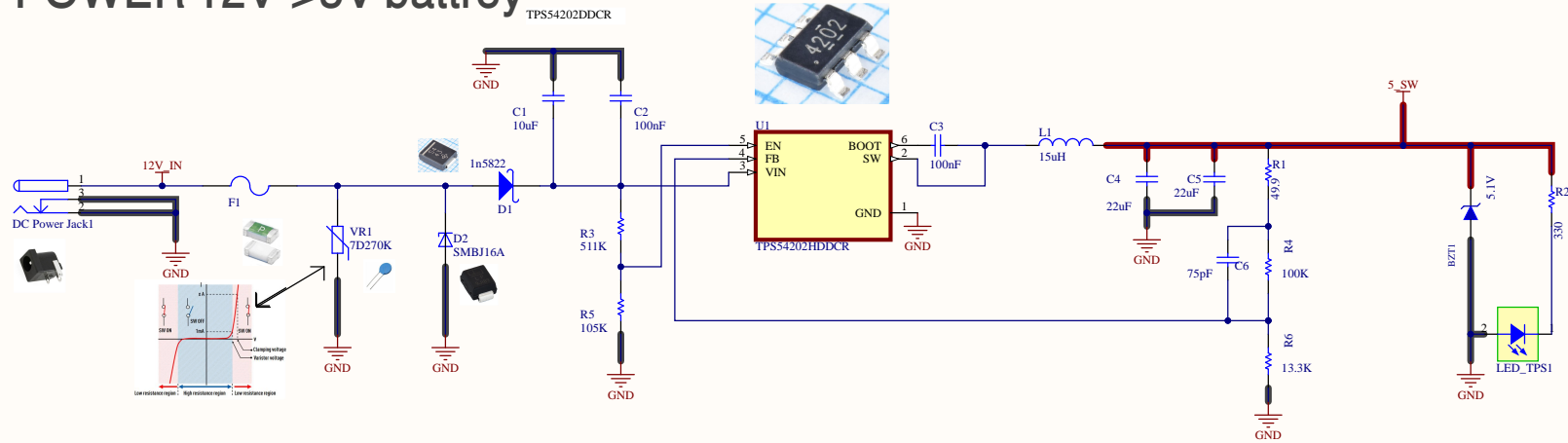


POWER

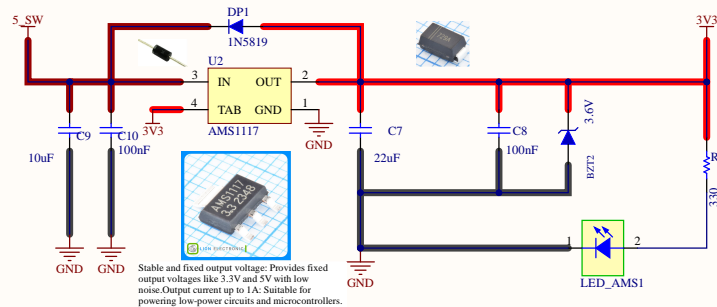
POWER 12V->5V battrey

TPS54202DDCR



POWER 5V->3V3

AMS1117



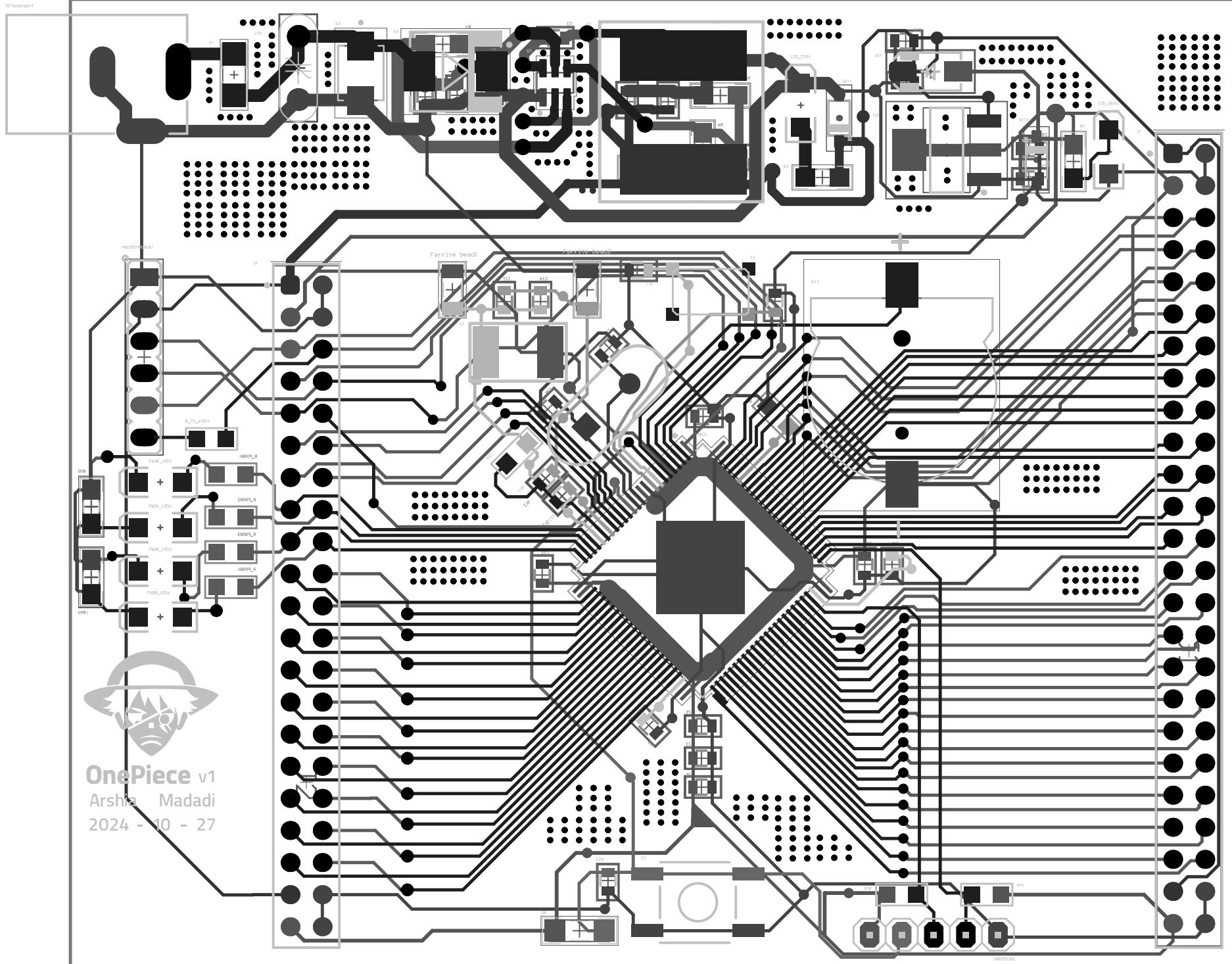
Stable and fixed output voltage: Provides fixed output voltages like 3.3V and 5V with low noise. Output current up to 1A. Suitable for powering low-power circuits and microcontrollers.

| Title POWER | | |
|------------------------------|------------------------|----------|
| Size A | Number | Revision |
| Date: 10/27/2024 | Sheet of | |
| File: D:\Gir...\Power.SchDoc | Drawn By: ArshiaMadadi | |

[illegible]

9.22 (cm)

7.66 (cm)



