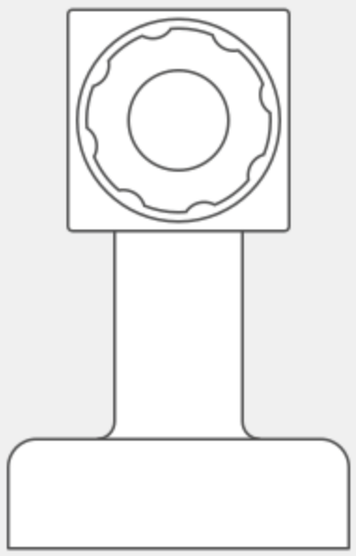
Camera-1

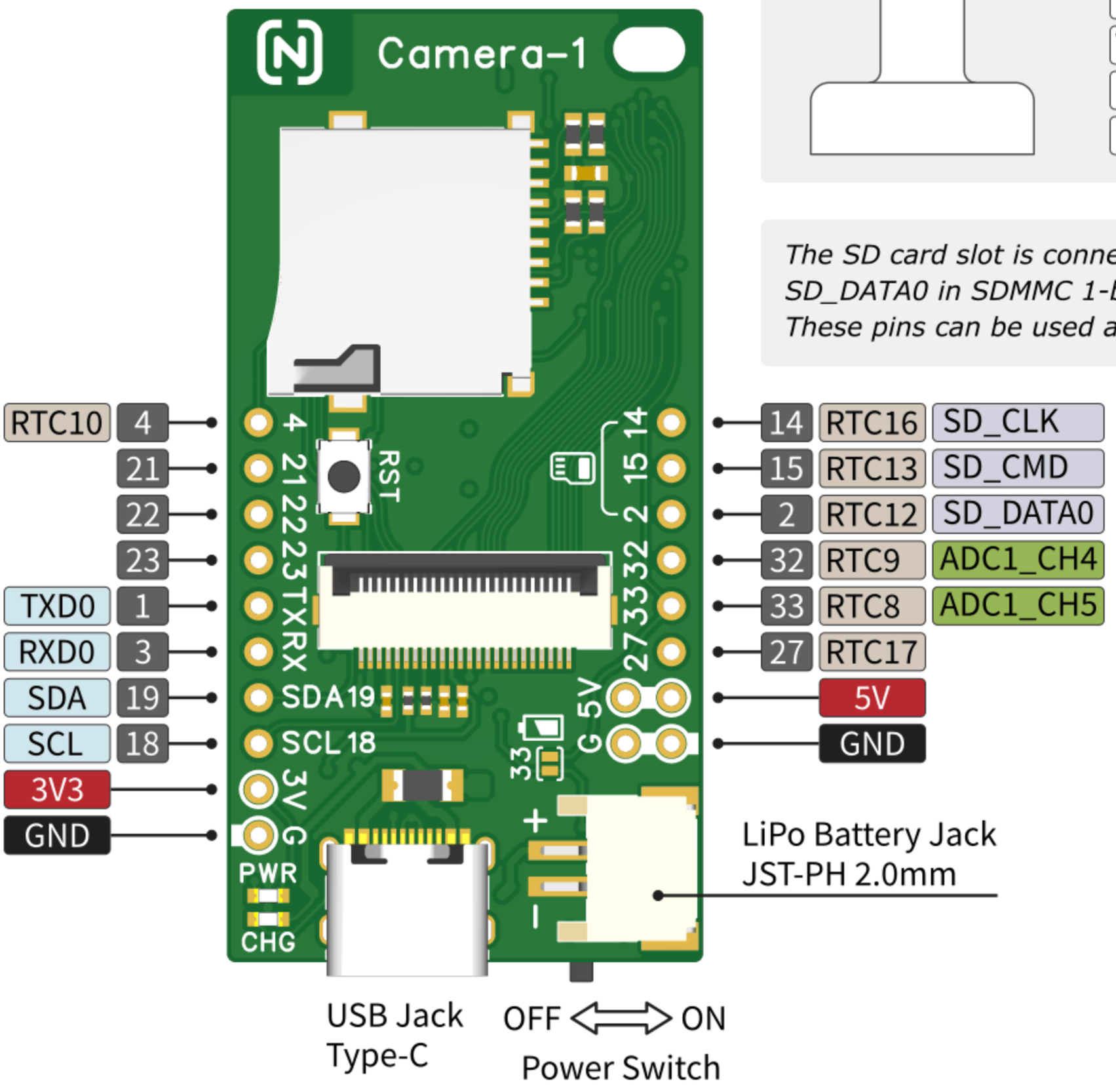
PINOUT DIAGRAM

OV2640 Camera Pin Assignment



PWDN	-1	Y9	38
RESET	-1	Y8	37
XCLK	0	Y7	36
SIOD	19	Y6	25
SIOC	18	Y5	34
VSYNC	5	Y4	13
HREF	39	Y3	12
PCLK	26	Y2	35

The SD card slot is connected to SD_CLK, SD_CMD, and SD_DATA0 in SDMMC 1-bit mode, with pull-up resistors. These pins can be used as GPIOs when SD is not in use.



