

## 1 Features

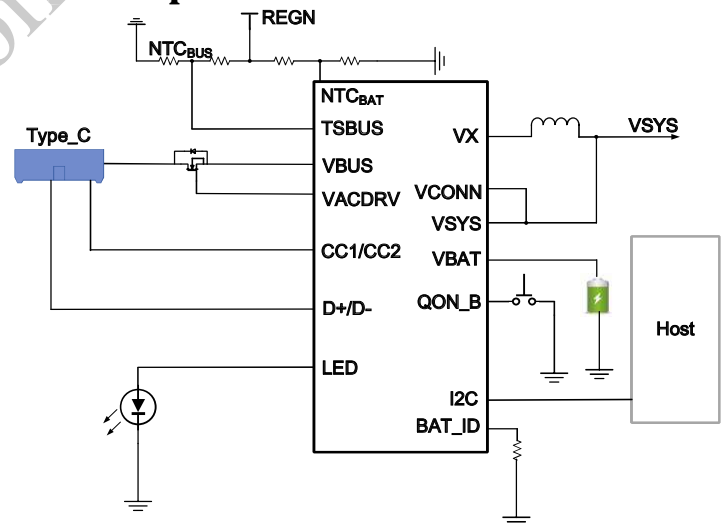
- High efficiency 4A Switch Mode buck charger
  - 93% charging efficiency at 3A charging current 5V VBUS 3.8V VBAT 1Mhz
  - Supports input range 3.9V ~ 13.5V
  - Integrates Dynamic Power Management for input voltage input current
  - BAT Sense Pin and AFVC (Automatic Float Voltage Compensation) IR Compensation provided to track battery voltage accurately
  - PWM mode could smooth transfer to PSM mode for light load efficiency
  - Integrates Narrow VDC (NVDC ) power path management
  - +/-10mV VBAT regulation accuracy and +/- 4% charging current accuracy
- 8mOh BATFET for high efficiency power path support 10A discharging
  - Ideal diode operation in Battery Supplement mode
  - Support Ship Mode , wake up, and system reset
- Smart input power management to recognize the adapter type and draw the max power from adapter
  - Support Automatic Input Current Limit (AICL) to draw the max power out of the connected USB adapter
  - Support BC1.2/ PD3.0 protocols for fast charging
  - CID function is supported to reduce the corrosion of CC Pin.
- USB On-the-Go (OTG) with adjustable VOUT from 3.9V to 5.4V and IOU limit from 0.5A to 3A
  - 94% efficiency at 3.8V VBAT 5V VBUS and 1.5A load

- Integrate with 2 Channel LED Drivers
  - Up to 1.5A flash current for each channel and total 2A flash current for LED working simultaneously
  - Up to 500mA torch current for each channel
  - Support headroom mode for flash mode to decrease thermal
- Support 11 channel 13-bit ADC
  - VAC VBUS VSYS VBAT BATHP/BATN IBUS ICHG VTEMP TSBUS TSBAT BAT\_ID
- 42 Pin 3.18mm × 2.8mm WCSP Package

## 2 Applications

Smart Phone  
Tablet PC

## 3 Descriptions



Simplified Application Diagram

SP6200 is a Charger PMIC integrate with multiple functions. It targets mid- and low-tier 4G/5G Smartphones battery charging application with in-box adapters ranging from 18W to 33W or 67W PD/PPS adapters.

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