General Description

SY7100 is a highly efficient, fully integrated 5W wireless charging receiver IC with WPC Qi V1.24. The efficiency of the integrated low on resistance synchronous rectifier is up to 94%, and the output voltage of the integrated LDO is adjustable. A digital controller is also provided for calculating the power received by mobile devices, and sending the data to the transmitter for foreign object detection (FOD), which ensures safe wireless charging.

SY7100 incorporates an 8-bit CPU with 256 Bytes RAM and 8k Bytes MTP. Internally, there is a multi-channel 12-bit SAR ADC for voltage, current and NTC sense, 3 timers, UART, I2C controller and PWM.

SY7100 is available in QFN28 4*4 package.

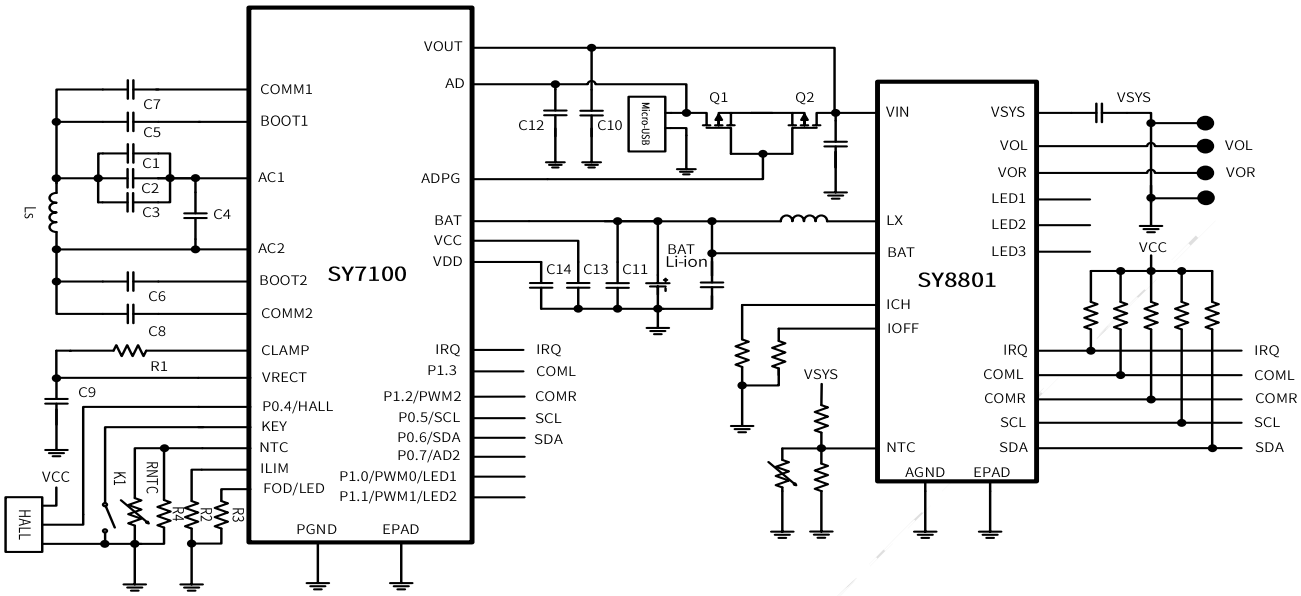
Applications

- TWS cradle charging
- Wireless charging receivers

Features

- 8-bit CPU
- 256 Bytes RAM
- 8k Bytes MTP
- 3 timers
- 1 UART
- I2C interface
- 1 11-channel 12-bit ADC
- Multiple purpose GPIOs
- 1 multi-channel output PWM controller
- 3 LED constant current drivers
- Support external interrupt wake-up
- Key detect and wakeup
- Hall detect and wakeup
- external VBUS to VOUT MOSFET Driver
- Fully integrated wireless charging receiver solution
- 94% peak AC-DC conversion efficiency
- Fully synchronous rectifier
- WPC V1.24-compliant
- Adjustable output voltage
- Compliant with WPC V1.24 foreign object detection (FOD)
- Dynamic rectification control of rectifier for better dynamic load response
- Rectifier over-voltage protection, single resistor over-voltage clamp
- Over-voltage, over-current and short-circuit protections of LDO
- Chip over-temperature protection and thermal shutdown
- NTC protection
- 28V breakdown voltage
- (stand by current less than)10uA in Sleep mode
- Support ISP/IAP
- QFN28 4*4 package

Typical Application Circuit



Typical Application Circuit of SY7100