

Battery and reverse polarity protection

The diagram illustrates a circuit for battery and reverse polarity protection. A battery, labeled BT1 Battery_Cell, is connected to the input. The positive terminal of the battery is connected to the gate of an AO3401A MOSFET (Q1) and to a PWR_FLAG indicator. The negative terminal of the battery is connected to ground (GND). The MOSFET's source is connected to ground (GND) through a resistor R2 (100kΩ). The MOSFET's drain is connected to the output VCC and to the PWR_FLAG indicator. A red box labeled DISAB_BAT is connected between the gate and the drain of the MOSFET. The MOSFET is shown in a circular symbol with pins 1, 2, and 3 labeled. Pin 1 is connected to the gate, pin 2 to the drain, and pin 3 to the source.

Program and debug connectors

The diagram illustrates the electrical connections for a JTAG connector (J3, TC2030) used for programming and debugging. The connector has six pins, numbered 1 through 6. Pin 1 is connected to VDD. Pin 2 is connected to SWDIO. Pin 3 is connected to a 10kΩ resistor (R1) which is then connected to VCC. Pin 4 is connected to SWDCLK. Pin 5 is connected to a capacitor (C14, DNP) which is then connected to GND. Pin 6 is connected to SWO. The GND symbol is shown at the bottom of the diagram.

- The capacitor is only really needed when a button is used.
- TX/RX under "IO Pins".

REED, BUTTON and circuitry

Voltage divider

The diagram shows a voltage divider circuit. A green line represents the VCC supply, which goes through a resistor R3 (4.7MΩ) to a green dot. This dot is also connected to a capacitor C1 (10nF) and a resistor R4 (10MΩ). Both the capacitor and the resistor are connected to a green ground symbol labeled GND. A red box labeled V_SENSE is connected to the green dot, indicating the measurement point.


Only 0603 package available at JLCPCB

<https://devzone.nordicsemi.com/nordic/blogs/blog/posts/measuring-lithium-battery-voltage-with-nrf52>

The schematic diagram illustrates the nRF52832-QFxx module, a yellow rectangular component with various pins and connections. The module is labeled "nRF52832-QFxx" and "U1".

Pin Connections and Components:

- Power and Ground:**
 - VCC (Pin 13) is connected to a 1.0μF capacitor (C7) and a 100pF capacitor (C8).
 - VDD (Pin 14) is connected to a 100nF capacitor (C4), a 100nF capacitor (C5), and a 4.7μF capacitor (C6).
 - VSS (Pin 31) is connected to ground.
- Antenna:**
 - ANT (Pin 30) is connected to an antenna shield (AE1) and a 3.9nH inductor (L1).
 - A 0.8pF capacitor (C11) is connected to ground.
 - A 16pF capacitor (C12) is connected to ground.
 - A 16pF capacitor (C13) is connected to ground.
- Crystal and Oscillator:**
 - A 32.768kHz crystal (Y1) is connected to pins 2 (P0.00/XL1) and 3 (P0.01/XL2).
 - A 32MHz crystal (Y2) is connected to pins 34 (XC1) and 35 (XC2).
- Other Connections:**
 - TP1 (WAKEUP) is connected to pin 7 (P0.05/AIN3).
 - TP2 (D1) is connected to pin 15 (P0.12).
 - TP3 (D2) is connected to pin 16 (P0.13).
 - TP4 (CS) is connected to pin 27 (P0.22).
 - TP5 (MOSI) is connected to pin 28 (P0.23).
 - TP6 (MISO) is connected to pin 29 (P0.24).
 - TP7 (A2) is connected to pin 40 (P0.28/AIN4).
 - TP8 (SCK) is connected to pin 37 (P0.25).
 - TP9 (LED) is connected to pin 20 (P0.16).
 - TP10 (SWO) is connected to pin 21 (P0.17/SWO).
 - TP11 (V_SENSE) is connected to pin 43 (P0.31/AIN7).
 - TP12 (RX) is connected to pin 10 (P0.08).
 - TP13 (TX) is connected to pin 8 (P0.06).
 - TP14 (SCL) is connected to pin 39 (P0.26).
 - TP15 (SDA) is connected to pin 38 (P0.25).
 - TP16 (SWDIO) is connected to pin 26 (P0.21/RESET).
 - TP17 (SWDCLK) is connected to pin 25 (P0.23).
 - TP18 (RESET) is connected to pin 24 (P0.21/RESET).

 www.franz.science	
Sheet: / File: Door-Sensor.sch	
Title: Dr. Sens V1.0 - frz.icu/dr-sens	
Size: A4	Date: 2021-01-09
KiCad E.D.A. (5.1.8-0-10_14)	Rev: 1 Id: 1/1