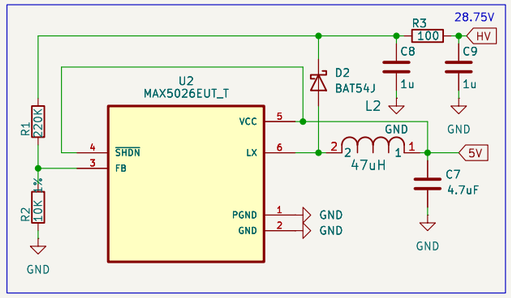
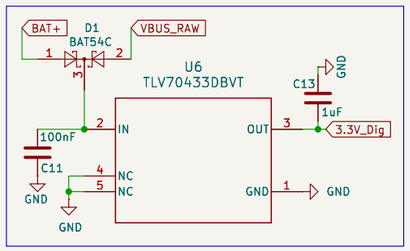
DC-DC Booster

Takes the VCC line, and increases the voltage to +32.5V.
This HV line is used to provide the reverse bias to the SiPM. The SiPM sees 30V difference, as virtual ground is 2.5V



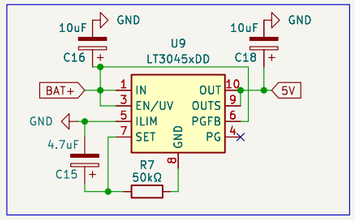
+3v3

Takes the battery line and regulates the voltage
to 3.3v for the logic electronics



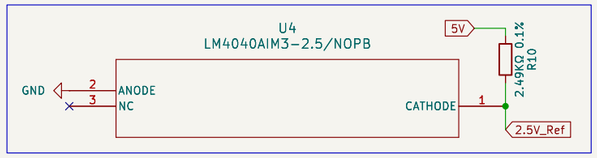
+5V

This creates the 5V supply that we use for the reference for the TIA



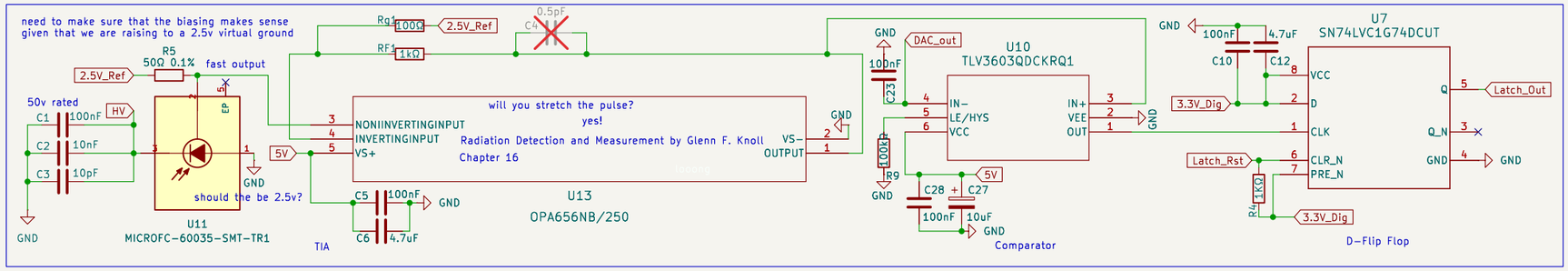
Virtual Ground Reference

Takes the 5V line and creates a 2.5V reference
to detect dips when current pulses hit opp amp, using a shunt regulator



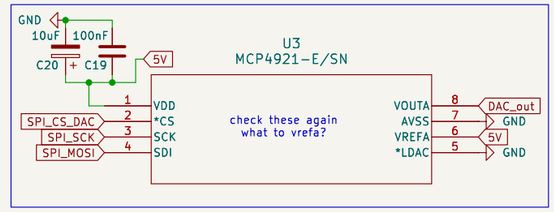
Readout

Amplifies, detects and registers the current pulse from the SiPM



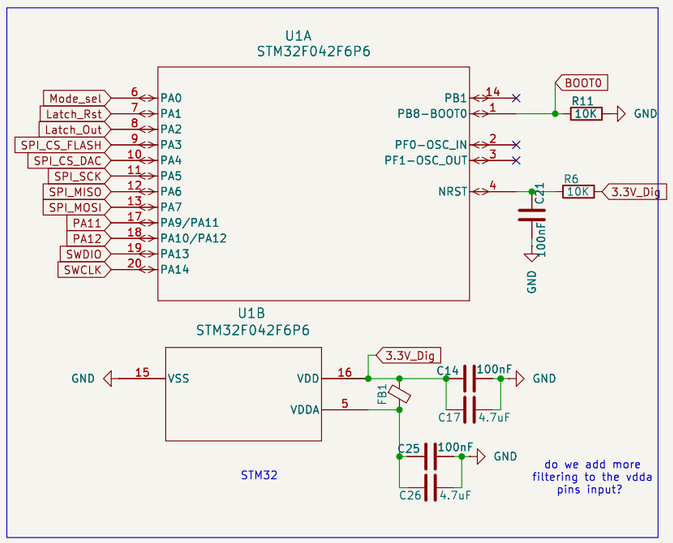
DAC

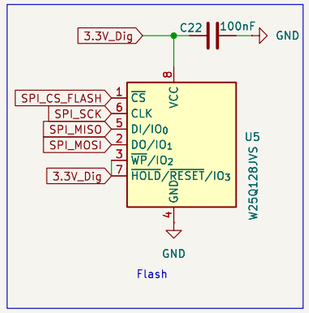
Sets a stable voltage reference for the comparator

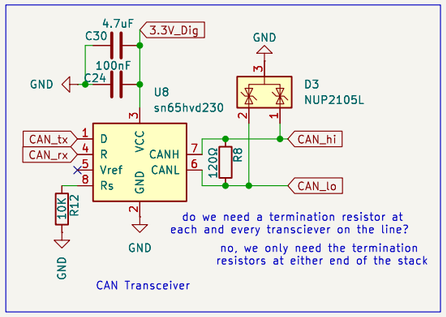


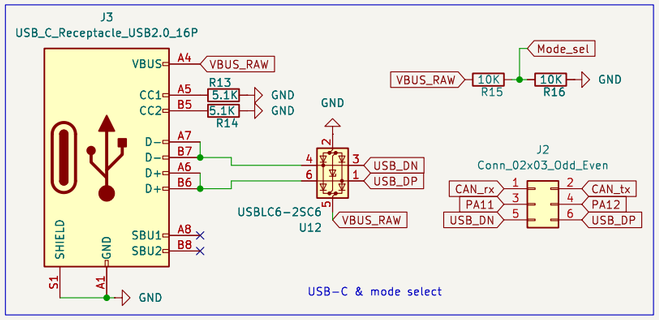
Logging

STM32 mcu, nand flash, can transciever, together operate the sensor, catch the pulses and log the data









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