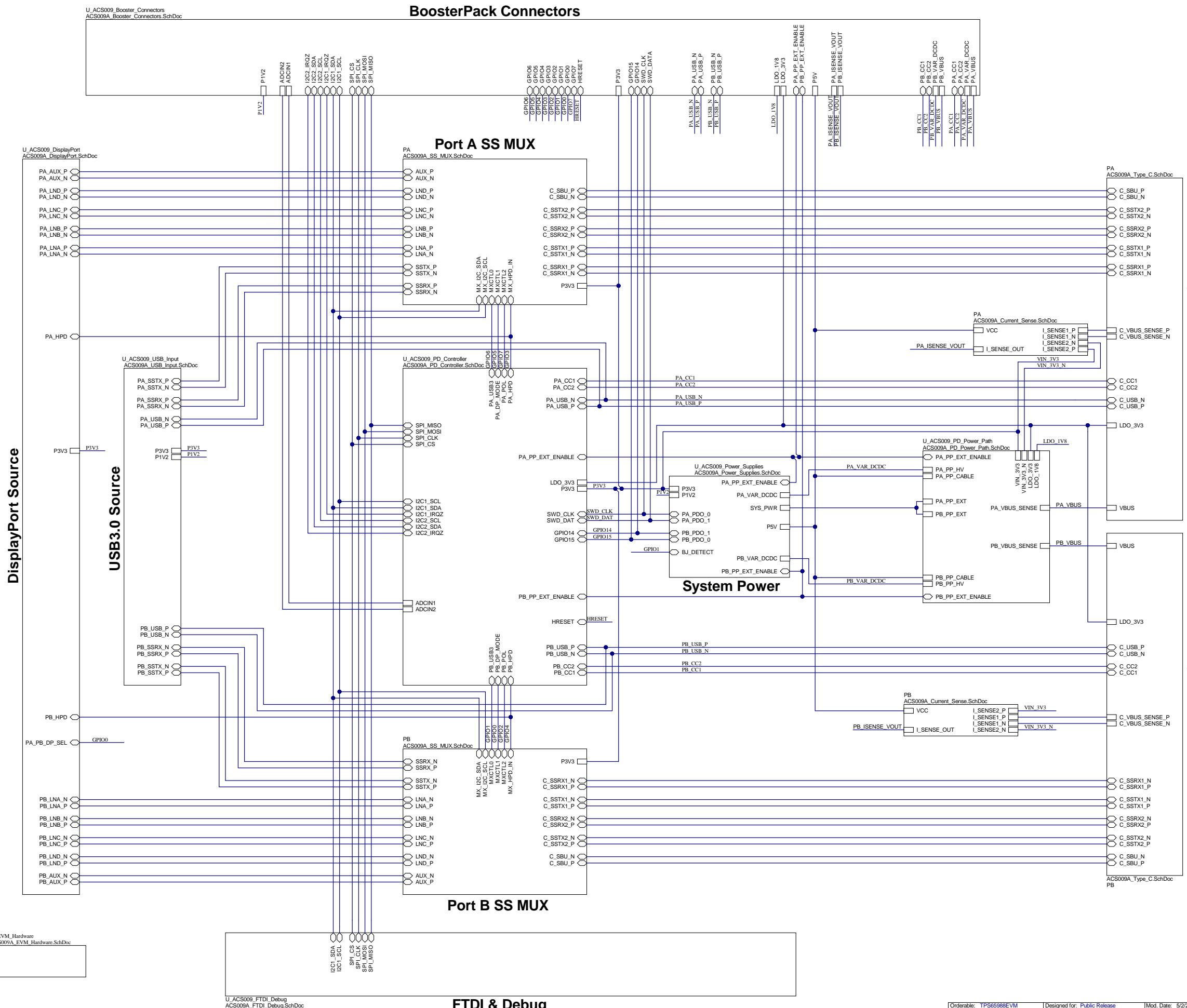


# BoosterPack Connectors



Port A Type-C

Port B Type-C

DisplayPort Source

USB3.0 Source

Port B SS MUX

Port A SS MUX

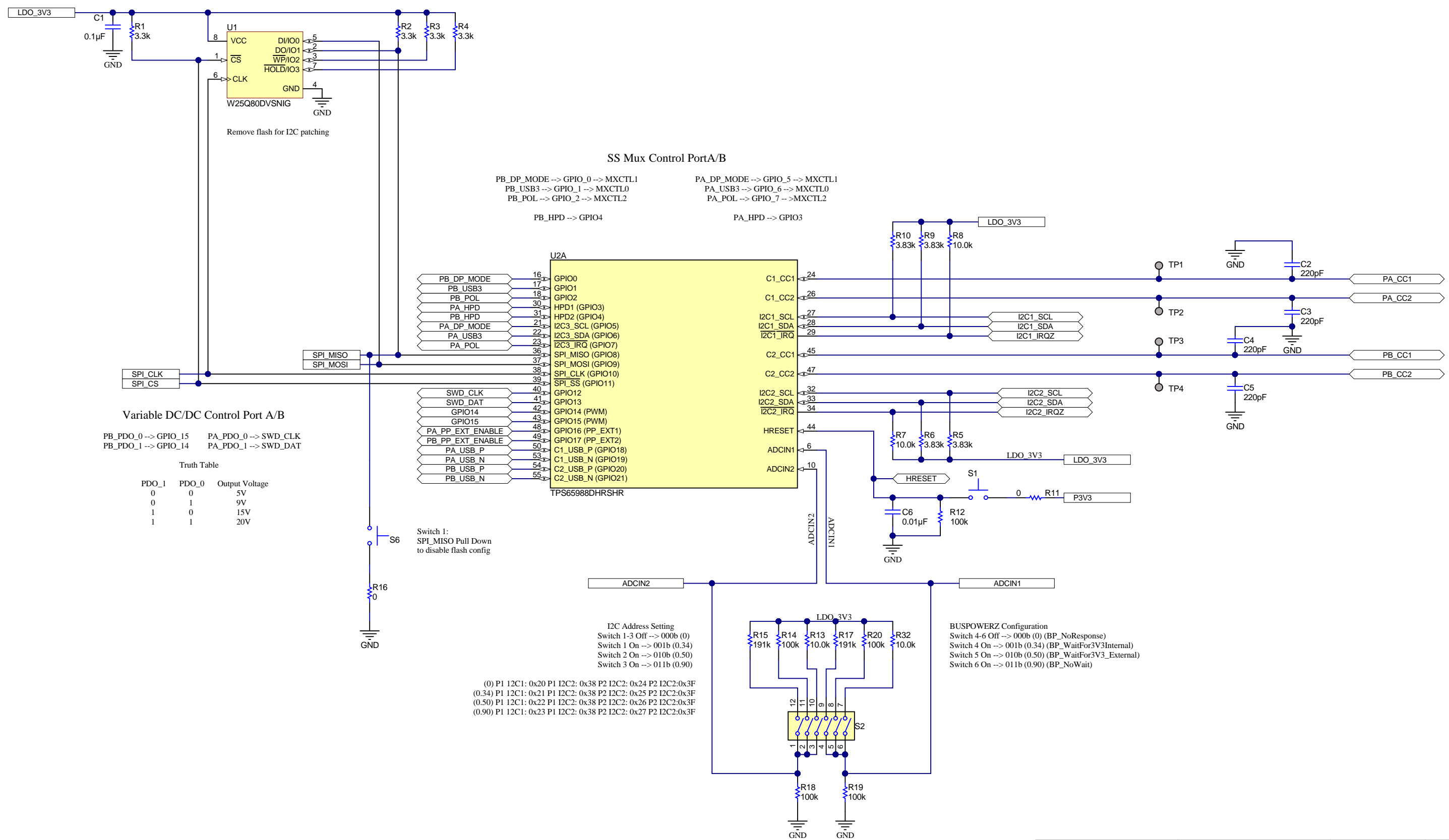
System Power

FTDI & Debug

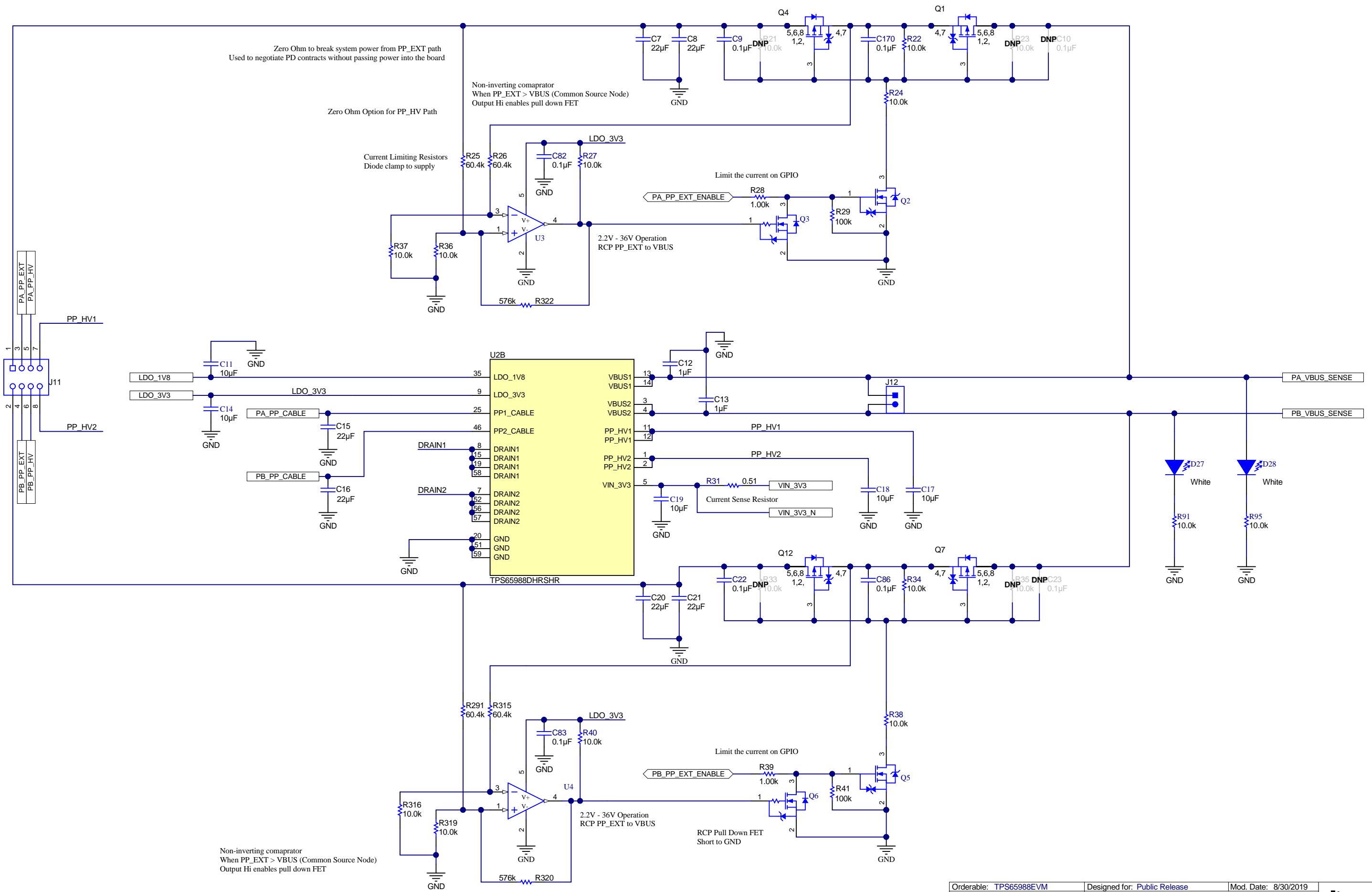
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| TID #: N/A                      | Project Title: TPS65988EVM         |   |
| Number: ACS009                  | Rev: B                             | Sheet Title: TPS65988 EVM Block Diagram |
| SVN Rev: Not in version control | Assembly Variant: 001              | Sheet: 1 of 12                          |
| Drawn By: Jacob Oniveros        | File: ACS009A_Block_Diagram.SchDoc | Size: C                                 |
| Engineer: Jacob Oniveros        | Contact: http://www.ti.com/support | http://www.ti.com                       |

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Zero Ohm to break system power from PP\_EXT path  
Used to negotiate PD contracts without passing power into the board

Zero Ohm Option for PP\_HV Path

Current Limiting Resistors  
Diode clamp to supply

Non-inverting comparator  
When PP\_EXT > VBUS (Common Source Node)  
Output Hi enables pull down FET

