

### Description

The P9247 is a highly integrated, magnetic induction, wireless power transmitter that supports up to 15W in compliance with the WPC-1.2.4 specification and 30W in proprietary applications. The device is compatible with all popular wireless charging protocols including the WPC Baseline Power Profile (BPP), Extended Power Profile (EPP), up to 7.5W charging for iPhones, and Android proprietary fast charging modes. This system-on-chip solution (SoC) operates with an input voltage range of 5V to 19V and supports various types of wall adapters.

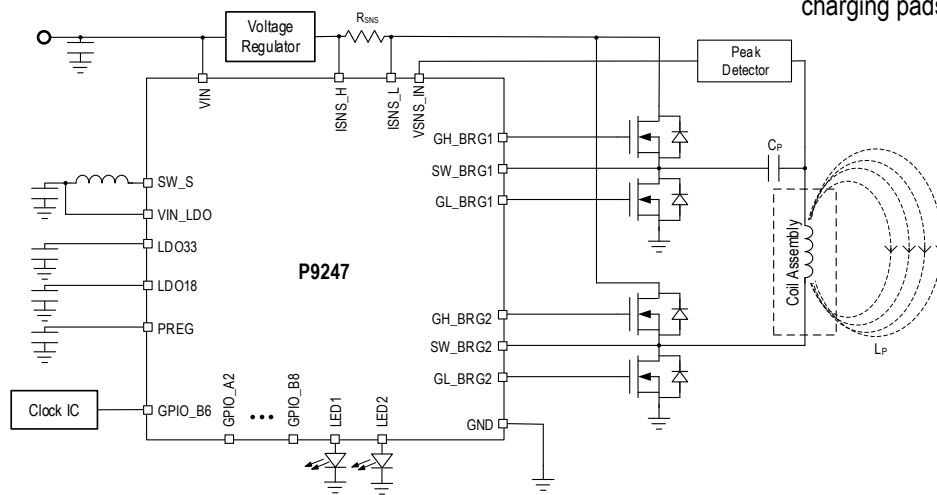
The P9247 includes an industry-leading 32-bit ARM® Cortex®-M0 processor, offering a high level of programmability and extremely low standby power consumption.

The P9247 generates power through the power coil, detects the presence of a wireless power receiver, decodes the communication packets from the receiver, and adjusts the transmitted power by controlling the voltage based on feedback from the receiver.

The transmitter also features a wide range of system protections, such as over-current, over-voltage, under-voltage lockout, and real-time foreign object detection (FOD), ensuring maximum utility and safety for customers. The transmitter also allows for power adjustment via frequency, duty-cycle, and/or bridge voltage adjustment, and offers significant margin to EMI requirements in all regions of the world.

The P9247 is available in a lead-free, space-saving 48-VFQFPN package. The product is rated for a -40°C to +85°C operating temperature range.

### Typical Application Circuit



### Features

- Power transfer up to 30W in proprietary mode and 15W at receiver side in EPP mode
- Real-time foreign object detection (FOD)
- Wide input voltage range: 5V to 19V
- Supports various types of wall adapters
- WPC-1.2.4 compatible
- Integrated drivers for external power MOSFETs
- Embedded 32-bit ARM® Cortex®-M0 processor (trademark of ARM, Ltd.)
- Simultaneous voltage and current demodulation scheme for WPC communication
- Integrated current sense amplifier
- Low standby power
- Active-LOW enable pin for electrical on/off
- Over-current and over-temperature protection
- Supports I<sup>2</sup>C interface
- -40 to +85°C ambient operating temperature range
- 48-VFQFPN (6 × 6 mm) RoHS-compliant package

### Typical Applications

- BPP and EPP wireless charging pads
- Up to 7.5W charging for iPhones
- Android fast charging pads
- Cradles
- Tablets
- After-market automotive wireless charging pads

## Package Outline Drawings

The package outline drawings are appended at the end of this document and are accessible from the link below. The package information is the most current data available.

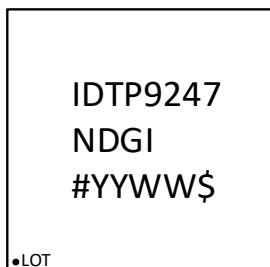
<https://www.idt.com/document/psc/48-vfqfpn-package-outline-drawing-60-x-60-x-090-mm-body-epad-42-x-42-mm-040mm-pitch-ndg48p2>

## Special Notes: P9247 48-VFQFPN Package Assembly

Unopened dry packaged parts have a one-year shelf life.

The HIC indicator card for newly-opened dry packaged parts should be checked. If there is any moisture content, the parts must be baked for a minimum of 8 hours at 125°C within 24 hours prior to the assembly reflow process.

## Marking Diagram



1. Lines 1 and 2 denote the part number.
2. Line 3: "YYWW" is the last two digits of the year and two digits for the week that the part was assembled. # is the device step. "\$" denotes the mark code.

## Ordering Information

| Orderable Part Number | Description and Package  | MSL Rating | Carrier Type | Ambient Temperature |
|-----------------------|--|------------|--------------|---------------------|
| P9247NDGI             | P9247 Wireless Power Receiver for 15W Applications, 48-VFQFPN (6 x 6 mm) package | MSL3       | Tray         | -40°C to +85°C      |
| P9247NDGI8            | P9247 Wireless Power Receiver for 15W Applications, 48-VFQFPN (6 x 6 mm) package | MSL3       | Reel         | -40°C to +85°C      |



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