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**ON Semiconductor®**

# USB-PD DUAL 100 W PORT

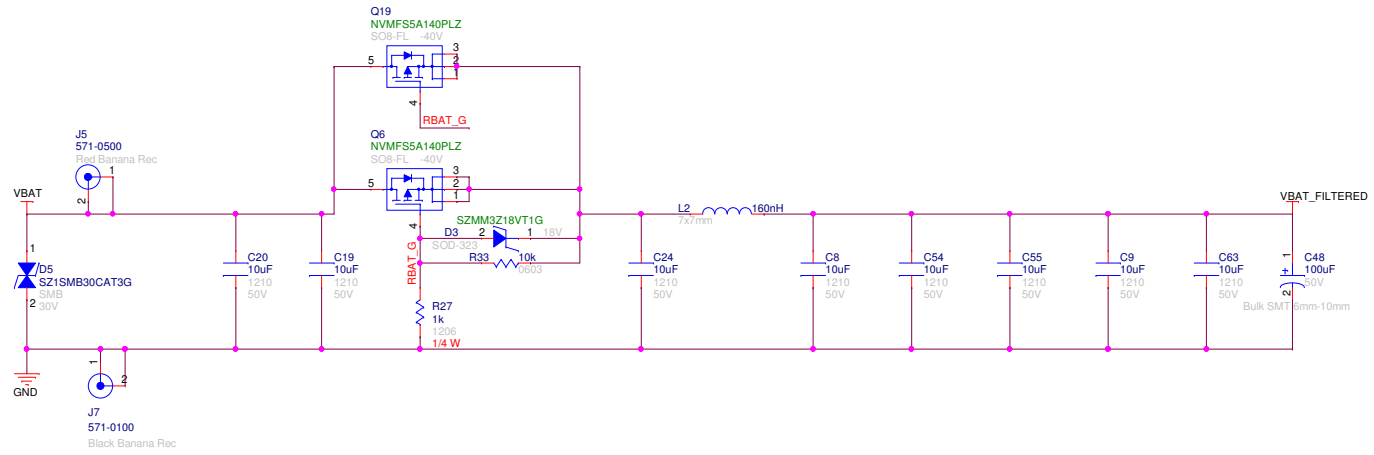
AUTOMOTIVE CHARGER

## ONSEC-18-004

REV1

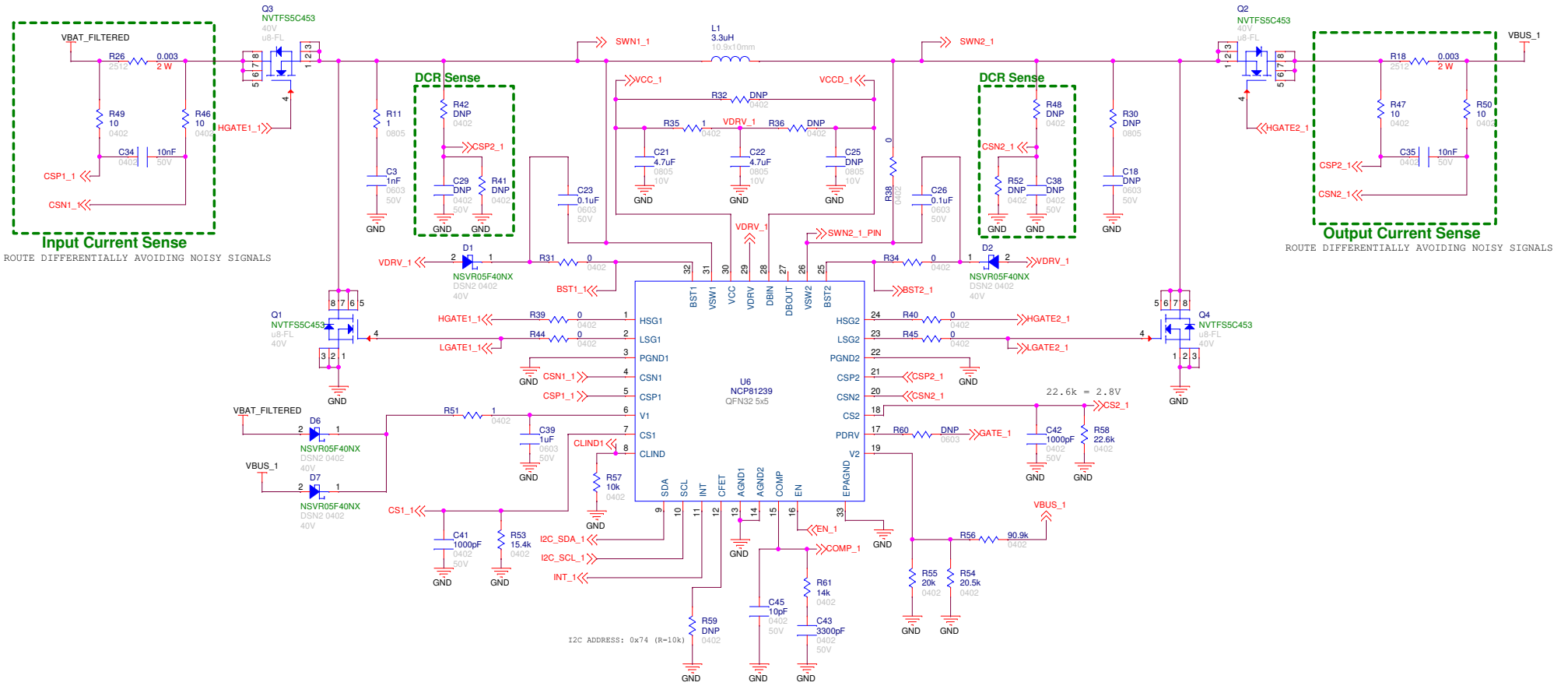
<b>ON Semiconductor</b>		
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# INPUT FILTERS AND BATTERY PROTECTION