Limit the current on GPIO

2.2V - 36V Operation  
RCP PP\_EXT to VBUS

Non-inverting comparator  
When PP\_EXT > VBUS (Common Source Node)  
Output Hi enables pull down FET

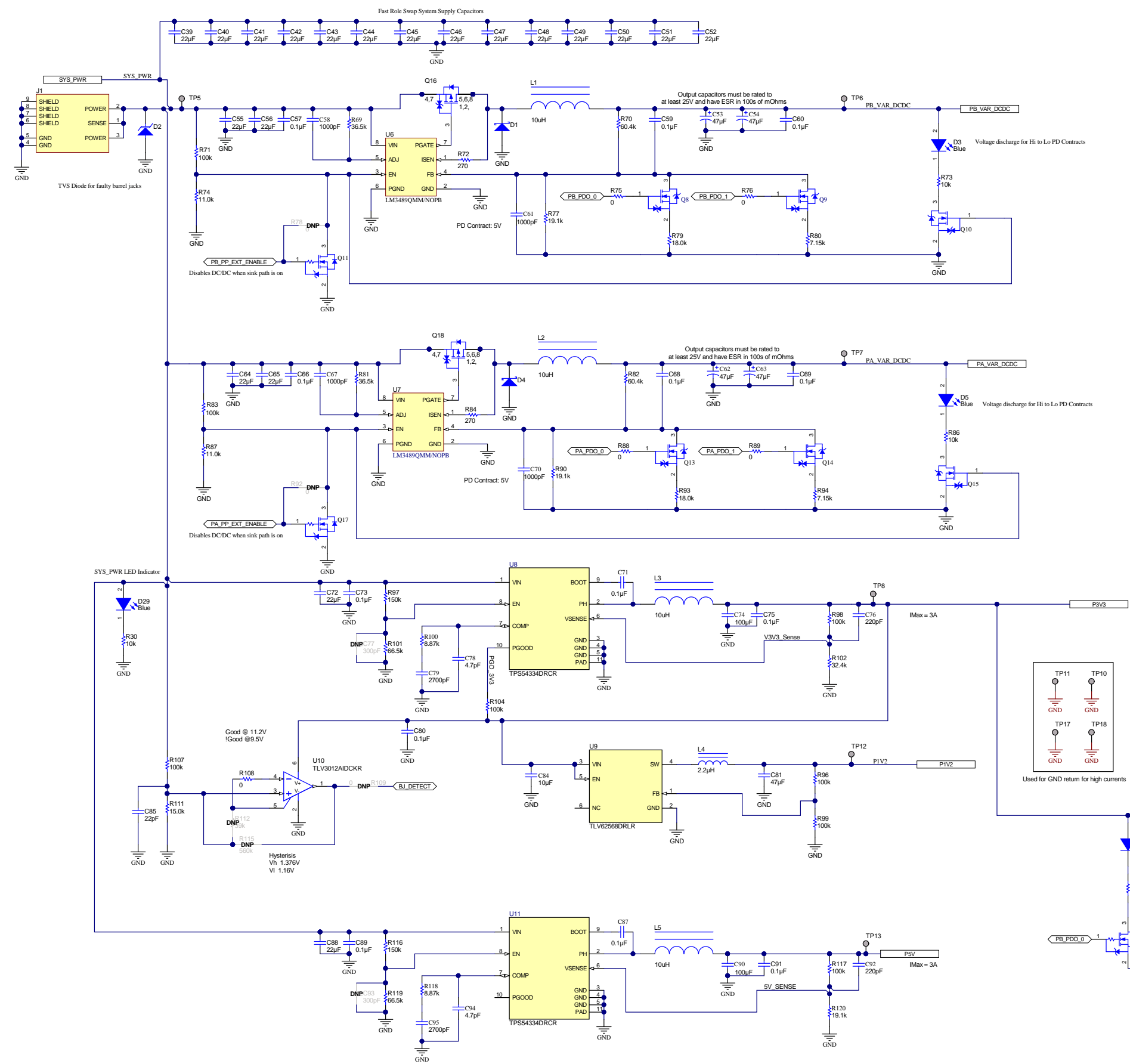
Limit the current on GPIO

RCP Pull Down FET  
Short to GND

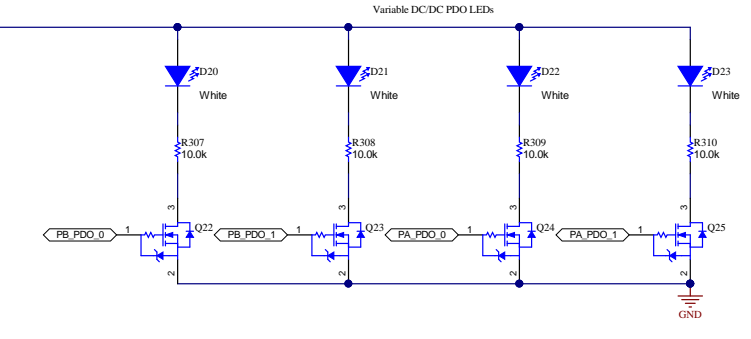
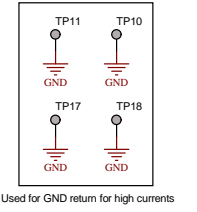
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| TID #: N/A                      | Project Title: TPS65988EVM   |                                     |
| Number: ACS009                  | Rev: B   | Sheet Title: TPS65988 PD Power Path |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 3 of 12                      |
| Drawn By: Jacob Ontiveros       | File: ACS009A_PD_Power_Path_SchDoc   | Size: B                             |
| Engineer: Jacob Ontiveros       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |                                     |

