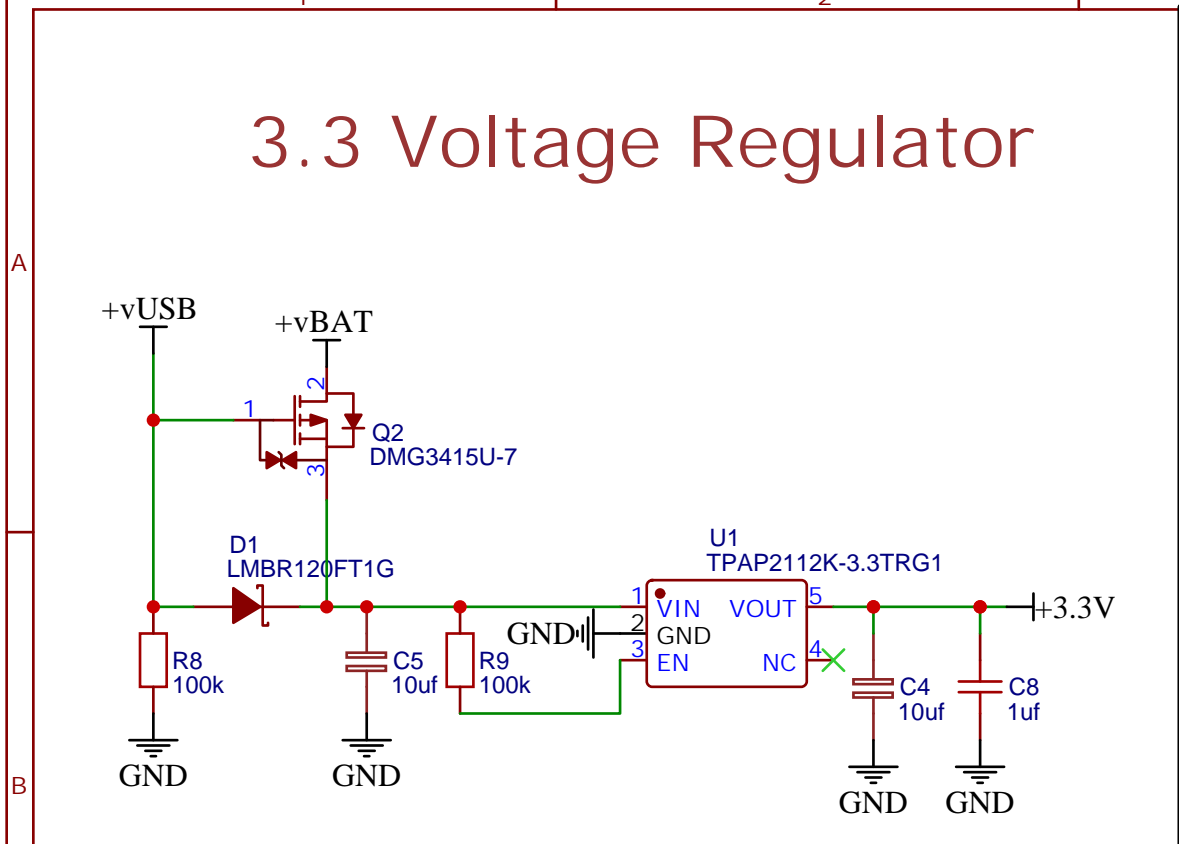