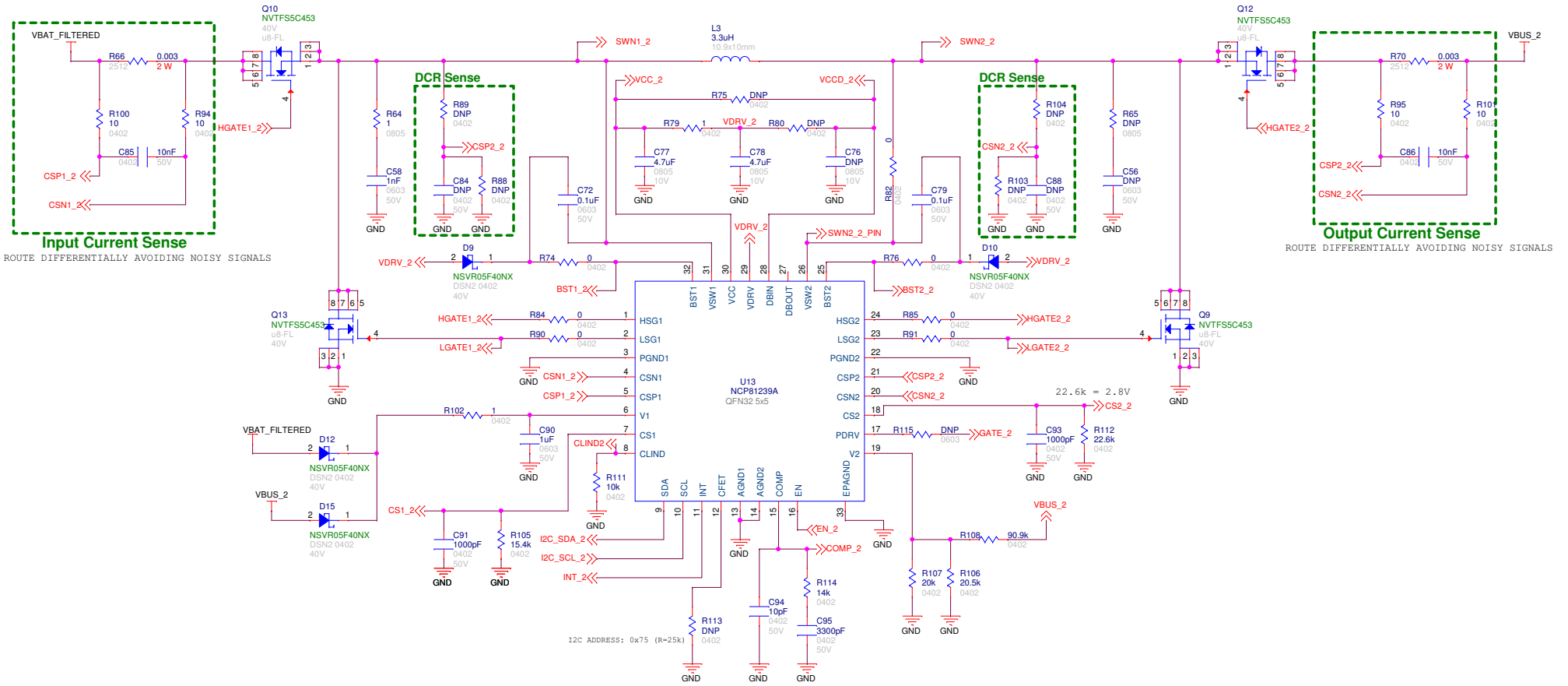
<b>ON Semiconductor</b>		
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# NCV81599 - POWER STAGE 1



