

Prototype Design

Sheet: /  
File: spe-source.kicad\_sch

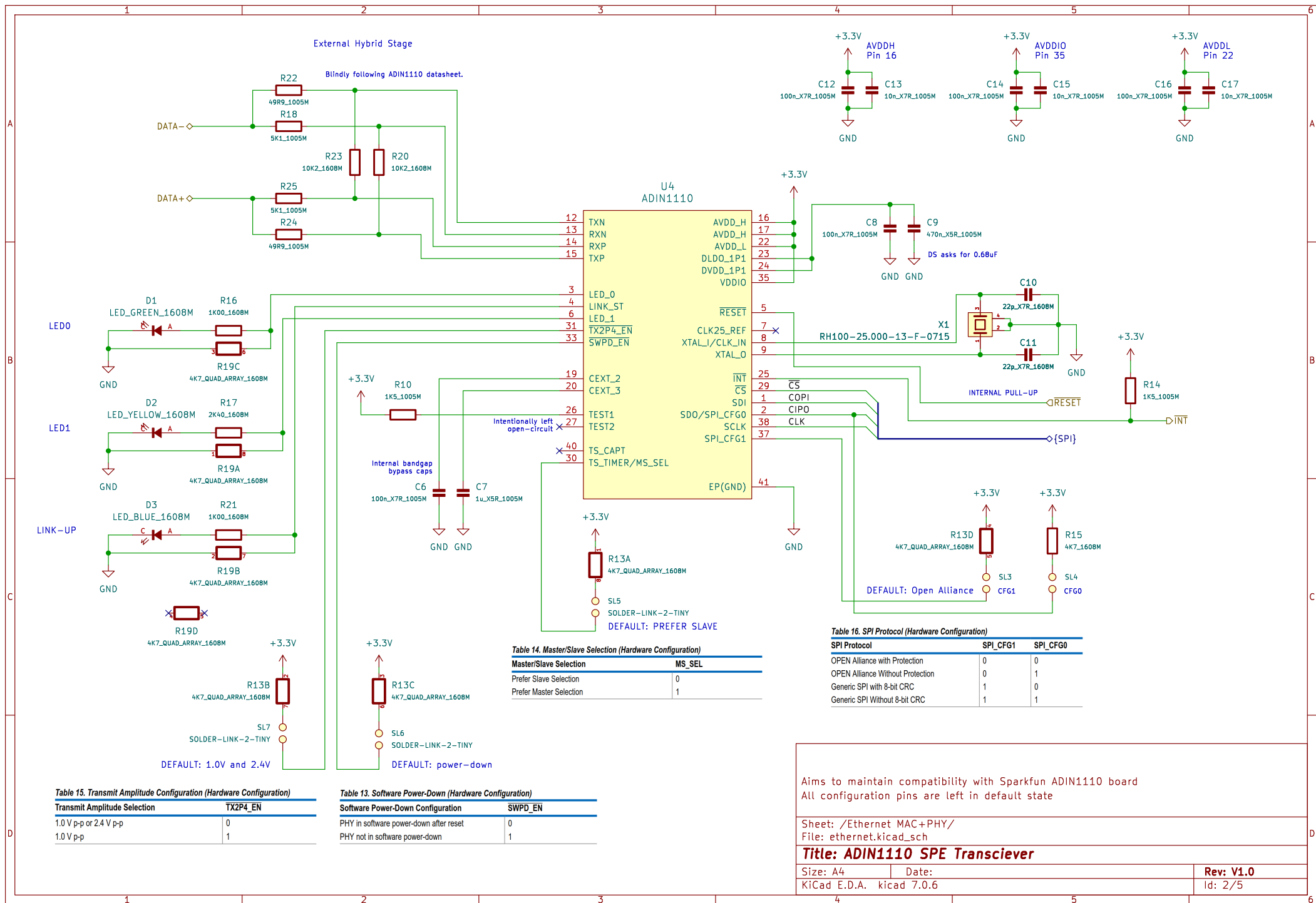
