

P9418

60W Wireless Power Receiver with WattShare™ TRx Mode

The P9418 is a highly-integrated single-chip wireless power transmitter/receiver IC (TRx). The device configures to transmit or receive an AC power signal through magnetic induction.

As a wireless power transmitter, the P9418 features an on-chip full/half-bridge inverter, a pulse-width modulation (PWM) generator, a modulator/demodulator for communication, and a microcontroller to produce an AC power signal to drive an external L-C tank. As a receiver, the device receives an AC power signal from a wireless transmitter and converts it to a rectified output voltage, which can power devices or supply the charger input in mobile applications. For optimized power delivery, the P9418 integrates a high-efficiency Synchronous Full Bridge Rectifier and control circuitry that modulates the load to send message packets to the Transmitter (Tx).

The P9418 features multiple-time programmable (MTP) non-volatile memory to easily update control firmware and device functions.

Also, the device includes over-temperature and voltage protection. Fault conditions associated with power transfer are managed by an industry-leading 32-bit ARM® Cortex®-M0 processor that offers a high level of programmability while consuming extremely low standby power. The processor also controls GPIOs to indicate operating and fault modes.

The P9418 is available in an ultra-small 70-WLCSP package.

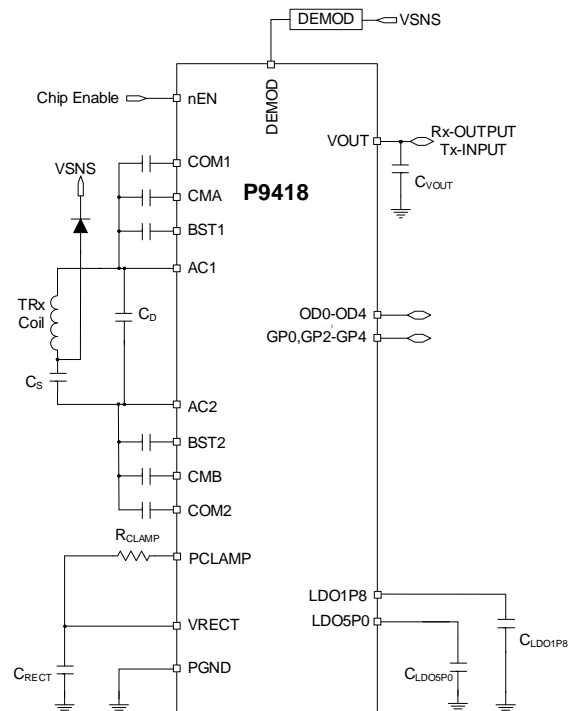
Applications

- Wireless power solution for mobile applications

Features

- Single-chip WPC medium power wireless solution
- 24kB Multiple-time programmable (MTP) non-volatile memory for expanded feature support
- WPC 1.2.4 compliant and WPC 1.3+ compatible
- Delivers up to 60W as a receiver
- WattShare™ TRx mode with up to 10W Tx capability
- Embedded 32-bit ARM® Cortex®-M0 processor
- Reliable overvoltage clamping
- Proprietary Rx-to-Tx modulation/demodulation for two-way communication
- High-performance LDO
- Tx-to-Rx (backchannel) communication
- Supports proprietary mode magnetic induction wireless power solutions
- Supports I<sup>2</sup>C 400kHz standard interface and GPIOs
- Package: 7 × 10-ball array, 2.82 × 4.22 × 0.50 mm, 70-WLCSP with 0.40mm ball pitch

Typical Application Diagram



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