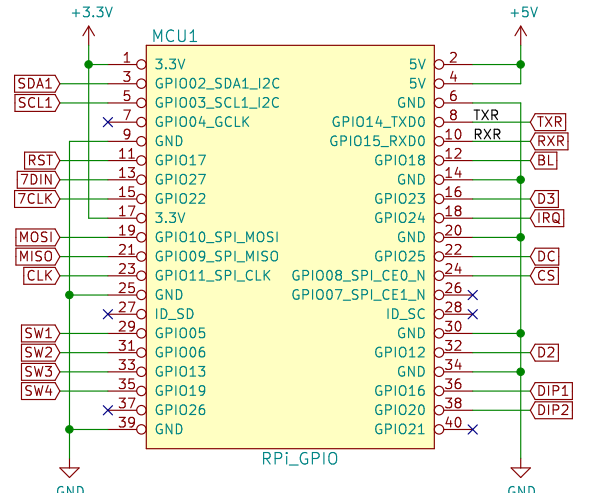
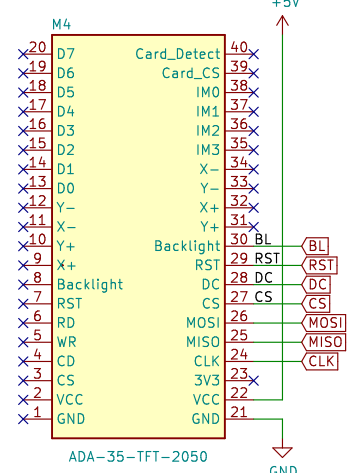
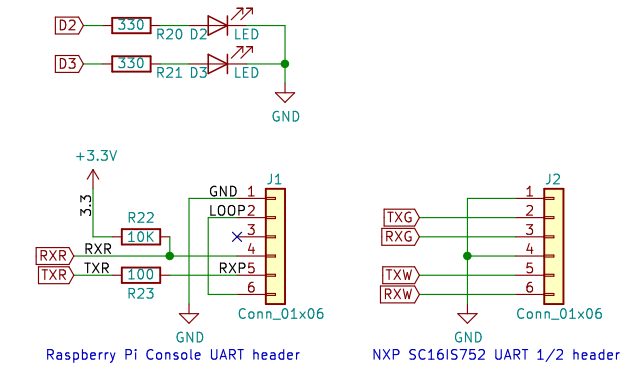


Raspberry Pi status LED (GPIO23, GPIO12)

[illegible]

The schematic diagram illustrates the internal components and connections of the ADA-PWRBOOST1000C module. Key components include:

- TLDCR021205 (U1):** A boost converter IC with pins for +VS, Sync, -VS, VREC, -Vout, Error, +Vout, and DNC.
- ADA-PWRBOOST1000C (M1):** The main power boost IC with pins for 5V, GND, LBO, EN, Vs, BAT, and USB.
- Capacitors:** 2.2uF (C1), 1uF (C2), and 0.1uF (C3).
- Resistor:** 1K (R1).
- LED:** A blue LED (D1) connected to the output.
- Connectors:** 12V 2.1mm PowerJack, 12V Terminal (M1), and JP1.
- Wiring:** The module is powered by a 12V source and a 5V USB source. The output is connected to a 5V GND, LBO, and EN pin. The module is labeled 'ADA-PWRBOOST1000C'.

The circuit diagram shows an Arduino Uno microcontroller board connected to a DS3231M real-time clock module. The connections are as follows:

- SCL:** The SCL pin of the DS3231M module is connected to the A5 pin of the Arduino Uno.
- SDA:** The SDA pin of the DS3231M module is connected to the A4 pin of the Arduino Uno.
- VCC:** The VCC pin of the DS3231M module is connected to the +5V pin of the Arduino Uno.
- GND:** The GND pin of the DS3231M module is connected to the GND pin of the Arduino Uno.

