Device Information

ISL9519C

Print Page

Narrow VDC Regulator/Charger with SMBus Interface and Internal Switching FETs

- **Features Description**
- **Technical Documentation**
- **Pricing / Samples**
- **iSim Design Simulation**
- **Tools And Support**
- **Related Devices**

Datasheet

ISL9519C

The ISL9519C datasheet is restricted to a very limited number of customers. To request a datasheet please email Jia Wei at jwei@intersil.com

Input Voltage Range (V)	4.5 to 22
Input Current Limit Accuracy (%)	±3
Battery Charge Voltage (V)	2V to 16.3V in 16mV Steps
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)	Yes (Threshold Set by User)
Battery Leakage Current (max) (µA)	25 (DCIN=0V, No System Load)
Automatic Power Source Selection	Yes
DC Adapter Detection	No
Topology	Variable Frequency Synchronous Buck
Switching Frequency (typ) (kHz)	100 to 400
Max Duty Cycle (%)	99
Audible Noise	No
Operating Temp. Range (°C)	-10 to 100
Thermal Shutdown (°C)	150
Input Voltage (min) (V)	4.5
Input Voltage (max) (V)	22
Battery Chemistry	Multi-Cell Li+/Polymer

Product Information

Key Features

- ±0.5% System Voltage Accuracy (-10°C to +100°C)
- ±3% Accurate Input Current Limit
- ±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 ISL9519C is a highly integrated Narrow VDC system voltage regulator and battery charger controller. Operating parameters are programmable over the System Management Bus (SMBus). The ISL9519C 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 ISL9519C 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 ISL9519C 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 MOSFETs, drivers and bootstrap diode result in fewer components and smaller implementation area. Low offset current-sense amplifiers provide high accuracy.

The ISL9519C provides an open drain digital output that indicates the presence of the AC-adapter. The ISL9519C also provides an analog output that indicates the adapter current.

Pricing / Packaging / Samples / Ordering

iBuy direct from Intersil | iBuy direct - out of stock | Request samples
Check distributor inventory | Available in RoHS/Pb-Free

Part No.	Design-In Status	Temp.	Package	MSL	Price US $	Pb	
ISL9519CEVAL1Z	Active	-	Eval Board	N/A	Contact Us	✔	
ISL9519CHRZ	Active	Hi-Temp Comm	50 Ld QFN	3		✔	
ISL9519CHRZ-T	Active	Hi-Temp Comm	50 Ld QFN T+R	3		✔	

The price listed is the manufacturer's suggested retail price for quantities of 1K units. However, prices in today's market are fluid and may change without notice.
MSL = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020
SMD = Standard Microcircuit Drawing

Technical Documentation

Datasheet(s):

EN The ISL9519C datasheet is restricted to a very limited number of customers. To request a datasheet please email Jia Wei at jwei@intersil.com

Evaluation Board(s):

ISL9519 CONTROL Software Installer
ISL9519CEVAL1Z Evaluation Board Setup Procedure

Tools And Support

iSim Design Simulation
No Models Available

Design Model(s):

ISL9519 Compensation Component Calculator

Applications

Notebook Computers
Tablet PCs
Portable Equipment with Rechargeable Batteries

Related Devices PT Parametric Table

ISL6251 Low Cost Multi-Chemistry Battery Charger Controller

ISL6251A	Low Cost Multi-Chemistry Battery Charger Controller
ISL6252	Highly Integrated Battery Charger Controller for Notebook Computers
ISL6252A	Highly Integrated Battery Charger Controller for Notebook Computers
ISL6253	Highly Integrated Battery Charger for Notebook Computers
ISL6255	Highly Integrated Battery Charger with Automatic Power Source Selector for Notebook Computers
ISL6255A	Highly Integrated Battery Charger with Automatic Power Source Selector for Notebook Computers
ISL6256	Highly Integrated Battery Charger with Automatic Power Source Selector for Notebook Computers
ISL6256A	Highly Integrated Battery Charger with Automatic Power Source Selector for Notebook Computers
ISL6257	Highly Integrated Narrow VDC Battery Charger for Notebook Computers
ISL6258	Narrow VDC Regulator/Charger with SMBus Interface
ISL6258A	Narrow VDC Regulator/Charger with SMBus Interface
ISL88731	SMBus Level 2 Battery Charger
ISL88731A	SMBus Level 2 Battery Charger
ISL88731C	SMBus Level 2 Battery Charger
ISL9220	Switching Charger for 1-Cell and 2-Cell Li-ion Batteries
ISL9220A	Switching Charger for 1-Cell and 2-Cell Li-ion Batteries
ISL9518	Narrow VDC Regulator/Charger with SMBus Interface
ISL9518A	Narrow VDC Regulator/Charger with SMBus Interface
ISL9519	Narrow VDC Regulator/Charger with SMBus Interface
ISL9519Q	Narrow VDC Regulator/Charger with SMBus Interface
ISL9519R	Narrow VDC Regulator/Charger with SMBus Interface
ISL95871C	SMBus Interfaced Battery Charger with Internal FETs

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