



#### Description

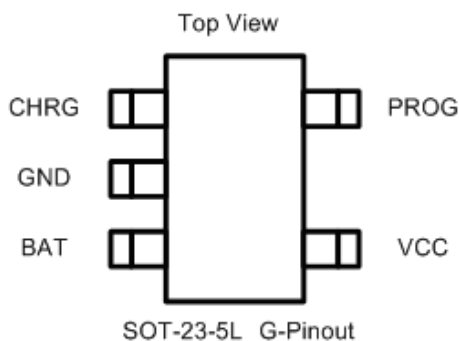
SE9016 is a complete constant-current & constant voltage linear charger for single cell lithium-ion and Lithium-Polymer batteries. Its SOT-23 package and low external component count make SE9016 ideally suited for portable applications. Furthermore, the SE9016 is specifically designed to work within USB power specification. At the same time, SE9016 can also be used in the standalone lithium-ion and Lithium-polymer battery chargers.

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 SE9016 automatically terminates the charge cycle when the charge current drops to 1/10<sup>th</sup> the programmed value after the final float voltage is reached.

When the input supply (wall adapter or USB supply) is removed, the SE9016 automatically enters a low current stage, dropping the battery drain current to less than 2uA. The SE9016 can be put into shutdown mode, reducing the supply current to 20uA.

Other features include charge current monitor, undervoltage lockout, automatic recharge and a status pin to indicate charge termination and the presence of an input voltage. SE9016 is intentionally designed to have slightly negative Tempco. This provides extra protection to Lithium

#### Pin Configuration



#### Features

- Programmable Charge Current Up to 800mA.
- No MOSFET, Sense Resistor or Blocking Diode Required.
- Constant-Current/Constant-Voltage Operation with Thermal Protection to Maximize Charge Rate without Risk of Overheating.
- Charges Single Cell Li-Ion Batteries Directly from USB Port.
- Preset 4.22V Charge Voltage with  $\pm 1\%$  Accuracy.
- 20uA Supply Current in Shutdown.
- 2.9V Trickle Charge Threshold
- Soft-Start Limits Inrush Current.
- Available in 5-Lead SOT-23 Package.
- 100% Lead (Pb)-Free

#### Application

- Cellular Telephones, PDA's, MP3 Players.
- Charging Docks and Cradles
- Bluetooth Applications

#### Application Diagram

