

Description

The P9242-G is a highly integrated, magnetic induction, wireless power transmitter supporting up to 15W. This system-on-chip (SoC) device operates with an input voltage range of 4.25V to 21V.

The P9242-G includes an industry-leading 32-bit ARM® Cortex®-M0 processor offering a high level of programmability and extremely low standby power consumption. The transmitter features two LED outputs with pre-defined user-programmable blinking patterns, a buzzer output, and programmable over-current protection supporting a wide range of applications. The P9242-G is designed to support fixed-frequency operation compliant with WPC MP-A5 and MP-A11 coil configurations. It uses an external oscillator for very accurate 127.7kHz fixed-frequency operation. The I2C serial communication interface allows the user to read information such as voltage, current, frequency, and fault conditions.

The P9242-G includes an under-voltage lockout and thermal management circuit to safeguard the device under fault conditions. Combined with the P9221-R receiver (RX), the P9242-G forms a complete 15W wireless power system solution.

The IDT P9242-G is available in the lead-free, space-saving 48-VFQFPN package. The product is rated for a -40°C to +85°C operating temperature range.

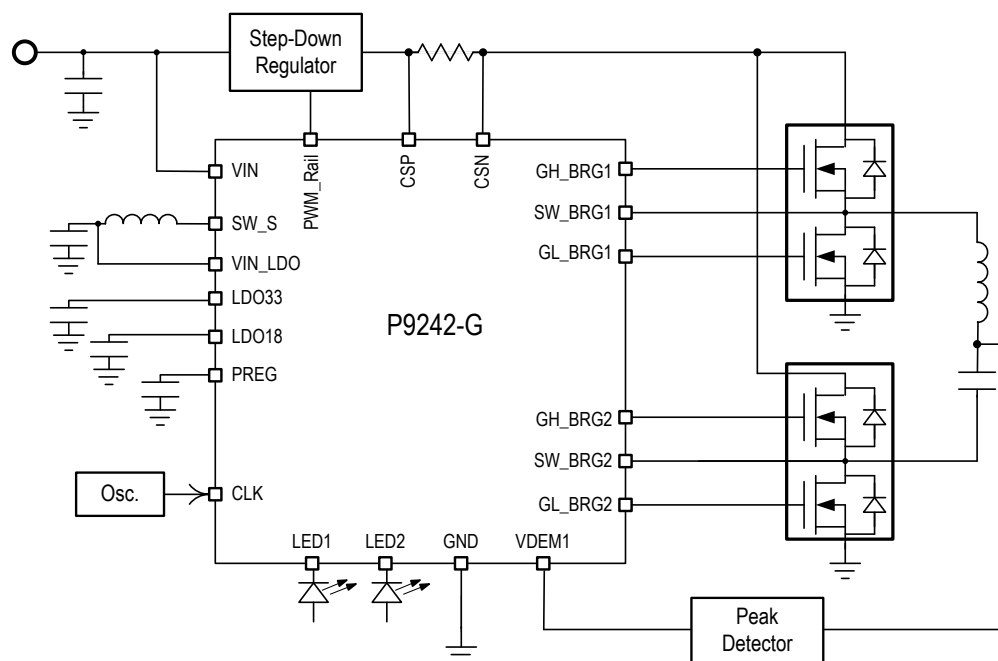
Typical Applications

- Transmitter pads
- Accessories capable of Apple 7.5W charging
- Cradles
- Tablets

Features

- Power transfer up to 15W
- Wide input voltage range: 4.25V to 21V
- WPC-1.2 compliant; MP-A5 and MP-A11
- Integrated step-down switching regulator
- Embedded 32-bit ARM® Cortex®-M0 processor (trademark of ARM, Ltd.)
- Integrated drivers for external power FETs
- Simultaneous voltage and current demodulation scheme for communication
- Fixed, accurate 127.7kHz frequency
- Low standby power
- Dedicated remote temperature sensing
- Programmable current limit
- Power transfer LED indicator
- Programmable foreign object detection (FOD)
- Pre-defined user-programmable LED pattern
- Active-LOW enable pin for electrical on/off
- Over-current and over-temperature protection
- Supports I2C interface
- -40°C to +85°C ambient operating temperature range
- 48-VFQFPN (6 × 6 mm) RoHS-compliant package

Basic Application Circuit



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