

SUB-PMIC

1 Descriptions

SC6603 is a highly-integrated power management IC for single cell battery charging. It integrates a 4A switching charger and two channels LED drivers. In addition, SC6603 supports BC1.2/PD3.0 and UFCS protocols for fast charging, thus turning out to be highly compatible with more kinds of charger.

SC6603 adopts 42pin WLCSP 3.12mm X 2.77mm package, pitch 0.4mm

2 Applications

- Smartphones
- Tablet PCs

3 Device Information

Part Number	Package	Body Size
SC6603CFFR	WLCSP42	3.12mm x 2.77mm x 0.575mm

4 Features

- High Efficiency 4A Switching Charger
 - ✓ 90% charging efficiency @ 3A Iout, 5V Vin, 3.8V Vout
 - ✓ Optimized for high voltage input(9V/12V)
 - ✓ Supports input range 3.9V~13.5V
 - ✓ Integrates Narrow VDC (NVDC) power path management
 - ✓ Integrates Dynamic Power Management (DPM) for both input voltage and current
 - ✓ 15mΩ BATFET for high efficiency discharging up to 10A
 - ✓ BATFET control to support ship mode, wake up and full system reset
 - ✓ Support PFM mode to improve light load efficiency and smooth transfer from PFM to PWM mode
 - ✓ ± 10mV VBAT regulation accuracy and 4% charging current regulation accuracy to protection battery from over-charging.
 - ✓ Support IR compensation to improve battery charging accuracy
- Support BC1.2 / PD3.0 and UFCS protocols for fast charging
- 2 Channels LED Drivers
 - ✓ Up to 1.5A flash current for each channel
 - ✓ Total 2A flash current for LEDs working simultaneously
 - ✓ Up to 500mA torch current for each channel
 - ✓ Can be working simultaneously
- Support 2.5A OTG
 - ✓ 93% boost efficiency @ 1A Iout, 5V Vout
- 9-channel 12-bit ADC
 - ✓ VAC, VBUS, IBUS, VBAT, VSYS, IBAT, TSBUS, TSBAT, TDIE
- Support Emergency Download (EDL) and battery ID detection
- Support CID (Type C insert detection) detection