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

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

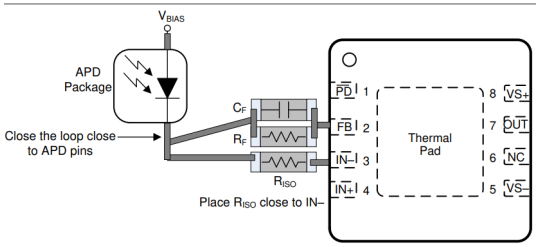
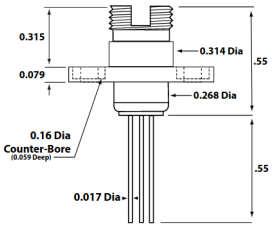
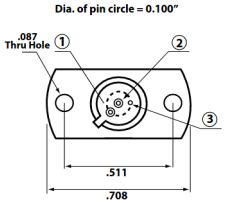


Figure 60. Improved TIA Layout

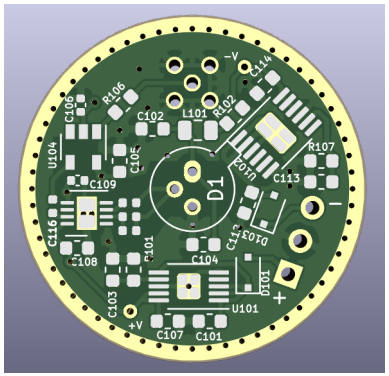


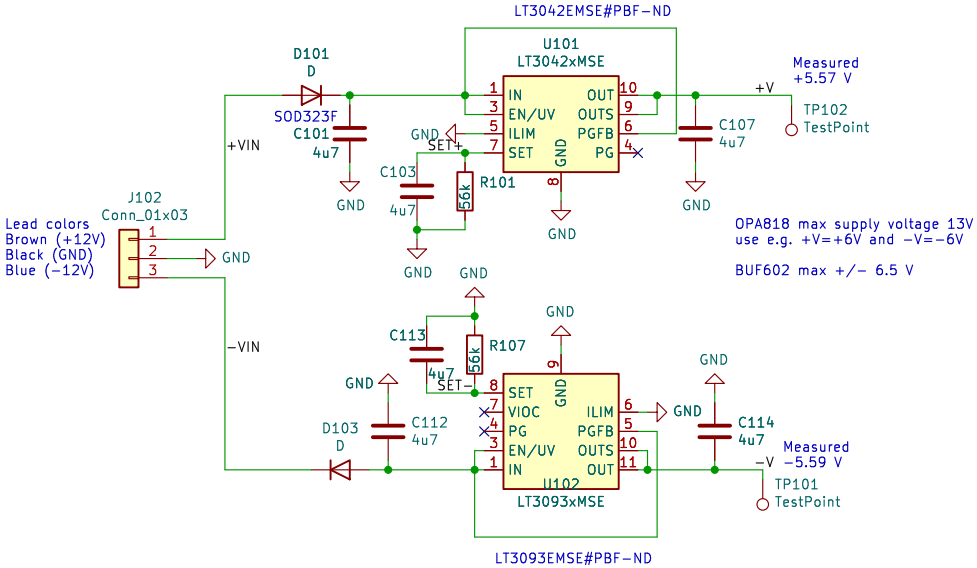


1 Anode
2 Cathode
3 Case

12" MMCX-to-SMA lead, RG316
Digikey 744-1700-ND

MMCX connector
Digikey WM5557-ND





PSU:
Thorlabs LDS12B
±12 VDC Regulated Linear Power Supply, 6 W
Lumberg RSMV3 male connector, 3-pin
NOTE: very high 50Hz magnetic field from this PSU!!

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

Open Hardware

250MHz beat-note detector: Fermionics FD80FC with 5.1k RF
Alternative photodiode pinout (1 Anode, 2 Cathode, 3 Case)

anders.e.e.wallin "at" gmail.com

Sheet: /
File: _autosave-working.kicad_sch

Title: 1" Photodiode Transimpedance Amplifier - OPA818 + BUF602

Size: A4	Date: 2020-07-21	**Rev: draft**
KiCad E.D.A. eeschema 7.0.6		Id: 1/1