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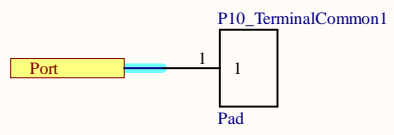
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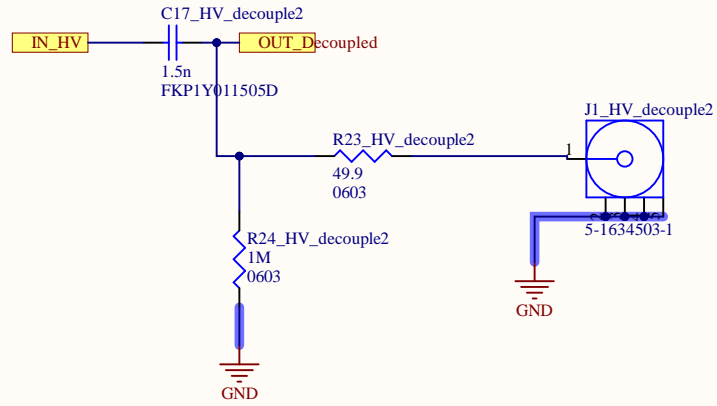
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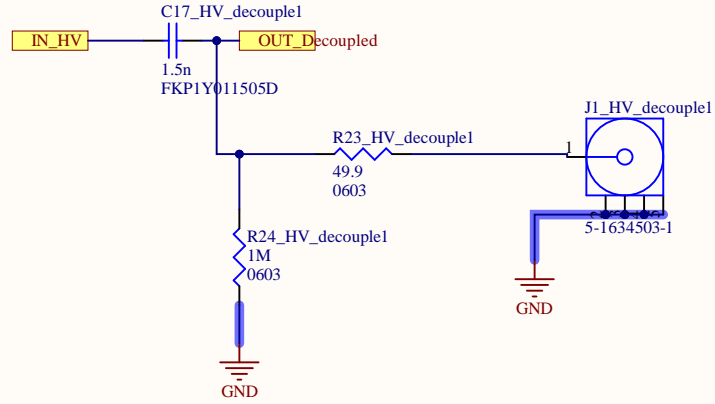
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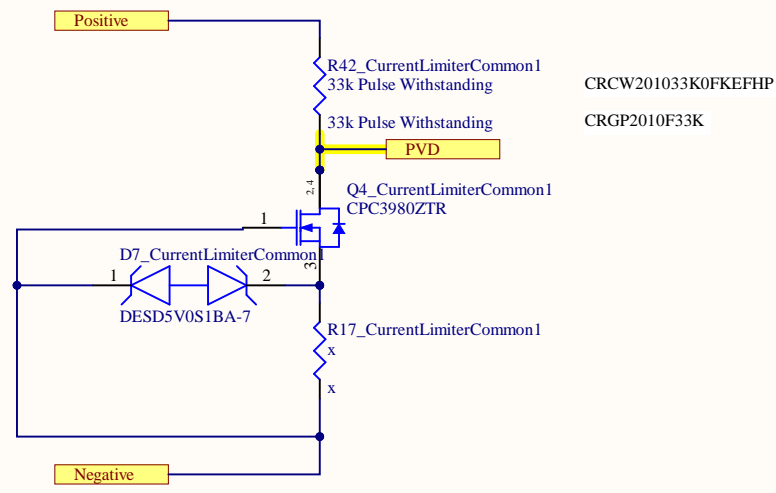
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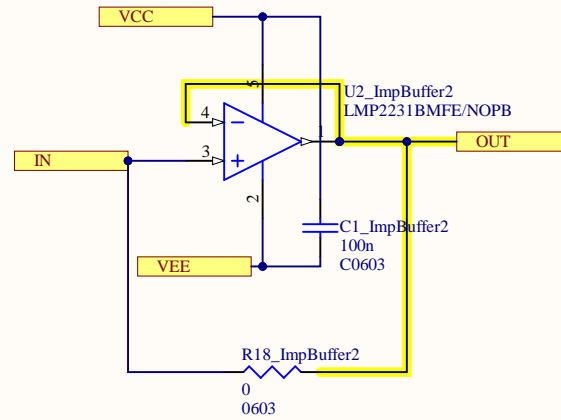
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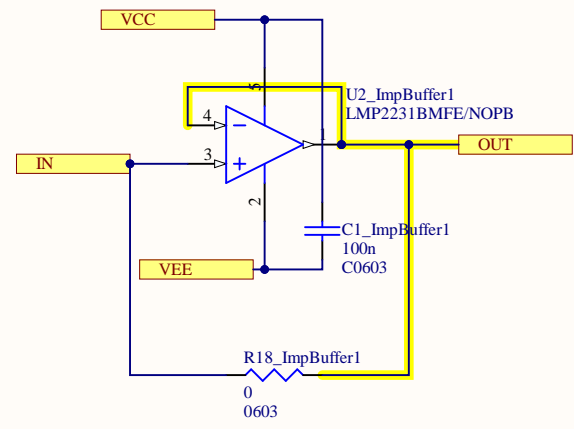
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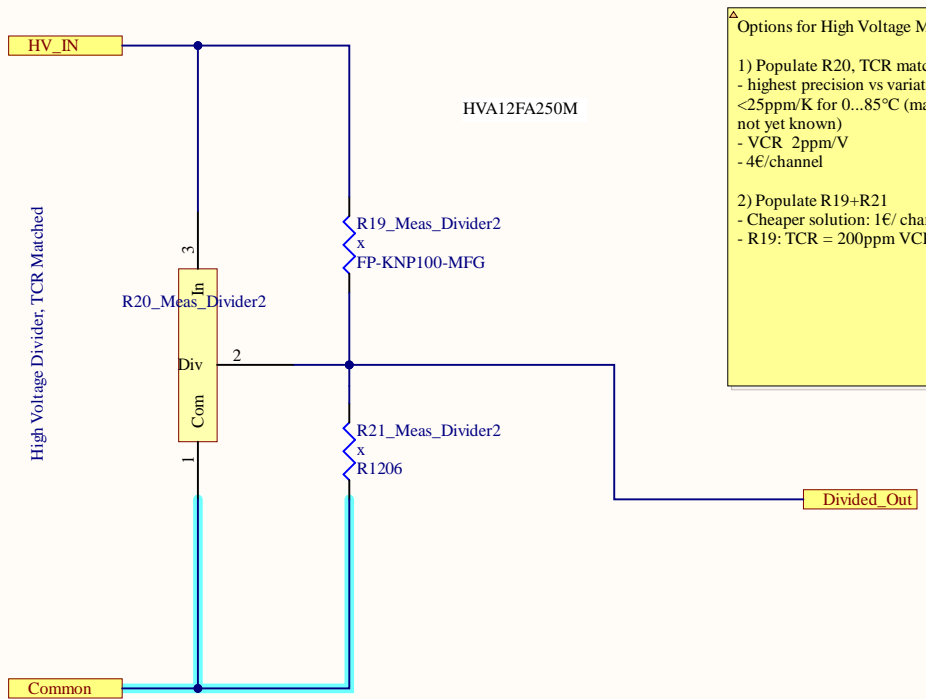
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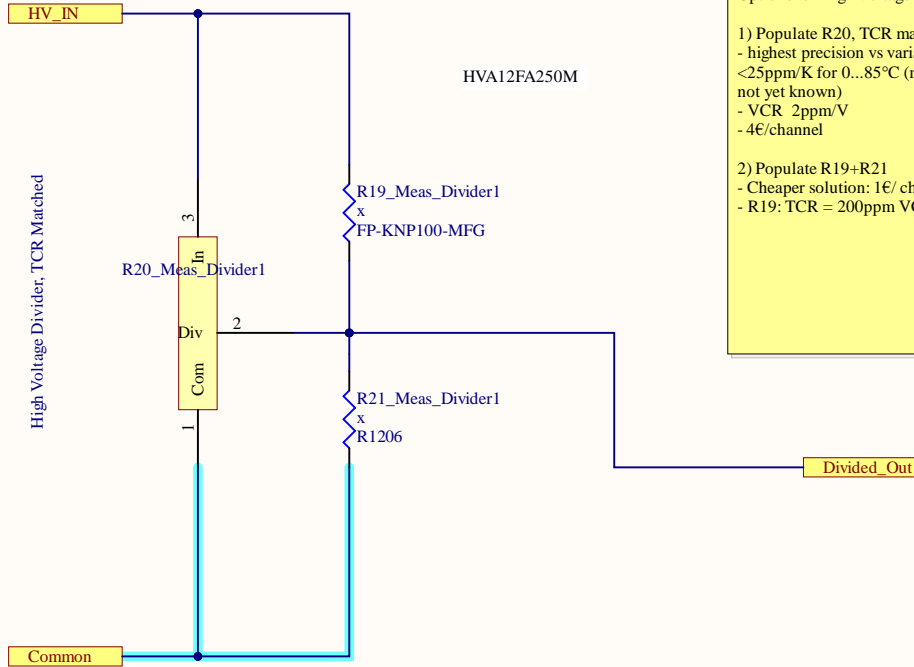
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Options for High Voltage Measurement Dividers:

- 1) Populate R20, TCR matched
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 - VCR 2ppm/V
 - 4€/channel
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 - Cheaper solution: 1€/ channel
 - R19: TCR = 200ppm VCR <= 20ppm/V

