

RT9466/RT9467 Charge Flow

Abstract

In portable device applications, host changes adapter's output to high voltage is a general solution to achieve fast charge. This application note provides charge profile of the [RT9466/RT9467](#) to users. Please users must to follow the charge profile to control the [RT9466/RT9467](#) VBUS voltage.

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1. Charge System Structure

The general function block of switching charge as Figure 1. The host controls VBUS voltage via PD controller or [RT9466/RT9467](#) PE+ protocol. The gauge device provides battery capacity information to host. The [RT9466/RT9467](#) main duty is to complete the charge cycle and provide charge status to host. The host controls the [RT9466/RT9467](#) charge condition via I²C interface.

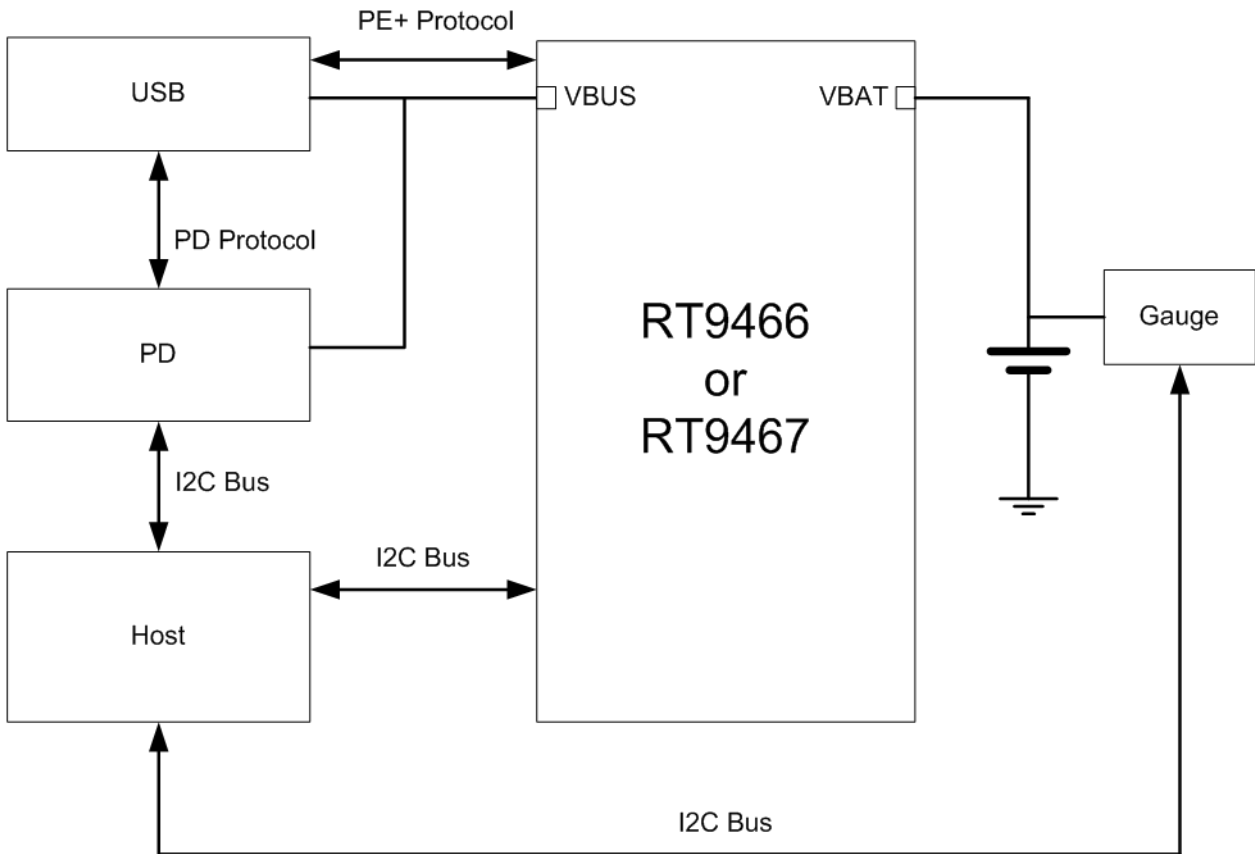


Figure 1. Functional Block for Switching Charger

2. Charge Profile Introduction for Low VBUS Charge Condition

The Figure 2 is charge profile for $V_{BUS} = 5V$ condition. Host set the V_{BUS} to 5V by PD protocol or PE+ protocol. Users can use gauge device to determine battery charge level.