OnePiece v1
Arshia Madadi
2024 - 10 - 27

| Comment | Description | Designator | Footprint | LibRef | Quantity |
|-------------------|---|--|------------------------------|-----------------------------|----------|
| BC501SM | BATTERY HOLDER COIN 12MM SMD | BT1 | BAT_BC501SM | BC501SM | 1 |
| 5.1V | DIODE ZENER GENERAL | BZT1 | SOD123 | ZENER GENERAL DIODE | 1 |
| 3.6V | DIODE ZENER GENERAL | BZT2 | SOD123 | ZENER GENERAL DIODE | 1 |
| 10uF | CAP SMD_0603 | C1, C9 | MY_CAP_SMD_0603 | CAP SMD_0603 | 2 |
| 100nF | CAP SMD_0603 | C2, C3, C8, C10, C21, C22, C23, C28, C29 | MY_CAP_SMD_0603 | CAP SMD_0603 | 9 |
| 22uF | CAP SMD_0603 | C4, C5, C7 | MY_CAP_SMD_0603 | CAP SMD_0603 | 3 |
| 75pF | CAP SMD_0603 | C6 | MY_CAP_SMD_0603 | CAP SMD_0603 | 1 |
| 18pF | CAP SMD_0603 | C11, C12, C18, C20 | MY_CAP_SMD_0603 | CAP SMD_0603 | 4 |
| 2.2uF | CAP SMD_0603 | C13, C19 | MY_CAP_SMD_0603 | CAP SMD_0603 | 2 |
| 1uF | CAP SMD_0603 | C14, C16 | MY_CAP_SMD_0603 | CAP SMD_0603 | 2 |
| 10nF | CAP SMD_0603 | C15, C17, C24, C25, C26, C27 | MY_CAP_SMD_0603 | CAP SMD_0603 | 6 |
| 1N5822 | Schottky Rectifiers | D1 | DO-214AB(SMC) | 1N5822 SMD | 1 |
| SMBJ16A | 600W, 18.8V, 5%, Unidirectional, TVS | D2 | DIOM4336X265N | SMBJ16A | 1 |
| DC Power Jack | DC Power Jack. Center Pin 2.5mm. Diameter: 5.7mm | DC Power Jack1 | DC Power Jack 1 | DC Power Jack | 1 |
| 1N5819 | Schottkey Rectifiers | DP1 | 430X270D | 1N5819 | 1 |
| F=3.0 A | SMD Fuses 1206 | F1 | 1206 FUSE | Fuse SMD1206 | 1 |
| Ferrite Bead SMD | Ferrite Bead SMD | Ferrite bead1, Ferrite bead2 | FB1206 | Ferrite Bead SMD Package | 2 |
| 61306421821 | WR-PHD Socket Header, THT, Vertical, pitch 2.54mm, 2 Row, 64P | J1, J2 | 61306421821 | 61306421821 | 2 |
| 15uH | INDUCTOR_SMD_3A | L1 | INDUCTOR_SMD_3A | INDUCTOR_SMD_3A | 1 |
| 10uH | Inductor | L2 | 10UH | Inductor_B | 1 |
| SMD 1206 LED | SMD 1206 LED | LED_AMS1, LED_TPS1, PWM_LED1, PWM_LED2, PWM_LED3, PWM_LED4 | LED 1206 | LED SMD 1206 | 6 |
| microSD Module | Header, 6-Pin | microSD Module1 | HDR1X6-1 | Header 6 | 1 |
| Header 5 | Header, 5-Pin | PROGRAM1 | My_1X05 | Header 5 | 1 |
| 49.9 | RES 0805 | R1 | RESC3413X04N | RES 0805 0.125W | 1 |
| 330 | RES 0805 | R2, R7, R13, R14, R15, R16 | RESC3413X04N | RES 0805 0.125W | 6 |
| 511K | RES 0805 | R3 | RESC3413X04N | RES 0805 0.125W | 1 |
| 100K | RES 0805 | R4 | RESC3413X04N | RES 0805 0.125W | 1 |
| 105K | RES 0805 | R5 | RESC3413X04N | RES 0805 0.125W | 1 |
| 13.3K | RES 0805 | R6 | RESC3413X04N | RES 0805 0.125W | 1 |
| 10K | RES 1206 | R8 | RESC4817X04N | RES 1206 0.25W | 1 |
| 10K | Resistor | R9, R10, R11 | 0805 | Res | 3 |
| 22R | Resistor | R12 | 0805 | Res | 1 |
| 0 | Resistor | R_CS_mSD1, R_PWM1, R_PWM2, R_PWM3, R_PWM4 | 0805 | Res | 5 |
| Switch PB | Push Button Switch | S1 | SW-PB | Switch PB | 1 |
| TPS54202HDDCR | 4.5V to 28V Input, 2A Output, Synchronous Step-Down Voltage Converter 6-SOT-23- THIN -40 to 125 | U1 | SOT95P280X110-6N | TPS54202HDDCR | 1 |
| AMS1117 | x.x Volt, 800mA Low- Dropout Linear Regulator, 4-pin SOT- 223 | U2 | SOT223_M | AMS1117-x.x | 1 |
| STM32H750VBT6 | ARM® Cortex®-M7 STM32H7 Microcontroller IC 32- Bit Single-Core 480MHz 128KB (128K x 8) FLASH 100-LQFP (14x14) | U3 | QFP50P1600X1600X16 0-100N | STM32H750VBT6 | 1 |
| 7D270K | VARISTORS | VR1 | 07D XXX | VARISTOR (VDR) | 1 |
| 24Mhz | Crystal Oscillator | Y1 | Crystal | XTAL | 1 |
| ABS25-32.768KHZ-T | Crystal | Y2 | MY_CRYSTAL_SMD 6 X 3.3 | CRYSTAL_SMD-6X3.3 | 1 |