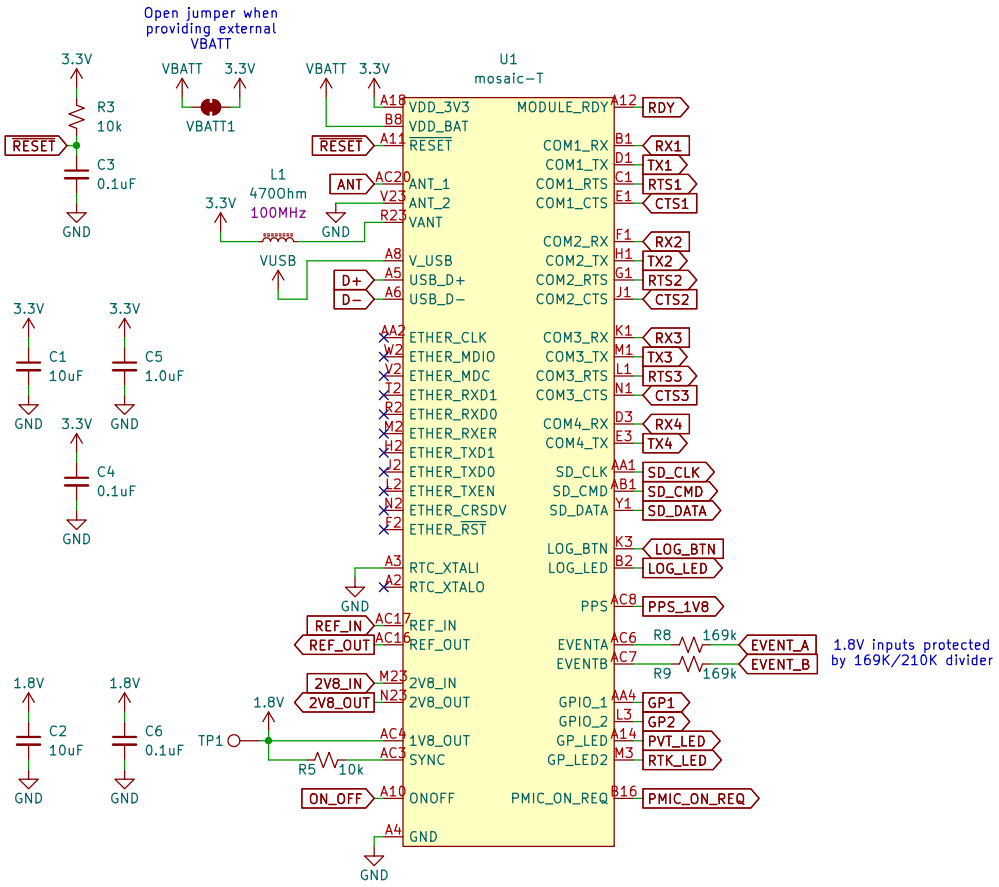
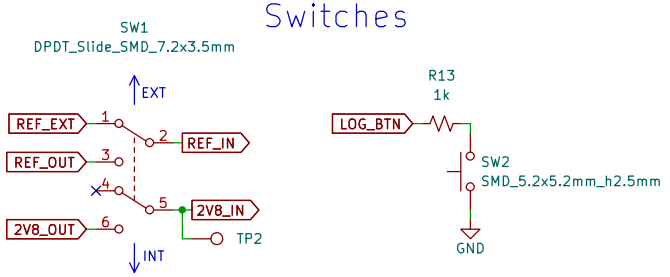
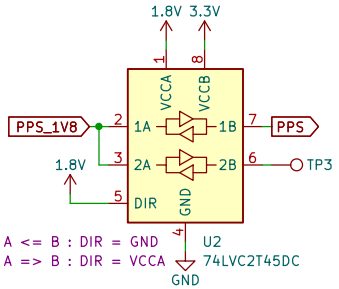
mosaic-T GNSS