Power
GND
GPIO Pin
RTC IO Pin
Analog Pin
Serial Pin
SDMMC Pin

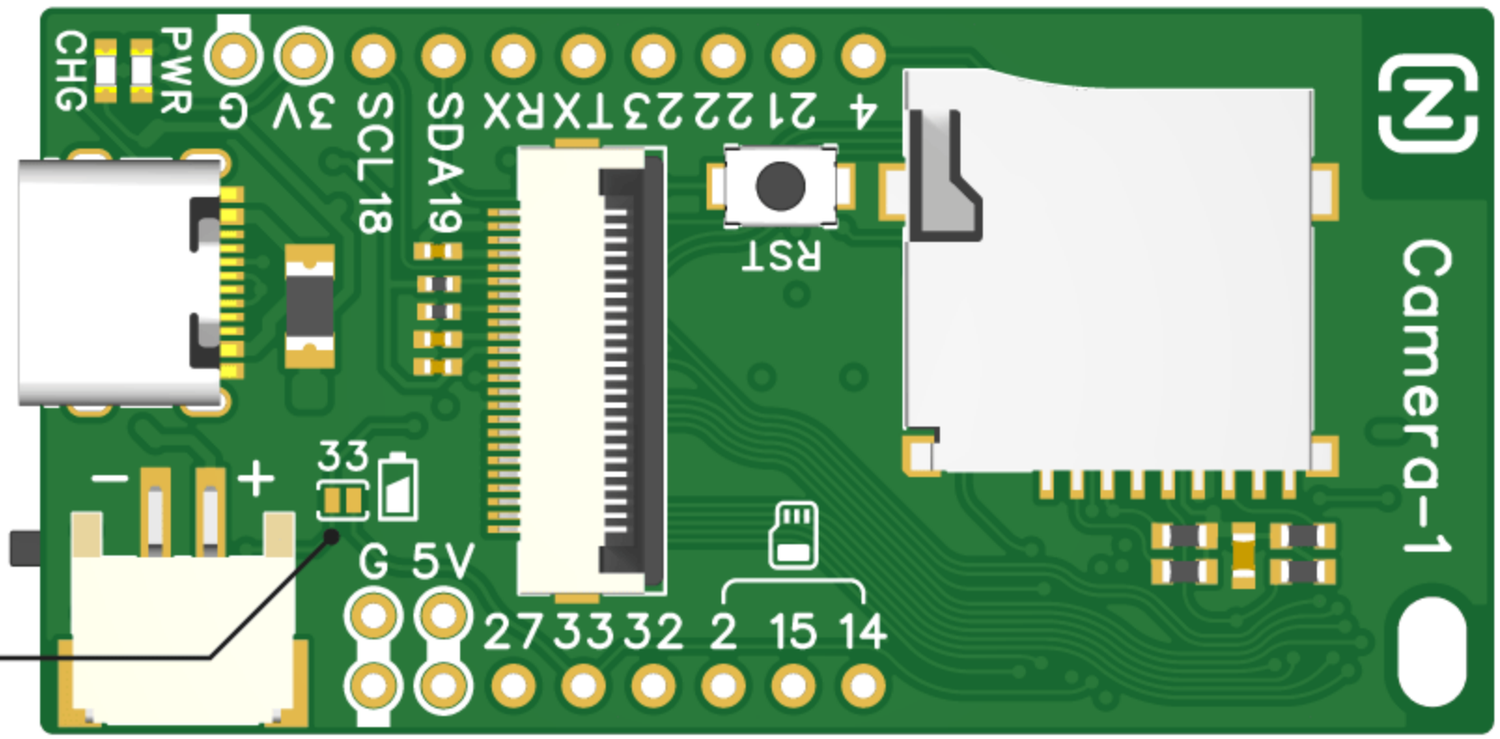
5V *5V output from regulator ABSOLUTE Max 500mA*

