports up to 800mA charging current and provides battery charge management functions including trickle charge, constant current charge, constant voltage charge, charge termination and charging status indication.

No external sense resistor is needed, and no blocking diode is required. Furthermore, the SC70562A is specifically designed to work with in USB power specifications. Its low external component count makes the SC70562A ideally suited for portable applications. Thermal feedback regulates the charge current to limit their temperature during high power operation or high ambient temperature. The charge current can be programmed externally with a single resistor. The SC70562A automatically terminates the charge cycle when the charge current drops to 1/10th of the programmed value after the final float voltage is reached. When the input supply (wall adapter or USB supply) is removed, the SC70562A automatically enters a low power sleep mode, dropping the battery drain current to less than 0.25μA. The SC70562A can be put into shutdown mode, also reducing the supply current to 0.25μA .Other features include battery pack temperature monitor, under voltage lockout, battery reserve insert protection , automatic recharge and two status pins to indicate charging and charge termination.

The SC70562A also supports input voltage limit (VINDPM). When input source is over-loaded, the input voltage falls below the input voltage limit (VINDPM). The device then reduces the charge current until the input voltage rises above the input voltage limit.

SC70562A is available in DFN2X2-8 package.

2 Features

- 26.5V Maximum Input Voltage Rating with Vin Over-Voltage Protection
- Integrated Linear Charger for Single-Cell Battery directly from USB or AC Adapter
- 2.9V TC to CC Threshold
- ±1% Accuracy for VBAT Target Voltage
  SC70562A:4.2V
  SC70562B:4.35V
  SC70562C:4.4V
  SC70562D: 4.45V
- Charging Management: Trickle Charge/Constant Current Charge/Constant Voltage Charge/Charge Termination/Auto Recharge
- Charge Current up to 800mA
- 4.45V Fixed Input Voltage Limit(VINDPM)
- NTC for Battery Protection
- Battery Reserve Insert Protection
- ISET Short Protection
- Input Under Voltage and Over Voltage Protection
- Thermal Regulation and Thermal Shutdown
- Soft-Start Limits Inrush Current
- Chip Enable Control

3 Applications

- Bluetooth Application
- Toys
- Portable Media Players

4 Device Information

ORDER NUMBER	PACKAGE	BODY SIZE
SC70562ADDFR	DFN2X2-8	2mm x 2mm x 0.75mm
SC70562BDDFR	DFN2X2-8	2mm x 2mm x 0.75mm
SC70562CDDFR	DFN2X2-8	2mm x 2mm x 0.75mm
SC70562DDDFR	DFN2X2-8	2mm x 2mm x 0.75mm

SOUTHCHIP SEMICONDUCTOR