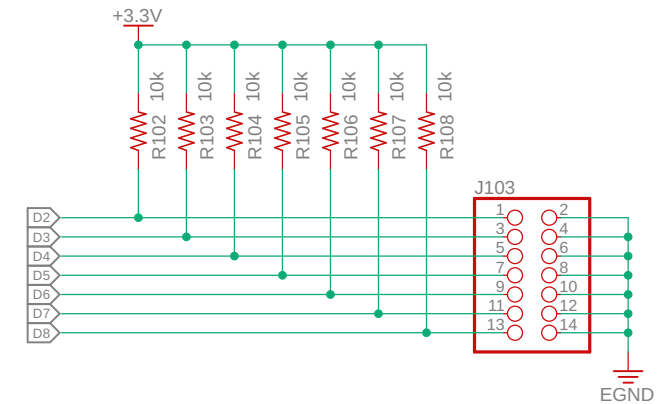
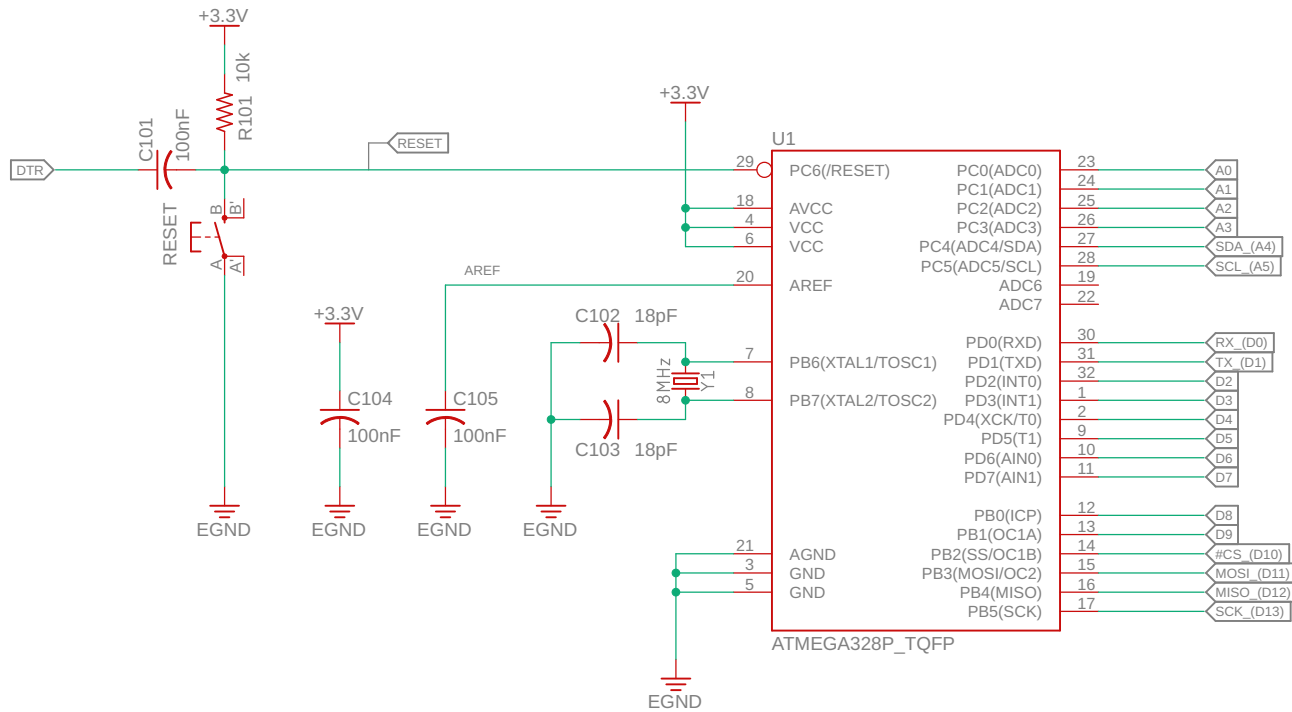
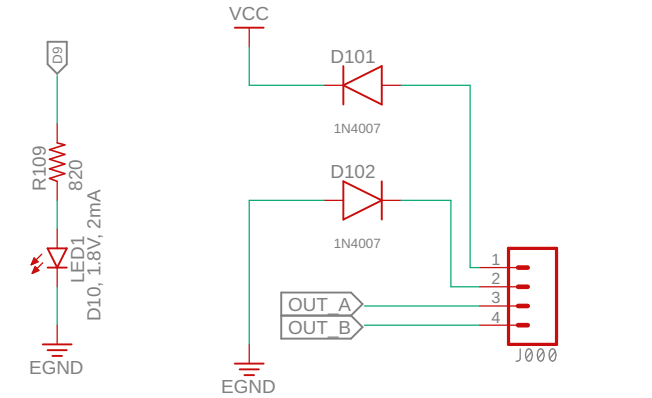
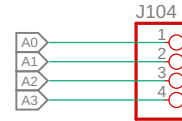
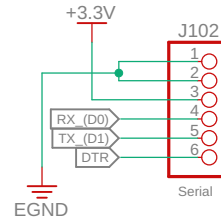
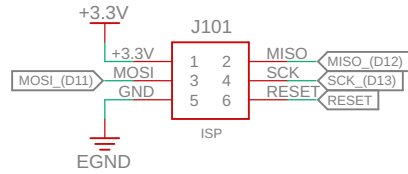


