

J9

- 5 S3_I021
- 4 S3_I047
- 3 S3_I048
- 2 S3_I045
- 1

Conn_01x05_Female GND

Conn_01x06_Female

J3

1

2 SPLCS

3 SPLCLK

4 SPLSI

5 SPLSO

6 HOST_HRDY

GND

Diagram of J6 pin connections:

- Pin 7: +3.3V
- Pin 6: +3.3V
- Pin 5: SPI_CS2
- Pin 4: SPI_CLK
- Pin 3: SPI_SI
- Pin 2: SPI_SO
- Pin 1: HOST_HRDY2

A ground symbol is shown next to the SPI signals.

Conn_01x03_Female

J7

1 I2C_SCL

2 I2C_SDA

3 GND

Conn_01x04_Female

J5

1 I2C_SDA

2 I2C_SCL

3

4

GND

3.3V

The diagram shows the internal circuit of the BAT+ pin. It is connected to a 442K resistor (R13) and a 160K resistor (R14) in series to ground. A green line connects the junction of the two resistors to the ADC1_CH3 pin, which is also labeled GPIO4 In S3.



The diagram illustrates a USB-to-battery charger circuit. It features a USB input (VBUS) connected to a PWR_FLAG indicator and a BAT+ terminal. The circuit includes a TPS2113APWR (U2) IC, which manages the charging current and provides a STAT output. A TP4056 (U3) IC is used for battery charging, with its BAT pin connected to BAT+ and its GND pin connected to ground. The circuit also includes a MCP1700-3302E-50T23 (U4) IC, which provides a +3.3V output. Various components like capacitors (C1, C2, C4, C5, C6), resistors (R1, R2, R3, R4, R5, R6, R7, R9), and diodes (D1, D2, D3) are used for filtering, current limiting, and protection. The circuit is powered by a 3.3V source for the S3 MCU.

3.3V for S3 MCU

STAT should be HIGH if USB is connected and LOW when is battery powered

STAT should be HIGH if VBUS is connected and let 5V flow from USB. Here it flows always ->

The circuit diagram illustrates a 3-7V to 5V boost converter. The input is labeled BAT+, which is connected to the IN pin of the MT3608 IC (U6). A 22µF capacitor (C7) is connected between BAT+ and GND. The EN pin (pin 4) of the MT3608 is connected to a 5V_ENABLE signal. The SW pin (pin 1) is connected to the positive terminal of an inductor L1 (22µH). The other end of L1 is connected to the positive terminal of a diode D4 (1N5817). The diode's cathode is connected to the positive output terminal, which is labeled +5V. The FB pin (pin 3) of the MT3608 is connected to a voltage divider consisting of a 110K resistor (R11) in series with a 15K resistor (R2), which is connected to GND. A 22µF capacitor (C8) is connected between the output terminal and GND. The VBUS signal is shown connected to the output terminal. The GND pin (pin 2) of the MT3608 is connected to the common ground.