Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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ISL9519

Narrow VDC Regulator/Charger with SMBus Interface

Key Features

±0.5% System Voltage Accuracy (-10°C to +100°C)
±3% Accurate Input Current Limit (-10°C to +100°C)
±3% Accurate Battery Charge Current Limit
Variable Switching Frequency at Light Load Conditions for Higher Efficiency
Fixed Frequency Operation at Higher Loads
Fixed Frequency Mode can be Forced by an External Pin
Trickle Charge System for Deeply Discharged Batteries
Automatic Trickle Charge Current (256mA)
Holds Minimum Voltage to System
SMBus 2-Wire Serial Interface
Default System Voltage Values for 1-Cell, 2-Cell or 3-Cell Operation Selected by an External Pin
Adapter In-rush FET Control
Adapter Isolation FET Control
Battery Short Circuit Protection
Fast System-Load Transient Response
Monitor Outputs
Adapter Current (2.5% Accuracy)
AC-adapter Present Indicator
11-Bit Max System Voltage Setting
7-Bit Min System Voltage Setting
6-Bit Charge Current Setting
Over 8A Battery Charger Current
6-Bit Adapter Current Setting
Over 8A Adapter Current
+4.5V to +22V Adapter Voltage Range
Pb-Free (RoHS Compliant)

Description

The ISL9519 is a highly integrated Narrow VDC system voltage regulator and battery charger controller. Operating parameters are programmable over the System Management Bus (SMBus). The ISL9519 is designed for applications where the system power source is either the battery pack or the output of the regulator/charger. This makes the max voltage to the system equal to the max battery voltage instead of the max adapter voltage. The ISL9519 also includes a patented system to control trickle charging deeply discharged batteries while maintaining system voltage at a user defined minimum. High efficiency is achieved with a DC/DC synchronous-rectifier buck converter, equipped with diode emulation and variable switching frequency for enhanced light load efficiency and AC-adapter boosting prevention. The ISL9519 can charge one, two or three series connected Lithium-ion cells, at up to 8A charge current. Default settings for 1-, 2- or 3-cell operation at power-up are selected by an external pin. Integrated MOSFET drivers and bootstrap diode result in fewer components and smaller implementation area. Low offset current-sense amplifiers provide high accuracy.

The ISL9519 provides an open drain digital output that indicates the presence of the AC-adapter. The ISL9519 also provides an analog output that indicates the adapter current.

Applications

- Notebook Computers
- Tablet PCs
- Portable Equipment with Rechargeable Batteries

Parameters	ISL9519
V_{IN} (min) (V)	4.5
V_{IN} (max) (V)	22
Input Current Limit Accuracy (%)	±3
Battery Charge Voltage (V)	2V to 16.3V in
Charging Voltage Accuracy Max (%)	±0.5
Battery Charge Voltage Adjust (%)	16mV steps
Charge Current Limit Accuracy (%)	±3
Trickle Charge Current Limit Accuracy (%)	166A to 346mA
Automatic Trickle Charge Typ (V)	4.7
Battery Leakage Current Max (µA)	25 (DCIN=0V, No
Automatic Power Source Selection	Yes
Automatic Power Source Selection	Yes
Topology	Variable

Switching Frequency (typ) (kHz)	400
Max Duty Cycle (%)	99
Audible Noise	No
Operating Temp Range (°C)	-10 to 100
Thermal Shutdown (°C)	150 °C
Battery Chemistry	Multi-Cell Li+/Polymer