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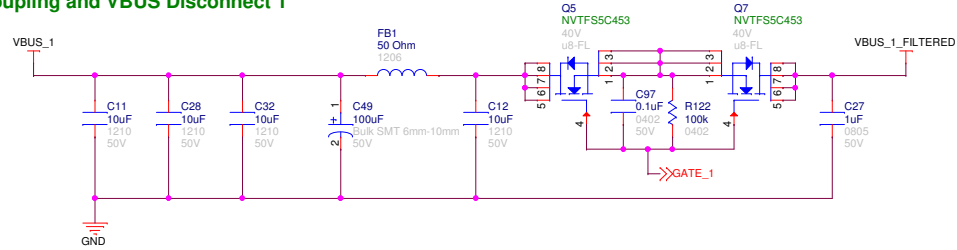
# NCV81599 - POWER STAGE 2



<b>ON Semiconductor</b>		
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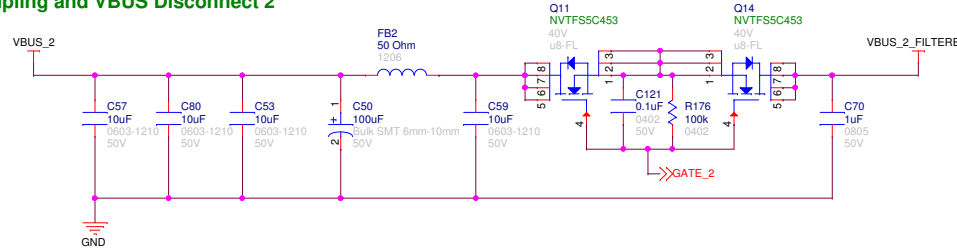
# OUTPUT FILTERS AND VBUS DISCONNECT

