

## 1. DESCRIPTION

MT5728 is a SoC based wireless power receiver which is designed for application with up to 30W power delivery and can be configured as a wireless charging transmitter to power other receivers. It is fully compliant with the WPC Qi Specification (V2.0) of Baseline Power Profile (BPP) and Extended Power Profile (EPP).

The AC input can be converted to fully programmable DC output voltage due to the magnetic induction charging technology.

Designed with ARM Cortex M0 processor, integrated with optimized and adaptive full synchronous rectifier control and special LDO, the chip achieves high efficiency, ultra-low bias current and very small power MOSFET  $R_{DS(on)}$ .

MT5728 is embedded with various protection features, such as foreign object detection (FOD), over-voltage, over-current and over-temperature protection which guarantee the system reliability.

## 2. APPLICATIONS

- Smartphones and wearable devices
- TRx function for phones or power banks
- Other wireless power applications

## 3. FEATURES

- Power delivery: Up to 30W
- Fully programmable output voltage and current limit
- Embedded ARM Cortex M0 processor with 8kB SRAM and 16kB MTP
- AC input to DC output efficiency: Up to 97%
- Reverse charging mode with integrated dual channel Tx demodulation
- Fully integrated bi-directional current sensing
- Embedded with various protection features: OVP, OCP, OTP, FOD
- Innovative output LDO with output clamping and fast response to line and load transient
- WPC Qi V2.0 compliant and proprietary communication protocols support with hardware ASK and FSK modulation and demodulation
- Independent I<sup>2</sup>C slave interface with additional GPIO's
- Halogen free and RoHS compliant
- 2.80mm x 3.96mm (6x9 ball array) WLCSP-54

## 4. TYPICAL APPLICATION CIRCUIT

