



# 5.5V 2A High Efficiency Buck-Boost Converter with I2C Interface and Low Quiescent Current

## 1 Descriptions

SC8751 is a synchronous 4-switch buck-boost converter with an I2C interface. It provides excellent power efficiency and voltage regulation no matter the output voltage is higher, lower, or equal to the input voltage.

The device is specially designed for a single Li-ion battery-powered system. It can support applications from 2.7V to 5.5V input range and 3V to 5.2 V output range. It also features low quiescent current and selectable PSM mode operation to maximum efficiency at light load. The MODE bit allows the user to choose between power-save-mode operation and forced PWM operation. During the shutdown, the load is disconnected from the input, and the fast discharge function activates to discharge the output capacitors rapidly.

The device features an I2C interface, so the user can easily control the output voltage and other control functions. The I2C address can be selected through an ADDR pin with options from 0X75H or 0X76H.

SC8751 employs peak current-mode control and supports cycle-by-cycle current limit, input under-voltage protection, output short protection, and over-temperature protection to ensure safety under different abnormal conditions.

SC8751 is in a 15-ball 2.135 x 1.365 WCSP package.

## 2 Features

- 2.7V~5.5V Input Range
- Seamless Step Up/Down Transition
- 18µA Low Quiescent Current
- <1µA Shut Down Current
- 1.5MHz Typical Switching Frequency
- Up to 2A Continuous Output Current for Vin>3.2V, VO=3.5V
- Output Voltage: 3.0V~5.2V, default 5.2V  
3.0~4.0, 20mV/step, ±1%  
4.0~5.2, 10mV/step, ±0.5%
- Forced PWM Mode/ PFM Mode Selectable
- Programmable Output Voltage Transition Time
- I2C Interface Up to 1MHz
- Internal Soft Start
- Input Over Voltage Protection
- Output Fast Discharge
- Cycle by Cycle Peak Current limit
- UVLO/SCP/TSD protection
- 15-ball 2.135 x 1.365 WCSP package

## 3 Applications

- Smartphone and Tablet
- Wireless Communication Devices
- Battery Voltage Regulation
- Catalog Point-of-load Regulators

## 4 Device Information

ORDER NUMBER	PACKAGE	BODY SIZE
SC8751CFFR	15 ball WCSP	2.135 x 1.365 mm