

10W Wireless Power Transmitter SOC

1 Descriptions

The SC9606 is a highly integrated wireless power transmitter SOC solution that contains both digital microcontroller and analog front end (AFE). The microcontroller includes a high performance 32-bit digital core, rich memory and peripherals. The AFE includes a full-bridge power MOSFETs, current sense amplifier, communication demodulator, linear regulator and protection circuit. The SC9606 supports various type of transmitter include both Extended Power Profile (EPP) and Baseline Power Profile (BPP) defined in WPC V1.2.4.

The SC9606 integrates DP/DM interface. To implement an EPP transmitter system, the SC9606 can request a high voltage from the adapter through DP/DM interface. The SC9606 supports foreign object detection (FOD) by continuously monitoring the input voltage and input DC current. Besides, the SC9606 also supports input under-voltage lockout (UVLO), over-current protection (OCP) and over-temperature protection (OTP). These protections further enhance the reliability of the total wireless power transmitter system.

The SC9606 is available in a compact 4x4 mm FCQFN package.

2 Features

- 4.0V to 12.0V AVIN input voltage range
- 2.0V to 12.0V PVIN input voltage range
- Support up to 10W output power
- Integrated voltage and current demodulation
- Integrated low $R_{DS(on)}$ power FETs
- Integrated FET driver and bootstrap circuit
- Integrated accurate current sense for FOD
- Support DP/DM fast charging interface
- UVLO/OVP/OCP/OTP
- 4mm x 4mm FCQFN package

3 Applications

- WPC Compliant Wireless Power Transmitter
- Proprietary Wireless Chargers and Transmitter

4 Device Information

Part Number	Package	Dimension
SC9606QFER	FCQFN25	4mm x 4mm x0.75mm