MCU ATmega328P



The figure shows two circuit diagrams for voltage regulators. The left diagram is for the L78M12ABDT-TR (U6), a 12V linear regulator. It has a 12V input connected to pin 1, a common ground (EGND) connected to pins 2 and 3, and an output connected to pin 4. A 330nF capacitor (C601) is connected between the input and ground, and a 100nF capacitor (C602) is connected between the output and ground. The right diagram is for the MIC5205-3.3 (U7), a 3.3V LDO linear regulator. It has a 12V input connected to the VIN pin, a common ground (EGND) connected to the EN and GND pins, and an output connected to the VOUT pin. A 10uF capacitor (C701) is connected between the input and ground, and a 10uF capacitor (C702) is connected between the output and ground. A 100nF capacitor (C703) is connected between the output and ground. The output voltage is labeled as +3.3V.

The schematic diagram illustrates the I2C interface circuit for the BH1750 FVI-TR sensor (U4) and the BME280 sensor (U5). The circuit is powered by a +3.3V supply and connected to ground (EGND).

BH1750 FVI-TR (U4) Connections:

- VCC (Pin 1) is connected to +3.3V.
- GND (Pin 3) is connected to EGND.
- SCL (Pin 6) is connected to the SCL (A5) input.
- SDA (Pin 4) is connected to the SDA (A4) input.
- ADDR (Pin 2) is connected to ground.

BME280 (U5) Connections:

- VDD (Pin 8) is connected to +3.3V.
- GND_1 (Pin 1) is connected to EGND.
- GND_2 (Pin 7) is connected to EGND.
- VDDIO (Pin 6) is connected to +3.3V.
- SDO (Pin 5) is connected to EGND.
- CSB (Pin 2) is connected to +3.3V.
- SDI (Pin 3) is connected to +3.3V.
- SCK (Pin 4) is connected to +3.3V.

Other Components and Connections:

- Resistors R401 and R402 (4.7k) are connected between +3.3V and the SCL and SDA lines, respectively.
- Capacitor C401 (100nF) is connected between the SCL line and EGND.
- Capacitor C501 (100nF) is connected between the +3.3V supply and EGND.
- Connectors J401 and J402 are used for external connections to the SCL and SDA lines.

I2C Address:

- BH1750: 0100011 - 0
- BME280: 1110110 - 0