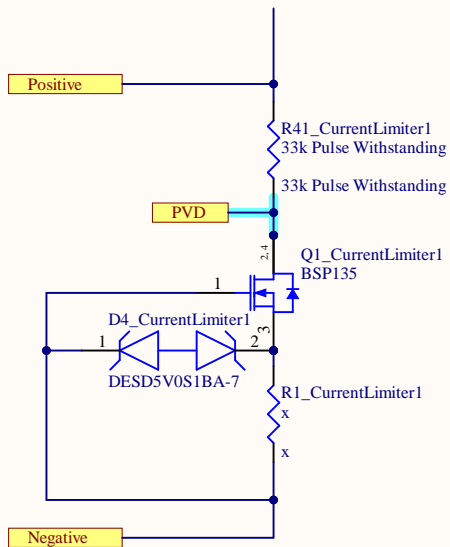
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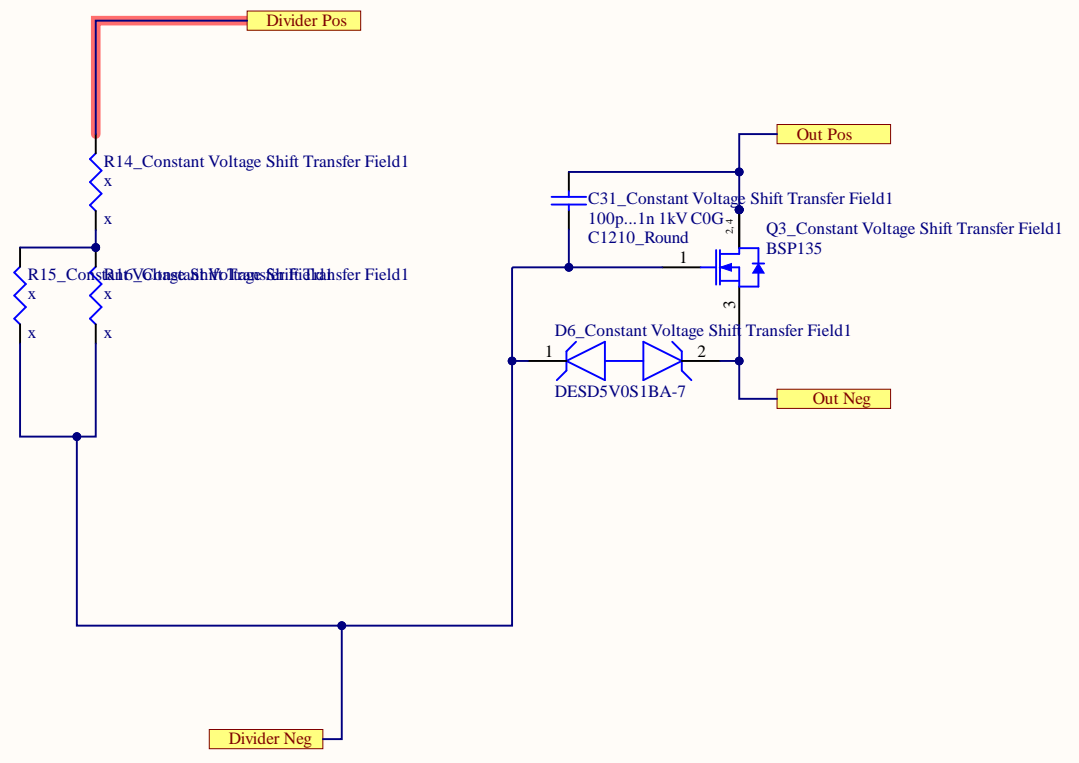


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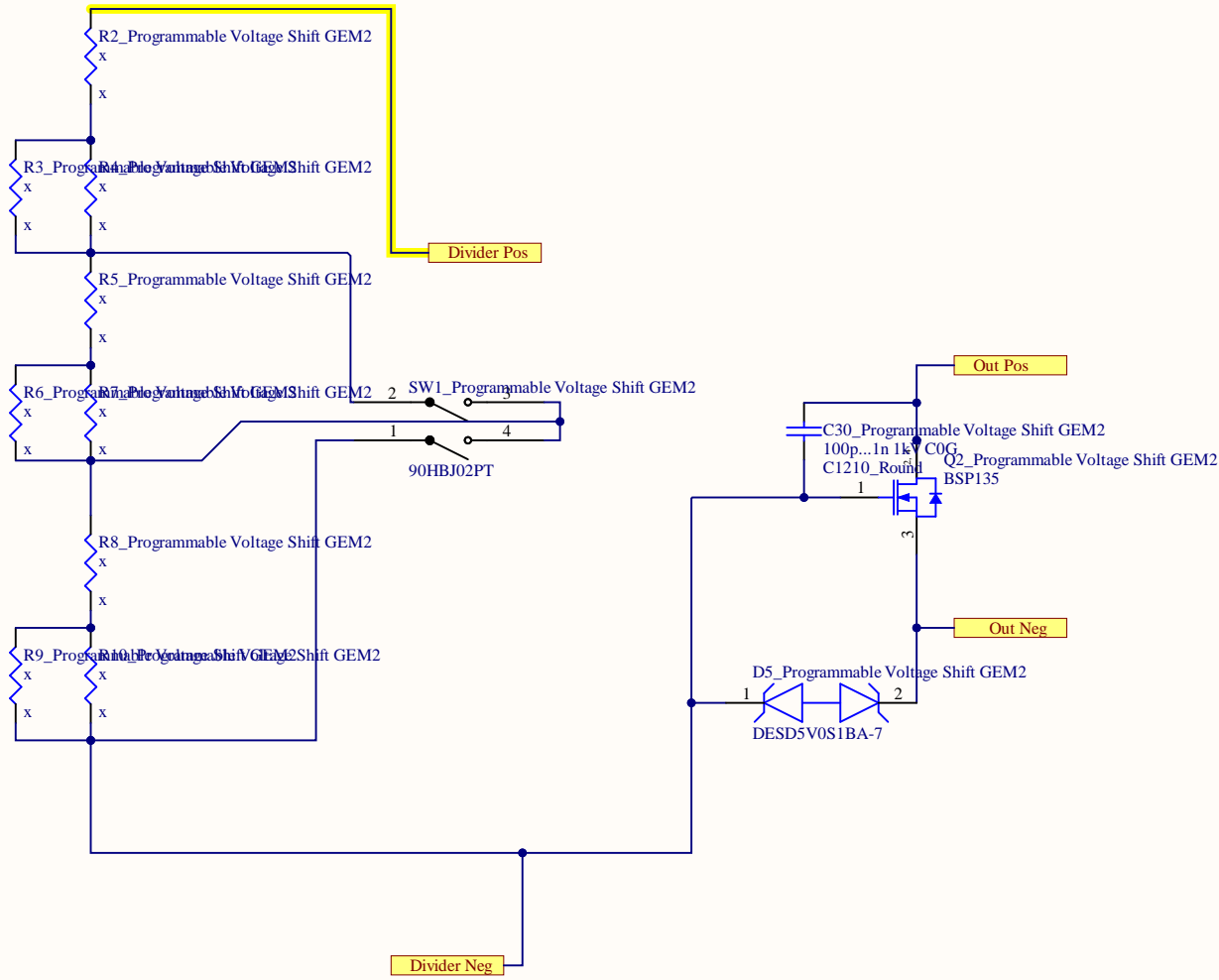
Depletion Mode Mosfet, Threshold = 1 ... 2.1V
 => $I_{Limit} = 1V/R \dots 2.1V/R$
 (6.8k: 150µA ... 310µA)

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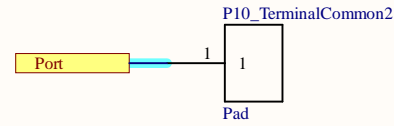
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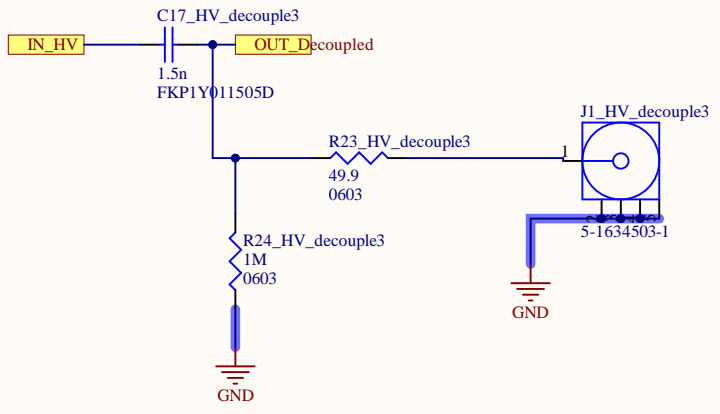
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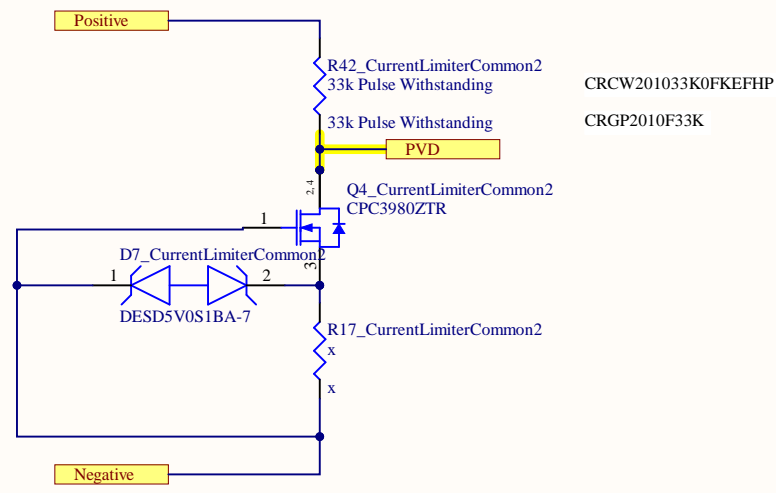
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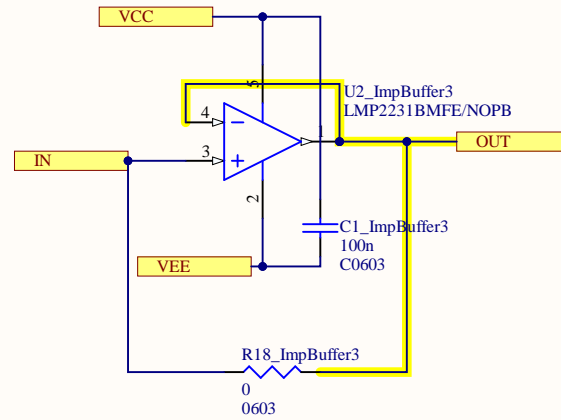
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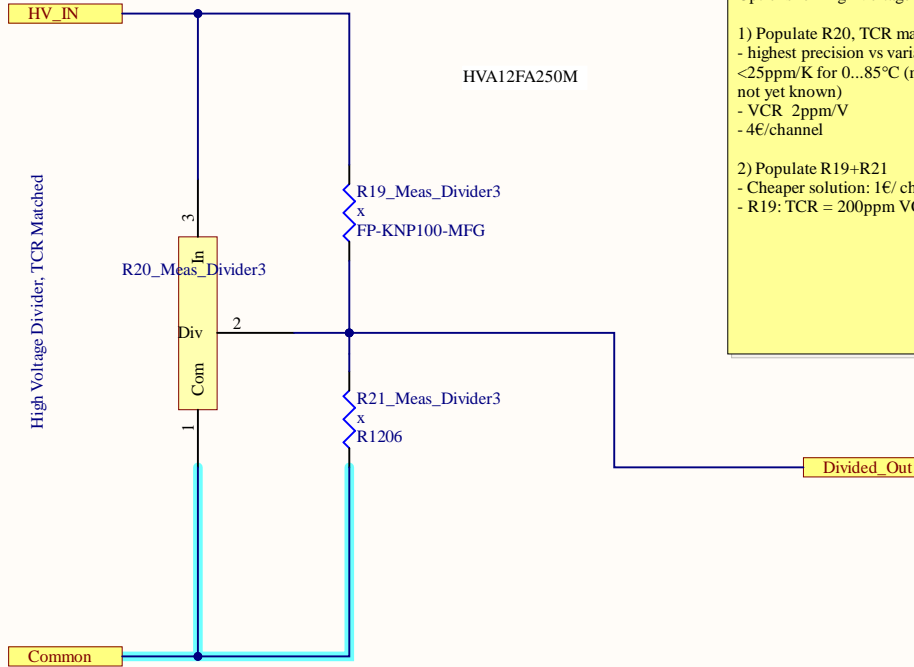
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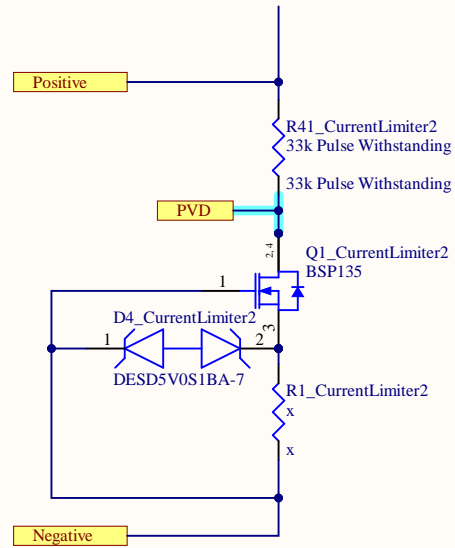
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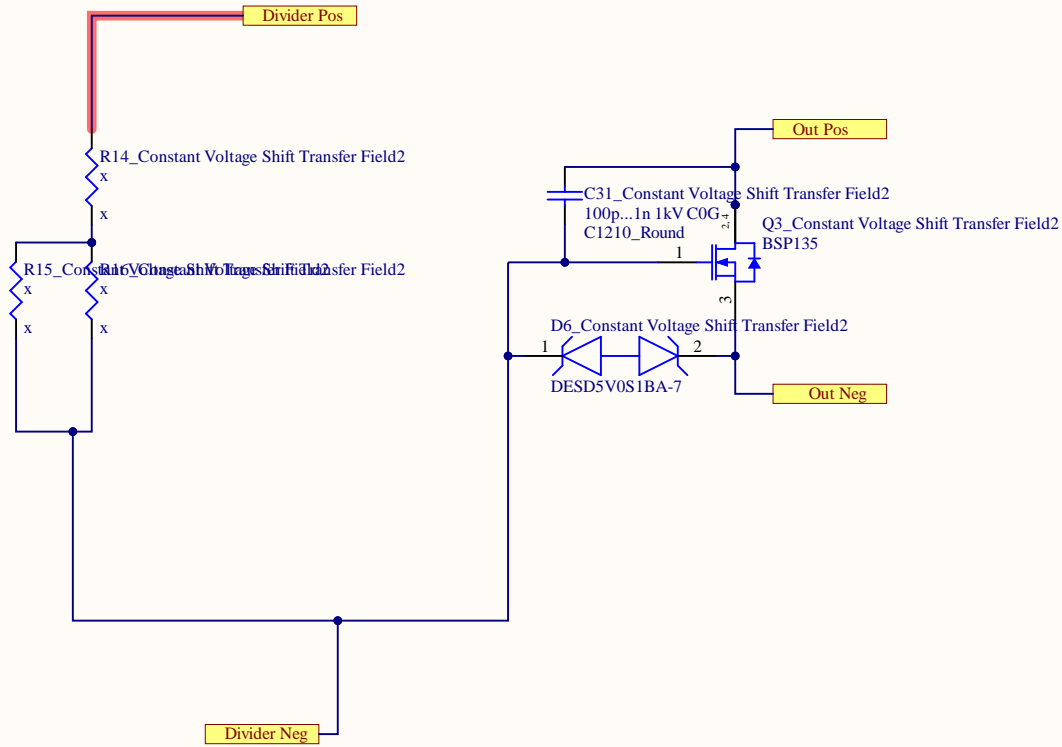


