NU1300: Wireless Power Controller for WPC Transmitter

Feature

- Input Voltage: 4.5V to 5.5V
- Compliant with WPC 1.2 to Work with A5 and A11 Coils
- Reliable and Accurate Foreign Object Detection (FOD)
- LED for Charging Status and Fault Reporting
- Built-In Demodulation Circuit for Communications
- PWM Output from 100KHz to 220KHz in 100Hz Steps
- Input Low Voltage Detection
- Limited Power to Prevent Overloading Input Sources
- Overcurrent Protection
- Over-temperature Protection with NTC Input
- Buzzer Output for Charging Status
- Internal Oscillator
- Interface with NU1005/6 to Form High Performance Total Solution
- 28 Pin 4mm x 4mm QFN Package

Applications

- Wireless Power Transmitter Compliant with WPC V1.2
- Wireless Power for Smart Phones
- Wireless Power Transmitter for Smartwatches and Wearables
- General Wireless Power Transmitter for Consumer, Industrial and Medical Applications

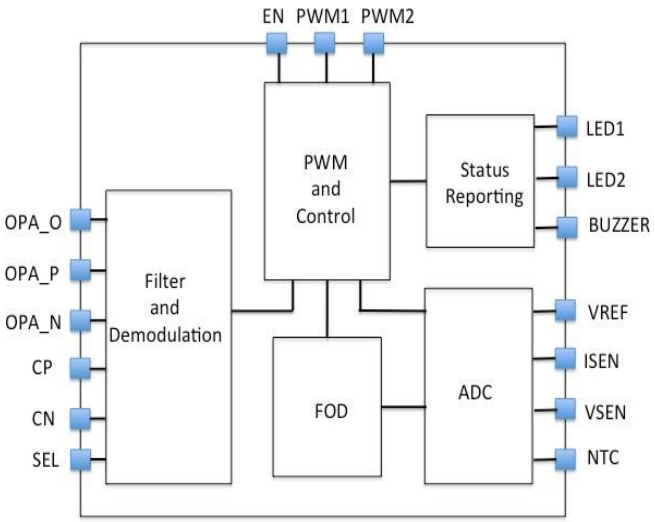
Descriptions

NU1300 is a highly integrated digital controller for wireless power transmitter compliant with WPC 1.2 standard. This device and NU1005/6, the companion power ICs, form simple, high performance and cost effective wireless power transmitter solutions suitable for wide range of applications.

NU1300 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 4mmx4mm QFN package, making it a compact transmitter controller. Used with NU1005/6, the smallest and most integrated power IC, the two-chip turnkey design provides the most space-saving solutions.

NU1300 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 overcurrent protections, input low voltage detection and input power limit.

Block Diagram



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