The DS3231M module also features a battery connection point labeled "Bat". This point is connected to a 3V coin cell battery (labeled "BT1") via a 10K resistor (R15). The other end of the resistor is connected to the positive terminal of the battery. The negative terminal of the battery is connected to the GND pin of the Arduino Uno.

The diagram shows the SC16IS752-I2C2UARTx2-IC (U4) with the following connections:

- Power:** +3.3V and +5V supply rails.
- Ground:** GND connections at the bottom.
- Pin 1 (RTSA):** Connected to +3.3V.
- Pin 2 (CTS_A):** Connected to +5V.
- Pin 3 (TXA):** Connected to RXG.
- Pin 4 (RXA):** Connected to TXG.
- Pin 5 (RESET):** Connected to +5V.
- Pin 6 (XTAL1):** Connected to the oscillator circuit.
- Pin 7 (XTAL2):** Connected to the oscillator circuit.
- Pin 8 (VDD):** Connected to +5V.
- Pin 9 (I2C_SPT):** Connected to the oscillator circuit.
- Pin 10 (A0):** Connected to +5V.
- Pin 11 (A1):** Connected to the oscillator circuit.
- Pin 12 (NC):** Connected to +5V.
- Pin 13 (SCL):** Connected to SCL1.
- Pin 14 (SDA):** Connected to SDA1.
- Pin 15 (TRQ):** Connected to the oscillator circuit.
- Pin 16 (CTS_B):** Connected to +5V.
- Pin 17 (RTSB):** Connected to +5V.
- Pin 18 (GPIO0):** Connected to +5V.
- Pin 19 (GPIO1):** Connected to +5V.
- Pin 20 (GPIO2):** Connected to +5V.
- Pin 21 (GPIO3):** Connected to +5V.
- Pin 22 (GND):** Connected to GND.
- Pin 23 (TXB):** Connected to TXW.
- Pin 24 (RXB):** Connected to RXW.
- Pin 25 (GPIO4):** Connected to +5V.
- Pin 26 (GPIO5):** Connected to +5V.
- Pin 27 (GPIO6):** Connected to +5V.
- Pin 28 (GPIO7):** Connected to +5V.

Component values and labels:

- Capacitors:** C8 (22pF), C9 (33pF), C10 (100nF).
- Resistors:** R16 (10K), R17 (1K), R18 (1K).
- Oscillator:** 14.7456MHz.
- Chip Label:** SC16IS752-I2C2UARTx2-IC.

Pin configuration diagram for the XB24CZ7WIT-004 component. The component is shown as a yellow rectangle with pins 1 through 16. Pin 1 is Vcc, connected to +3.3V. Pin 2 is DOUT, connected to D08. Pin 3 is DIN/Config, connected to TXW. Pin 4 is Reset, connected to RXW. Pin 5 is VREF, connected to AD0/DIO0. Pin 6 is PWM0/RSI, connected to AD1/DIO1. Pin 7 is PWM1, connected to AD2/DIO2. Pin 8 is ON/SLEEP, connected to AD3/DIO3. Pin 9 is AD4/DIO4, connected to AD5/DIO5. Pin 10 is AD6-DIO6/RTS, connected to GND. Pin 11 is AD7/CTS, connected to GND. Pin 12 is AD8/DIO8, connected to GND. Pin 13 is AD9/DIO9, connected to GND. Pin 14 is AD10/DIO10, connected to GND. Pin 15 is AD11/DIO11, connected to GND. Pin 16 is AD12/DIO12, connected to GND. The component is labeled M3 and XB24CZ7WIT-004.

5V Power: Raspberry Pi Zero W (150mA), TMC1640 (400mA), Adafruit 3.5" TFT (350mA)
3.3V Power: DS3231 RTC (10mA), NXP SC165752 UART (10mA), XBee S2C (60mA), MKRGPS (32mA), 2 LED (8mA) = 120mA total