

General Description

SY6203 is a low-power, high-precision switch charger with NVDC architecture, which is applicable to wearable battery devices such as smartphone and wireless speaker. It integrates charge, boost converter and protections.

SY6203 charging current up to 3A with IR compensation.

The charging profile can be configured by I2C. The step of charge voltage is 10mV and the step of charge current is 60mA. Safety features are including JEITA profile, safety timer, and over-voltage/over-current/under-voltage protections.

The SY6203 integrates boost converter (OTG) which can support maximum load of 1.2 A. SY6203 have BC1.2 detection and current limit of input.

SY6203 package is QFN24-4mm *4mm or WLCSP25-2.07mm*2.17mm with 0.4mm pitch.

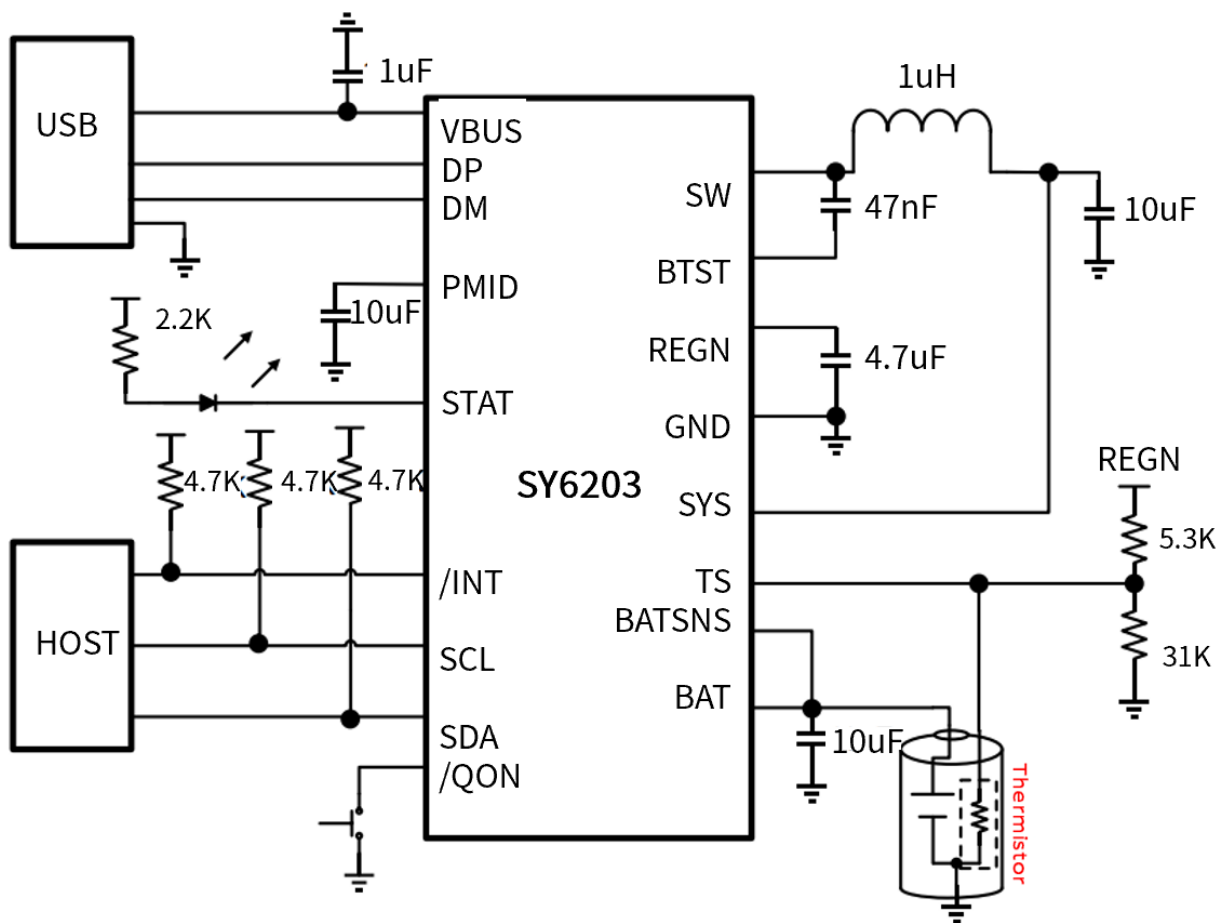
Applications

- ◆ smart phones
- ◆ Other portable devices

Features

- ◆ High-precision switch charger
- 1.5MHz switch frequency with 1uH inductor
- $\pm 0.5\%$ constant voltage charging accuracy (10mV/step adjustable)
- 5% charge current regulation@1.5A
- $180\text{mA} \pm 10\text{mA}$ charge termination current
- Charging current up to 2A, efficiency 92% at 2A
- Programmable top-off timer
- ◆ OTG function
- support PFM mode
- output maximum current 1.2A, and four step output voltage
- ◆ NVDC path management
- Programmable input current limit (IINDPM) and input voltage limit (VINDPM)
- ◆ 10.5uA leakage current in standby mode and 1.2uA leakage current in ship mode
- ◆ Protections
- input over-voltage protection
- Battery over-current/over-voltage/
- under-voltage protections
- Boost output over-voltage/over-current protections
- Thermal regulation and thermal shutdown

Typical Application Circuit



Typical Application Circuit Diagram

(Note: If NTC function is used, a NTC resistor with 1% accuracy, 10K resistance and $\beta = 3435$ must be selected.)