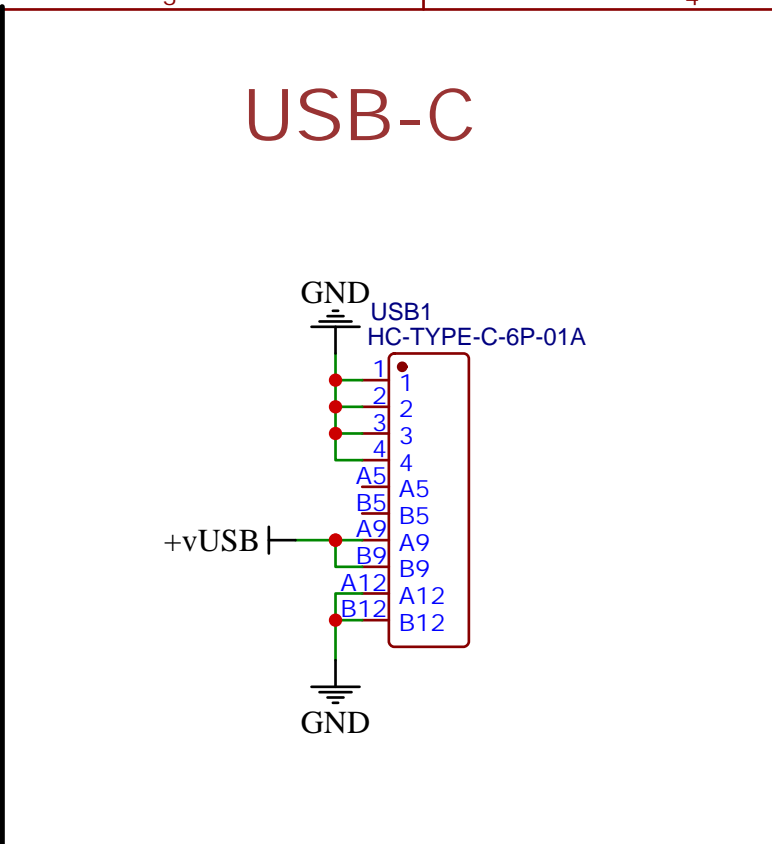
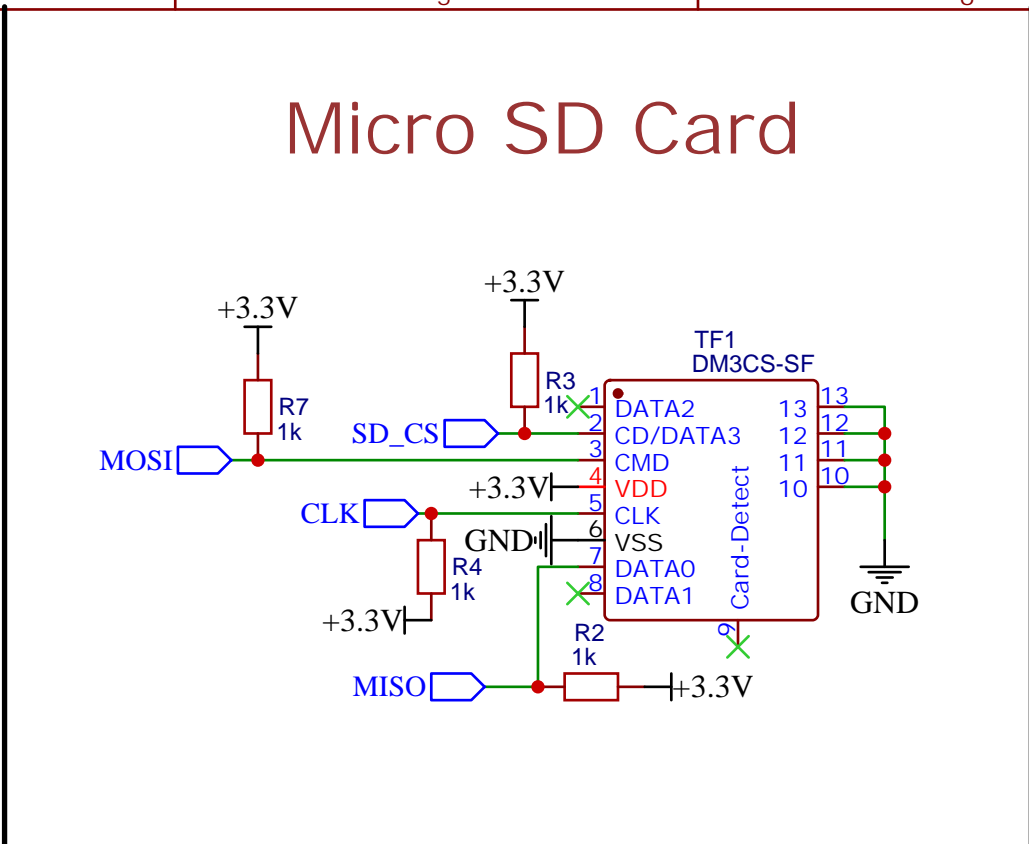
