SP3400: Wireless Power Controller for Fast Charging Transmitter

Feature

- Input Voltage: 4.5V to 5.5V
- Compliant with WPC 1.2.4to Work with A11 Coils
- PWM Output 127.7KHz ±6Hz
- Output to Control External DCDC Output
- Reliable and Accurate Foreign Object Detection (FOD)
- LED for Charging Status and Fault Reporting
- Built-In Demodulation Circuit for Communications
- Built-in Frequency Shift Keying Modulate(FSK)
- Built-in Fast Charge Protocol
- Input Low Voltage Detection
- Limited Power to Prevent Overloading Input Sources
- Over-current Protection
- Over-temperature Protection with NTC Input
- Internal Oscillator
- Interface with NU1007 to Form 10W Fast Charging Solutions
- 28 Pin 4mm x4mm QFN Package

Applications

- Wireless Power Transmitter Compliant with WPC V1.2.4
- Fast Wireless Charger for 10W Received Power
- General Wireless Power Transmitter for Consumer, Industrial and Medical Applications

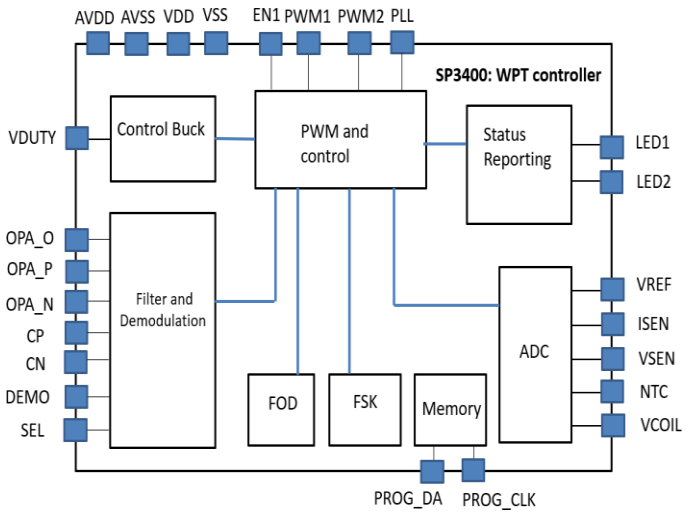
Descriptions

SP3400 is a highly integrated digital controller for wireless power transmitter compliant with WPC 1.2.4 standard. This device and NU1007, the companion power stage IC, form simple, high-performance and cost-effective wireless power transmitter solutions suitable for a wide range of applications.

SP3400 integrates all essential functions to deliver regulated power and maintain robust communications with WPC compliant receivers. The integrated demodulation circuit removes external amplifiers and comparators. The device is housed in a 4mm x 4mm QFN package, making it a compact transmitter controller. Used with NU1007, the smallest and most integrated power IC, the two-chip turnkey design provides the most space saving solutions.

SP3400 also emphasizes on providing reliable and robust charging experience by preventing any transient conditions, such as receiver load variations and Rx/Tx coupling changes, from disrupting communications and continuous charging. The device adopts a proven foreign object detection (FOD) scheme to detect metal objects and prevent harmful heating. The device also integrates the protection features such as over- temperature and over-current protections, input low-voltage detection and input power limit

Block Diagram



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