SC8804C High Efficiency, Synchronous, Bi-directional Boost Charger Controller

1 Description

SC8804C is a synchronous boost charger controller. It is able to effectively manage charging when input voltage is lower than battery voltage. In charging mode, SC8804C supports trickle charging, constant current (CC) charging and constant voltage (CV) charging management functions automatically.

SC8804C supports very wide input and output voltage range. It is suitable for applications of 1 to 6 series battery. The driver voltage is set to 10V to fully utilize external MOSFETs for maximum efficiency.

SC8804C also supports reverse buck discharging by controlling DIR pin. Under reverse buck mode, SC8804C outputs a lower VBUS voltage from VBAT. It also supports input current limit, output current limit, dynamic output voltage regulation, internal current limit, and over temperature protections to ensure safety under different abnormal conditions.

SC8804C adopts 32 pin QFN 4x4 package.

2 Features

- Boost charging mode supports charging functions for 1 to 6 battery in series, including trickle charging, CC charging, CV charging and charging termination function
- Reverse buck mode operation (discharging mode)
- Wide input voltage range (VBUS in charging mode): 2.7V to 36 V
- Wide reverse output range (VBAT in discharging mode) : VBAT to 36 V
- DPDM fast charge handshake for 4S~6S battery charging mode
- Dynamic adjustable discharging voltage by PWM signal
- High efficient buck/boost operation
- Integrated 10V, 2A gate driver
- Adjustable frequency from 200KHz to 600KHz
- Internal current limit
- Under voltage protection
- QFN-32 package

3 Applications

- Power Bank
- USB HUB
- Smart USB Sockets
- USB PD

4 Device Information

ORDER NUMBER	PACKAGE	BODY SIZE
SC8804CQDER	32 pin QFN	4mm x 4mm x 0.75mm