Switches



PPS Level-Shifting - 74LVC2T45



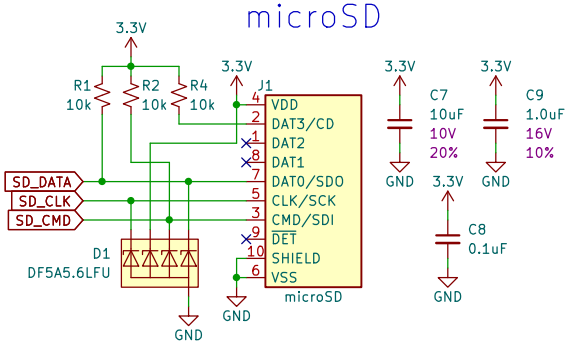
Connectors

File: Connectors.kicad_sch

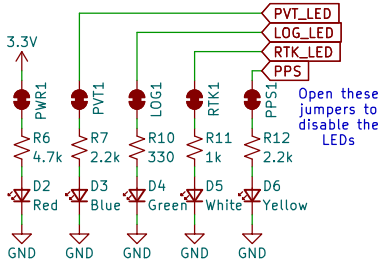
Power

File: Power.kicad_sch

microSD



LEDs



Designed by: P.C.

SparkFun Electronics

Sheet: /

File: SparkFun_GNSS_mosaic-T.kicad_sch

Title: SparkFun GNSS mosaic-T

Size: USLetter	Date: 2025-03-19	**Rev: v01**
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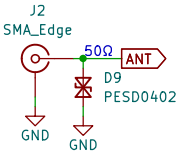
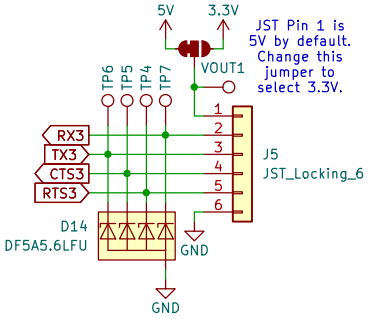
GNSS Antenna

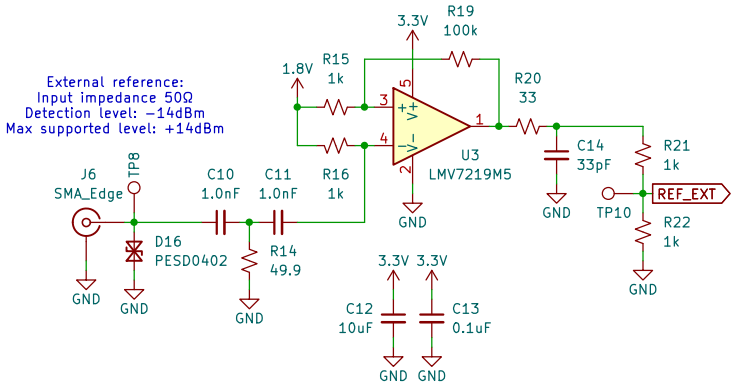


Microstrip (Coplanar Single Ended) 50Ω Calculation:
https://jlcpcb.com/pcb-impedance-calculator
Board thickness: 1.6mm. Layers: 4. Er: 4.4 (7628 Prepreg)
Dielectric Thickness (Layer 1 to 2): 8.28mil/0.2104mm (JLC7628)
Copper Thickness (1oz outer / 0.5oz inner): 1.38mil/0.035mm
Polygon Isolation: 7mil/0.1778mm
Trace Width: 11.1mil/0.2819mm

