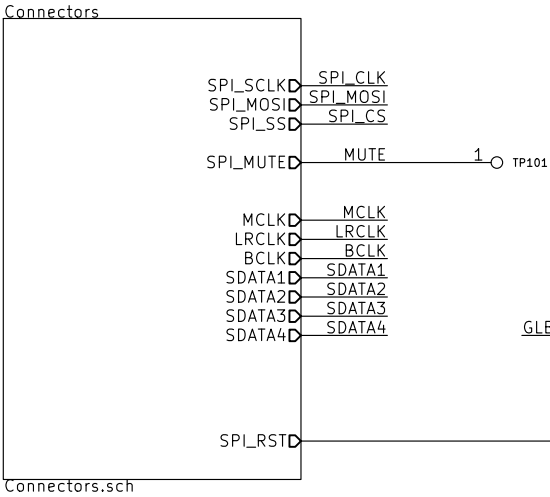
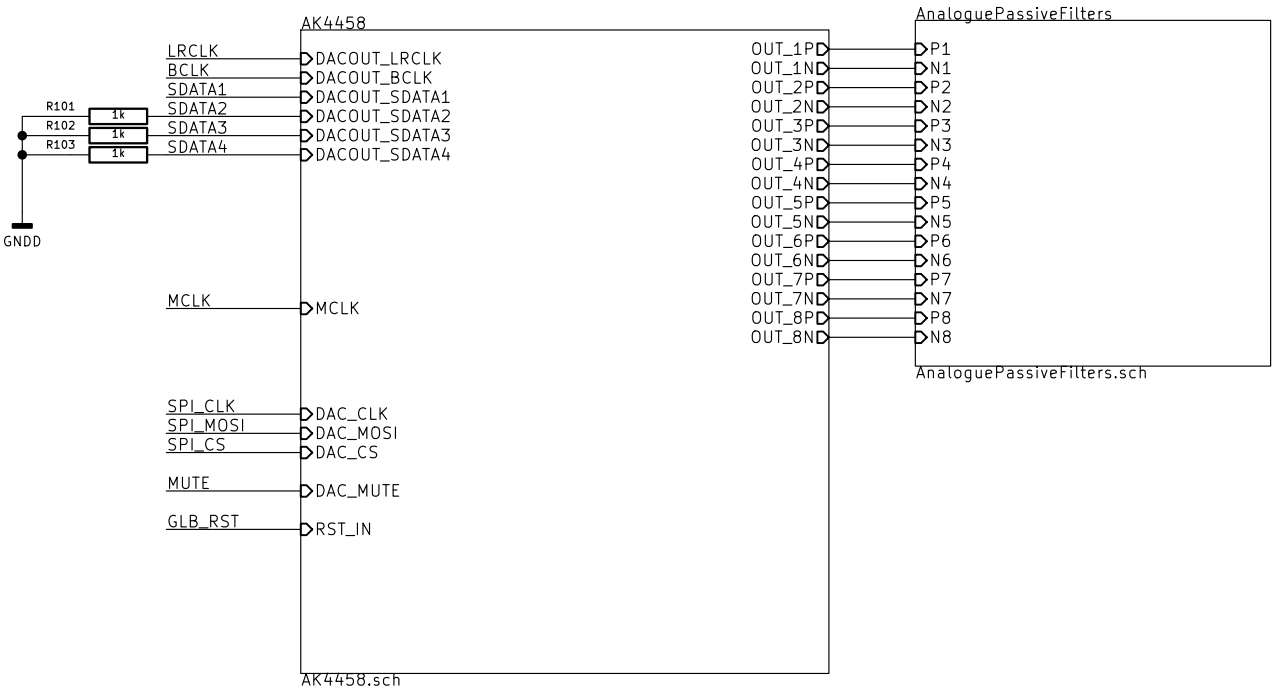


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DAC-AK4458 with Passive Output Filters  
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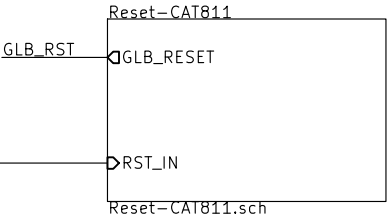
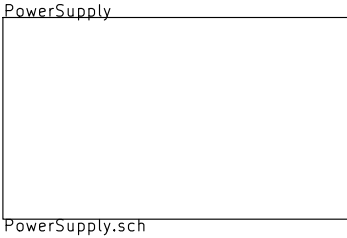


Notes:

All digital I/O is 3V3. Use outside this voltage can cause damage.

