



SC96257 50W Highly Integrated Wireless Receiver

1 Descriptions

The SC96257 is a highly-integrated wireless power receiver and transmitter with abundant peripherals for convenient and fast application.

The SC96257 supports up to 50W power(10V/5A) in Rx mode and up to 10W power in Tx mode

The SC96257 integrates a high efficiency synchronous full-bridge rectifier with ultra-low on-resistance to convert the AC power from a wireless transmitter to DC power, and a programmable LDO allowing for extremely high efficiency and system optimization.

Integrated 6-channel 12-bit ADC for voltage, current and temperature measurement, improves the sensory ability.

Integrated ASK modulator and demodulator, FSK modulator and demodulator for bidirectional communication make the device have abilities to support EPP and other proprietary wireless power protocol.

Internal LDOs supply independent power source for different power domain on-chip, simplify the power circuit and make lower cost.

UVP, OVP, OCP, OTP, SCP protections prevent the device from irreversible damage, like thermal damage, over voltage damage.

I2C slave interface and interrupt line for AP and other on-board system to interact with wireless power system.

For better charging efficiency, the device also integrates a pair back to back battery FETs for 2-cell battery charging, makes lower power dissipation.

The device is available in an ultra-small WLCSP-52 2.99mm x 4.3mm package.

3 Applications

- Smart phone
- Tablet PC
- Industrial Instrument

2 Features

- 50W power as a receiver and 10W as transmitter
- WPC Qi1.3 compatible
- Integrated high-efficiency synchronous rectifier
- Integrated dual-channel complimentary EPWM module
- Support boost mode startup
- Sleep mode
- Power path detect and path-switch MOSFET driver
- High performance LDO with adjustable output voltage, 4V~12V, 5mV/step
- 6-channel 12-bit 10ksps ADC
- ASK/FSK modulation and demodulation
- Support 2-cell battery directly-charging
- Support I2C interface
- Support log output with UART protocol
- Integrated 20MHz MCU
- Internal 40MHz high speed oscillator and 32KHz low speed oscillator
- Independent watchdog timer
- Memory
 - ◇ 32KB MTP
 - ◇ 3KB SRAM
- Protection
 - ◇ VRECT OVP/UVP protection
 - ◇ LDO OCP/SCP/OTS protection
 - ◇ OTP
- WLCSP-52 2.99mm x 4.3mm package

4 Device Information

ORDER NUMBER	PACKAGE	BODY SIZE
SC96257CFFR	WLCSP-52	2.99 x 4.3 x 0.575 mm