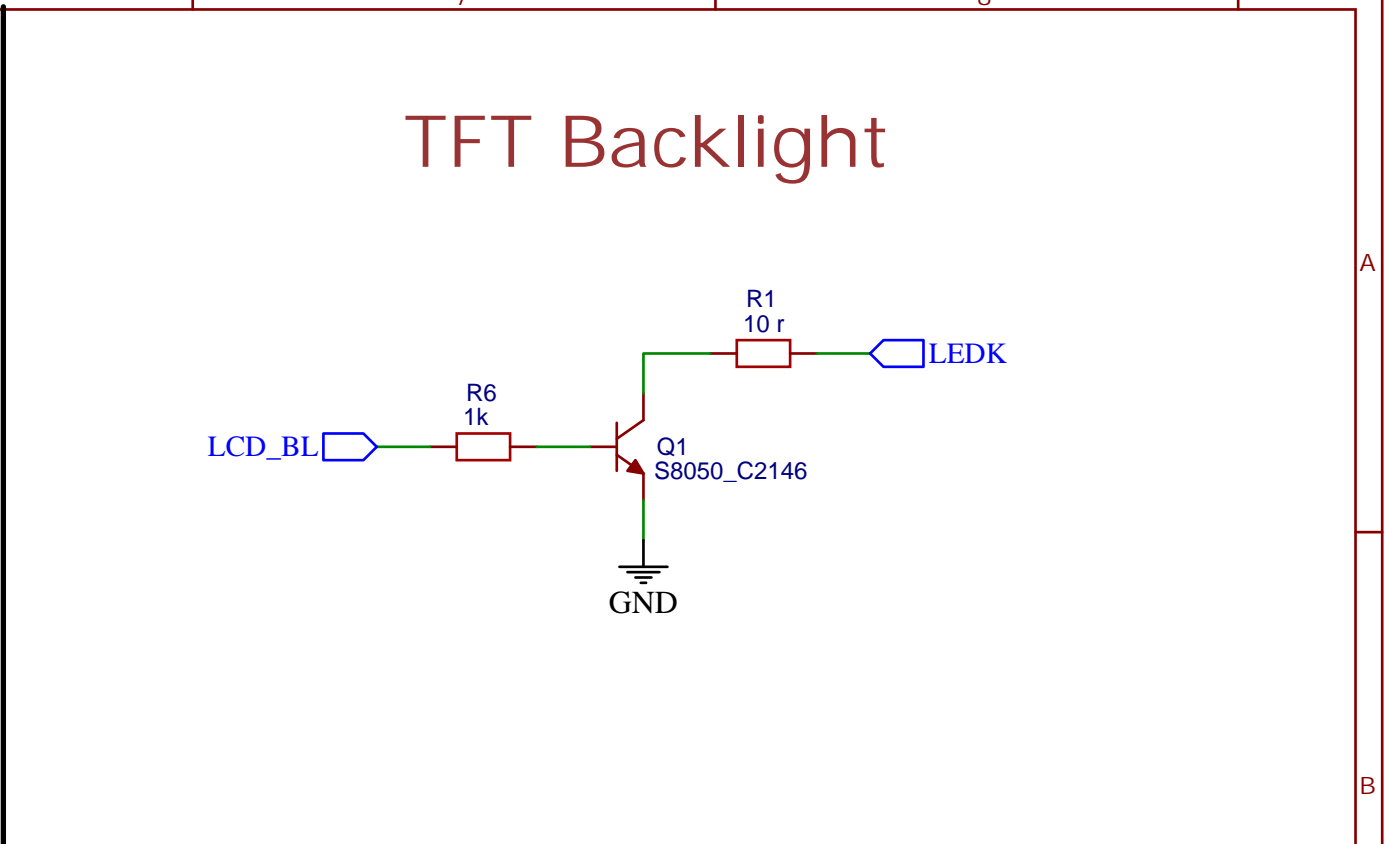