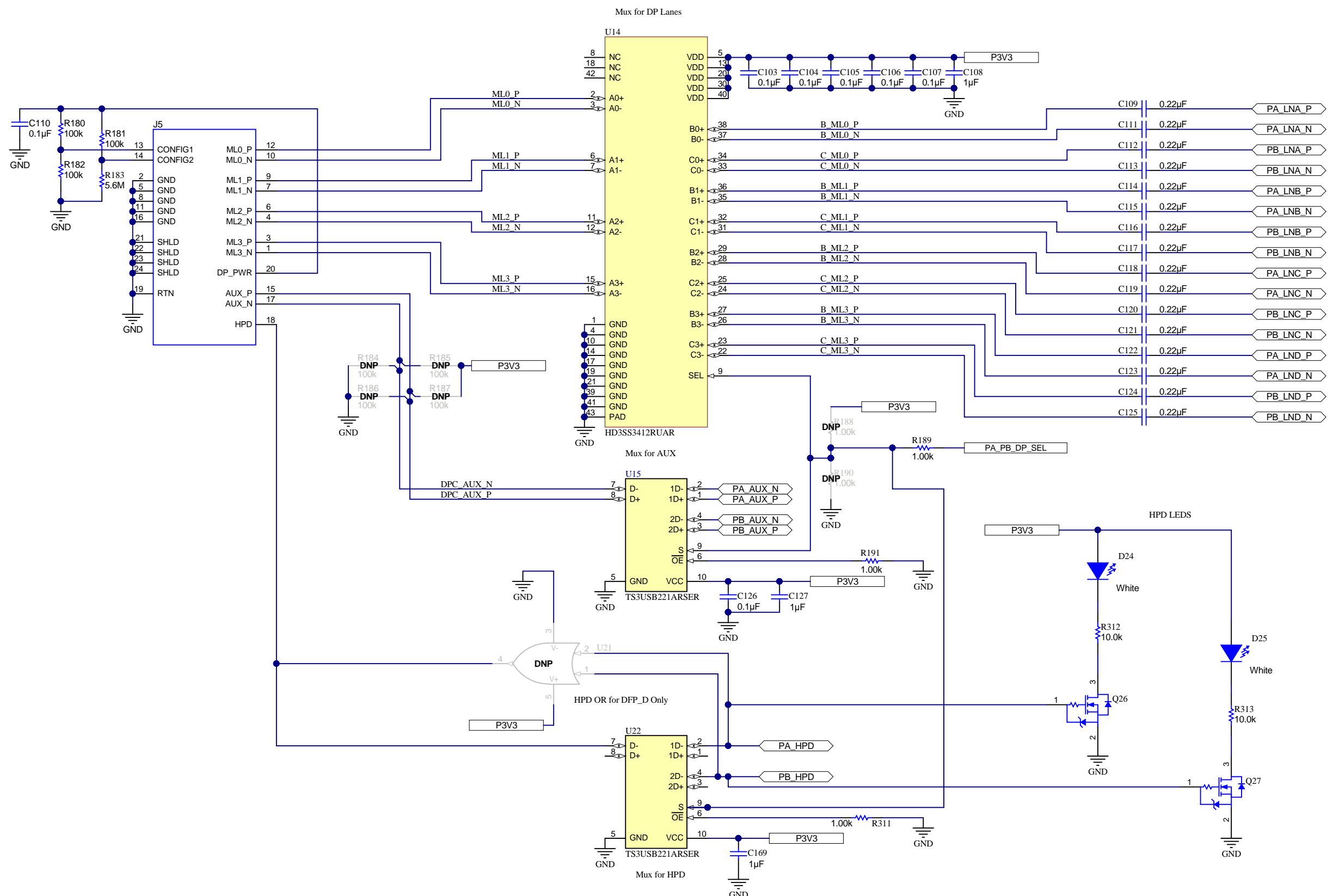
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| PDO_1 | PDO_0 | Output Voltage | Feedback (R1) | Feedback (R2) | Output Voltage |
|-------|-------|----------------|---------------|---------------|----------------|
| 0     | 0     | 5V             | 60.4k         | 19.1k         | 5.15V          |
| 0     | 1     | 9V             | 60.4k         | 9.27k         | 9.20V          |
| 1     | 0     | 15V            | 60.4k         | 5.2k          | 15.62V         |
| 1     | 1     | 20V            | 60.4k         | 4.04k         | 19.78V         |





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| Orderable: TPS65988EVM          | Designed for: Public Release   | Mod. Date: 4/17/2018                   |
| TID #: N/A                      | Project Title: TPS65988EVM   |  |
| Number: ACS009                  | Rev: B   | Sheet Title: DP Source Mux & Connector |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 5 of 12                         |
| Drawn By: Jacob Ontiveros       | File: ACS009A_DisplayPort.SchDoc   | Size: B                                |
| Engineer: Jacob Ontiveros       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |  |