See bill of materials for detailed parts information.  
Parts with 'N/F' value are NOT FITTED.

Trace impedance on SPI/I2C, MCLK, and I2S is designed for approx 89ohm.  
26AWG ribbon cable used with Ground-Signal-Ground is approx 89ohm.



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Sheet: / File: DAC-AK4458-1.0.sch		
<b>Title: DAC-AK4458 with Passive Output Filters</b>		
Size: A4	Date: 2019-04-03	Rev: 1.0
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## I2S/TDM Connectors

The schematic diagram illustrates the external MCLK circuit for the AD9232. It is divided into two main sections: the top section for MCLK and the bottom section for SDATA1 and SDATA2.

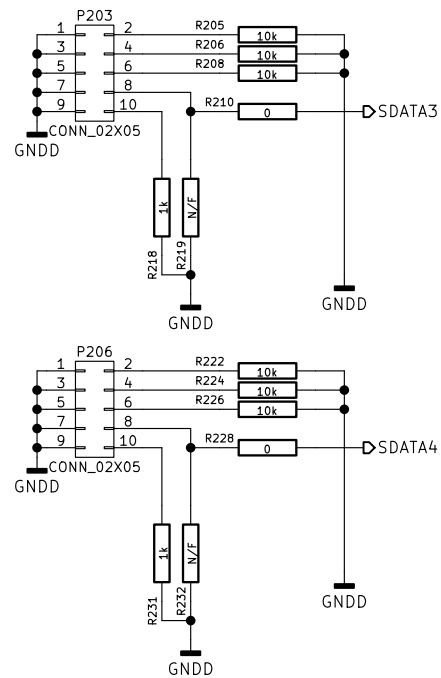
**Top Section (MCLK):**

- Inputs:** P201 (CONN\_3x1) and P202 (10 pins).
- Resistors:**
  - R201 (N/F) connects P201 pin 1 to MCLK.
  - R202 (N/F) connects P202 pin 1 to GNDD.
  - R203 (0) connects P202 pin 2 to MCLK.
  - R204 (0) connects P202 pin 3 to LRCLK.
  - R207 (0) connects P202 pin 4 to BCLK.
  - R209 (0) connects P202 pin 5 to SDATA1.
  - R213 (1k) connects P202 pin 10 to GNDD.
- Outputs:** MCLK, LRCLK, BCLK, SDATA1.

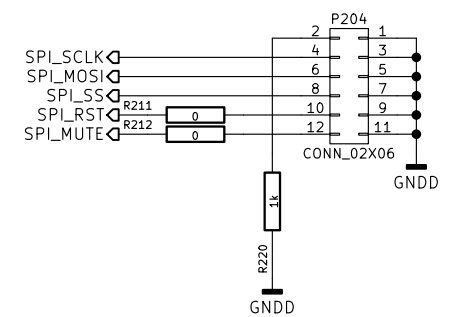
**Bottom Section (SDATA1 and SDATA2):**

- Inputs:** P205 (10 pins).
- Resistors:**
  - R214 (N/F) connects P205 pin 2 to GNDD.
  - R215 (N/F) connects P205 pin 3 to GNDD.
  - R216 (N/F) connects P205 pin 4 to GNDD.
  - R217 (N/F) connects P205 pin 5 to GNDD.
  - R221 (10k) connects P205 pin 2 to SDATA1.
  - R223 (10k) connects P205 pin 3 to SDATA1.
  - R225 (10k) connects P205 pin 4 to SDATA1.
  - R227 (0) connects P205 pin 5 to SDATA2.
  - R229 (1k) connects P205 pin 10 to GNDD.
  - R230 (N/F) connects P205 pin 10 to GNDD.
- Outputs:** SDATA1, SDATA2.

