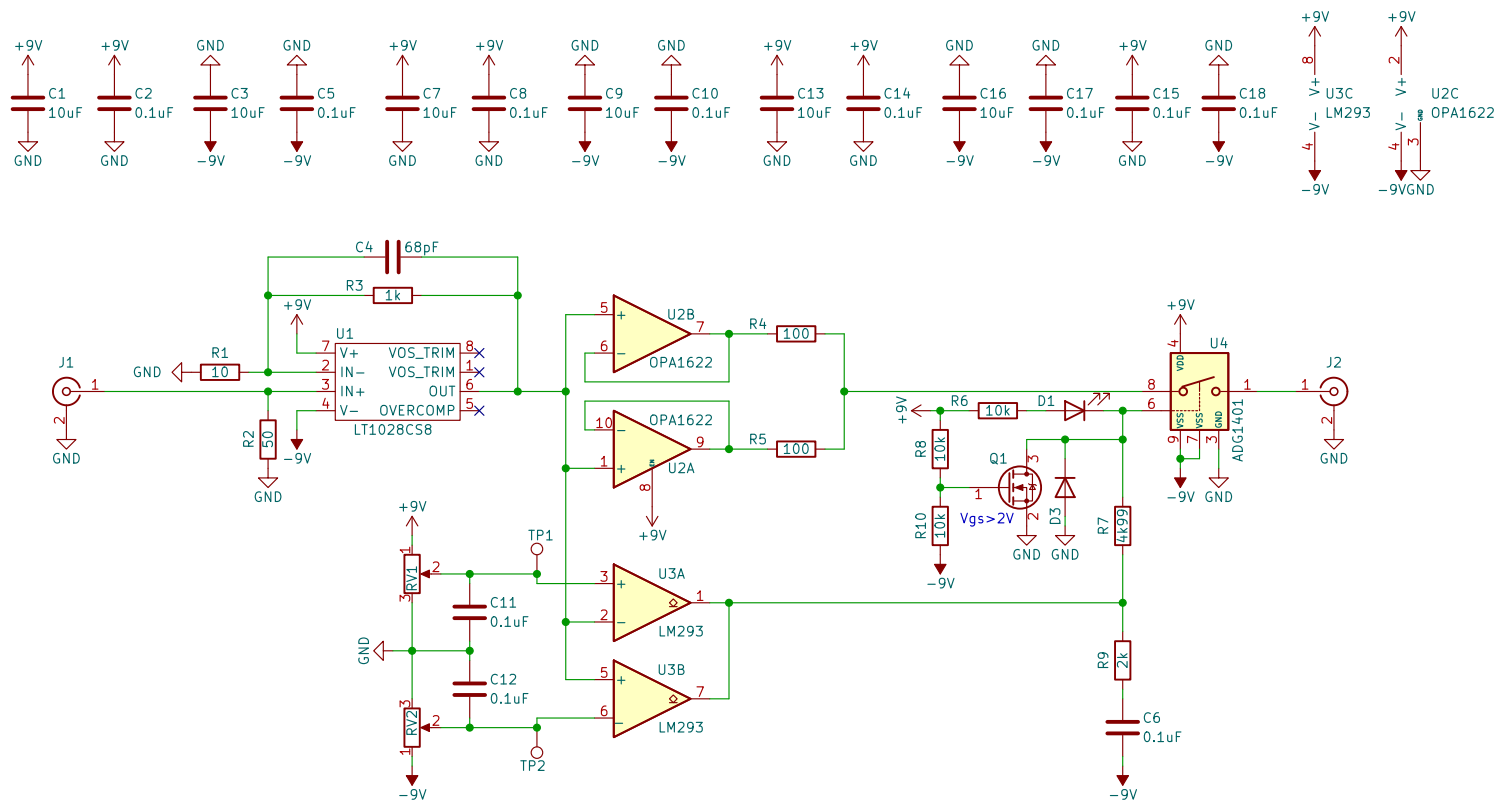
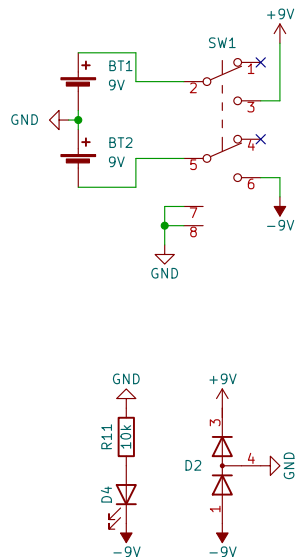


washer: <https://www.digikey.com/en/products/detail/e-switch/HDW21-4-40UNSHENUT/3885298>
lock washer: <https://www.digikey.com/en/products/detail/e-switch/T100011/6810425>



Distortion Test with SA44B

- apply sine to input
- check spectrum contents for distortion
- increase sine amplitude

Clipper Circuit Test with Scope

- apply sine to input
- check for clipping
- change input frequency

Offset Voltage Measurement with Multimeter

- Measure output voltage with short/open/50R
 - Repeat measurement after 5 minutes
- > Expected: max $80\mu V \times 100 = 8mV$

Power-Up Test with Scope

- apply small voltage at input
- apply 9V
- check for clipping
- repeat for negative voltage

Function Transfer Meas. with BODE100

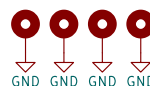
- calibrate instrument
 - sweep from 1Hz to 1MHz
 - extract gain/phase plot
- > with and without 50 termination

Low Battery Test with Scope & Specan

- set low voltage on one rail
- check clipping level on scope
- check effect on spectrum

Noise Measurement with SA44B

- measure OUT spectrum with short/open/50R



Expected Specs:

- x101 (40dB) gain
- 1nV (max 2nV) / \sqrt{Hz} input noise density
- 110nV (max 210nV) / \sqrt{Hz} output noise density
- idle current consumption: $\sim 11 + 3 \times 2 = 17mA$
- max output V_{peak} at 50R > 9V ($0.11 \times 2 \times 100 / 2$)

Sheet: /
File: sa_amp.kicad_sch

Title: Spectrum Analyzer Op-Amp

Size: A4 Date: 2022-11-06

KiCad E.D.A. kicad (6.0.6)

Rev: 3

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