



SC9801 Two-Channel (5V3A and 12V2A) High Efficiency Battery Charging and Discharging Management SOC with Power Path Control

1 Descriptions

The SC9801 is a two-channel highly integrated power management IC for battery charging and discharging management. It is mainly designed for single-cell battery power banks. It integrates two independent chargers so can enable the power bank to provide two charging paths.

One integrated charger is a synchronous switching charger with integrated MOSFETs. It can be used for up to 5V 3A application. Two isolation MOSFETs are integrated it for charging and discharging paths control.

The other is a high voltage synchronous switching charger controller. It works with external MOSFETs and can support up to 12V 2A application. Both chargers support reverse boost.

Each of the chargers can support complete charging management functions, including trickle charge, constant current (CC) charge, constant voltage (CV) charge, charge termination and re-charge functions, and input voltage DPM function as well.

The integrated power path management function allows pass-through or isolation from input to output. The IC also supports adapter insert/removal detection and load insertion detections.

The IC integrates two smart USB charge port controllers (DPDM), and one TYPE-C interface, so can charge phones with high compatibility.

The IC integrates ADC, and supports I2C interface, which allows users to control the charging / discharging modes, set the battery voltage, program input / output current limits, and monitor input / output voltage and current status in time.

The IC provides protection functions, including current limit, input voltage regulation, battery and output overvoltage protection (OVP), short circuit protection and thermal shutdown.

The IC is in a 44 pin 5x6 QFN package.

2 Features

- 5V 3A Buck Charger
 - Integrated Power MOSFETs
 - Integrated Power Path Switches
 - Input to Output Pass-through Function
- 12V Buck Charger Controller
- NMOS Gate Drivers for Power Path Control
- Up to Three Reverse Boost Outputs (OTG Mode)
- Input Voltage DPM Function
- Charger Management: Trickle charge, CC charge, CV charger, Charge Termination and Re-charge
- Input and Output Current Limiting
- Input and Output Current Monitor
- Integrated Two DPDM Smart Port Controllers
- Integrated TYPE-C Controller (DFP/UFP/DRP)
- Adapter Insert/Removal Detection
- Load Insert Detection
- Status Indication
- I2C Interface
- Overvoltage Protection for Battery and Output
- Short Circuit Protection and Thermal Shutdown
- QFN-44 5 x 6 Package

3 Applications

- Power Bank
- Fast Charge Equipment
- Other Battery Applications

4 Device Information

Order Number	Package	Dimension
SC9801QDGR	44 pin QFN	5mm x 6mm x 0.75mm