A

B

C

D

A

B

C

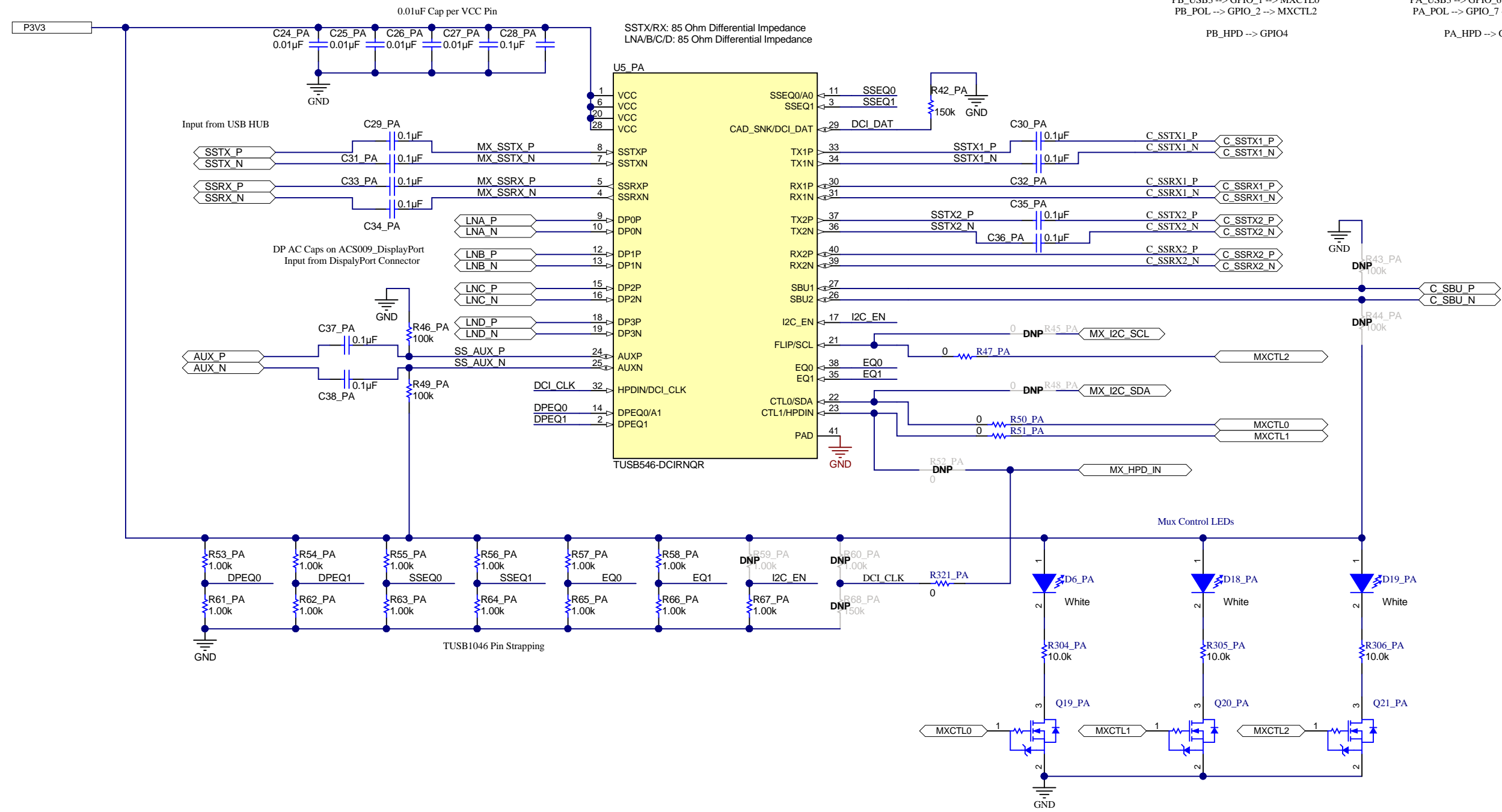
D

### SS Mux Control PortA/B

PB\_DP\_MODE --> GPIO\_0 --> MXCTL1  
 PB\_USB3 --> GPIO\_1 --> MXCTL0  
 PB\_POL --> GPIO\_2 --> MXCTL2

PA\_DP\_MODE --> GPIO\_5 --> MXCTL1  
 PA\_USB3 --> GPIO\_6 --> MXCTL0  
 PA\_POL --> GPIO\_7 --> MXCTL2

PB\_HPD --> GPIO4  
 PA\_HPD --> GPIO3



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| TID #: N/A                      | Project Title: TPS65988EVM   |                            |
| Number: ACS009                  | Rev: B   | Sheet Title: Type-C SS Mux |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 6 of 12             |
| Drawn By: Jacob Ontiveros       | File: ACS009A_SS_MUX.SchDoc  | Size: B                    |
| Engineer: Jacob Ontiveros       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |                            |



A

B

C

D

A

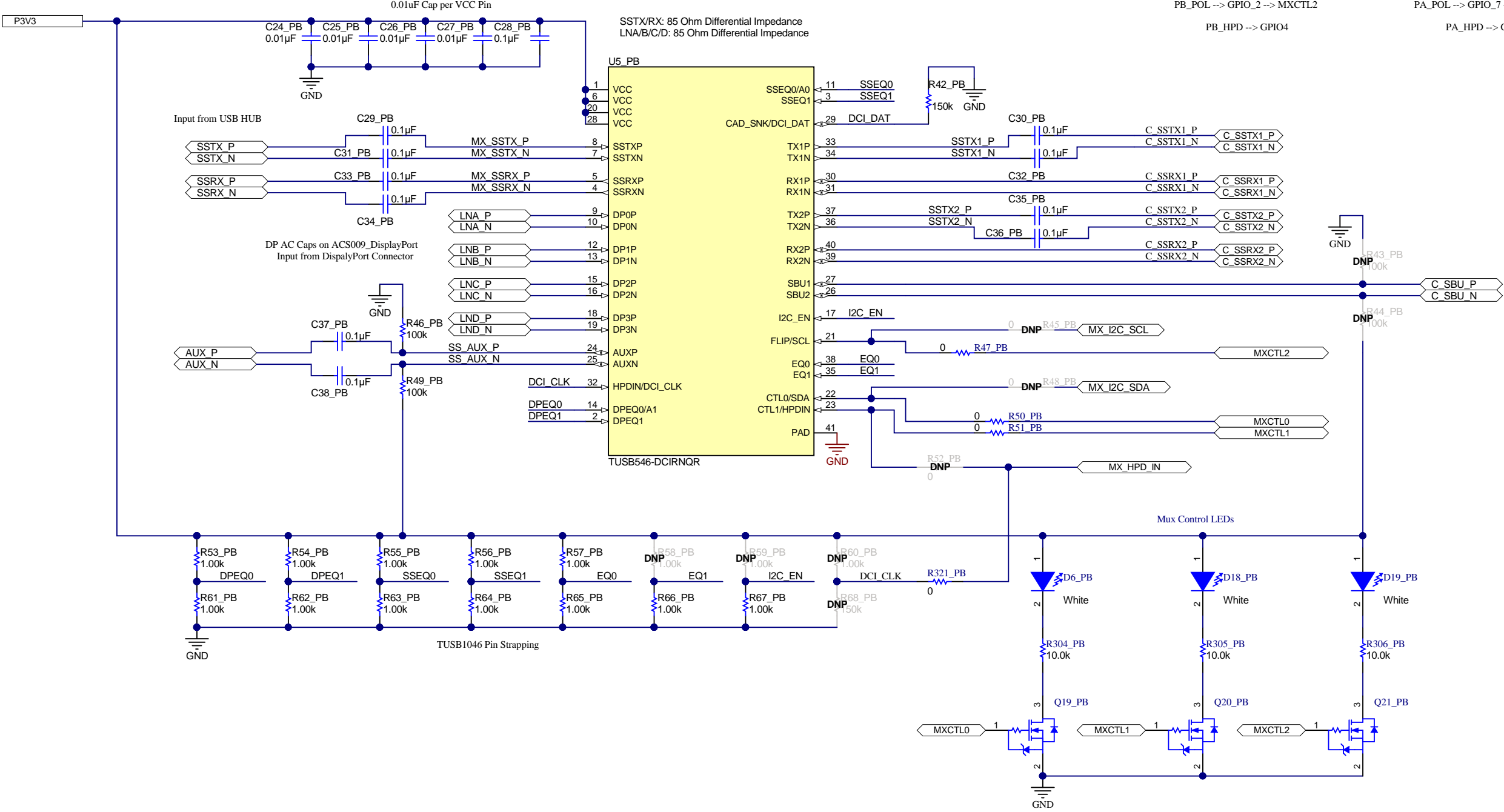
B

C

D

SS Mux Control PortA/B

PB\_DP\_MODE --> GPIO\_0 --> MXCTL1  
 PB\_USB3 --> GPIO\_1 --> MXCTL0  
 PB\_POL --> GPIO\_2 --> MXCTL2  
 PB\_HPD --> GPIO4  
 PA\_DP\_MODE --> GPIO\_5 --> MXCTL1  
 PA\_USB3 --> GPIO\_6 --> MXCTL0  
 PA\_POL --> GPIO\_7 --> MXCTL2  
 PA\_HPD --> GPIO3