3V3 *3V3 output from regulator ABSOLUTE Max 500mA*

Node-Matrix

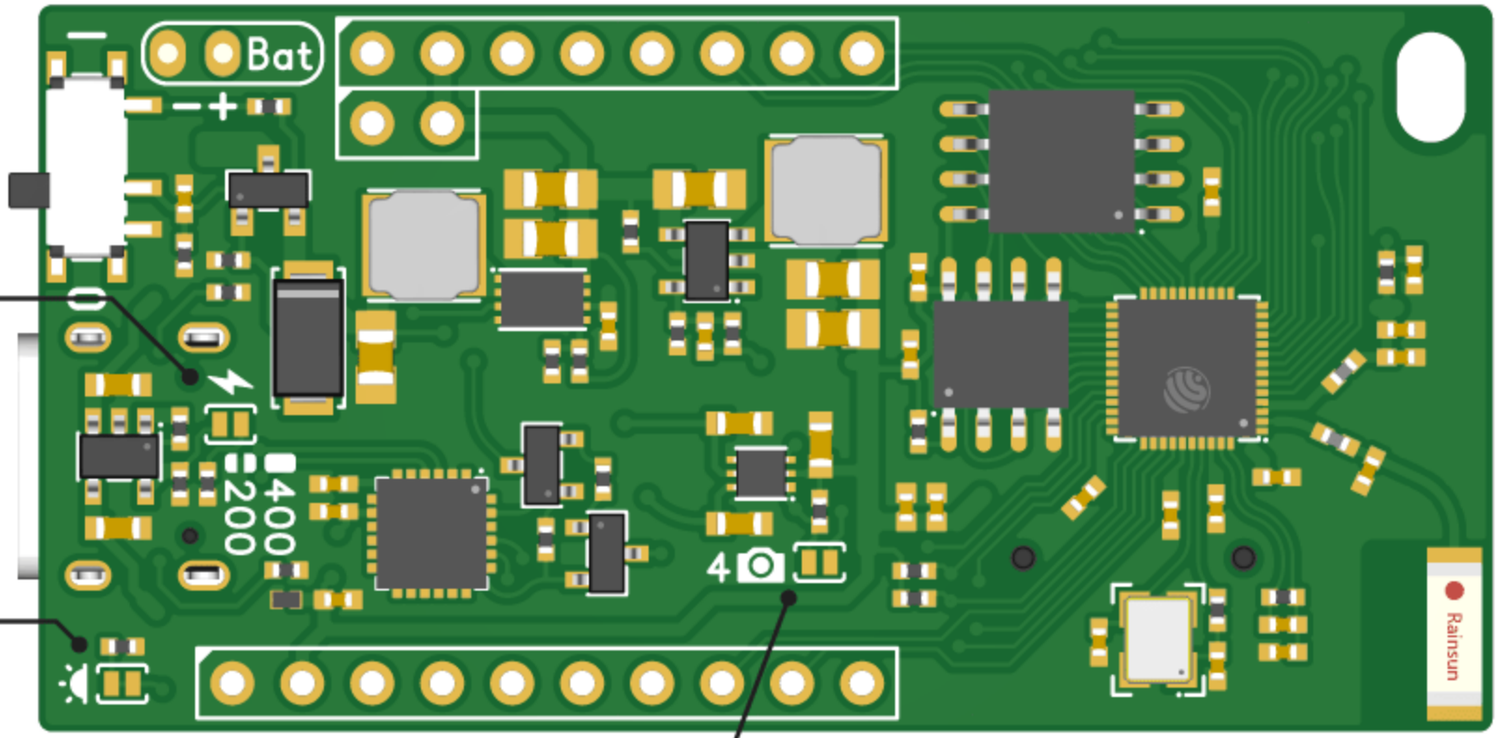
Camera-1

SOLDER JUMPERS



Battery Monitor

A 100kΩ–100kΩ voltage divider is connected to the battery input. Solder the jumper to connect GPIO33 (ADC1_CH5) to the divider, allowing the firmware to monitor the battery voltage.



Charging Current Selection

Solder jumper to select charging current.

UNCONNECTED - 200mA current limit

CONNECTED - 400mA current limit

Power-On Indication

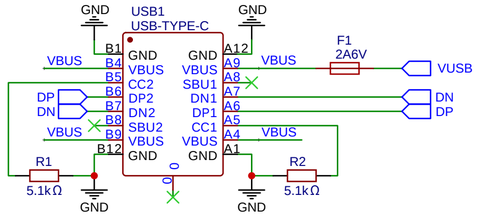
To disable the power-on LED, disconnect the jumper.