## Output Decoupling and VBUS Disconnect 1

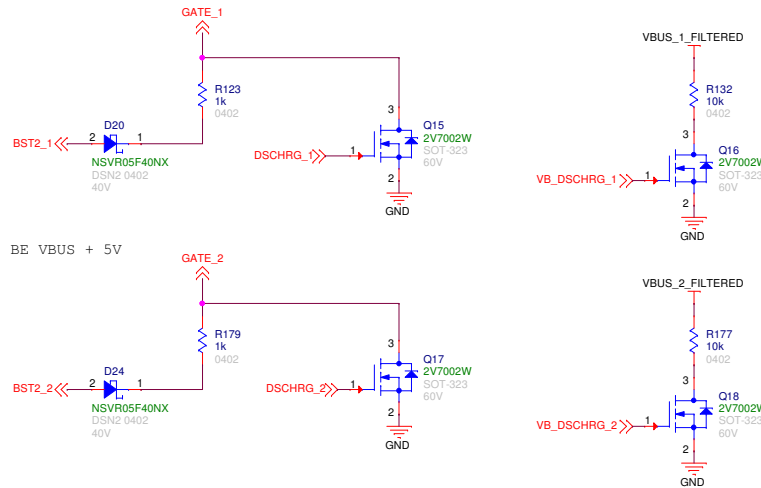


NOTE: VBUS DISCONNECT CIRCUIT IMPLEMENTED TO COMPLY WITH TYPE-C SPEC

## Output Decoupling and VBUS Disconnect 2



## Discharge Circuits

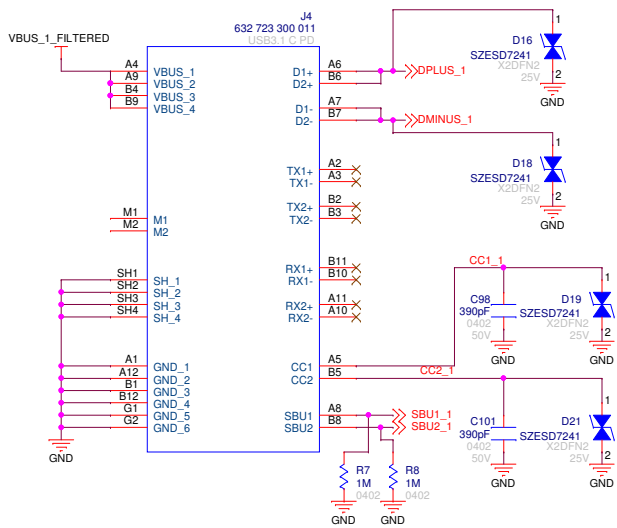


NOTE: BST2 WILL ALWAYS BE VBUS + 5V

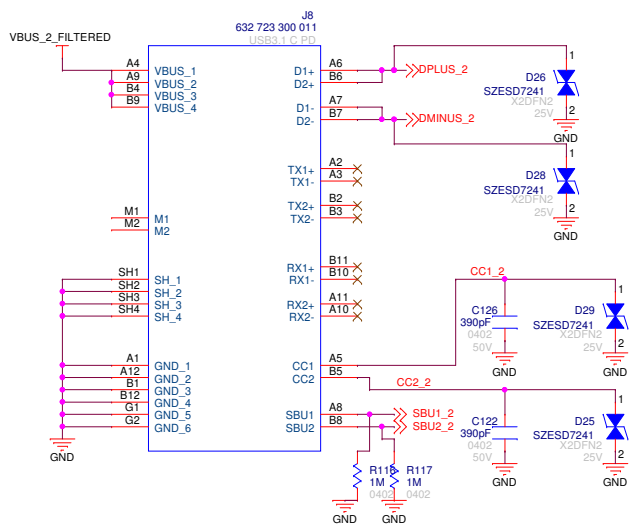
<b>ON Semiconductor</b>		
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# USB-C AND PROTECTION