3.3 Voltage Regulator

[illegible][illegible]

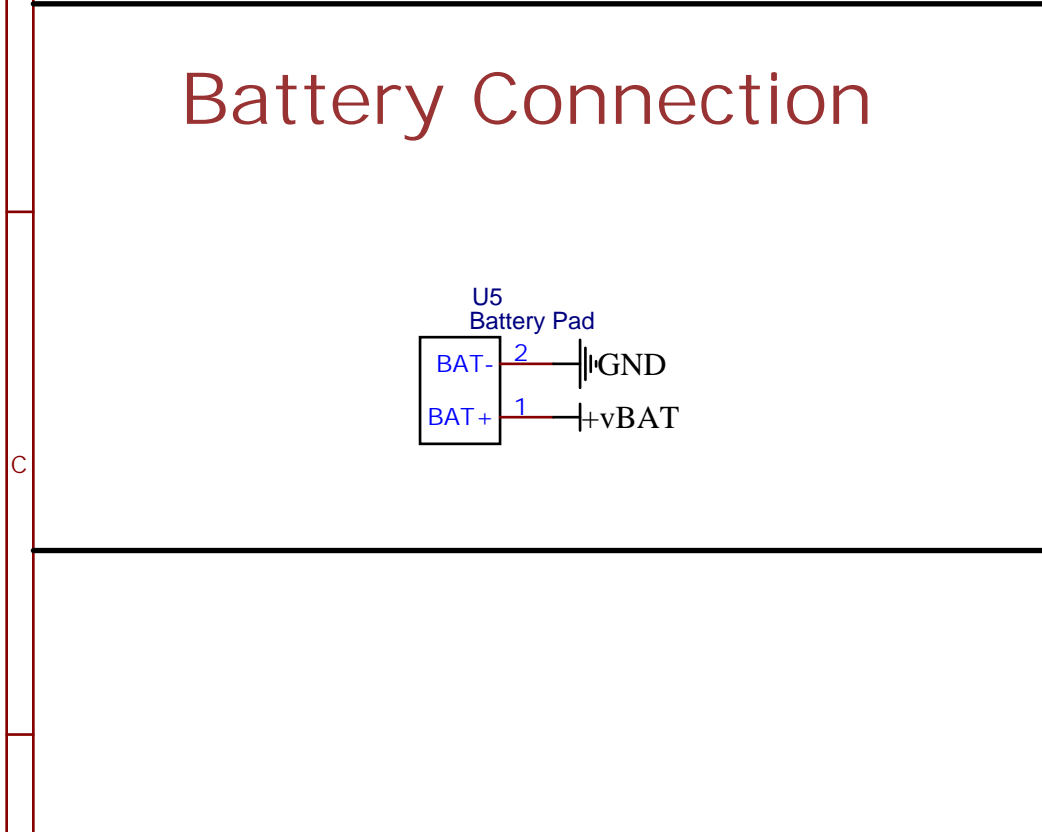
TFT Backlight

The diagram illustrates a simple transistor-based backlight driver circuit. A green input signal, labeled `LCD_BL`, passes through a red resistor `R6` (1k) to the base of an NPN transistor `Q1` (S8050_C2146). The transistor's emitter is grounded (`GND`), and its collector is connected to a red resistor `R1` (10 r), which then drives the green output signal `LEDK`.



Battery Connection

The diagram shows a component labeled "U5 Battery Pad" represented by a rectangle. It has two pins: "BAT -" (labeled with a blue "2") and "BAT +" (labeled with a blue "1"). The "BAT -" pin is connected to a ground symbol labeled "GND". The "BAT +" pin is connected to a terminal labeled "+vBAT".