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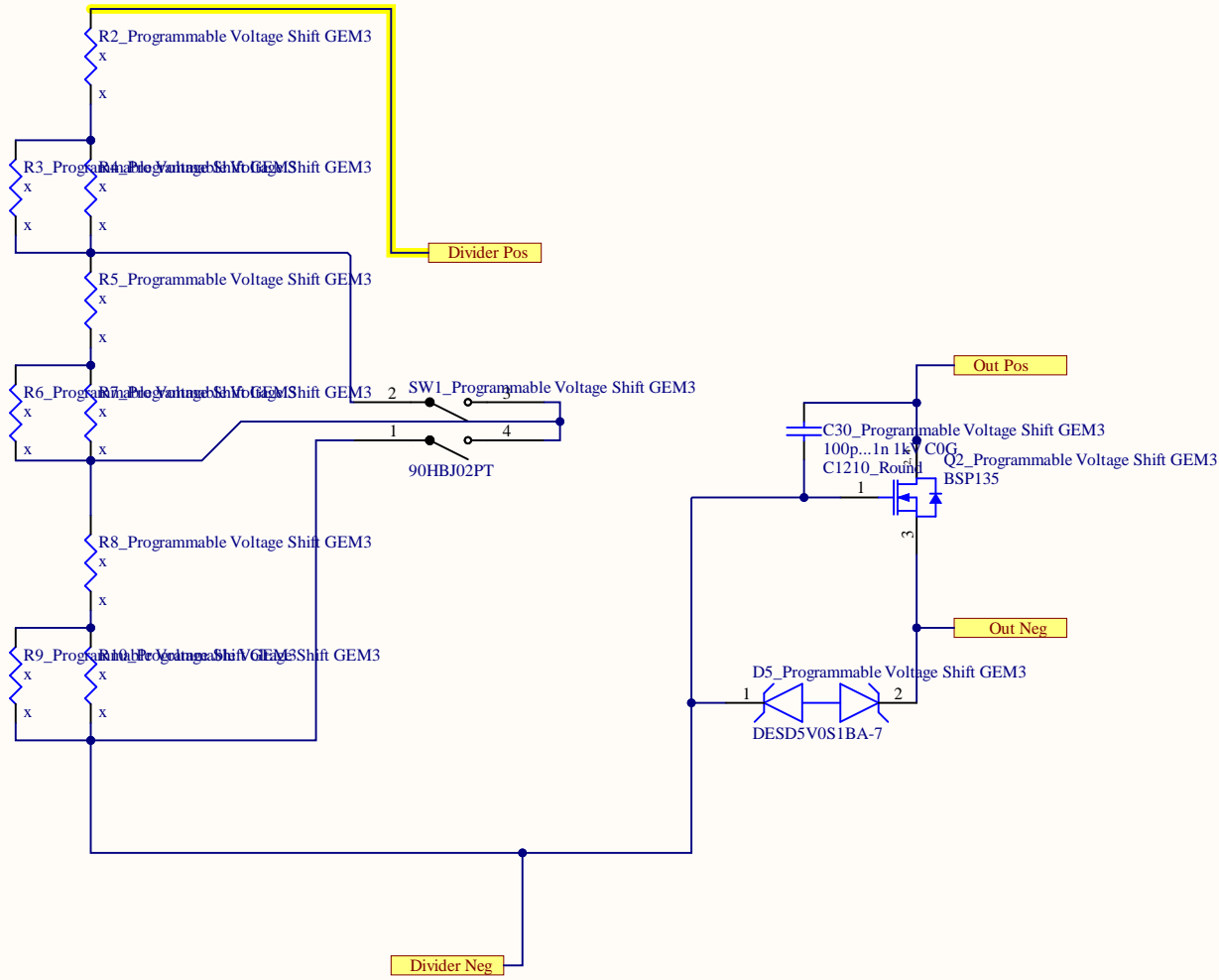
Depletion Mode Mosfet, Threshold = 1 ... 2.1V
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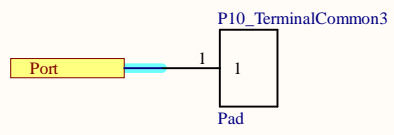
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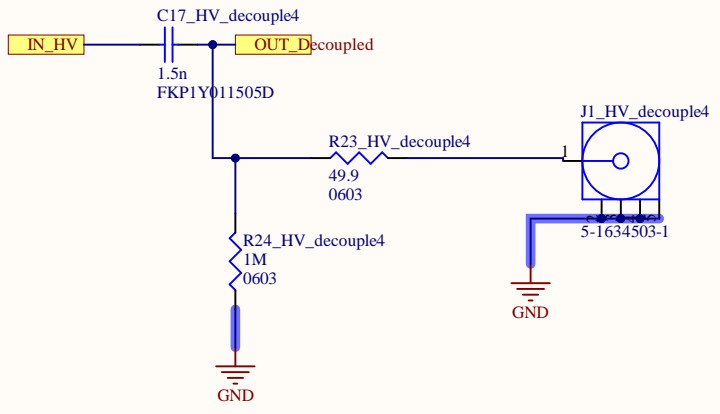
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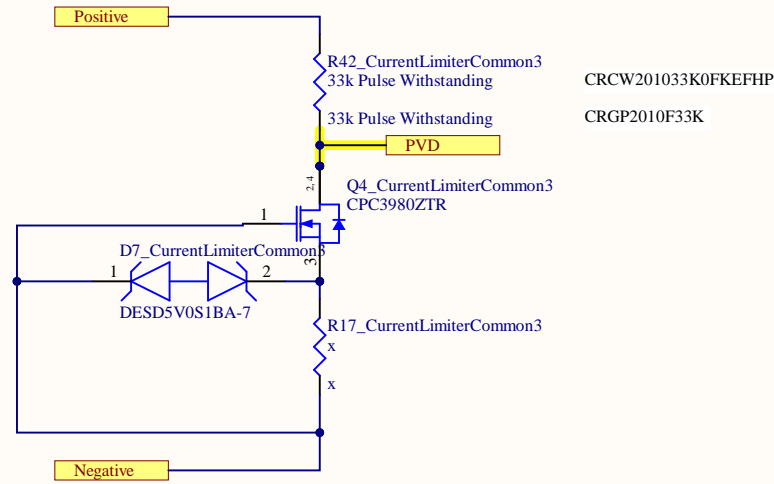
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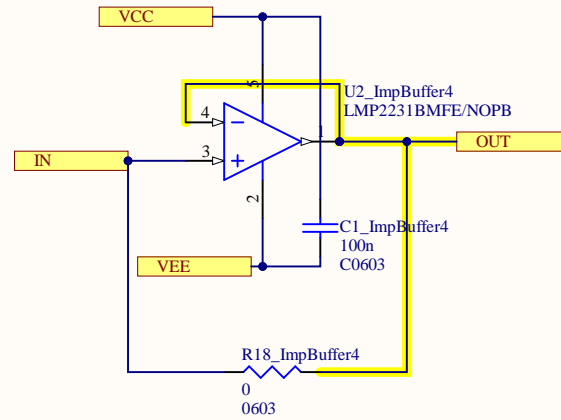
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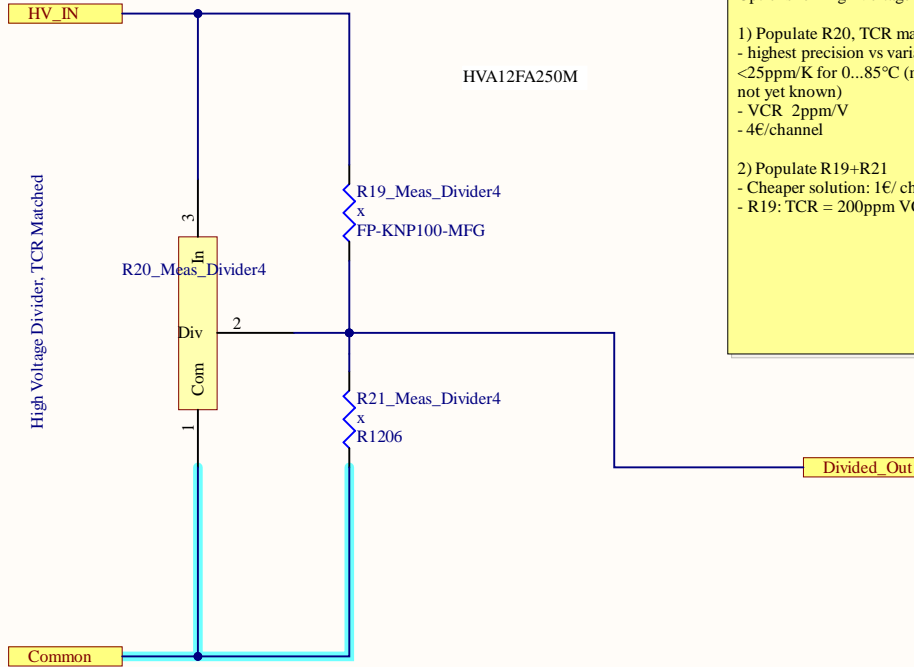
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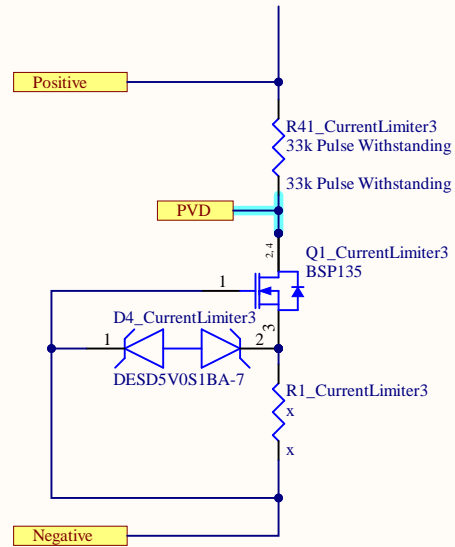


