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## I2C Controlled 3A Buck Switch Charger with NVDC Power Path Management and OTG Output

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### 1 Description

The SY6203 is a highly integrated 3A switch-mode battery charge management and system power path management device for single cell Li-Ion and Li-polymer batteries. It integrates charge management, boost converter and protections.

The SY6203 can support up to 3A charging current with IR compensation.

The charging profile can be configured through I2C. The minimum step of charge voltage regulation is 10mV and the minimum step of charge current is 60mA.

SY6203 integrates an OTG function with 1.2A output capability, which can deliver power from the battery to other devices through a USB port. SY6203 is compatible with the BC1.2 and can automatically set the input current limit based on the input sources.

The SY6203 is available in packages of 4mm\*4mm QFN24 and 2.07mm\*2.17mm CSP25 (0.4mm pitch).

### 2 Applications

Mobile phone, tablet

Portable devices and accessory

### 3 Features

- High-efficiency switch-mode buck charger
  - Charging current up to 3A
  - >90% charge efficiency at 2A
- High accuracy charging profile
  - $\pm 0.5\%$  charge voltage regulation
  - $\pm 6\%$  charge current regulation@1.5A
  - Low termination current with high accuracy  $\pm 18\text{mA}$  at 180mA
  - Programmable top-off timer
  - Integrated remote battery sensing
- Support On-The-Go (OTG) with PFM mode
  - Adjustable output from 4.6V to 5.15V
  - Up to 1.2A output
  - Soft-start up to 500uF capacitive load
- NVDC power path management
  - Instant-On works with deeply discharged battery
  - Programmable input current limit (IINDPM) and input voltage limit (VINDPM)
- 11uA leakage current in standby mode and 1.1uA leakage current in ship mode
- Protection includes VBUS OVP, battery OVP/OCP, boost OVP/OCP, thermal regulation and thermal shutdown

## 4 Typical Application Circuit

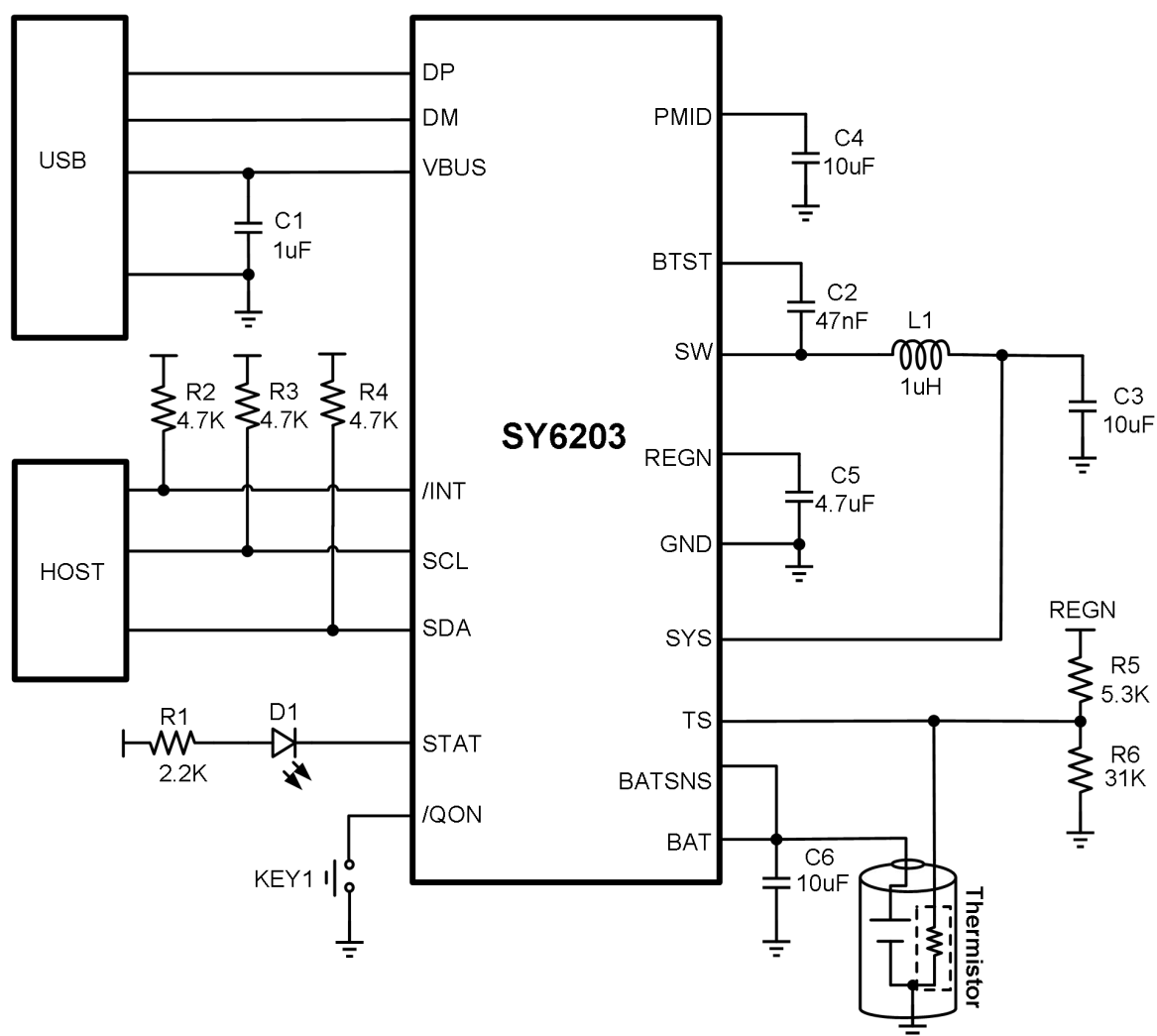


Figure 4- 1. Typical Application Circuit