All components are connected to GNDD.



For software control

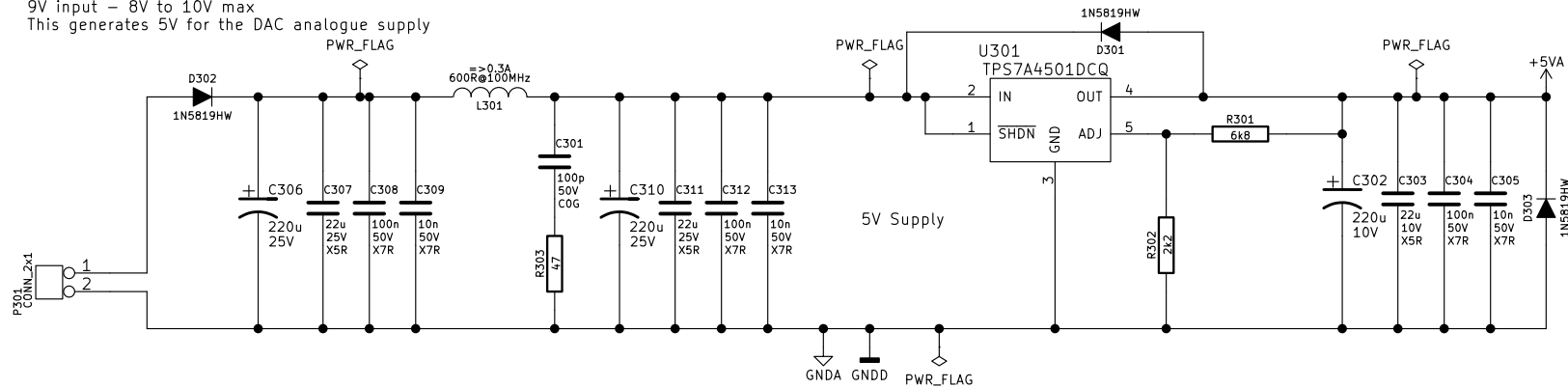


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## Power Supply

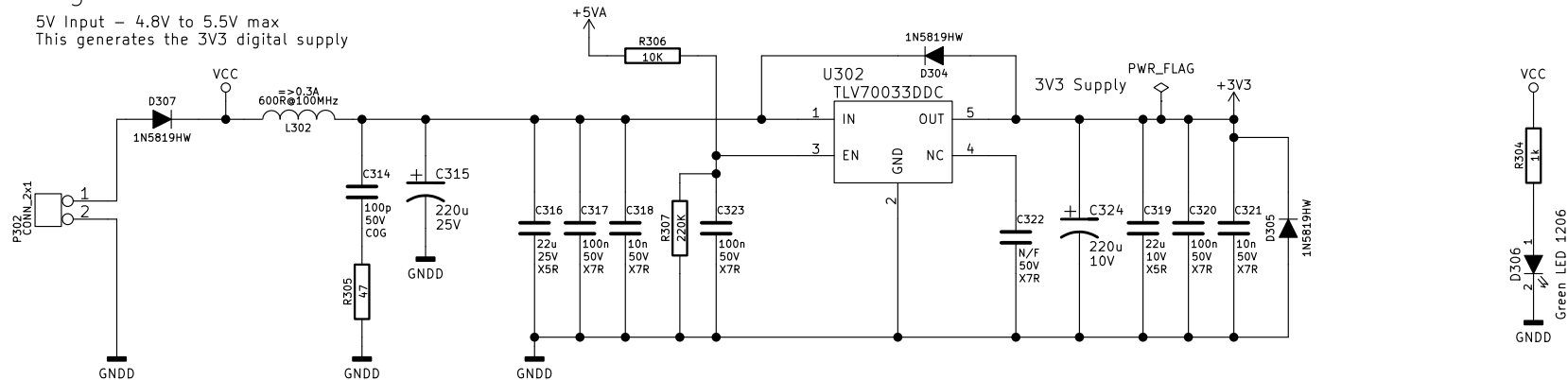
### Input

9V input – 8V to 10V max  
This generates 5V for the DAC analogue supply

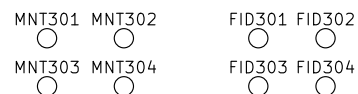