High Voltage Divider, TCR Matched

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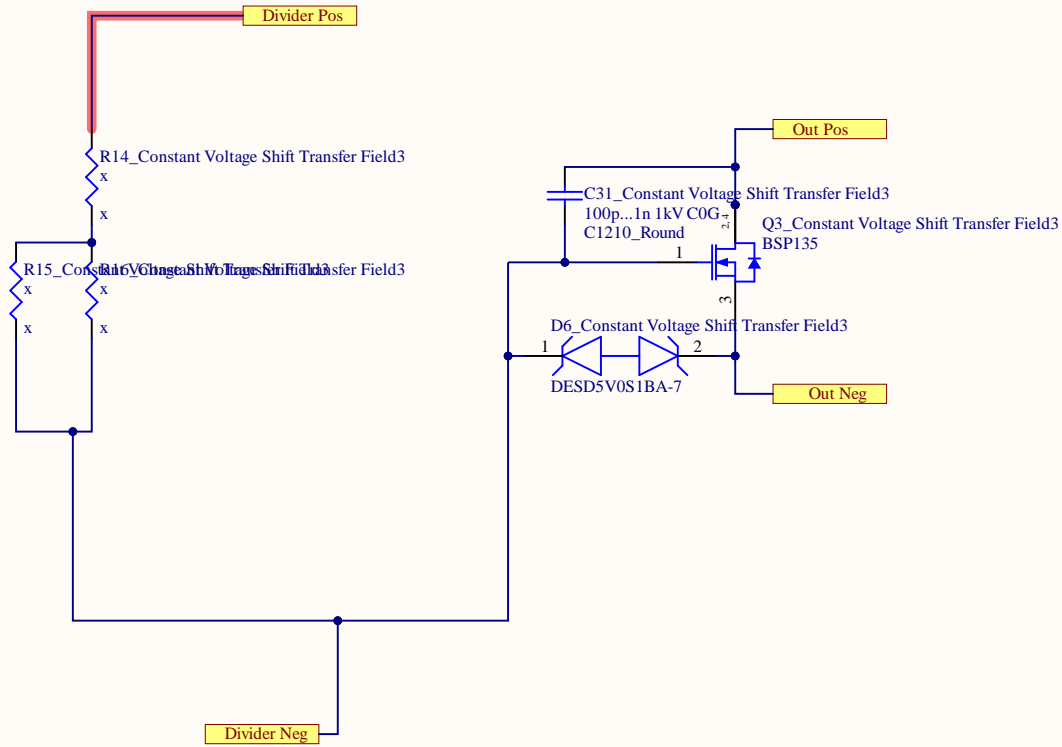