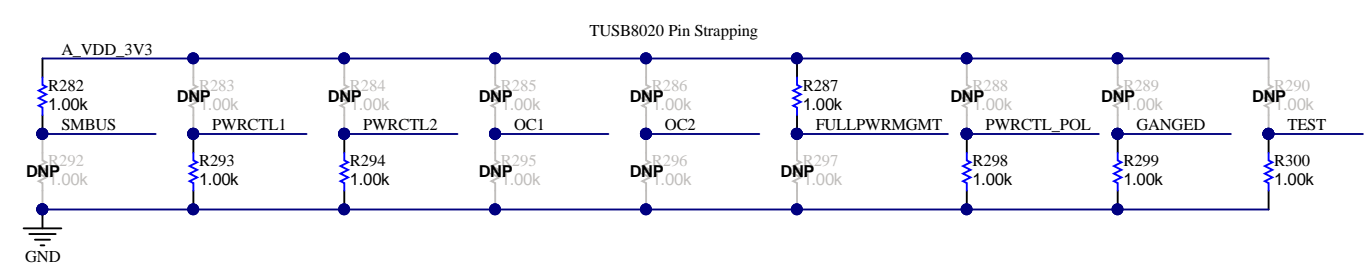
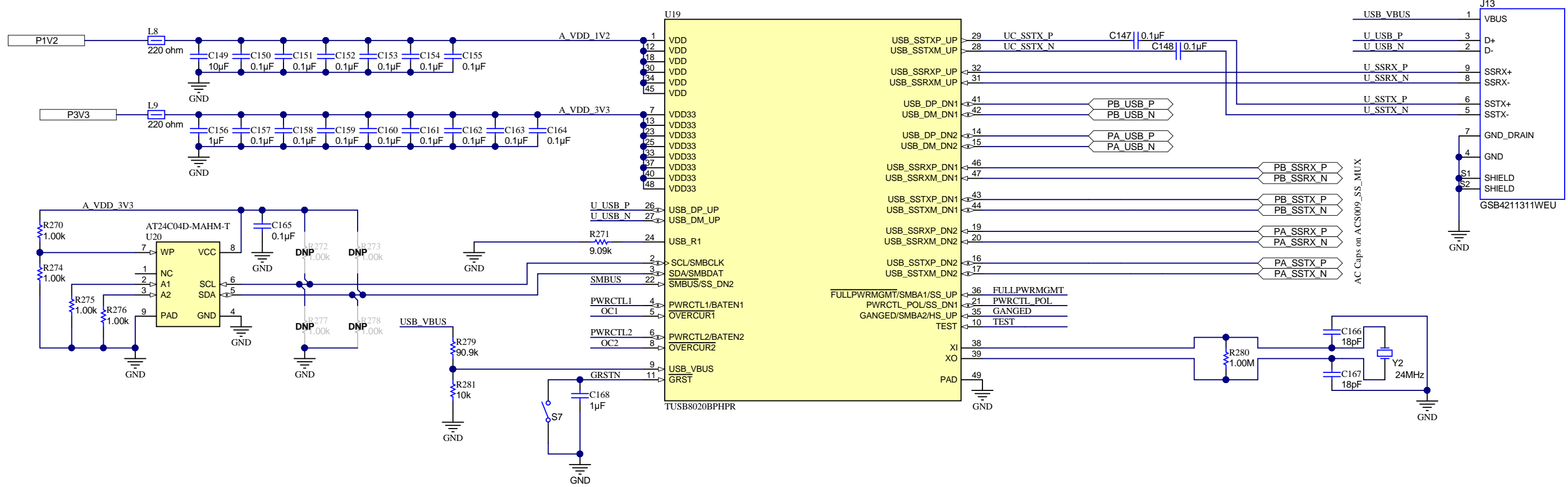


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| Number: ACS009                  | Rev: B                             | Sheet Title: Type-C SS Mux |
| SVN Rev: Not in version control | Assembly Variant: 001              | Sheet: 6 of 12             |
| Drawn By: Jacob Ontiveros       | File: ACS009A_SS_MUX.SchDoc        | Size: B                    |
| Engineer: Jacob Ontiveros       | Contact: http://www.ti.com/support |                            |