Camera Power Control

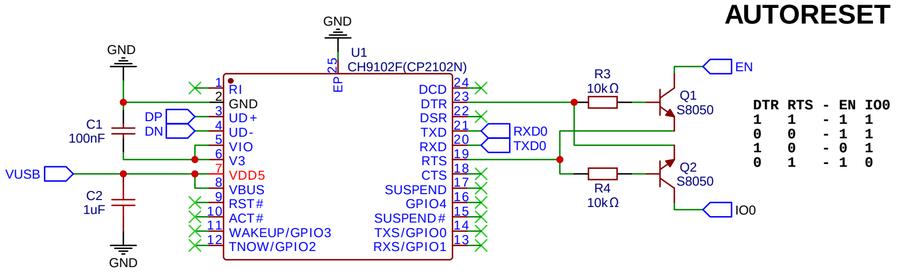
Solder the jumper to connect GPIO4 to the EN pin of the camera regulator. This allows your firmware to control camera power ON (H) or OFF (L), reducing power consumption.

Node-Matrix

USB TO SERIAL



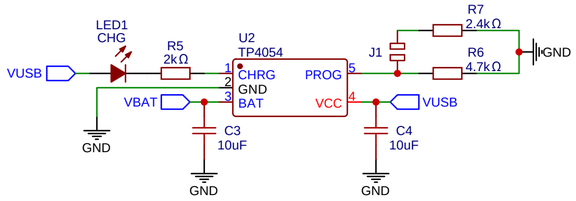
AUTORESET

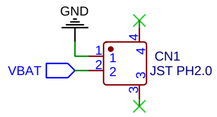


DTR RTS - EN IO0
1 1 - 1 1
0 0 - 1 1
1 0 - 0 1
0 1 - 1 0

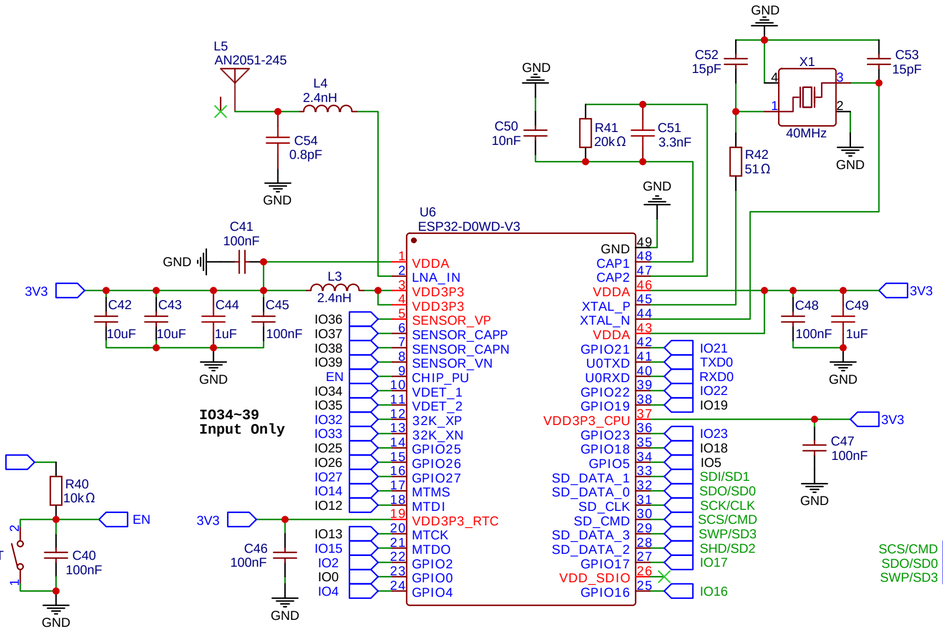
LIPO CHARGER

Charging Current Selector J1
Disconnected ≈ 200mA
Connected ≈ 400mA

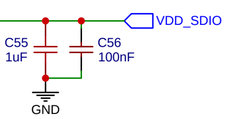


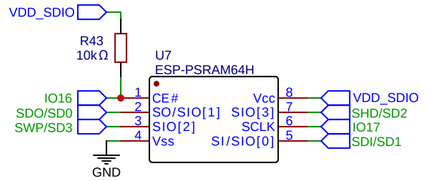


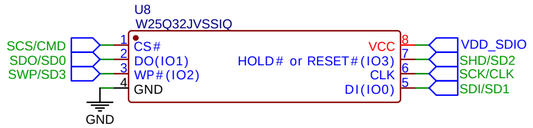
ESP32-D0WD



