

2.5W highly integrated Wireless Power Receiver IC for inductive and resonant system

DESCRIPTION

The MAP75031 is a Wireless Power Receiver IC which supports AirFuel resonant, PMA and WPC(Qi) wireless power transfer systems. The device receives an AC power signal from a wireless power transmitter and converts it into a regulated 5V output voltage.

It integrates a half-bridge active rectifier, which can operate for an AirFuel resonant, PMA and WPC(Qi) system, synchronous buck converter with 5V output, a 3.3V low-dropout regulator (LDO) for external devices, 10-bit ADC, PMA communication circuits, NFC protection circuit and digital communication (I²C) to control the VOUT and to report rectifier voltage/current and output voltage/current without any external circuitry.

APPLICATIONS

- Handsets & accessories
- Sports, fitness, smart-watch
- Healthcare & audience systems

FEATURES

- **High Efficiency Wireless Power Receiver**
- **All Integrated Single Chip Solution**
 - Half-bridge active rectifier operates up to 6.78MHz
 - Synchronous buck converter
 - 5V reverse-current blocking bypass switch at VOUT output
 - Parallel resonant capacitor tank selection
 - Communication circuit for WPC(Qi) and PMA
 - External OVP driver for AirFuel
 - Internal OVP circuits for WPC(Qi) and PMA
 - No external circuits for rectifier and output current sense
 - 3.3V Low dropout regulator (LDO) for external device
 - NFC Protection circuits
 - 10-bit ADC
 - Internal EEPROM for PMA identification information
 - AirFuel Resonant/WPC(Qi)/PMA detection logic
 - I²C interface
- **Voltage & Current Sensing**
 - Rectifier and output voltage sensing
 - Rectifier and output current sensing
- **Protections**
 - Over voltage protection for rectifier
 - Over current limit for buck converter
 - Over current limit for LDO
 - Thermal shutdown
 - Under-Voltage Lock-Out (UVLO)
- **WLCSP Assembly**
 - 30 Ball WLCSP 2.62x2.17mm², 0.55T(max)
- **Green & RoHS**

TYPICAL APPLICATION

