

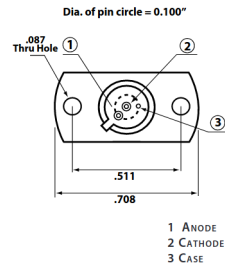
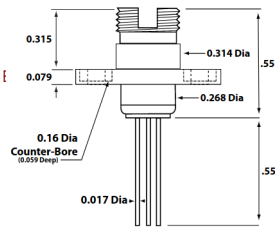
Photodiodes with TO-18 footprint:

Pinout:  
1 Anode  
2 Cathode  
3 Case

Fermionics FD80FC  
<https://www.fermionics.com/High-Speed-Devices.html>

Hamamatsu G9801-32  
<https://www.hamamatsu.com/eu/en/product/type/G9801-32/index.html>

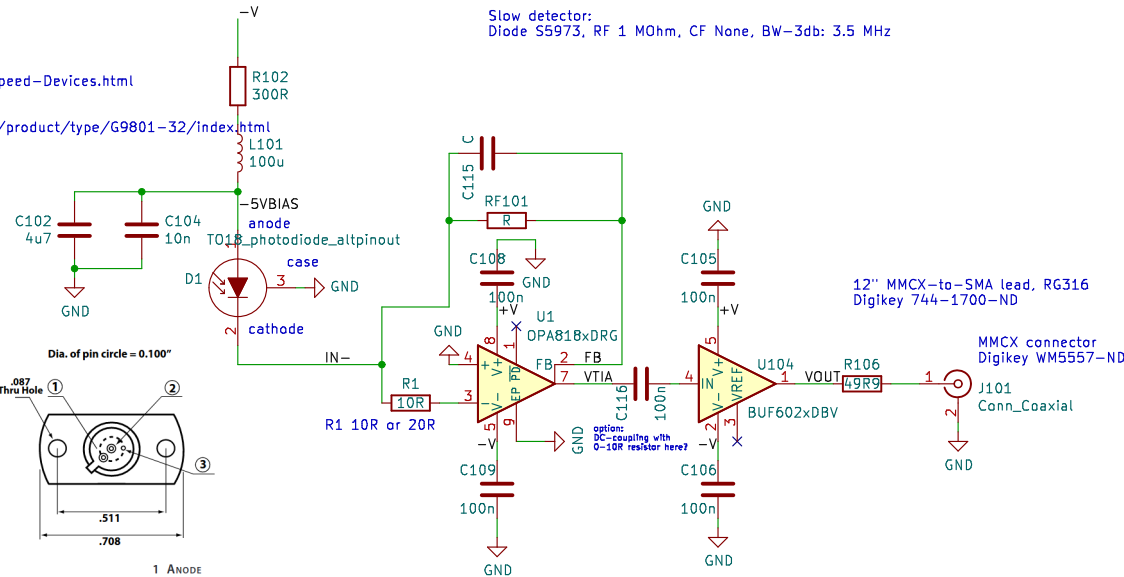
Fermionics FD80FC  
typ. 0.4 pF at  $V_r = 5\text{ V}$



TIASim predictions (<https://github.com/aewallin/TIASim>)

Fast detector:  
Diode FDS015, RF 1.2 kOhm, CF 0.6 pF gives BW-3dB: 452 MHz

Slow detector:  
Diode S5973, RF 1 MOhm, CF None, BW-3db: 3.5 MHz



Copyright Anders E E Wallin, 2020.  
This documentation describes Open Hardware and is licensed under the CERN OHL v. 1.2.  
You may redistribute and modify this documentation under the terms of the CERN OHL v.1.2. (<http://ohwr.org/cernohl>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.2 for applicable conditions

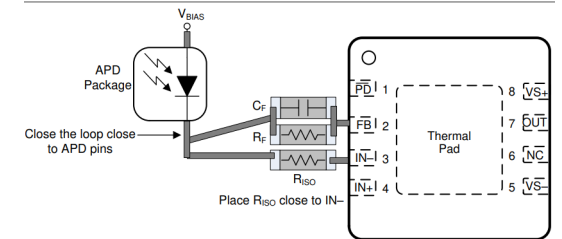
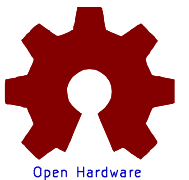
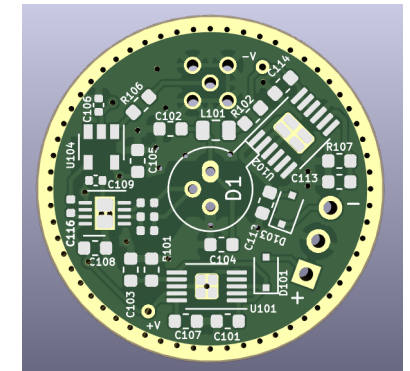
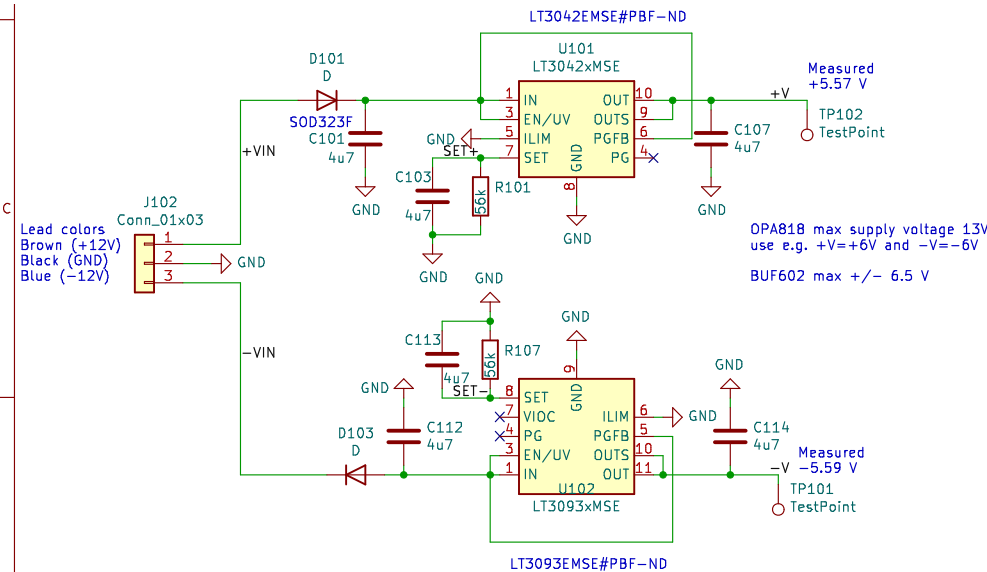


Figure 60. Improved TIA Layout



Open Hardware



PSU:  
Thorlabs LDS12B  
±12 VDC Regulated Linear Power Supply, 6 W  
Lumberg RSMV3 male connector, 3-pin  
PSU-lead: Digikey A120947-ND (mates with Thorlabs 3-pin psu connector)  
3-pin M8 female connector  
1.5 m 3-wire lead, solder to PCB

Alternative photodiode pinout (1 Anode, 2 Cathode, 3 Case)  
**anders.e.e.wallin "at" gmail.com**

Sheet: /  
File: oip\_opa818\_alt.kicad\_sch

**Title: 1" Photodiode Transimpedance Amplifier - OPA818 + BUF602**

Size: A4 Date: 2020-07-21  
KiCad E.D.A. kicad 6.0.9-8da3e8f707-116-ubuntu20.04.1

Rev: draft  
Id: 1/1