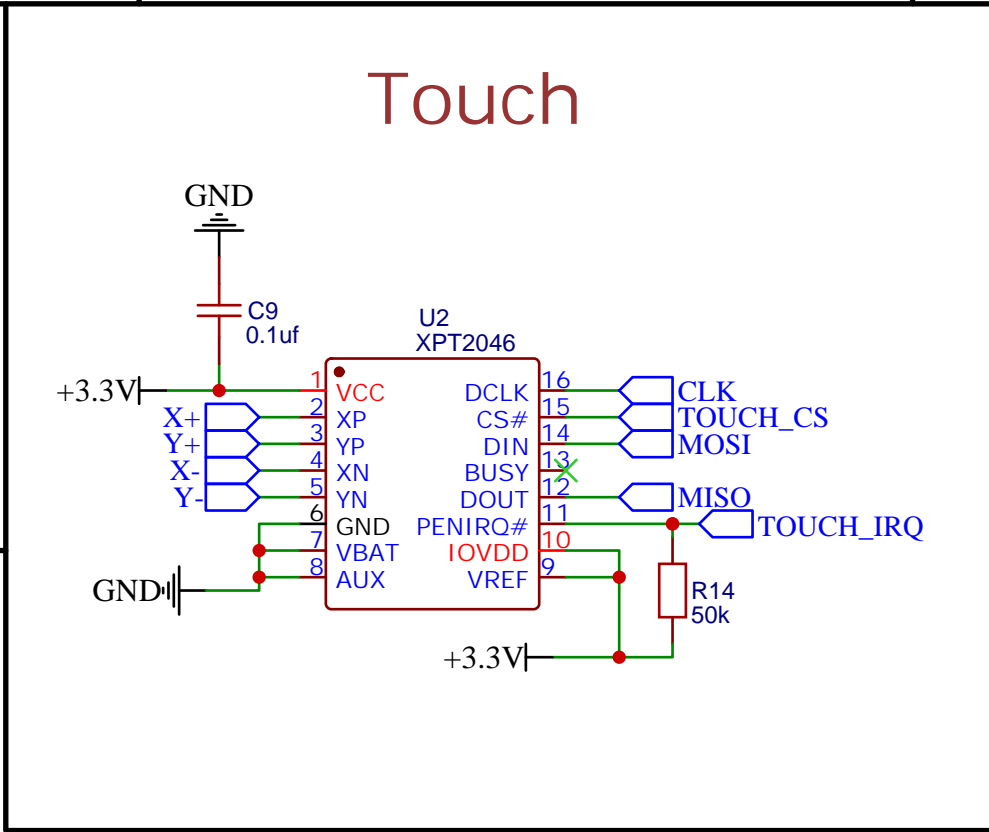


Touch

The diagram illustrates the connection of the XPT2046 (U2) to the Touch module. The XPT2046 is connected to a +3.3V supply and ground. A 0.1uF capacitor (C9) is connected between +3.3V and ground. The XPT2046 pins are connected as follows:

- VCC (1) to +3.3V
- GND (6) to ground
- VBAT (7) to ground
- AUX (8) to ground
- DCLK (16) to CLK
- CS# (15) to TOUCH_CS
- DIN (14) to MOSI
- BUSY (13) to MISO
- DOUT (12) to TOUCH_IRQ
- PENIRQ# (11) to +3.3V
- IOVDD (10) to +3.3V
- VREF (9) to +3.3V

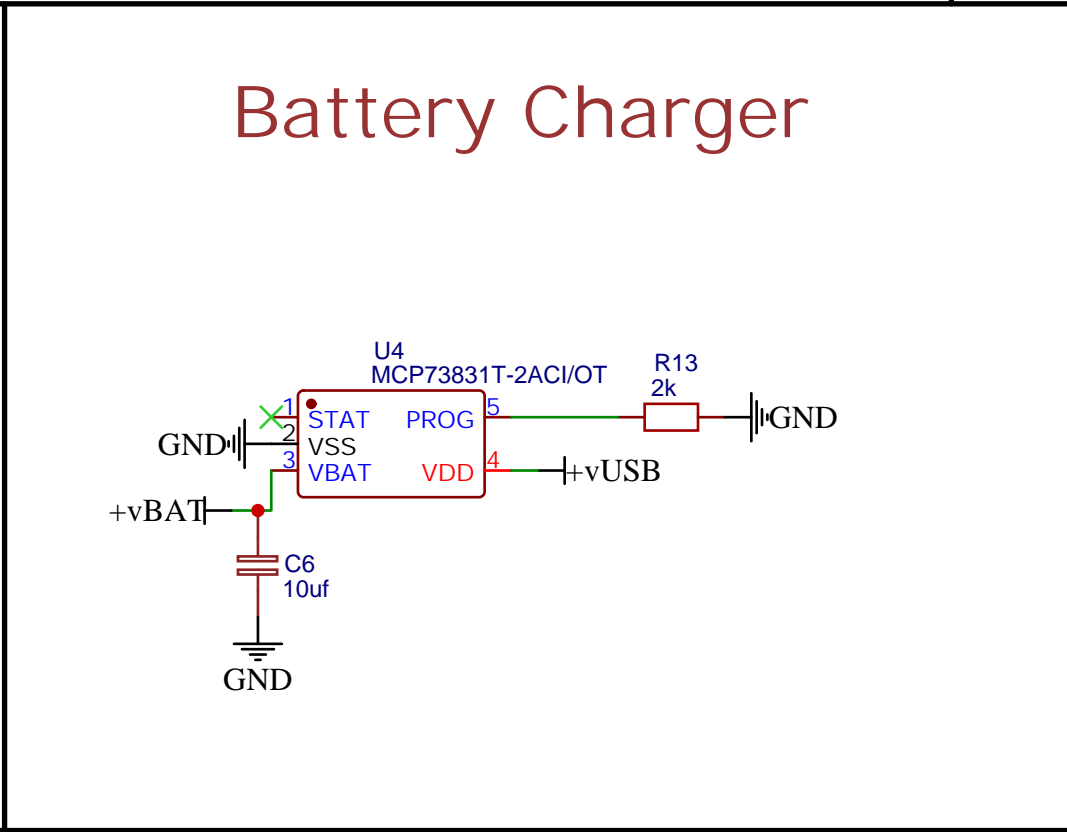
The XPT2046 is also connected to a 50k resistor (R14) which is connected to ground.