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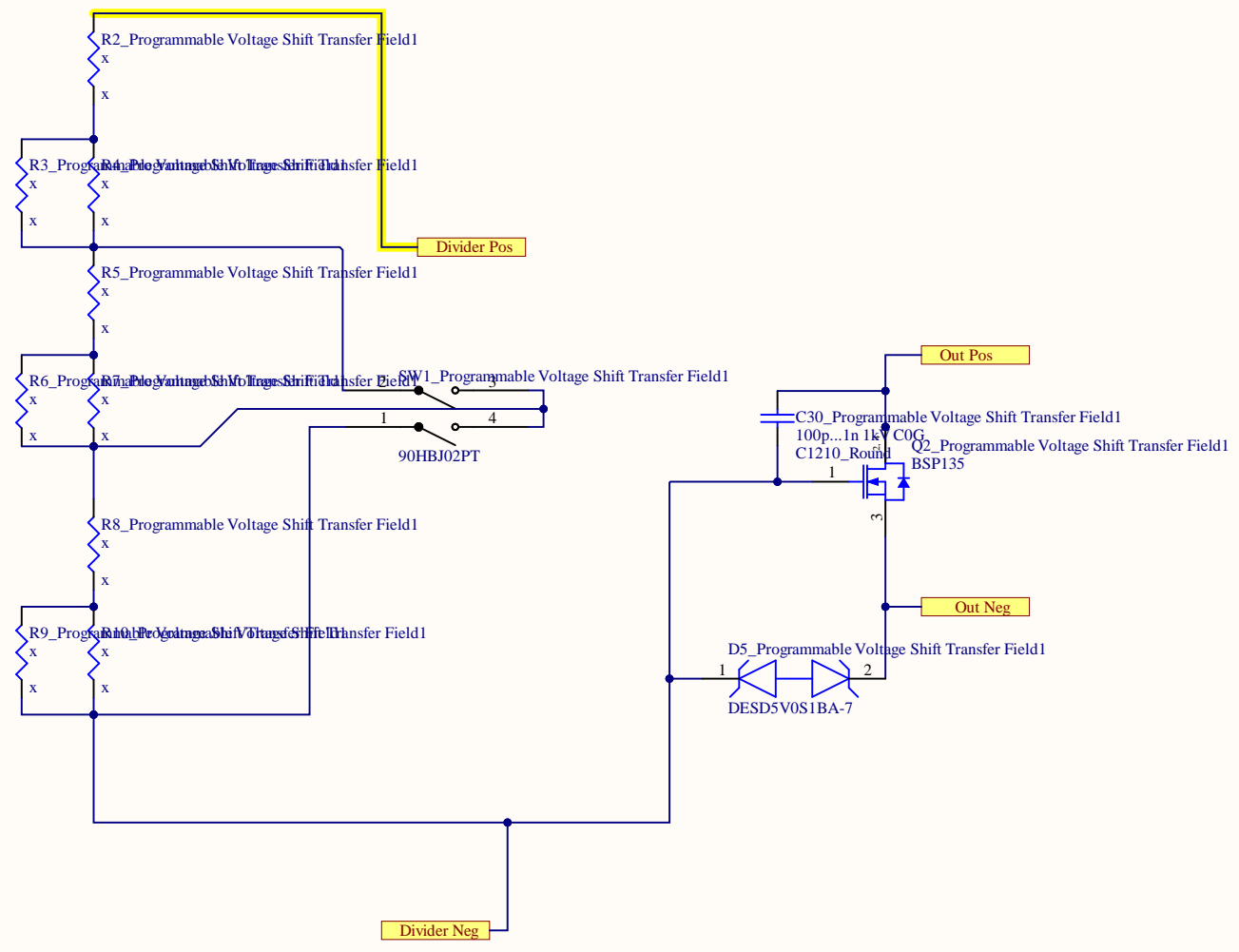
Depletion Mode Mosfet, Threshold = 1 ... 2.1V
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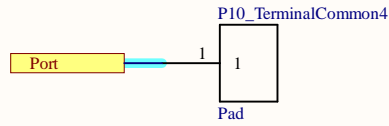
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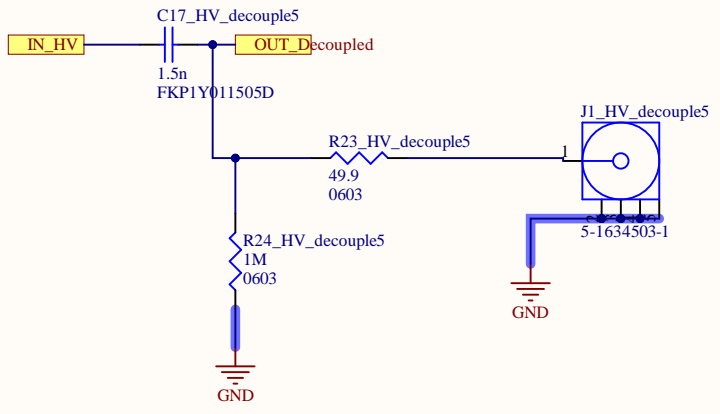
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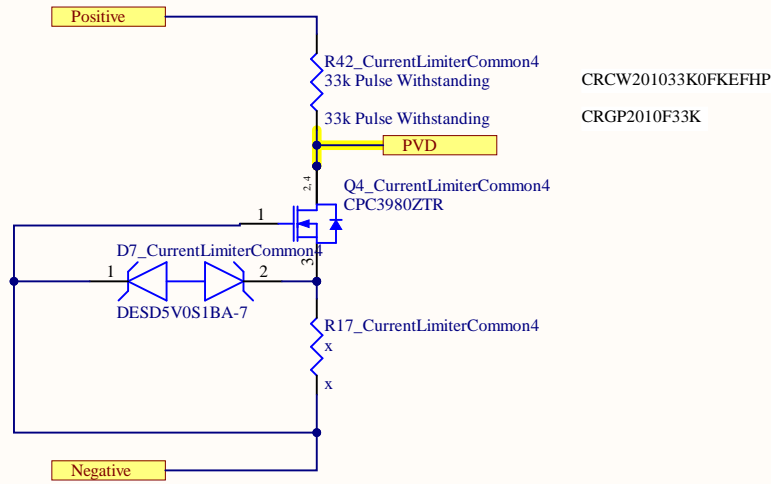
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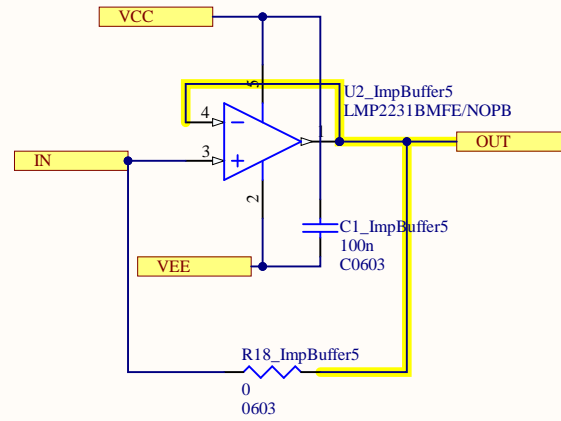
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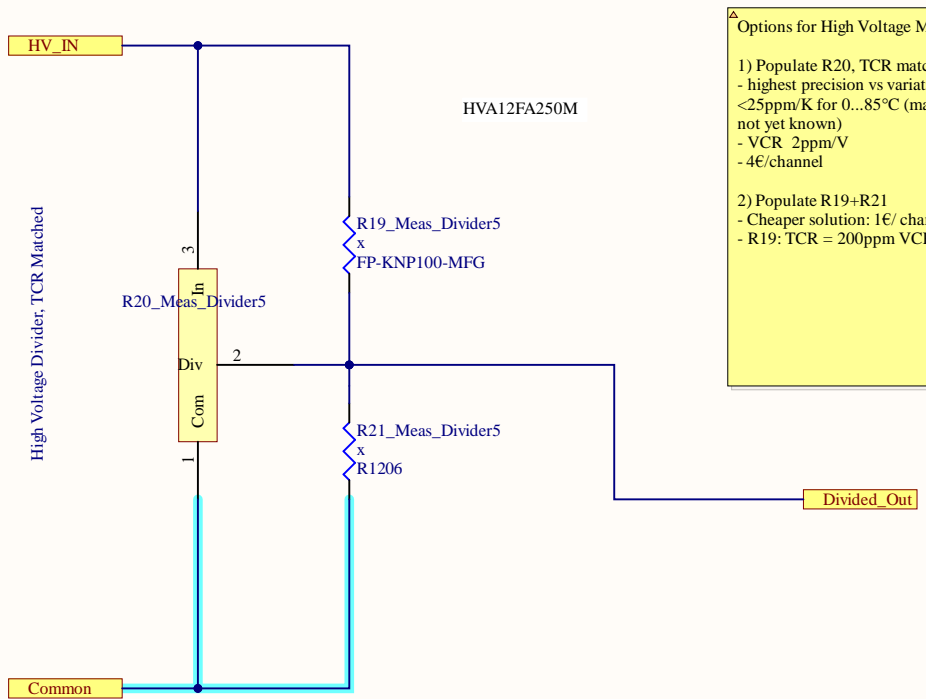
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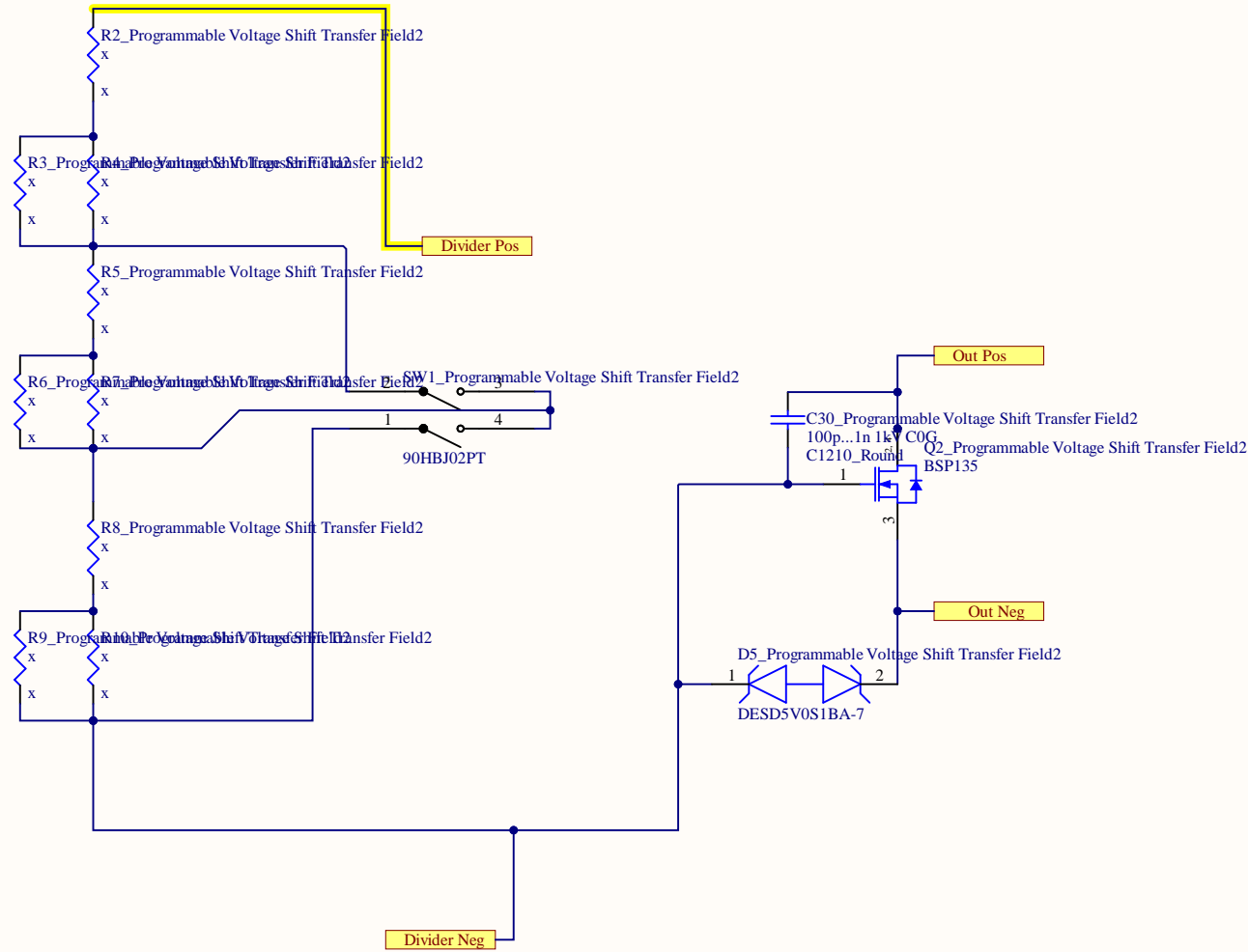


High Voltage Divider, TCR Matched

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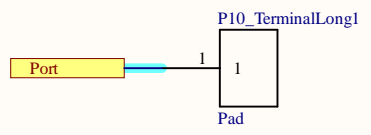
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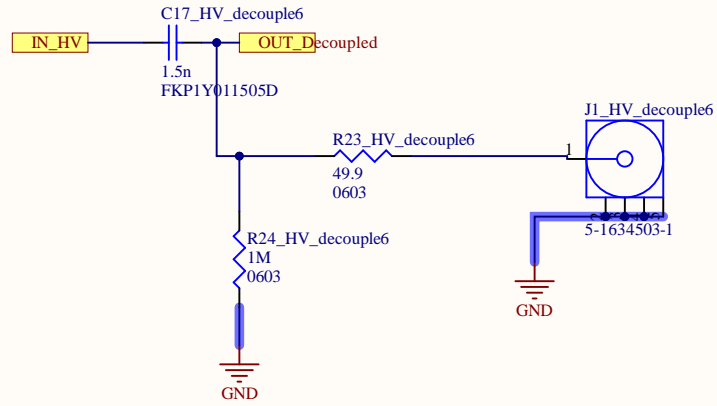
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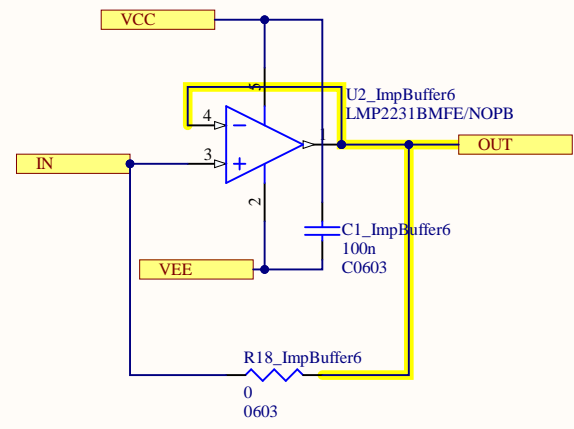
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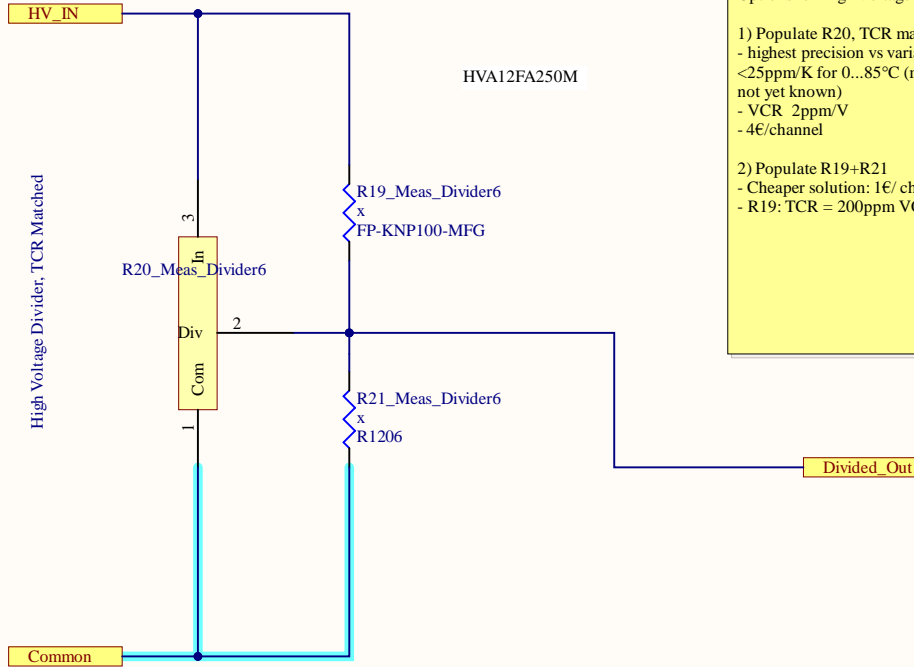
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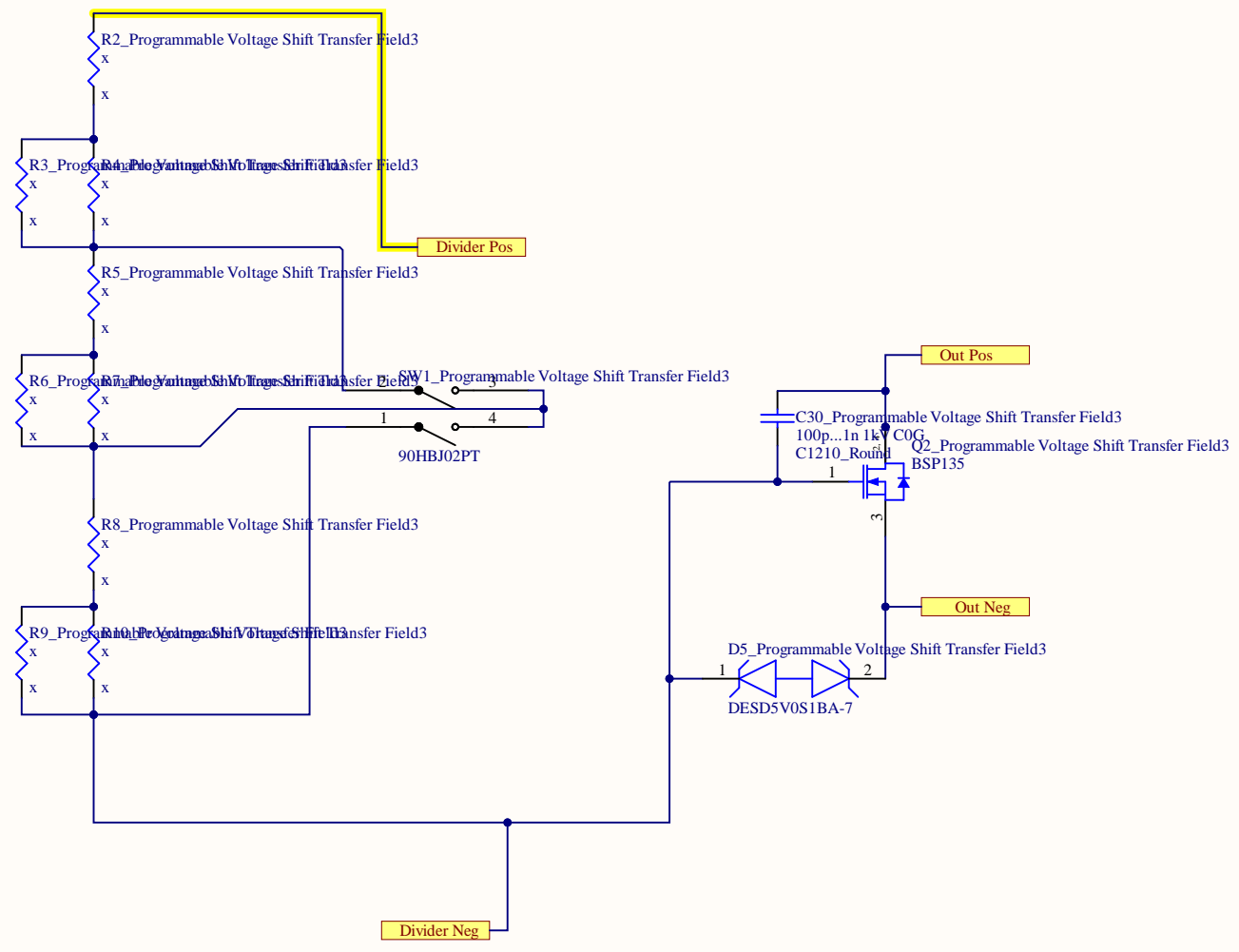


