



# Power Supply


The schematic diagram illustrates a power supply circuit. It begins with an AMS1117-3.3 voltage regulator (U3) which takes a +5V input and provides a +3V3 output. This +3V3 output is connected to the VIN of an XC6206P282MR LDO (U13). The XC6206P282MR (U13) is configured with a 10uF input capacitor (C12), a 10k resistor (R19), and a 1k resistor (R20) on its feedback path, and a 10uF output capacitor (C13). Its output (Vout) is connected to the VIN of an XC6206P122MR-G LDO (U14). The XC6206P122MR-G (U14) has a 10uF input capacitor (C14) and a 100pF output capacitor (C16). The final outputs are CSI\_2.8V and CSI\_1.2V. A 22uF capacitor (C8) and a 2k resistor (R10) are connected to the +5V input, and a 22uF capacitor (C9) is connected to the +3V3 output. An LED (LED1) is connected to the +5V input and the +3V3 output.

# Micro USB

# BMS

The schematic diagram illustrates the internal circuitry of a BMS module designed for a 2S1P battery pack. The main components and their connections are as follows:

- TP4056 (U10):** A lithium-ion battery charging module. Its pins are connected to the battery pack terminals (B+, B-), a 5V input, and ground. The module includes a temperature sensor (TEMP), programming pin (PROG), ground (GND), and a voltage divider (VCC) consisting of a 1.2k resistor (R16) and a 2k resistor (R17).
- DW01A (U12):** A DC-DC converter. It takes input from the battery pack and provides a regulated output to the load. The output is filtered by a 100nF capacitor (C11).
- FS8205A (Q3):** A MOSFET driver. It controls the MOSFETs (S1, S2) that switch the battery pack output to the load. The driver is powered by the 5V input and ground.
- LEDs (LED2, LED3):** Two LEDs are used for status indication. LED2 is connected to the battery pack output and ground. LED3 is connected to the 5V input and ground.
- Resistors (R14, R15, R16, R17, R18):** Various resistors are used for current limiting, voltage division, and protection. R14 and R15 are 1k resistors. R16 is 1.2k and R17 is 2k. R18 is 1k.
- Capacitors (C10, C11):** Two 100nF capacitors are used for decoupling and filtering. C10 is connected to the 5V input and ground. C11 is connected to the DW01A output and ground.
- Connectors (U19):** A 2S1P connector is used to interface the BMS module with the battery pack.

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