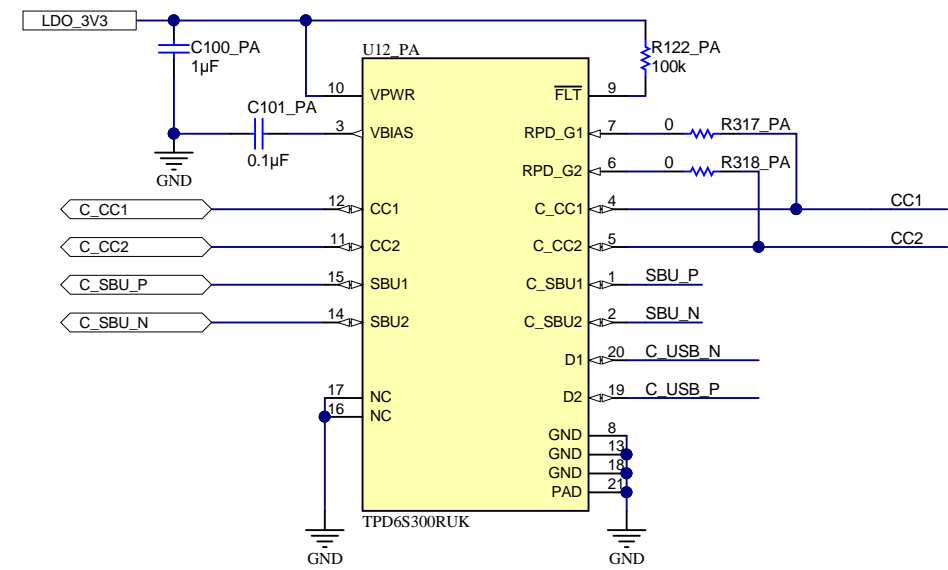
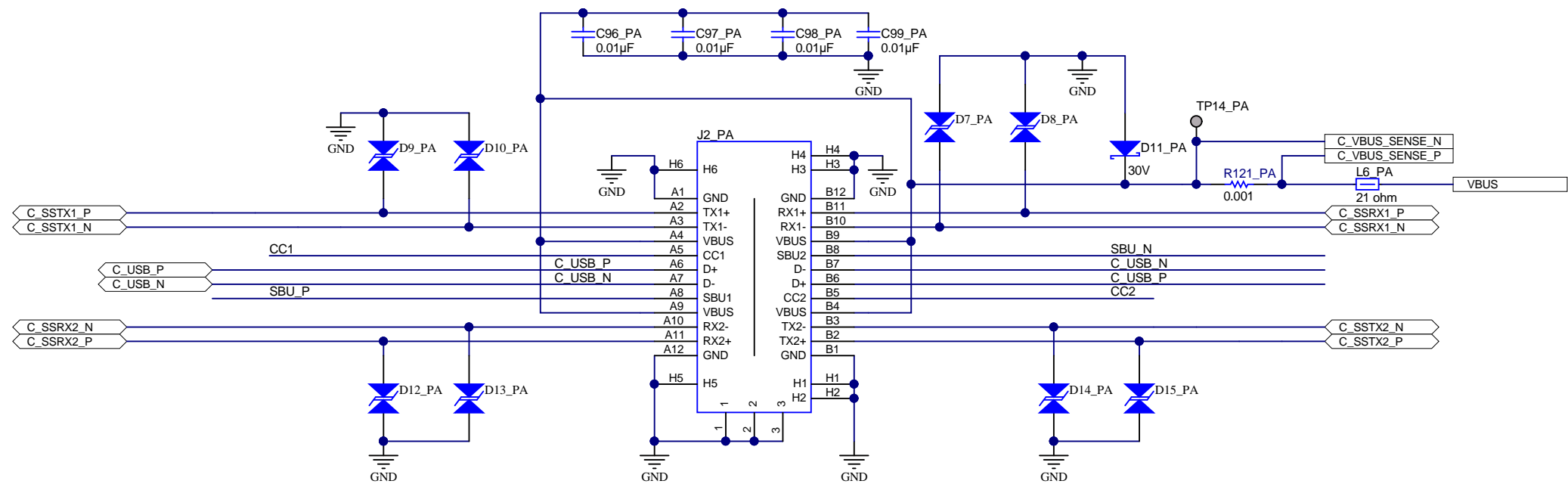
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| Number: ACS009                  | Rev: B   | Sheet Title: USB3 Hub & Type-B Connector |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 7 of 12                           |
| Drawn By: Jacob Ontiveros       | File: ACS009A_USB_Input.SchDoc   | Size: B                                  |
| Engineer: Jacob Ontiveros       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |  |



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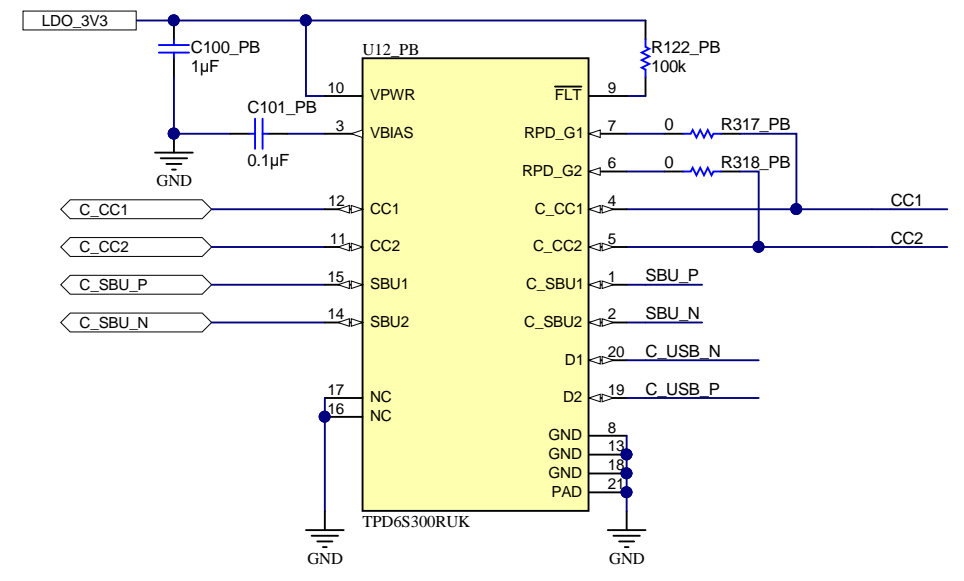
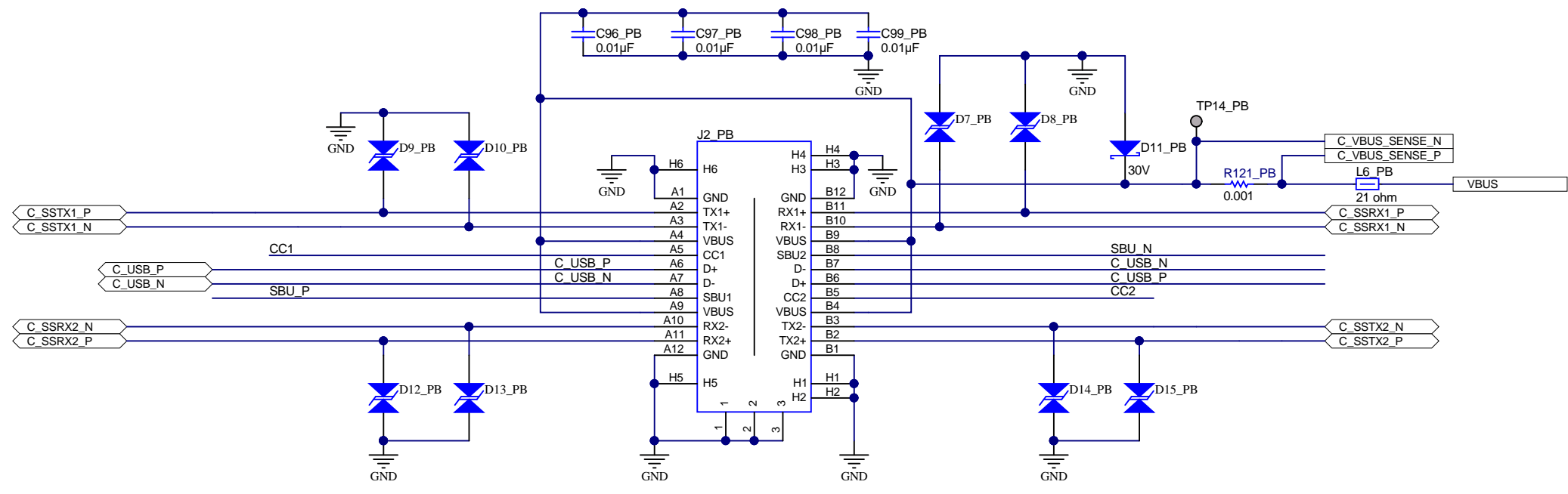




