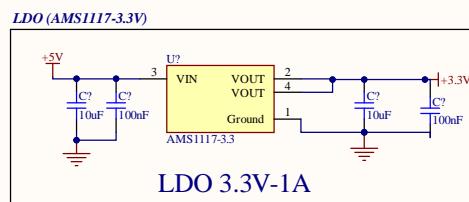
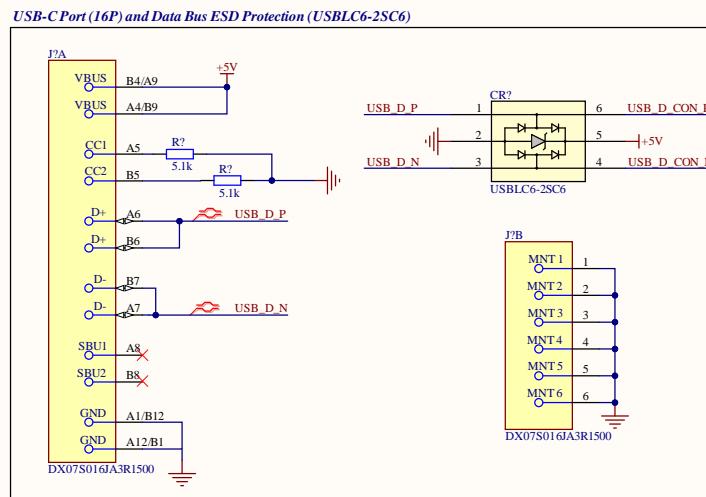
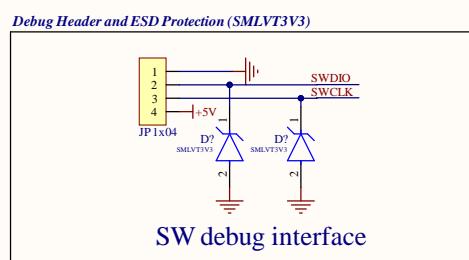


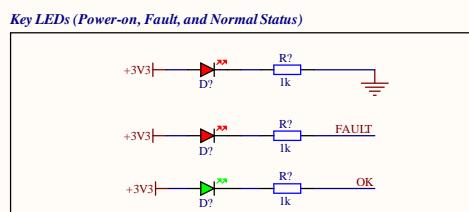
I2C Address: 0x68



LDO 3.3V-1A



SW debug interface



The diagram illustrates the circuit design for RS485 communication and ESD protection. It features a MAX3485ESA+ transceiver (U7) and a PSM712-LF-T7 TVS diode array. Key components include:

- Power Supply:** A 3.3V power source connected to the VCC pin of U7.
- ESD Protection:** A PSM712-LF-T7 array with two TVS diodes. Diode 1 (pin 1) is connected between the A-B differential pair and ground. Diode 2 (pin 2) is connected between the A-B differential pair and the MAX3485's GND pin.
- MAX3485ESA+ Transceiver:** U7 is configured as a half-duplex RS485 transceiver. Pin 8 is VCC, pins 6 and 7 are A and B differential inputs, pin 4 is D1, pin 1 is RO, pin 2 is RE, pin 3 is DE, and pin 5 is GND.
- Termination:** A 120Ω resistor (R7) is connected between the MAX3485's A-B output and ground.
- Driver:** A 1kΩ resistor (R2) is connected between the MAX3485's D1 input and the USART3 TX pin.
- Filtering:** A 100nF capacitor (C7) is connected between the MAX3485's A-B output and ground.
- Level Shifting:** A 1kΩ resistor (R1) is connected between the USART3 RX pin and the MAX3485's RO input.
- Debounce:** A 100nF capacitor (C8) is connected between the USART3 RX pin and ground.

ESD Protection & RS-485 Transceiver

Title		
Size	Number	Revision
A3	1/24/2026	Sheet of
Date:	D:\Mechatronics_\S4V_IMU_Sensor	Hardw\Bk_Schematic.SchDoc
File:		

Board Stack Report