SC8902 High Efficiency, Synchronous, Bi-Directional Buck-Boost Charge Converter with Four Integrated MOSFET

1 Descriptions

SC8902 is a synchronous 4-switch buck-boost charger controller which also supports reverse discharging operation. Four switches are integrated to simplify the system design. It is able to effectively manage charging for 1~4 cell batteries no matter input/output voltage is higher, lower or equal to battery voltage. When system needs to discharge from battery, SC8902 will deliver desired output from the battery.

SC8902 supports very wide input and output voltage range. It can support applications from 2.7V to 22V input range and 2.7V to 22V output range. It employs current-mode control and can support bi-directional outputs by controlling DIR pin. It supports input current limit, output current limit, DPM (dynamic power management) function, dynamic output voltage adjustment, internal current limit, output short protection and over temperature protections to ensure safety under different abnormal conditions.

2 Features

- Buck-Boost Battery Charger for 1 to 4 Cell Batteries
- Charging Management: trickle Charging, CC Charging, CV Charging and Charging Termination
- Buck-Boost Reverse Discharging Mode
- Integrated Four Switches
- Wide VBAT Range: 2.7 V to 22 V, 24V sustainable
- Wide VBUS Range: 2.7 V to 22 V, 24V sustainable
- High Efficiency Buck-Boost Conversion
- Dynamic Output Voltage Control
- Adjustable Switching Frequency
- Programmable Input and Output Current Limit
- Dynamic Input Current Limit Control
- Input and Output Current Monitor
- Charging Status Indication and Small Current Indication
- Under Voltage Protection, Over Voltage Protection, Over Current Protection
- Short Protection and Thermal Shutdown Protection
- QFN-40 6 x 6Package

3 Applications

- Power Bank with Fast Charge Function
- USB Power Delivery
- Battery Chargers

4 Device Information

Part Number	Package	Dimension
SC8902QDHR	40 pin QFN	6.0mm x 6.0mm x 0.75mm