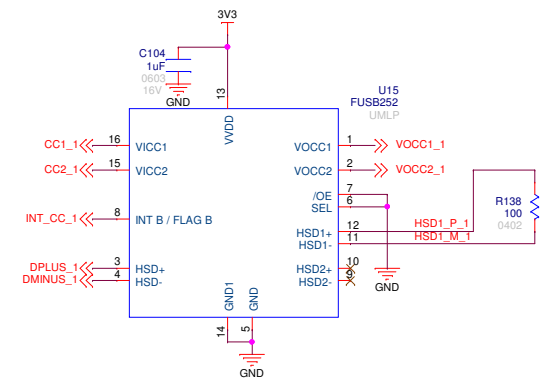
## USB TYPE-C RECEPTACLE



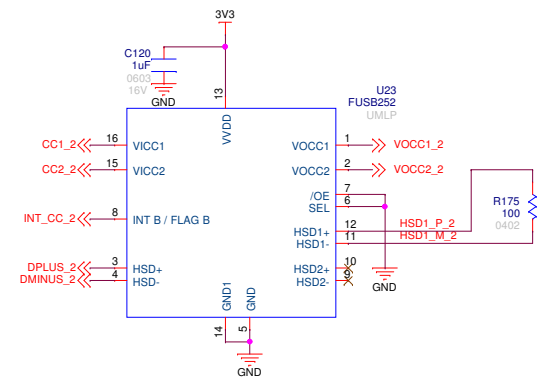
## USB TYPE C RECEPTACLE



## PORT 1 PROTECTION SWITCH



## PORT 2 PROTECTION SWITCH

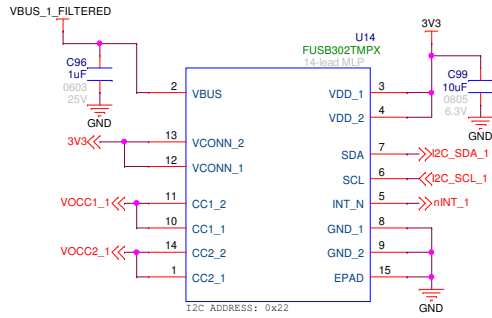


**ON Semiconductor**

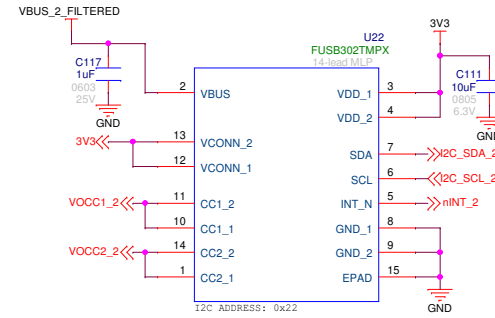
Title USB-PD DUAL 100 W PORT		
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# FUSB302T PORT CONTROLLERS

FUSB302T PORT 1 CONTROLLER



FUSB302T PORT 2 CONTROLLER

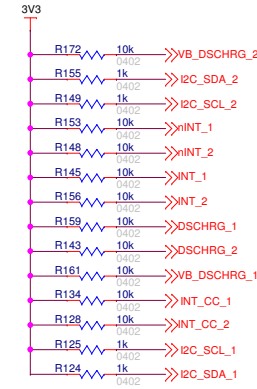
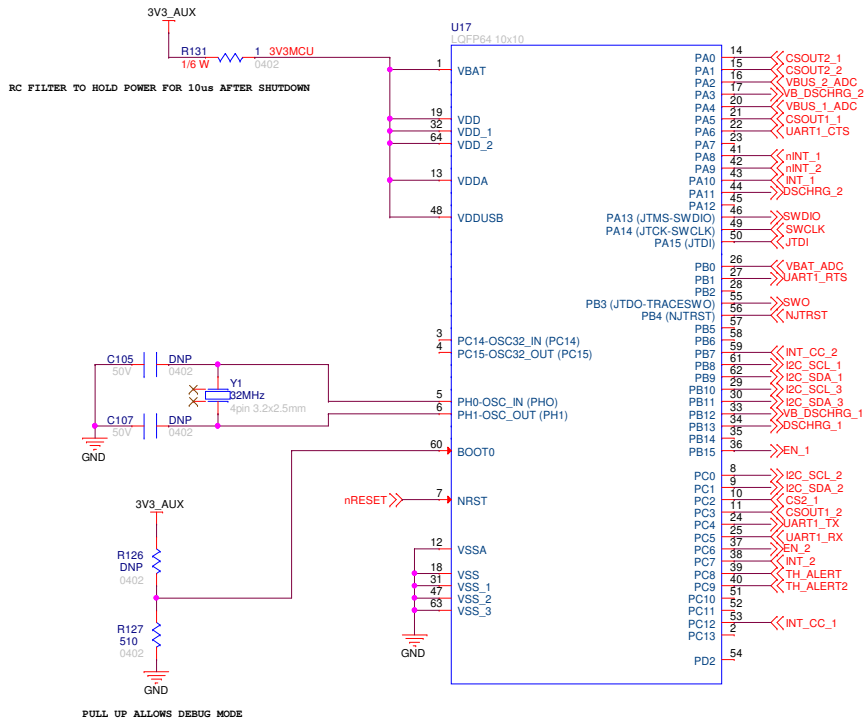


