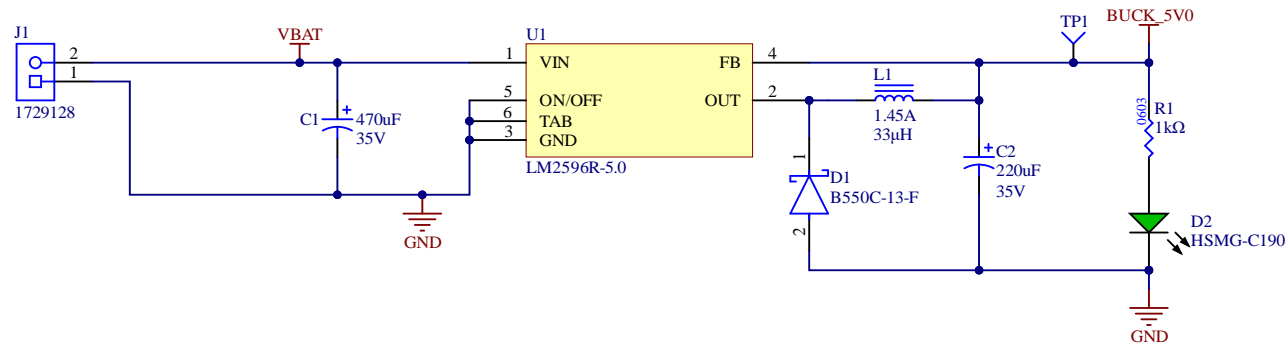


Power Conversions

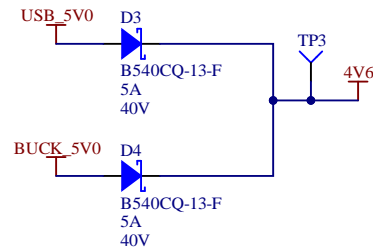
External Power Input
VBAT input range is 12V to 24V

VBAT to 5V 3A Buck



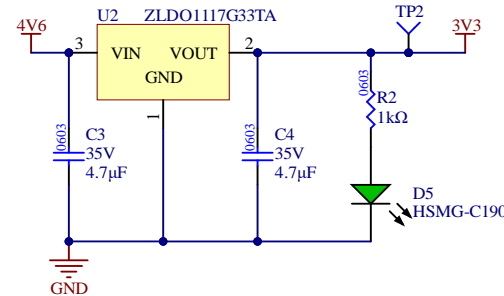
^A Green LED voltage drop: 2.2V
- I = (5V - 2.2V) / (1kOhm) = 2.8mA

2 Power Sources Protection




^A Estimated max voltage output is 4.6V at 3A
Schottky Diode has a 0.4V drop at 3A

5V to 3.3V 1A LDO

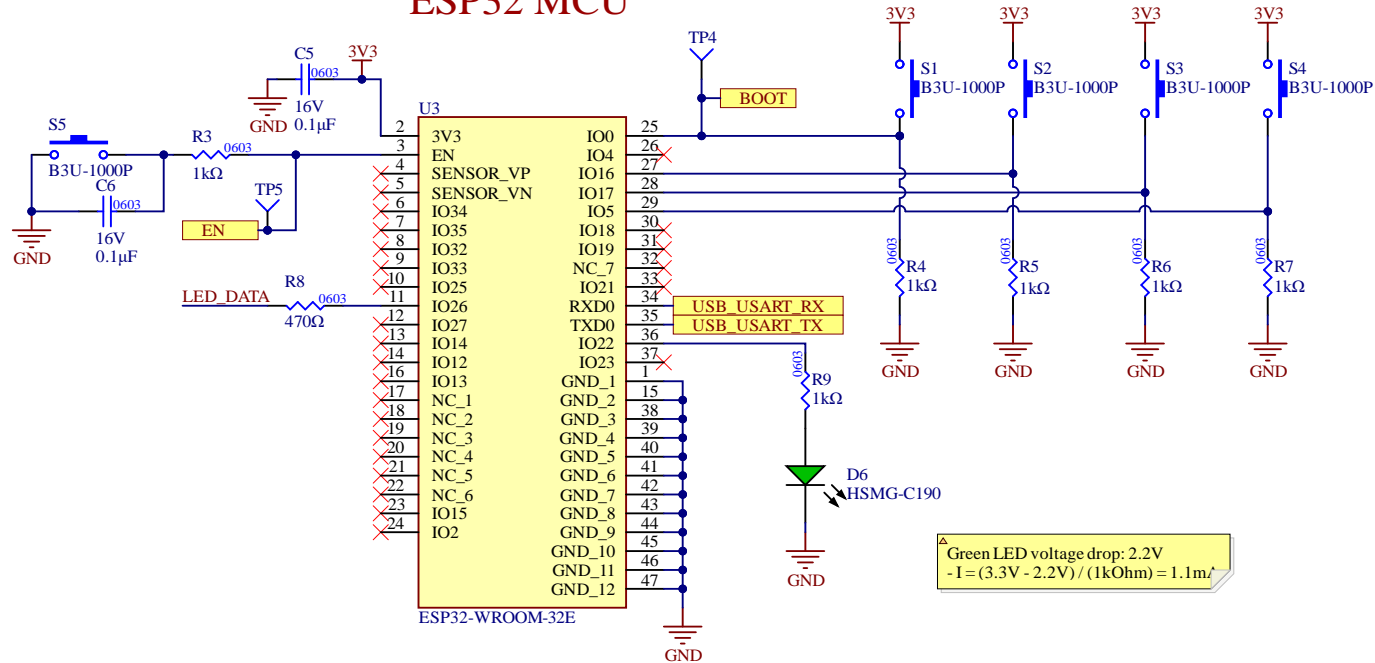


^A Green LED voltage drop: 2.2V
- I = (3.3V - 2.2V) / (1kOhm) = 1.1mA

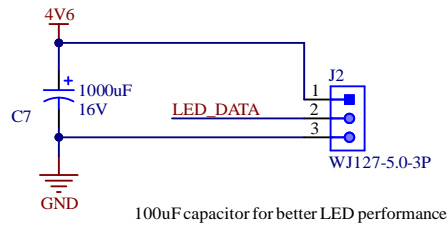
		University of Waterloo Robotics Team 200 University Ave W Waterloo, Ontario, Canada N2L 3G1	REV 1
PROJECT LED Controller.PrjPcb, [No Variations]			
DOCUMENT Power.SchDoc		MODIFIED 8/23/2021	
ENGINEER Ari Wasch		REVIEWER *	
		SHEET 1 OF 3	


MCU

ESP32 MCU



LED STRIP CONNECTOR



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PROJECT LED Controller.PrjPcb, [No Variations]			
DOCUMENT MCU.SchDoc		MODIFIED 8/23/2021	
ENGINEER Ari Wasch		REVIEWER *	
		SHEET 2 OF 3	

