

# Power Peripherals

The diagram illustrates the power peripheral circuitry, which includes three output stages and a DC-DC converter.

**Output Stages:**

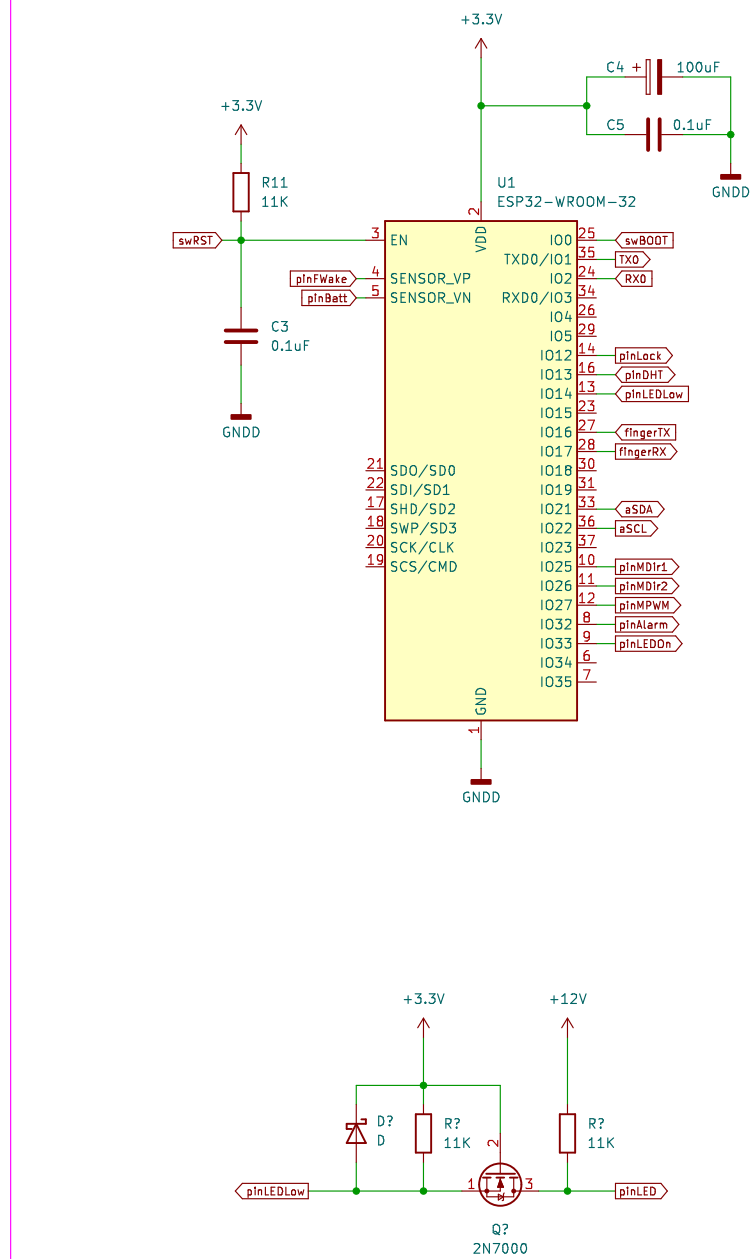
- Alarm Stage:** The `pinAlarm` input is connected to a 100 ohm resistor (`R? 100`). The other end of the resistor is connected to the base of an NPN transistor (`Q? LR024N`). The emitter of the transistor is connected to `GNDD`. The collector is connected to the `2` pin of the `J? ALARM` connector. A 11K resistor (`R? 11K`) is connected between the collector and the `+12V` supply.
- Lock Stage:** The `pinLock` input is connected to a 100 ohm resistor (`R? 100`). The other end of the resistor is connected to the base of an NPN transistor (`Q? LR024N`). The emitter of the transistor is connected to `GNDD`. The collector is connected to the `2` pin of the `J? LOCK` connector. A 11K resistor (`R? 11K`) is connected between the collector and the `+12V` supply. A diode (`D? D`) is connected in parallel with the 11K resistor, with its cathode to the collector and its anode to `GNDD`.
- LED Stage:** The `pinLEDOn` input is connected to a 100 ohm resistor (`R? 100`). The other end of the resistor is connected to the base of an NPN transistor (`Q? 2N7000`). The emitter of the transistor is connected to `GNDD`. The collector is connected to the `2` pin of the `J? LED` connector. A 11K resistor (`R? 11K`) is connected between the collector and the `+12V` supply.

**Power and Grounding:**

- The circuit is powered by a `+12V` supply and grounded to `GNDD`.
- A 16V 100uF capacitor (`C? 16V 100uF`) is connected across the `+12V` supply and `GNDD` for decoupling.
- The `BAT IN 12V` connector (`J? BAT IN 12V`) is also connected to the `+12V` supply.

**DC-DC Converter:**

- A DC-DC converter (`U? DC-DC`) is shown, which takes the `+12V` supply as input and provides a `+3.3V` output.
- The input of the converter is connected to the `+12V` supply and `GNDD`.
- The output of the converter is connected to the `+3.3V` supply and `GNDD`.



The image contains three circuit diagrams:

- Diagram 1:** A component labeled "J? PROG" has three pins. Pin 3 is connected to "RX0", pin 2 to "TX0", and pin 1 to "GNDD".
- Diagram 2:** A component labeled "J? SW\_RST" has two pins. Pin 1 is connected to "swBOOT" and pin 2 to "GNDD".
- Diagram 3:** A component labeled "SW?" is connected to a switch symbol. The switch is connected to a node that also has a capacitor "C?" (labeled "0.1uF") connected to "GNDD". This node is then connected to a component labeled "swRST".