### Digital PSU

5V Input – 4.8V to 5.5V max  
This generates the 3V3 digital supply



Mounting Holes and Fiducials



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Sheet: /PowerSupply/

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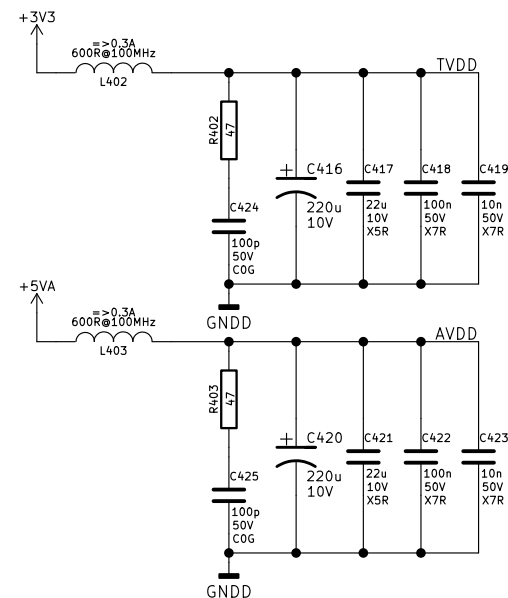
**Title: DAC-AK4458 with Passive Output Filters**

