

NU1005/6: 5V Full Bridge Driver for High Integration, High Efficiency and Low Cost Wireless Power Transmitter

Feature

- Input Voltage: 4.0V to 5.5V
- Output Power: 2.5W (NU1005) and 5W (NU1006)
- Integrated High Efficiency Full Bridge FETs
- Integrated FET Driver Optimized for Low EMI
- Integrated 2.5V LDO to Bias External Circuit and Provide Reference Voltage
- High Accuracy, High Speed, Lossless Current Measurement for FOD and In-Band Communication
- Input Under-Voltage Lockout
- Short-Circuit Protection
- Thermal Shutdown
- 3mm x 3mm QFN Package

Applications

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

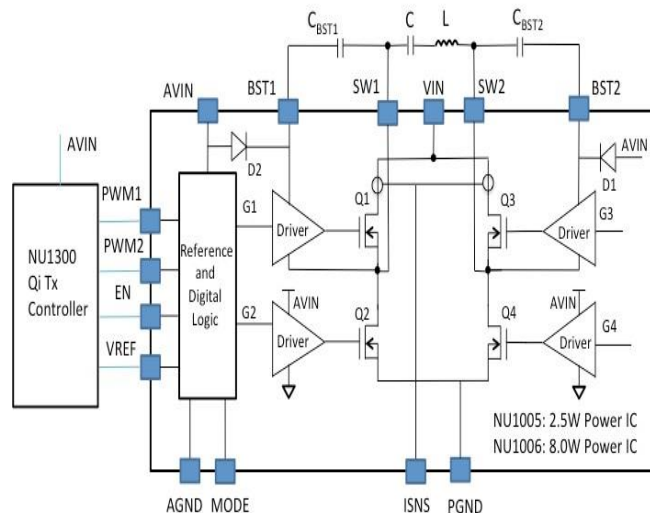
Descriptions

NU1006 is a highly integrated 5V full bridge power IC optimized for wireless power transmitter solutions. It works with transmitter controller NU1300 to create a low-cost and high-performance wireless power transmitter compliant with WPC 1.2 or customized for any customer-requested solutions. The device integrates all critical functions; such as high-efficiency power FETs, low EMI FET driver, bootstrap circuit, 2.5V LDO and lossless current measurement. The proprietary current-measurement circuit provides accurate current reading used by FOD (Foreign Object Detection) power measurement and in-band communication. It eliminates the current-sense resistor and amplifier circuit, and thus saves cost and improves efficiency.

The IC also includes protection functions such as input under-voltage lockout, short-circuit protection, and thermal shutdown. These provisions further enhance the reliability of the total system solution.

The device is housed in a thermally enhanced 16-pin 3mmx3mm QFN package.

Functional Block Diagram



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