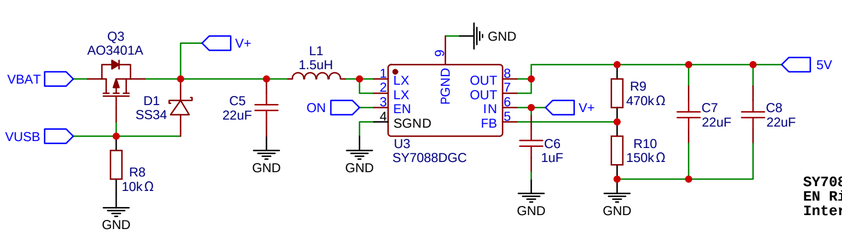
IO34~39
Input Only





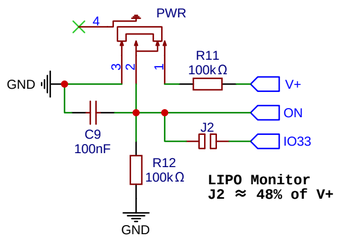


VOLTAGE REGULATOR

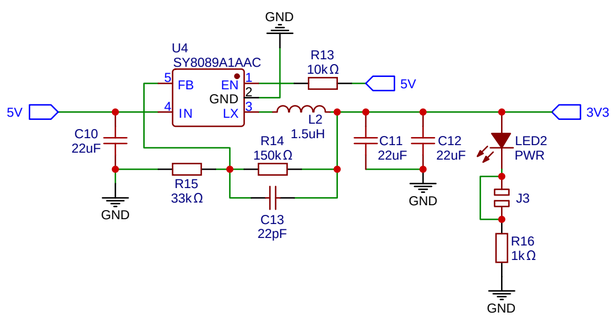


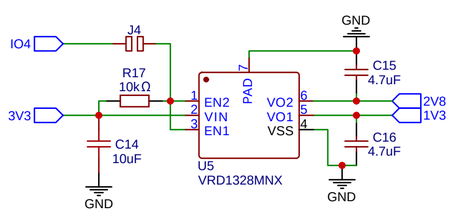
POWER SWITCH

SY7088DGC
EN Rising Threshold 1.2V Min
Internal integrated 1MΩ pull-down resistor

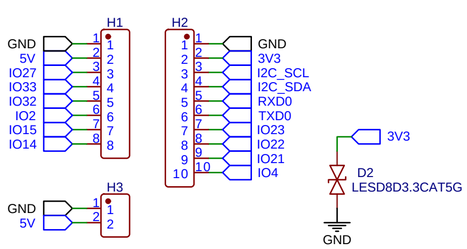


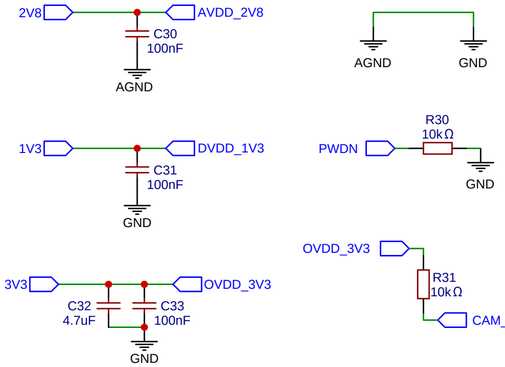
LIPO Monitor
J2 ≈ 48% of V+



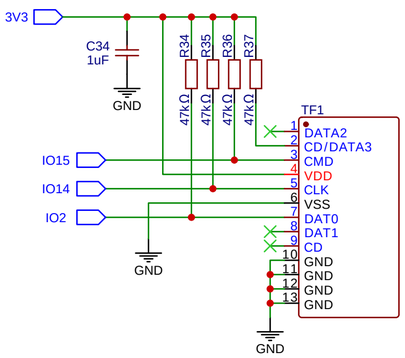


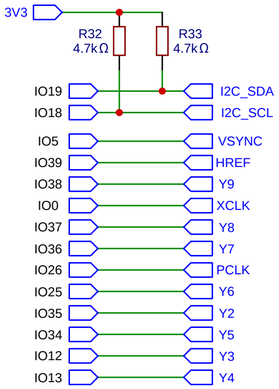
HEADERS

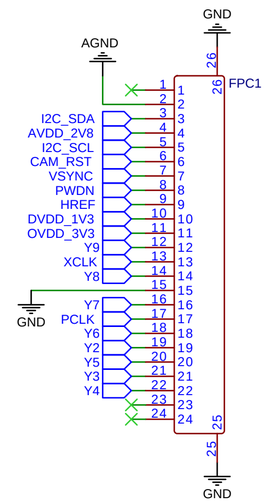




SD CARD







CAMERA OV2640

TITLE: **Camera-1**		REV: 1.1
	Company: Node-Matrix	Sheet: 1/1
	Date: 2025-03-07	Drawn By: Jason Yang