

General Description

SY8602 is a single-lithium battery linear-charging IC with integrated high voltage input. The charging is disabled with input voltage is higher than the typical protection threshold of 10V input maximum voltage up to 28V, it can work well without over-voltage protect circuit.

The floating charge voltage is 4.2V/4.35V/4.4V, and the constant charging current and charging cut-off current are set by an external resistor. For battery voltage below 2.6V, the battery is pre-charged at 20% of the constant current. The integrated reverse charging protection circuit without external isolating diodes. The \overline{PG} and \overline{CH} pin are open-drain which can drive LED.

When the device is powered on and the working conditions are met, \overline{PG} is turned on. \overline{CH} is an end-of-charge indication, which is turned off when the charging current is lower than the preset charging cut-off current. When the input voltage (AC adapter or USB power) is removed, the low-current mode is automatically activated.

SY8602 package is TDFN-2x2-8L, and recommended to work within the temperature range of $-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$.

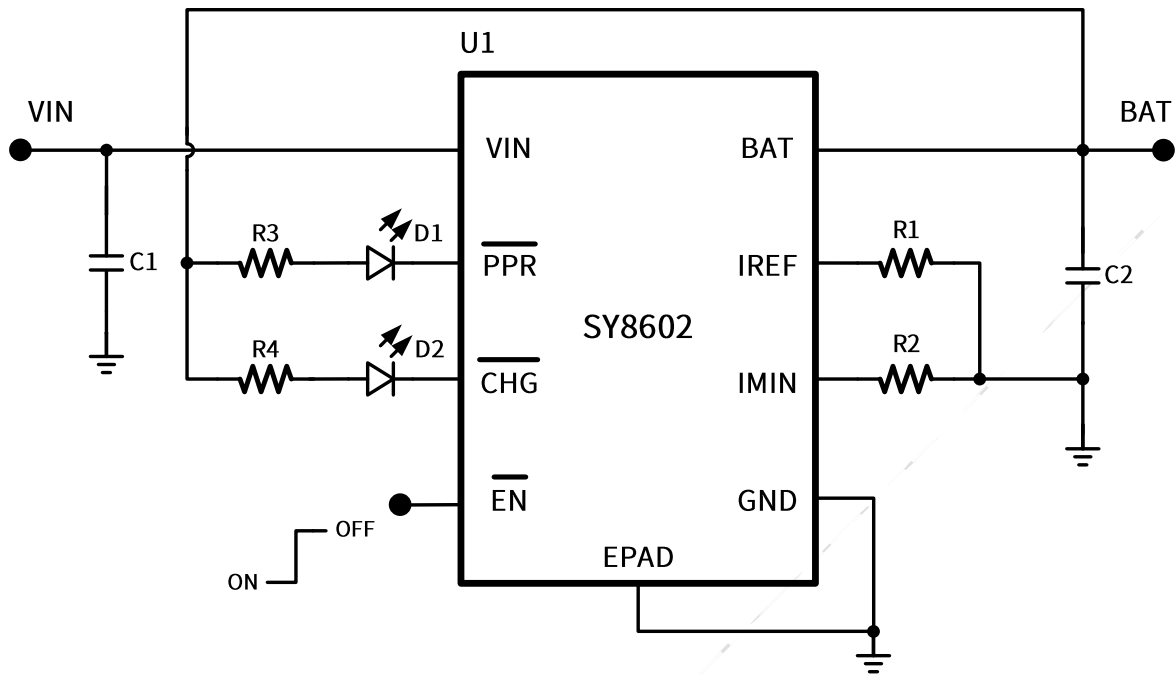
Applications

- ◆ Wearable devices
- ◆ Wireless Bluetooth earbuds
- ◆ IOT equipment
- ◆ Intelligent control equipment

Features

- ◆ Floating voltage is 4.2V/4.35V/4.4V
- ◆ Charging current within the range of 10mA~500mA, with $\pm 10\%$ accuracy
- ◆ Charge cut-off current, with $\pm 15\%$ accuracy
- ◆ Low cut-off current applications such as Bluetooth earbuds
- ◆ Less components
- ◆ No need for MOSFET, detection resistor or isolating diode
- ◆ Input over-voltage protection threshold 10V
- ◆ 28V input voltage, no need for input over-voltage protection circuit
- ◆ Indication of power source and charging state
- ◆ Automatic recharge
- ◆ IEC62368
- ◆ TDFN-2x2-8L package

Typical Application Circuit



Typical Application Circuit of SY8602