Battery Charger

The diagram illustrates a battery charger circuit. The central component is the MCP73831T-2ACI/OT IC (U4). Its pins are connected as follows:

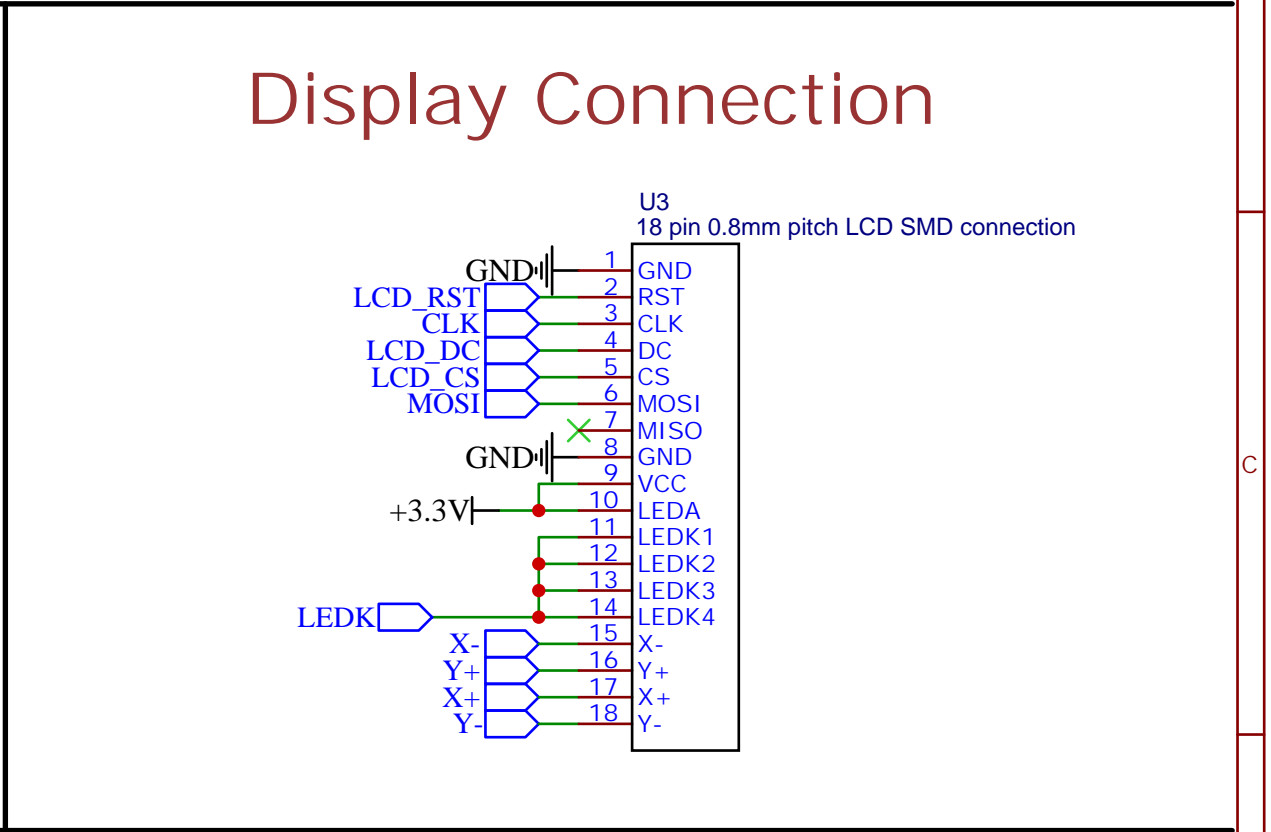
- Pin 1 (STAT):** Connected to GND.
- Pin 2 (VSS):** Connected to GND.
- Pin 3 (VBAT):** Connected to the positive terminal of the battery (+vBAT) through a 10µF capacitor (C6) to GND.
- Pin 4 (VDD):** Connected to the positive terminal of the USB source (+vUSB).
- Pin 5 (PROG):** Connected to GND through a 2kΩ resistor (R13).