**ON Semiconductor**

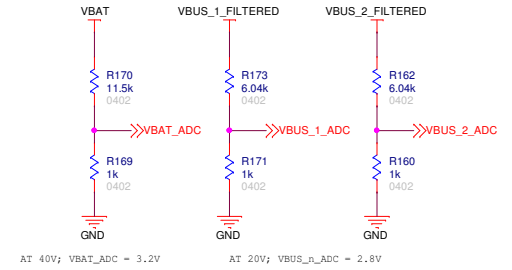
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# MCU / POLICY MANAGER

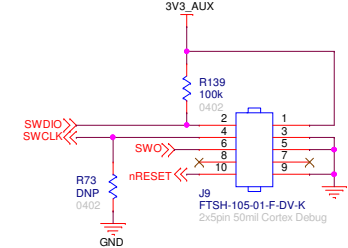
## MCU / POLICY MANAGER



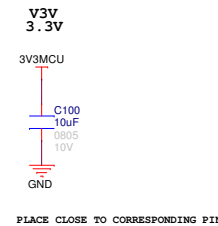
## VOLTAGE MONITORS



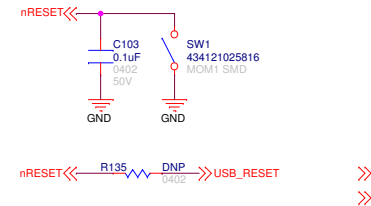
## DEBUG HEADER



## POWER DECOUPLING



## MCU RESET



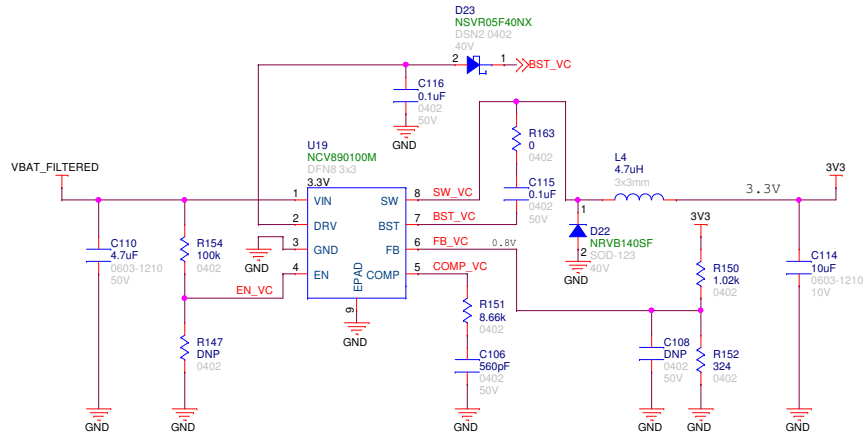
## ON Semiconductor

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# 3.3V REGULATOR

## VCONN / MCU SUPPLY



### VCONN NOTES:

1W SUPPLIED PER USB-C PORT FOR E-MARKED CABLES USING SSTX/SSRX OR ACTIVE CABLE

100mW SUPPLIED PER USB-C PORT FOR E-MARKED NON-ACTIVE CABLES NOT USING SSTX/SSRX

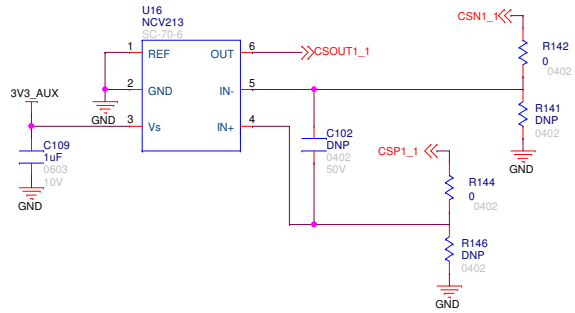


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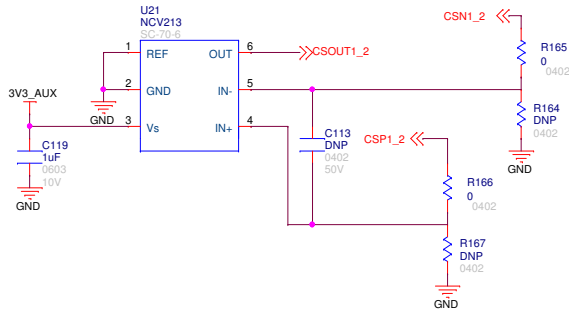
# TELEMETRY