**Title: MicroMod SPE PSE**

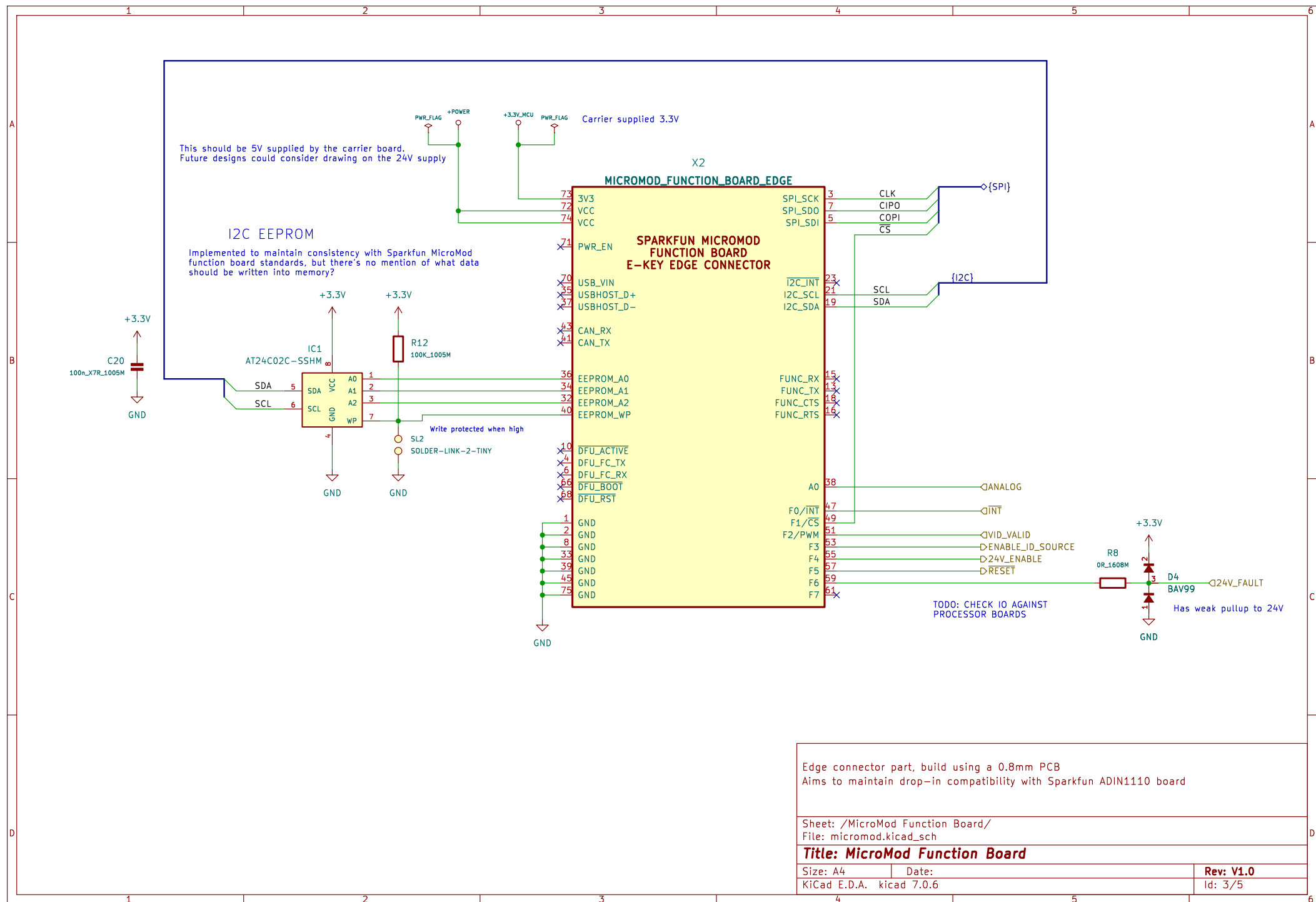
Size: A4  
KiCad E.D.A. kicad 7.0.6

Date:

**Rev: V1.0**

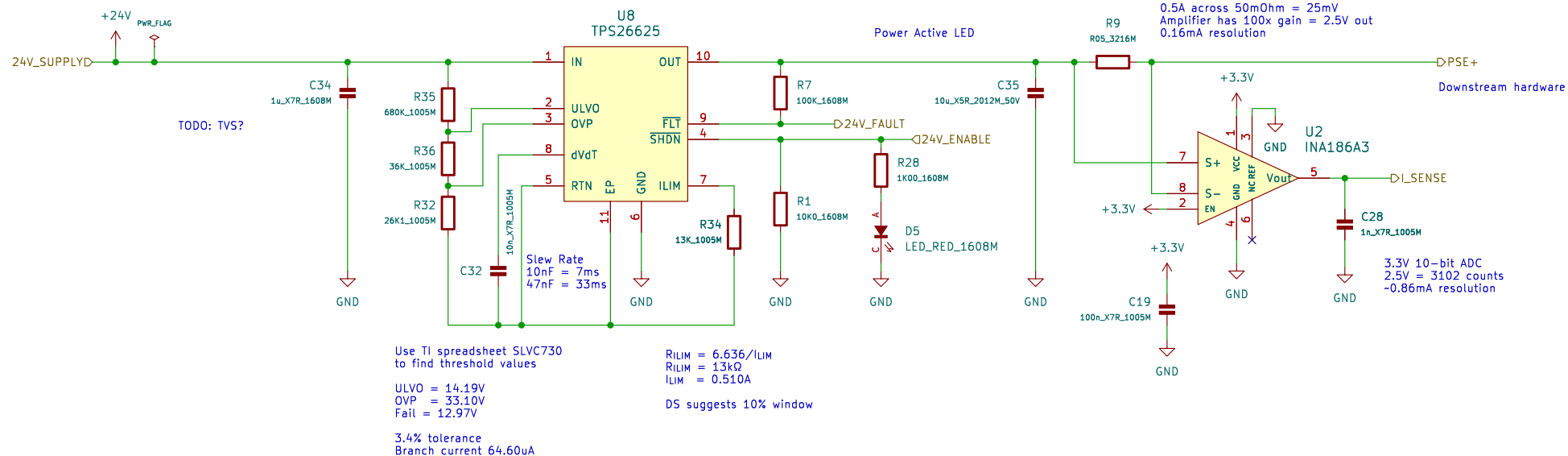
Id: 1/5





## Power Enable Switch

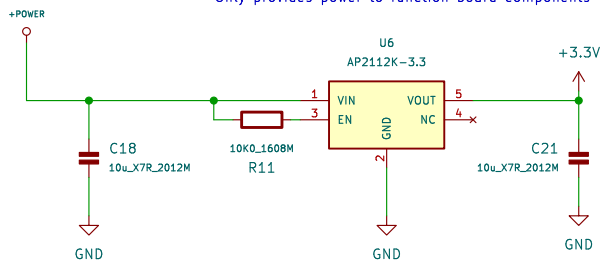
## Current Measurement



## 3.3V REGULATOR

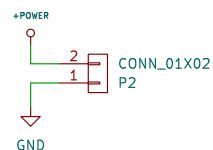
Carrier supplied 5V

Only provides power to function board components



TODO: Consider allowing PWR\_EN via MicroMod pin?

## 5V Input/Output



HV PoDL feed is controlled by Micro.  
eFuse handles polarity, voltage, OCP

Sheet: /Power Regulation/  
File: power.kicad\_sch

**Title: Input Power Switch and Sensing**

Size: A4 Date: 2023-08-17

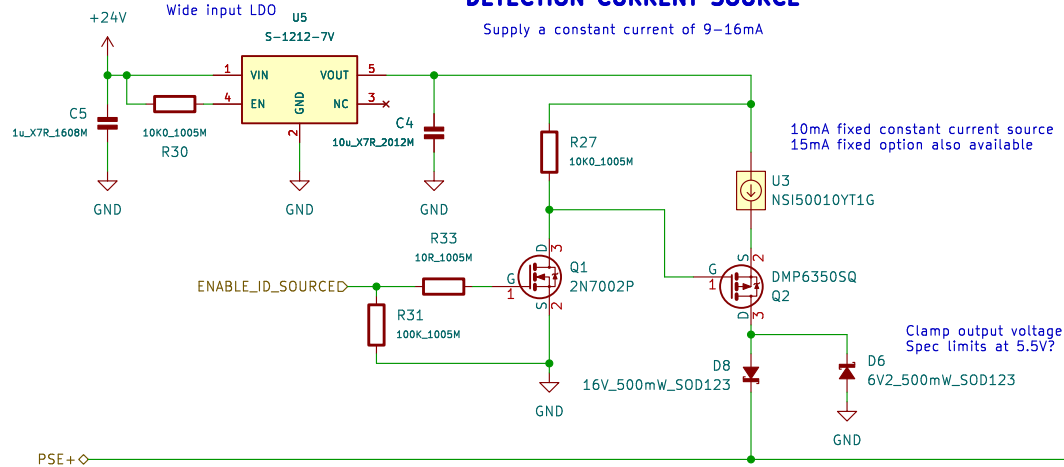
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Rev: V1.0

Id: 4/5

## DETECTION CURRENT SOURCE

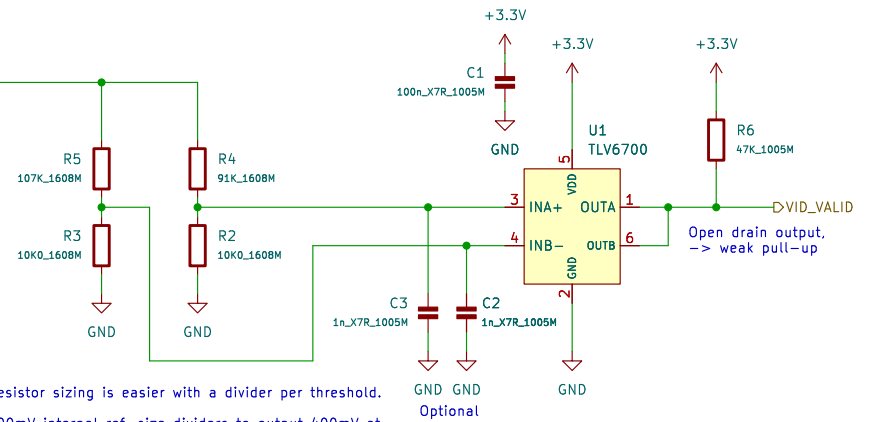
Supply a constant current of 9–16mA



TODO: Work out a more elegant way to source the current.

## PD DETECTION VOLTAGE

Downstream PD will attempt to identify by regulating the line voltage to the 4.05V to 4.7V window (though an 300mA error is optionally tolerated)



A 3-resistor divider network can also be created.  
Calculation spreadsheet in repository /docs

Provide a controlled current source for downstream PD devices  
Sense the PD voltage as part of device detection.

Sheet: /PoDL Supply Handling/  
File: podl-pse.kicad\_sch

### Title: PSE Detection Circuits

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Rev: V1.0  
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