Display Connection

U3
18 pin 0.8mm pitch LCD SMD connection

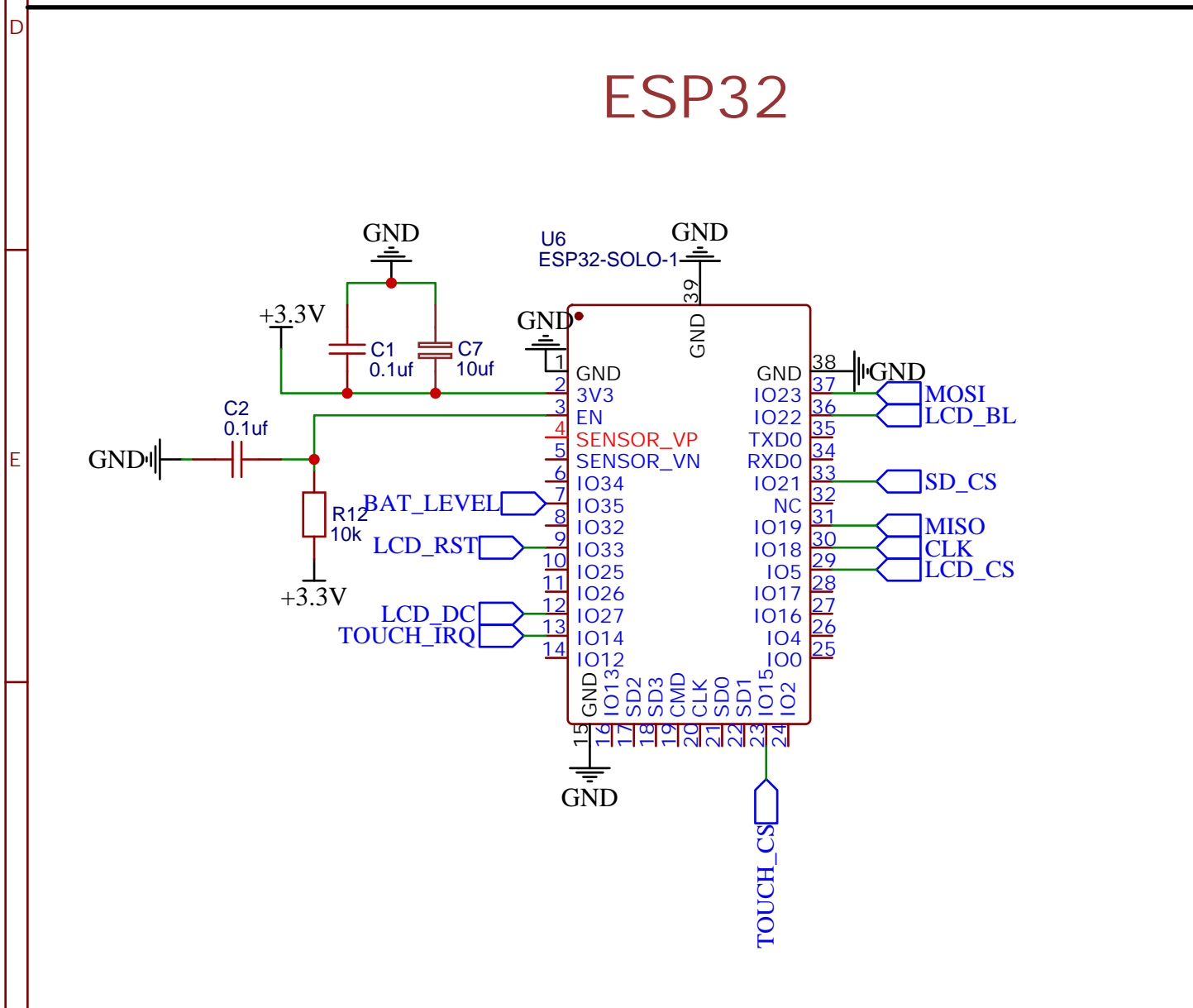
Signal	Pin
GND	1
LCD_RST	2
LCD_CLK	3
LCD_DC	4
LCD_CS	5
MOSI	6
MISO	7
GND	8
VCC	9
+3.3V	10
LEDK1	11
LEDK2	12
LEDK3	13
LEDK4	14
LEDK	15
X-	16
Y+	17
X+	18
Y-	19