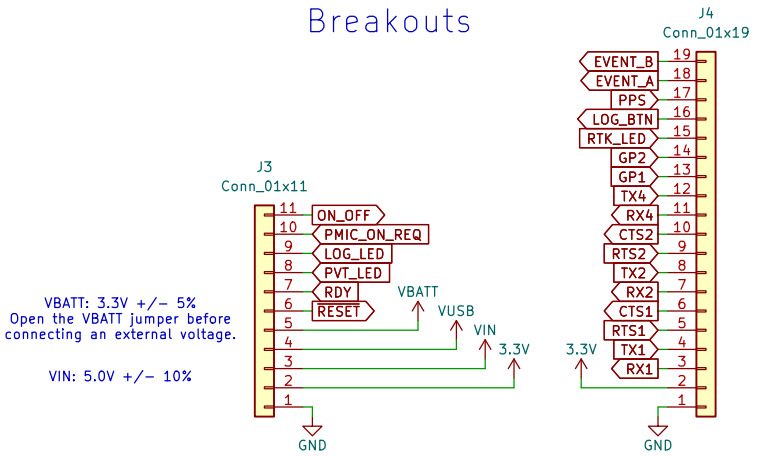
6-pin JST GH Connector



External Reference (10MHz)



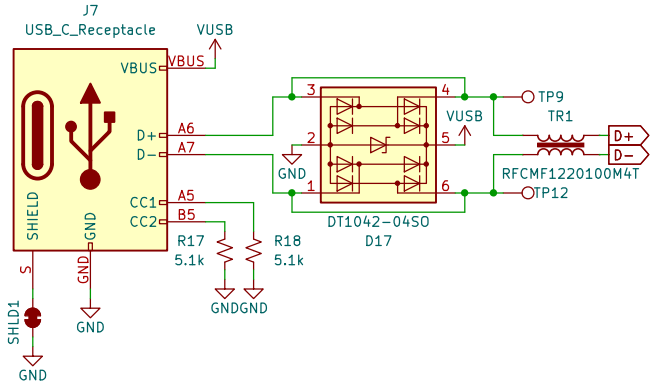
Breakouts



VBATT: 3.3V +/− 5%
Open the VBATT jumper before connecting an external voltage.

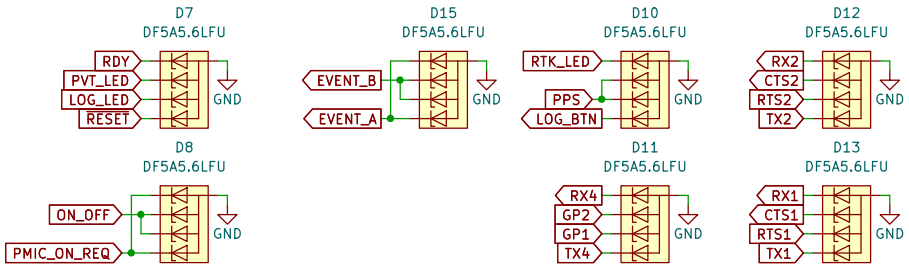
VIN: 5.0V +/− 10%

USB



USB Track Impedance: Coplanar Differential Pair @ 90Ω
https://jlcpcb.com/pcb-impedance-calculator
Board Thickness: 1.6mm. Layers: 4. Er: 4.4 (7628 Prepreg)
Dielectric Thickness (Layer 1 to 2): 8.28mil/0.21mm (JLC7628)
Copper Thickness (1oz outer / 0.5oz inner): 1.38mil/0.035mm
Polygon Isolation: 7mil/0.1778mm
Trace Spacing: 9.07mil/0.2304mm
Trace Width: 10.93mil/0.2776mm
Trace center-to-center: 20.0mil/0.508mm

ESD Protection



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Title: SparkFun GNSS mosaic-T - Connectors	
Size: USLetter | Date:	**Rev:**
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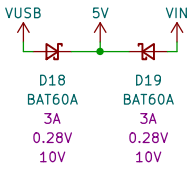
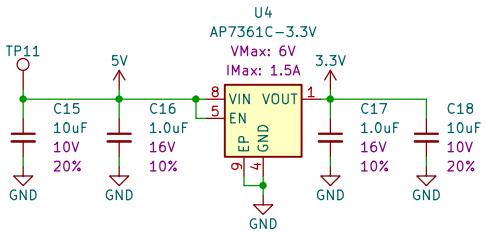
Power Mux



Voltage Regulation – AP7361C-3.3V



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Size: USLetter	Date:	**Rev:**
KiCad E.D.A. 9.0.0		Id: 3/3