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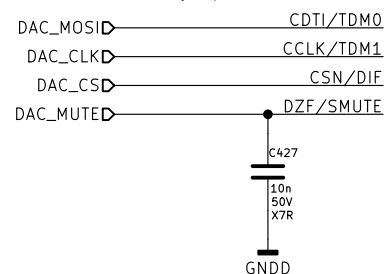
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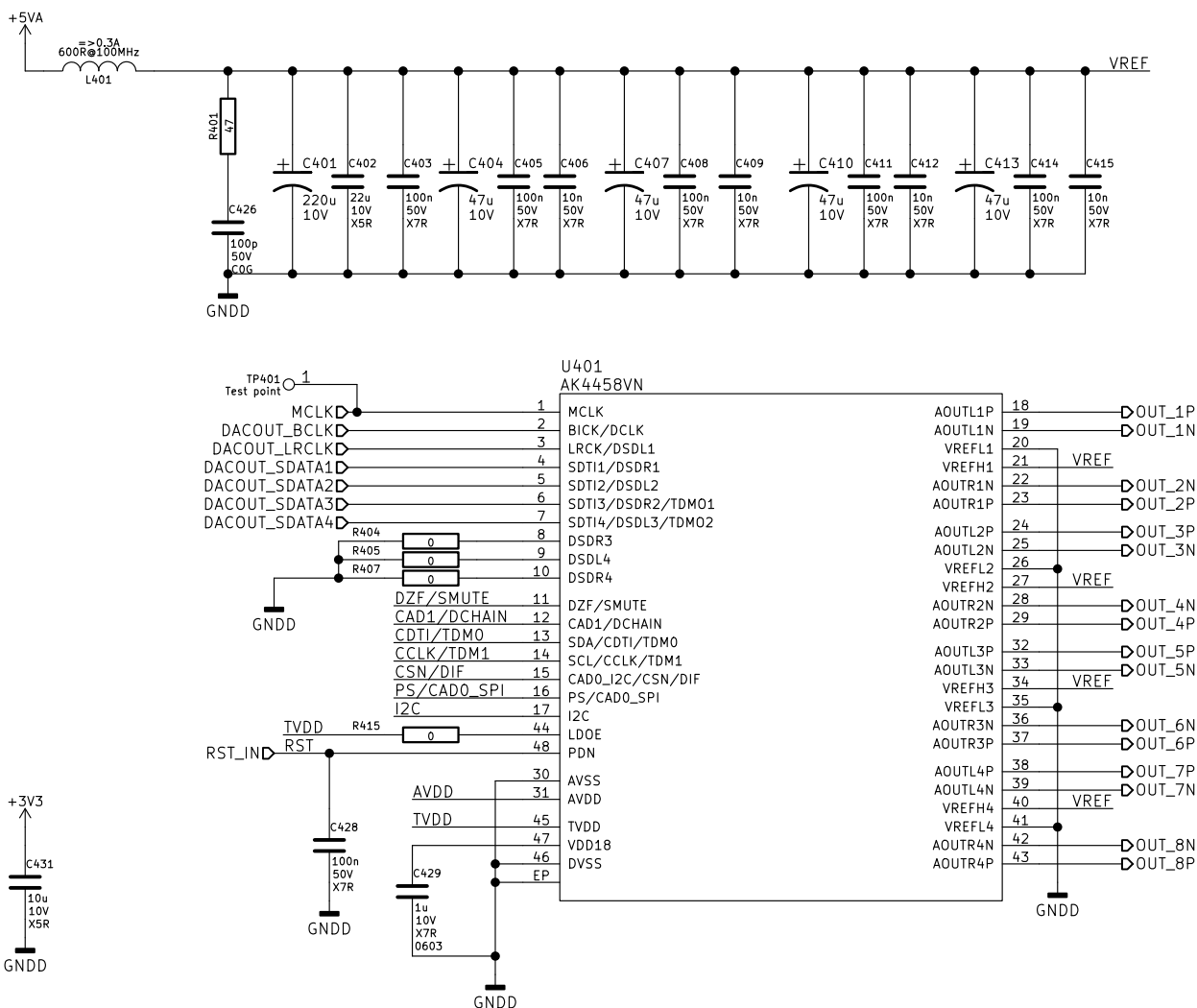
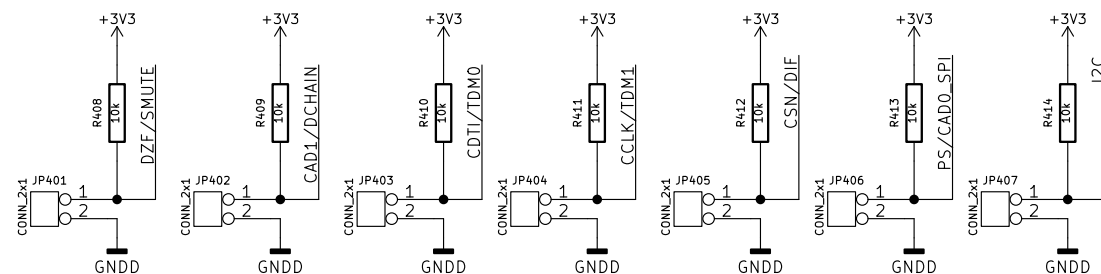
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For software control short JP401 and remove all other jumpers.