## OPTIONAL IN CUSTOMER APPLICATION

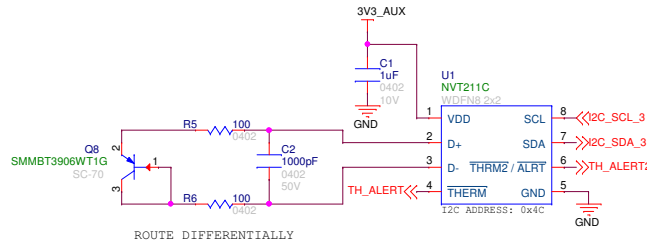
INPUT CURRENT SENSE STAGE 1



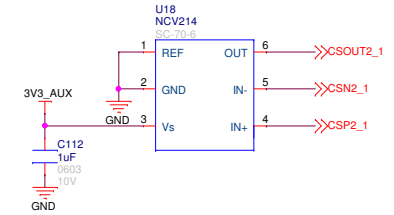
INPUT CURRENT SENSE STAGE 2



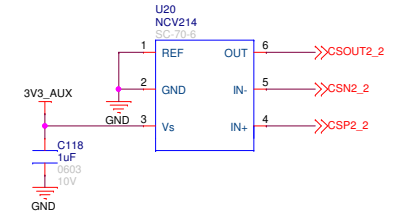
TEMP MONITOR



OUTPUT CURRENT SENSE STAGE 1



OUTPUT CURRENT SENSE STAGE 2



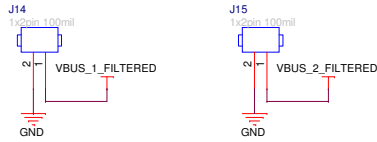
<b>ON Semiconductor</b>		
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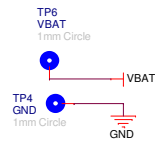
# TEST CIRCUITS

NOT REQUIRED IN CUSTOMER APPLICATION

## VBUS



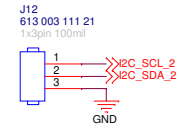
## INPUT VOLTAGE



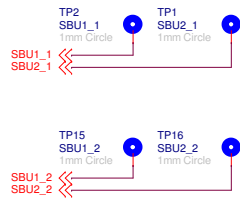
## NCV81599 ENABLE



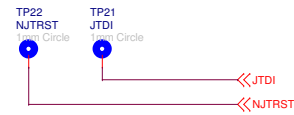
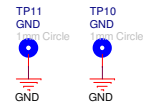
## I2C HEADER PORT 1



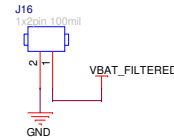
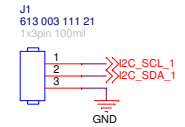
## SIDEBAND HEADER



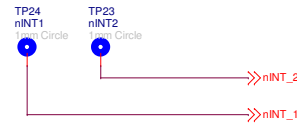
## JTAG TEST POINTS



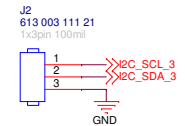
## I2C HEADER PORT 2



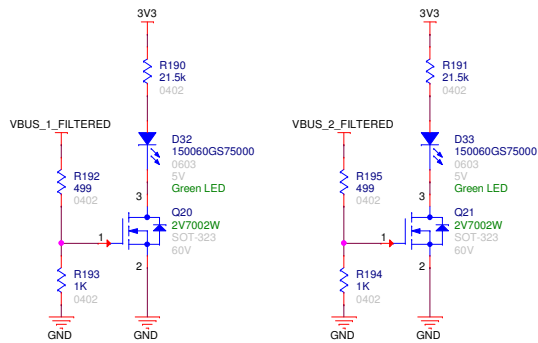
## FUSB302T INTERRUPTS



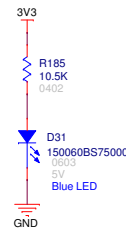
## I2C HEADER PORT LOW SPEED



## OUTPUT VOLTAGE INDICATORS



## INPUT VOLTAGE INDICATOR



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