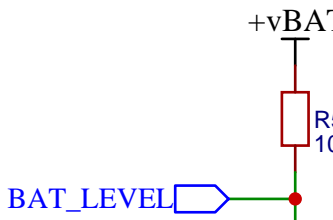
ESP32

The diagram illustrates the wiring for an ESP32 microcontroller (U6, ESP32-SOLO-1) connected to various peripherals. The power supply section includes a +3.3V input connected to the GND and a 10k resistor (R12) connected to the GND. The microcontroller's pins are connected to the following components:

- Power and Ground:** The GND pin is connected to the GND of the power supply. The 3V3 pin is connected to the +3.3V input. The EN pin is connected to the GND.
- Sensors:** The SENSOR_VP and SENSOR_VN pins are connected to the GND.
- Display:** The BAT_LEVEL pin is connected to the GND. The LCD_RST pin is connected to the GND. The LCD_DC and TOUCH_IRQ pins are connected to the GND.
- Communication:** The TXD0 and RXD0 pins are connected to the GND. The IO21 pin is connected to the GND. The IO19 pin is connected to the GND. The IO18 pin is connected to the GND. The IO17 pin is connected to the GND. The IO16 pin is connected to the GND. The IO15 pin is connected to the GND. The IO14 pin is connected to the GND. The IO13 pin is connected to the GND. The IO12 pin is connected to the GND. The IO11 pin is connected to the GND. The IO10 pin is connected to the GND. The IO9 pin is connected to the GND. The IO8 pin is connected to the GND. The IO7 pin is connected to the GND. The IO6 pin is connected to the GND. The IO5 pin is connected to the GND. The IO4 pin is connected to the GND. The IO3 pin is connected to the GND. The IO2 pin is connected to the GND. The IO1 pin is connected to the GND. The IO0 pin is connected to the GND.
- Storage:** The SD_CS pin is connected to the GND. The SD0 pin is connected to the GND. The SD1 pin is connected to the GND. The SD2 pin is connected to the GND. The SD3 pin is connected to the GND. The CLK pin is connected to the GND. The CMD pin is connected to the GND. The SD0 pin is connected to the GND. The SD1 pin is connected to the GND. The SD2 pin is connected to the GND. The SD3 pin is connected to the GND. The CLK pin is connected to the GND. The CMD pin is connected to the GND.
- Other:** The MOSI pin is connected to the GND. The LCD_BL pin is connected to the GND. The SD_CS pin is connected to the GND. The MISO pin is connected to the GND. The CLK pin is connected to the GND. The LCD_CS pin is connected to the GND. The TOUCH_CS pin is connected to the GND.



Battery Voltage



The diagram shows a circuit for measuring battery voltage. It consists of a +vBAT input connected to a resistor R5 (100k). The other end of R5 is connected to a node labeled BAT_LEVEL. This node is also connected to another resistor R10 (100k), which is connected to GND. A red dot is placed at the BAT_LEVEL node, and a green line connects it to the BAT_LEVEL label.