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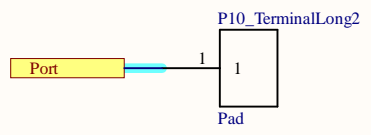
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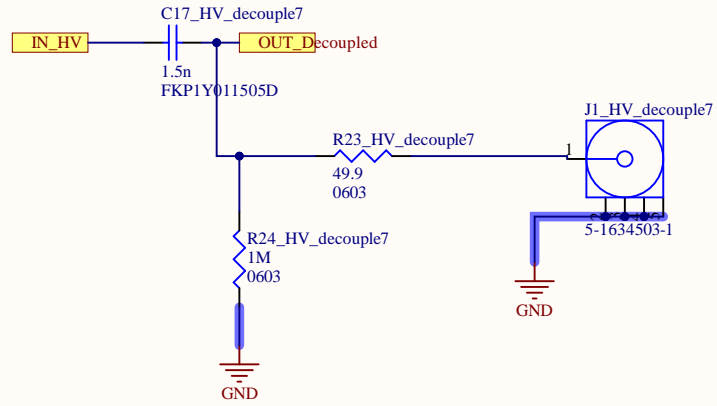
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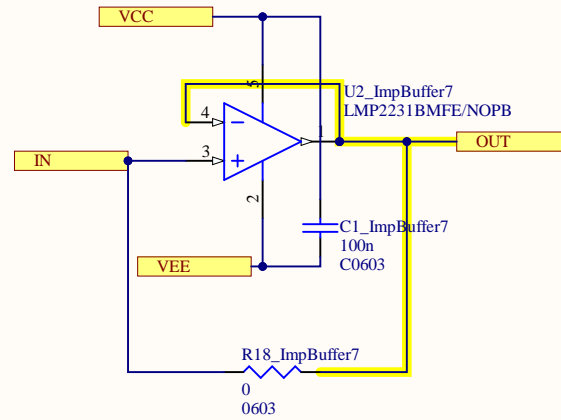
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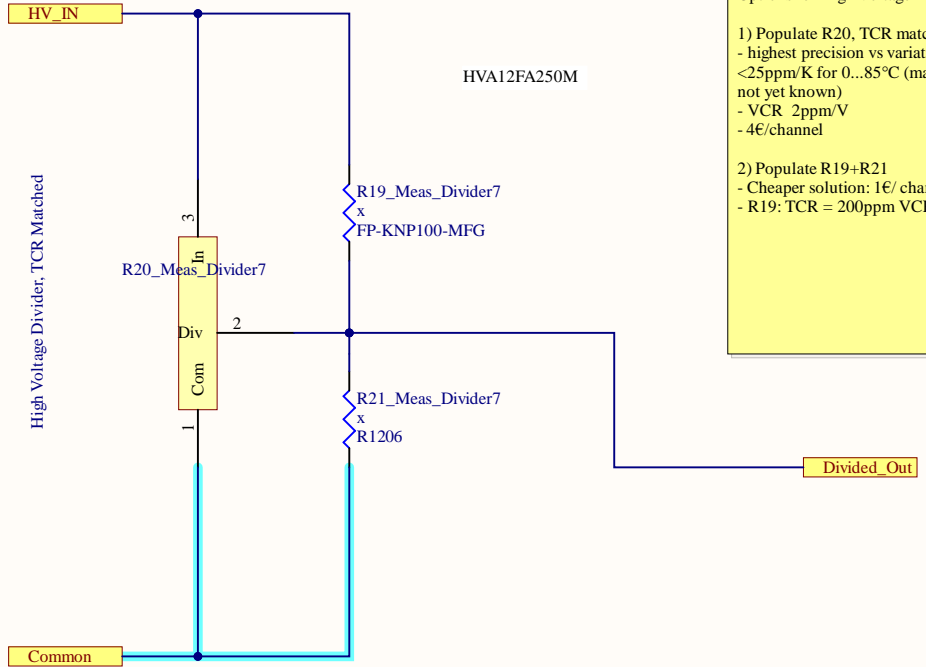
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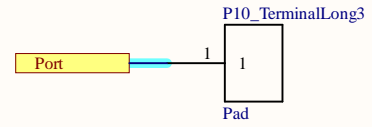
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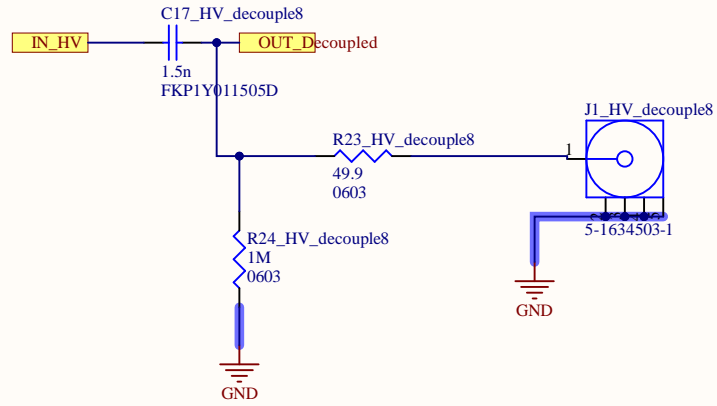
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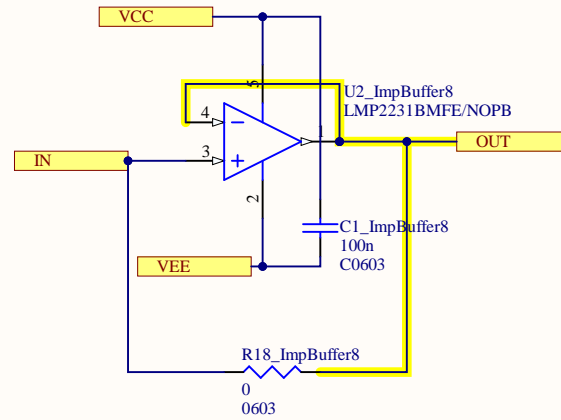
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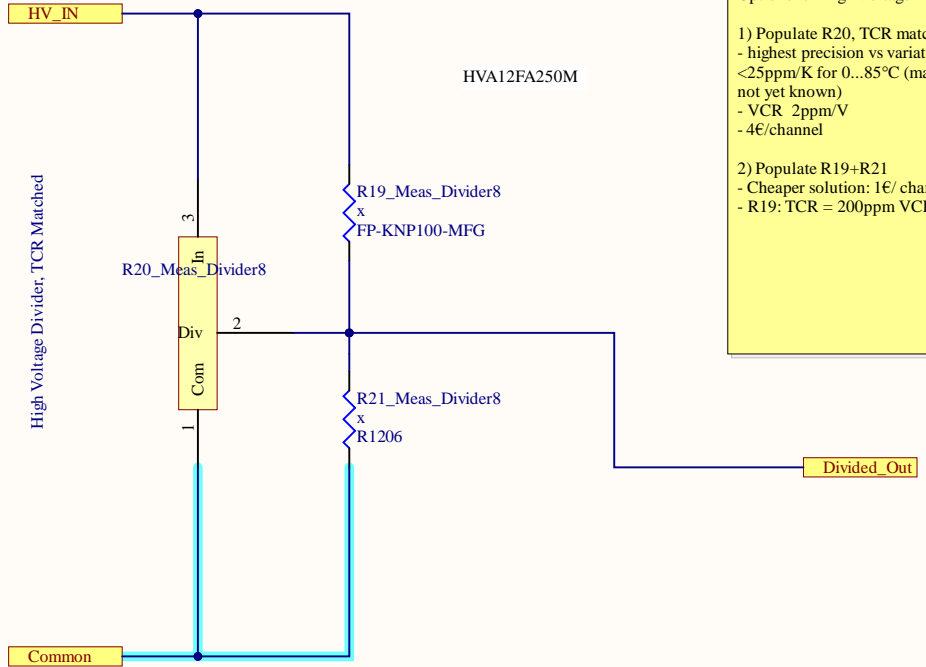
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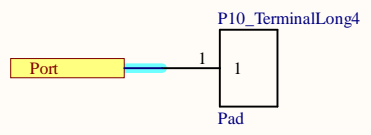
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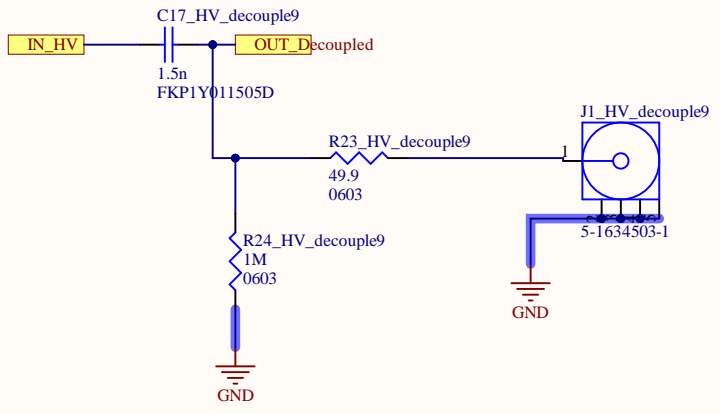
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Date:	12.19.2022	Sheet of
File:	C:\Users\...\PowerTerminal.SchDoc	Drawn By:

1

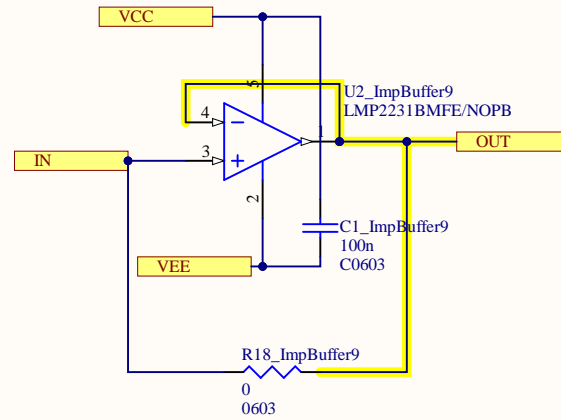
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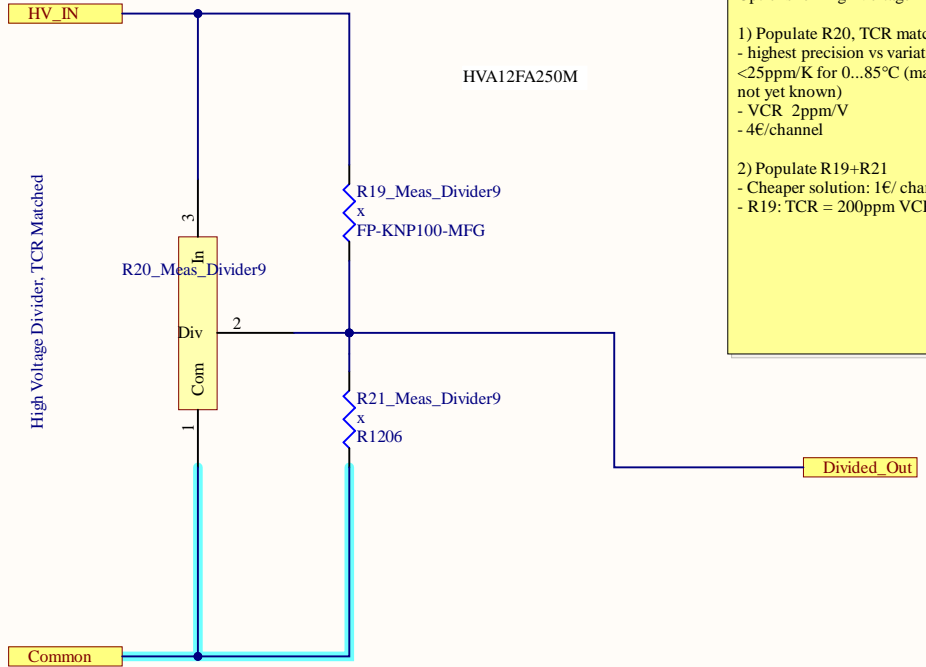
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A4		
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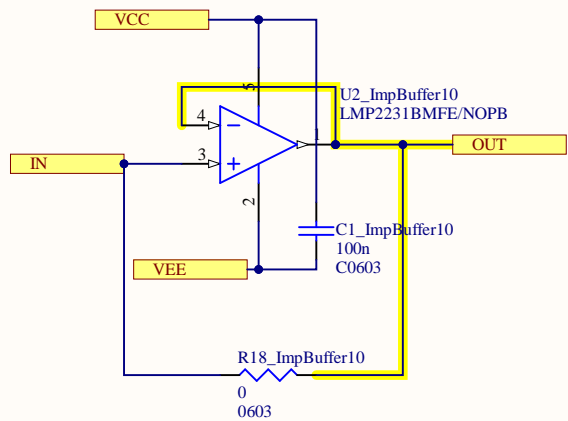
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Size A4	Number	Revision
Date:	12.19.2022	Sheet of
File:	C:\Users\...\high_impedance_buffer.SchDocDrawn By:	



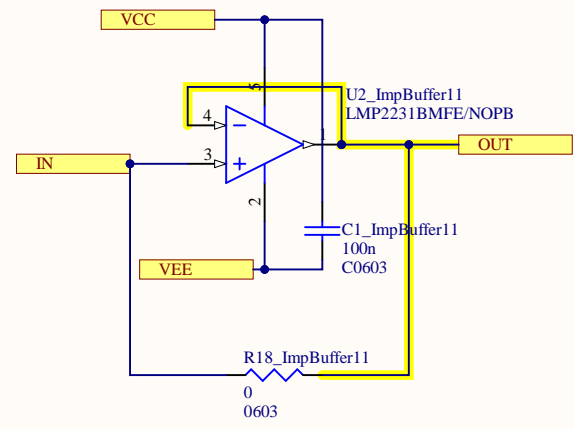
Options for High Voltage Measurement Dividers:

- 1) Populate R20, TCR matched
 - highest precision vs variation in temperature, TCR <25ppm/K for 0...85°C (maybe 10ppm/K, specification not yet known)
 - VCR 2ppm/V
 - 4€/channel
- 2) Populate R19+R21
 - Cheaper solution: 1€/ channel
 - R19: TCR = 200ppm VCR <= 20ppm/V

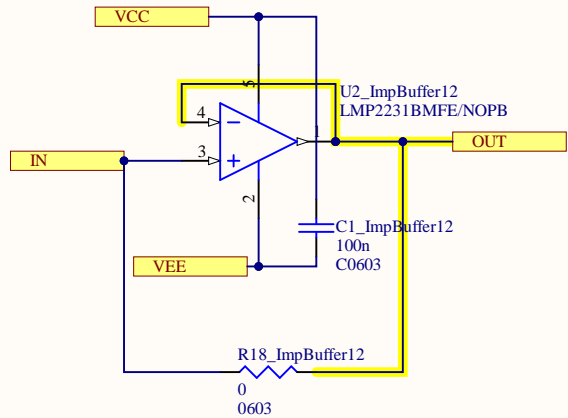
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Date:	12.19.2022	Sheet of
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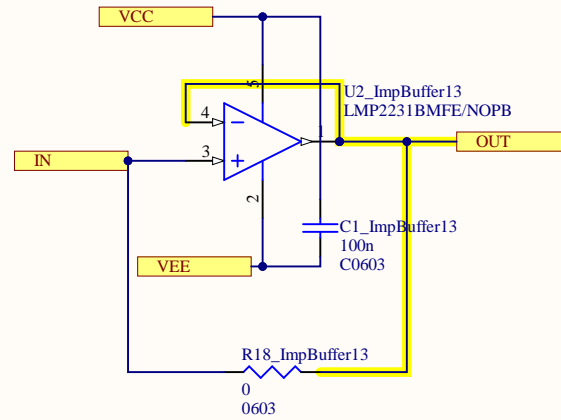
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Date:	12.19.2022	Sheet of
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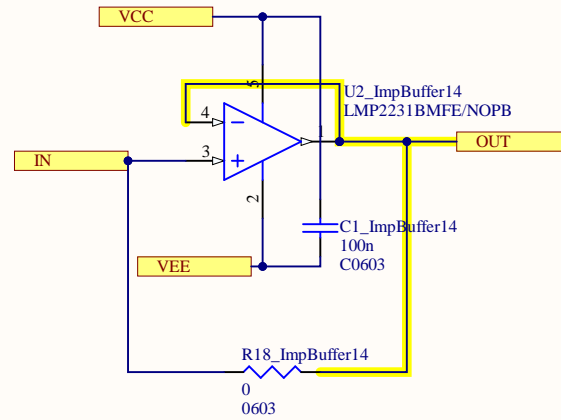
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Date:	12.19.2022	Sheet of
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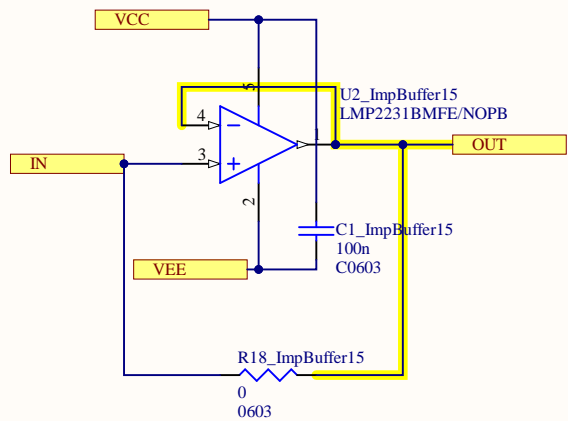
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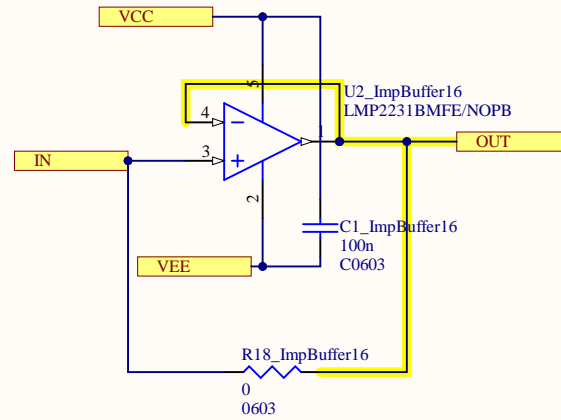
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Date:	12.19.2022	Sheet of
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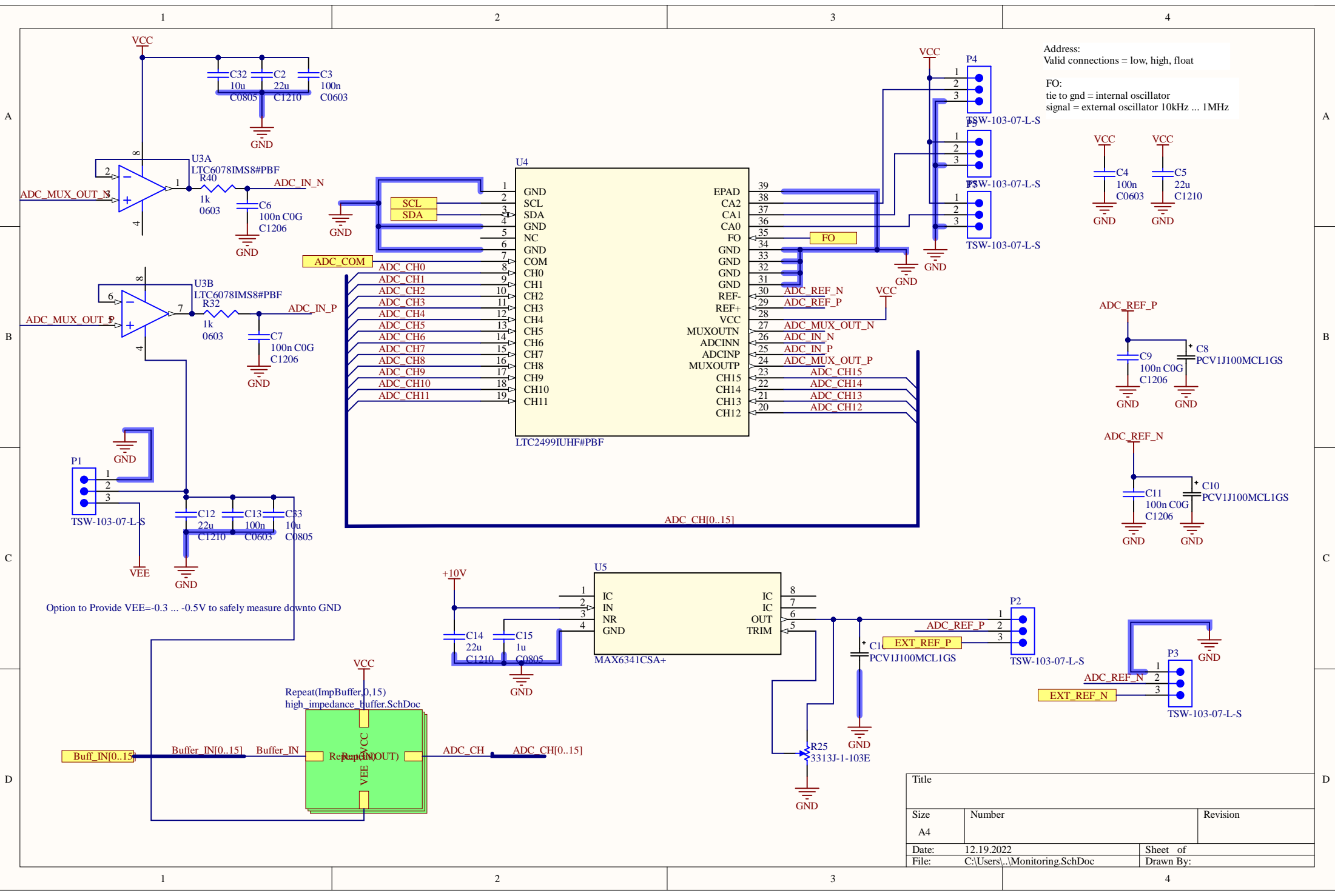
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Size A4	Number	Revision
Date:	12.19.2022	Sheet of
File:	C:\Users\...\high_impedance_buffer.SchDoc Drawn By:	