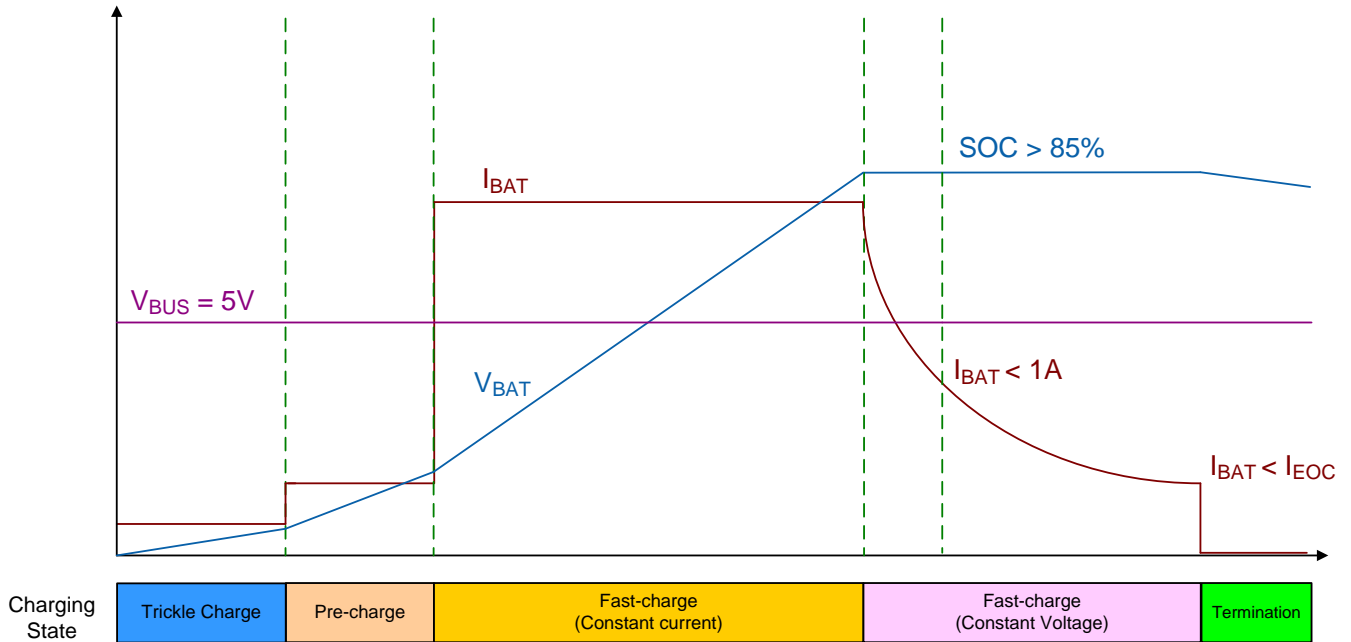


Figure 2. Charge Profile for $V_{BUS} = 5V$ Charge Condition

3. Charge Profile Introduction for High VBUS Charge Condition

The Figure 3 is charge profile for V_{BUS} higher than 5V condition. In trickle charge and pre-charge period, host sets the V_{BUS} voltage to 5V via PD or PE+ protocol. After battery enter fast charge level, host changes V_{BUS} higher than 5V to increase charge current. After battery capacity higher than 85% and charge current lower than 1A, users must to change V_{BUS} to 5V to finish charge cycle.

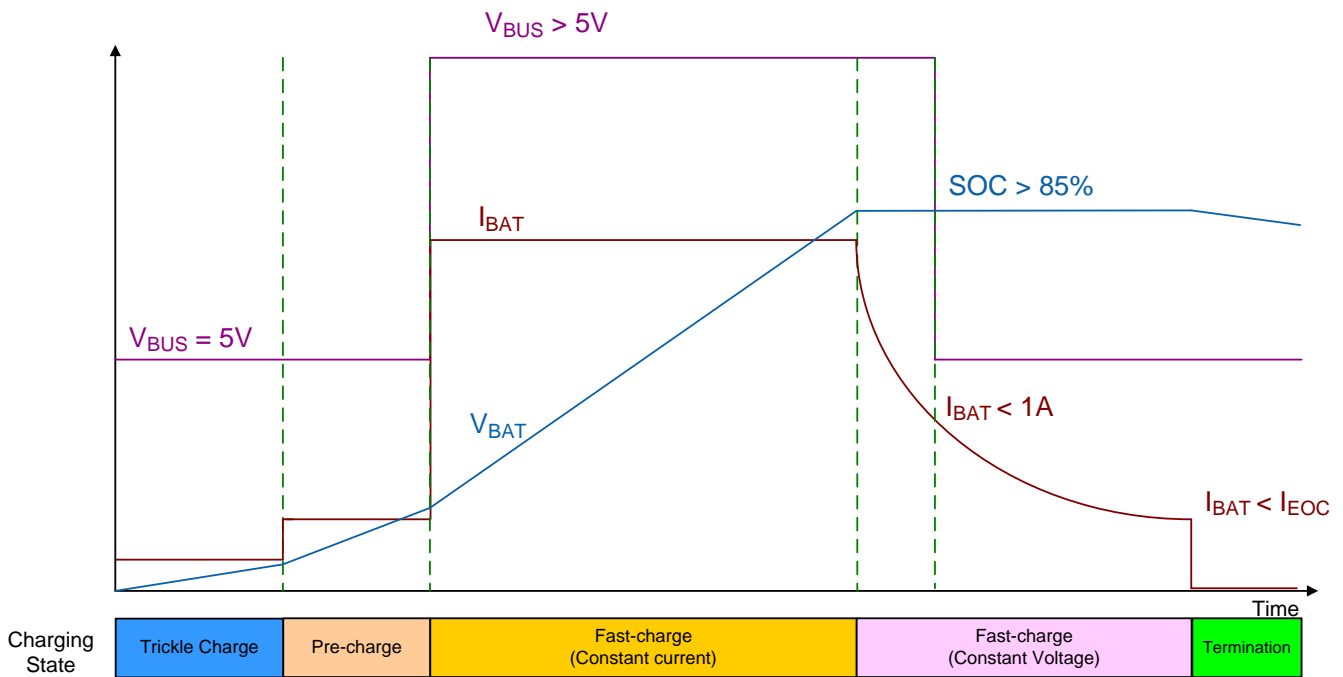


Figure 3. Charge Profile for $V_{BUS} > 5V$ Charge Condition

Next Steps

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