Description

The IDT P9242-R3 is a highly-integrated 15W magnetic induction wireless power transmitter with in-band, bi-directional data communication requiring no additional circuitry. The communication channel can be used for proprietary device authentication and secure system data transfer.

The P9242-R3 includes a 32-bit ARM®* Cortex®-M0 processor, foreign object detection (FOD), wide input voltage range operation, full bridge drivers, and on-chip simultaneous voltage and current demodulation.

In addition, the P9242-R3 features programmable over-current protection, programmable LED output blinking pattern, and I2C serial interface protocol to read back information such as voltage, current, and fault conditions. This standard device is compliant to the WPC-1.2 specification. Combined with the P9221-R3 receiver, the P9242-R3 forms a complete wireless power system solution for 15W applications with bi-directional data communication.

The P9242-R3 is available in a space-saving 48-VFQFPN package. It is rated for -40 to +85ºC ambient operating temperature range.

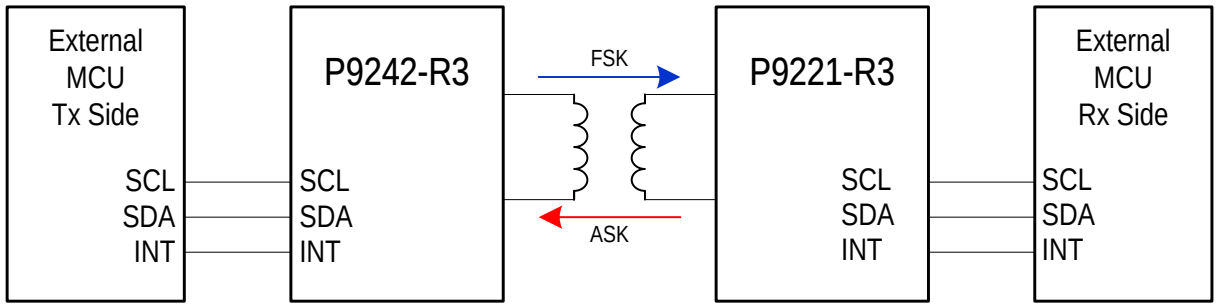
Features

- Supports bi-directional data communication
- Enables authentication and system data transfer
- Up to 15W of power transfer
- 87% end-to-end efficiency when combined with the P9221-R3
- VIN range: 4.25V to 21V
- Integrated drivers for external power FETs
- Integrated step-down switching regulator
- Simultaneous voltage and current demodulation
- Standard device compliant with the WPC-1.2 specification
- Supports the I2C interface protocol
- -40 to +85°C ambient operating temperature range
- 6 x 6 mm, 48-VFQFPN package

Typical Applications

- Industrial Equipment
- Consumer Electronics
- Medical Equipment

Typical Application Circuit



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