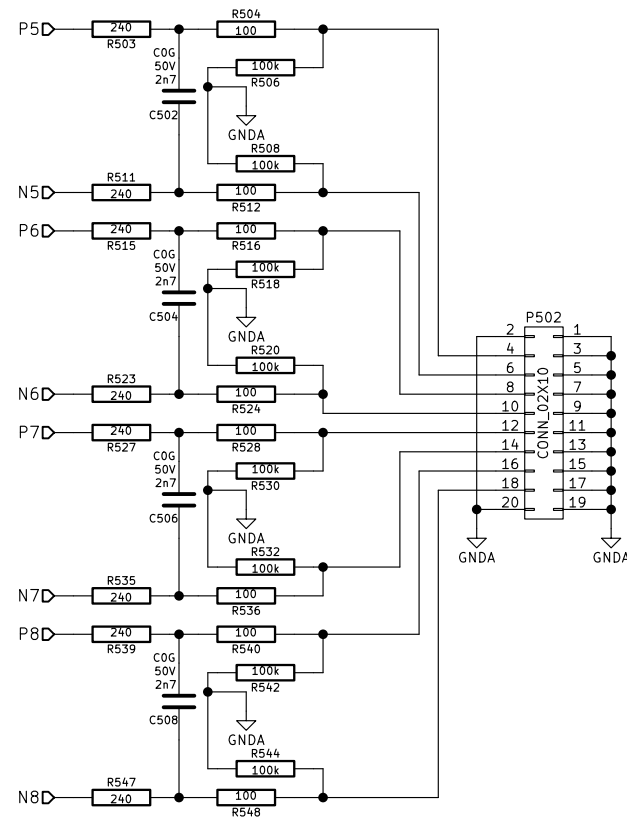
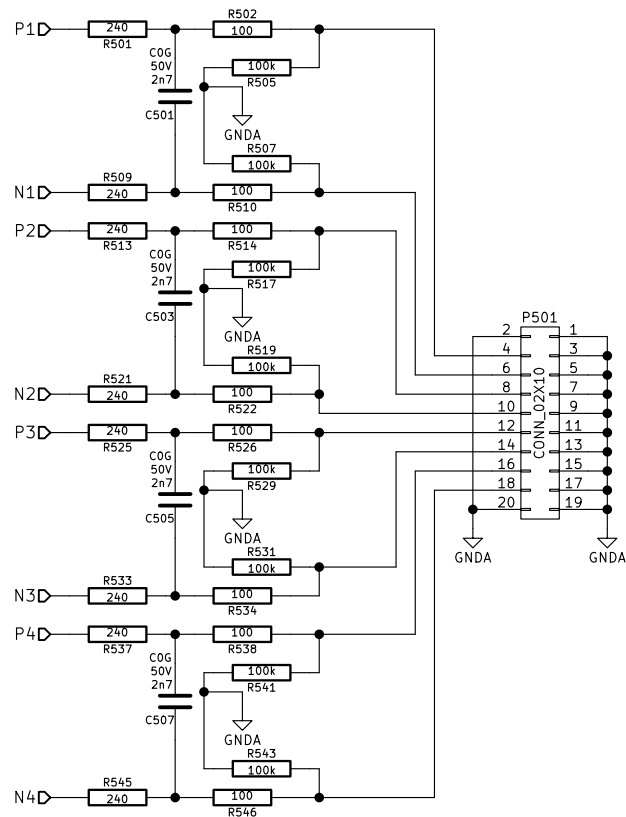


See AK4458 datasheet for detailed information



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# Analogue Passive Filters Differential Outputs



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Sheet: /AnaloguePassiveFilters/

File: AnaloguePassiveFilters.sch

**Title: DAC-AK4458 with Passive Output Filters**

Size: A4 Date: 2019-04-03

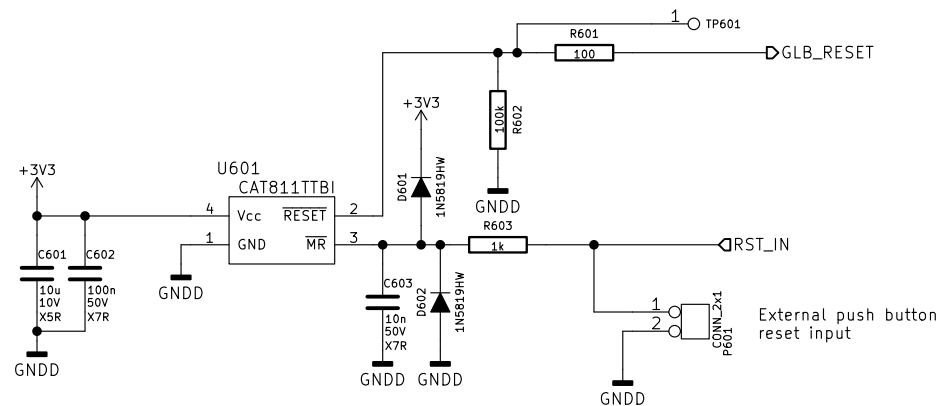
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Generate a global reset based on voltage rails  
Use CAT811TTBI-GT3 (3.08V Threshold)  
Supports SPI reset and external reset push button

Generate a global reset based on voltage rails  
Use CAT811TTBI-GT3 (3.08V Threshold)  
Supports SPI reset and external reset push button



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Sheet: /Reset-CAT811/

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Rev: 1.0

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