Title		
Size A4	Number	Revision
Date:	12.19.2022	Sheet of
File:	C:\Users\...\high_impedance_buffer.SchDoc Drawn By:	



Title		
Size A4	Number	Revision
Date:	12.19.2022	Sheet of
File:	C:\Users\...\high_impedance_buffer.SchDocDrawn By:	



Address:
Valid connections = low, high, float

FO:
tie to gnd = internal oscillator
signal = external oscillator 10kHz ... 1MHz

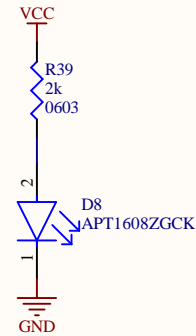
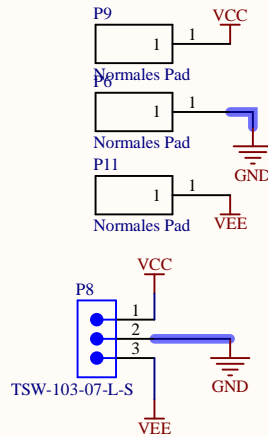
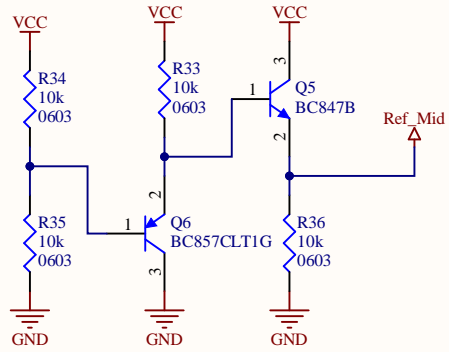
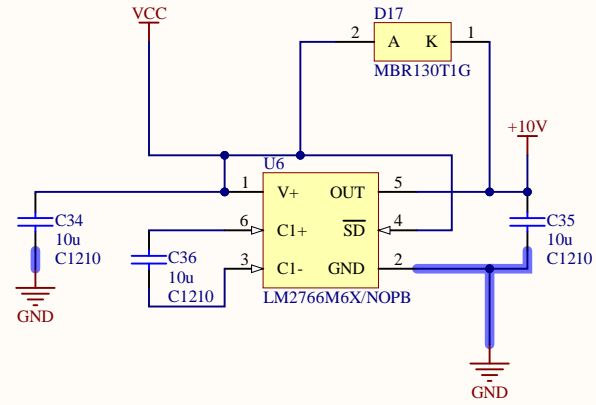
Option to Provide VEE=-0.3 ... -0.5V to safely measure down to GND

Repeat(ImpBuffer,0,15)
high impedance buffer.SchDoc

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+8V needed for VREF (MAX6341CSA+). Max 18mA.

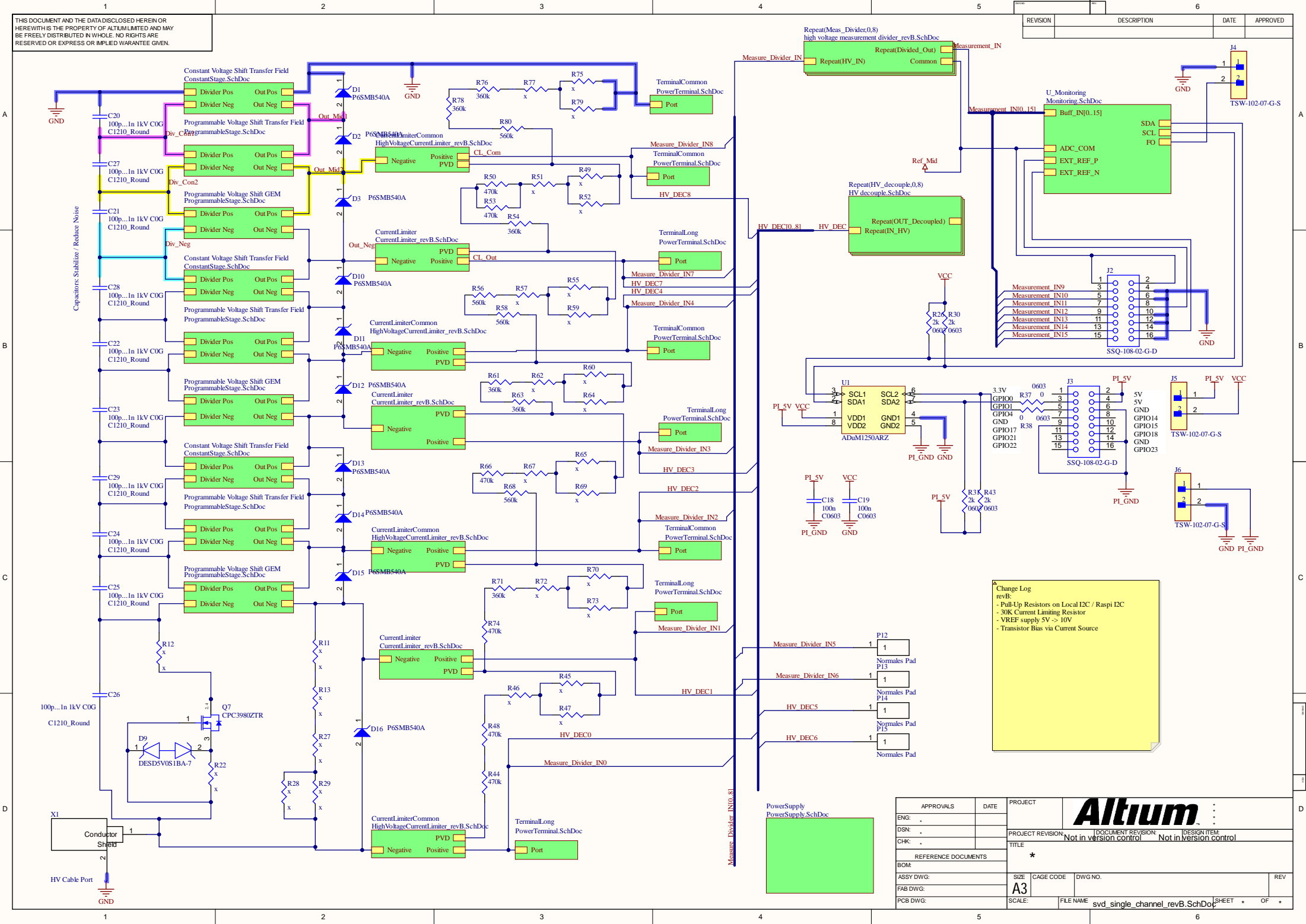
MAX6341: supply 3mA (max)
LTC2499: "high" z ref input (load current: nA)



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File:	C:\Users\...\PowerSupply.SchDoc	Drawn By:

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REVISION	DESCRIPTION	DATE	APPROVED



Change Log
 revB:
 - Pull Up Resistors on Local I2C / Raspi I2C
 - 30k Current Limiting Resistor
 - VREF supply 5V > 10V
 - Transistor Bias via Current Source

APPROVALS	DATE	PROJECT	Altium
ENG: -		PROJECT REVISION: -	DOCUMENT REVISION: Not in version control
DSN: -		CHK: -	DESIGN ITEM: Not in version control
TITLE: *			
REFERENCE DOCUMENTS			
BOM:			
ASSY DWG:	SIZE: A3	CAGE CODE:	DWG NO.:
FAB DWG:	SCALE:	FILE NAME: svd_single_channel_revB.SchDoc	SHEET * OF *
PCB DWG:			

Board Stack Report