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| TID #: N/A                      | Project Title: TPS65988EVM   |  |
| Number: ACS009                  | Rev: B   | Sheet Title: Type-C Connector & Protection |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 8 of 12                             |
| Drawn By: Jacob Ontiveros       | File: ACS009A_Type_C.SchDoc  | Size: B                                    |
| Engineer: Jacob Ontiveros       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |  |

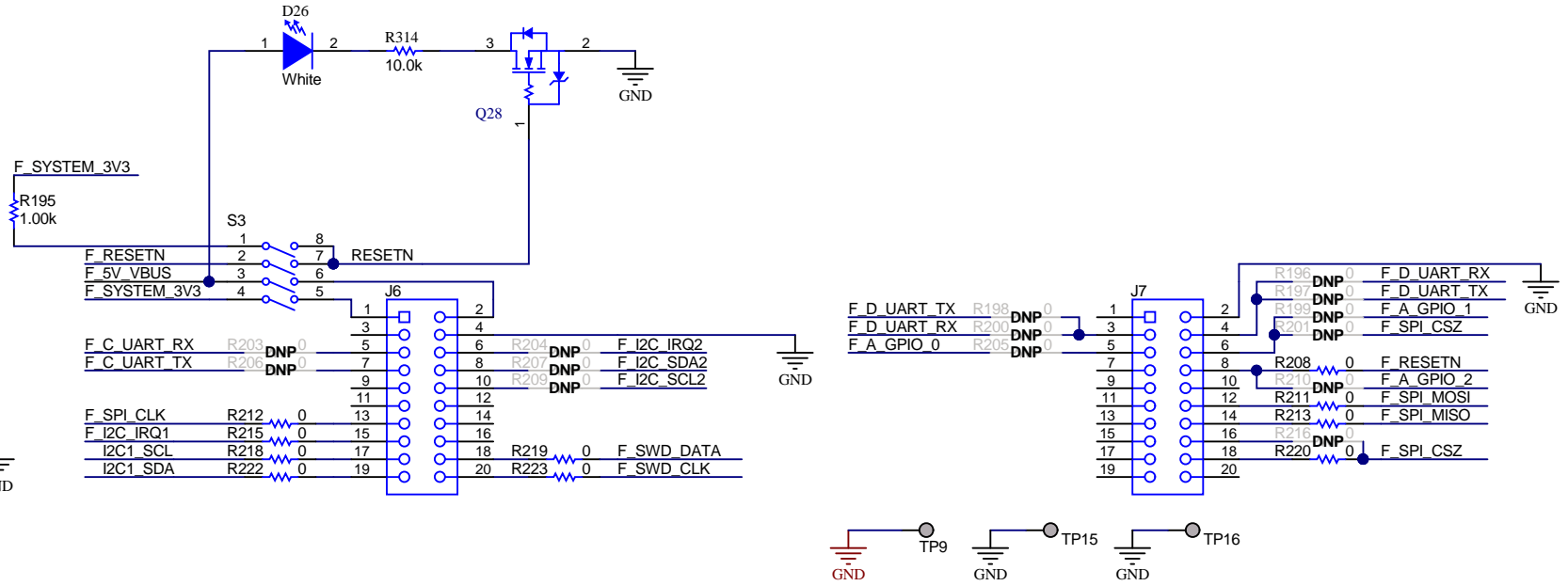
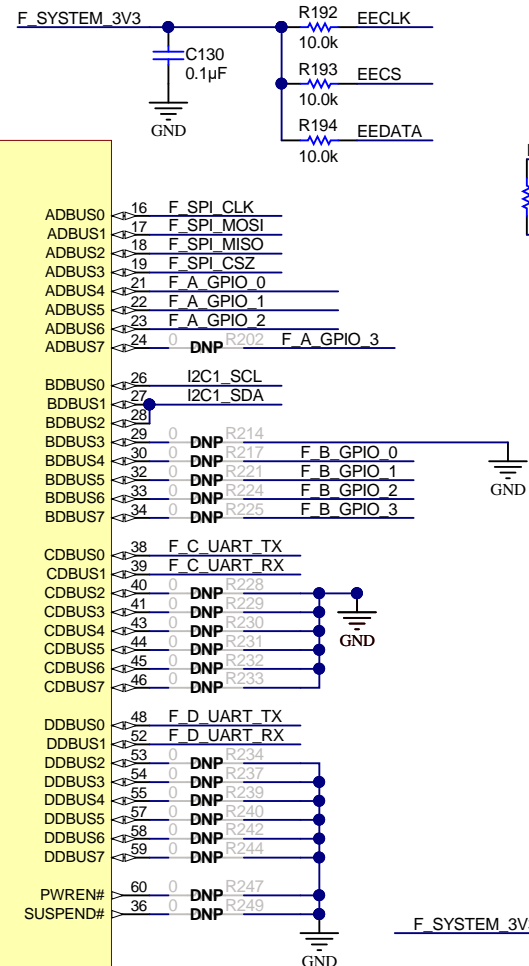
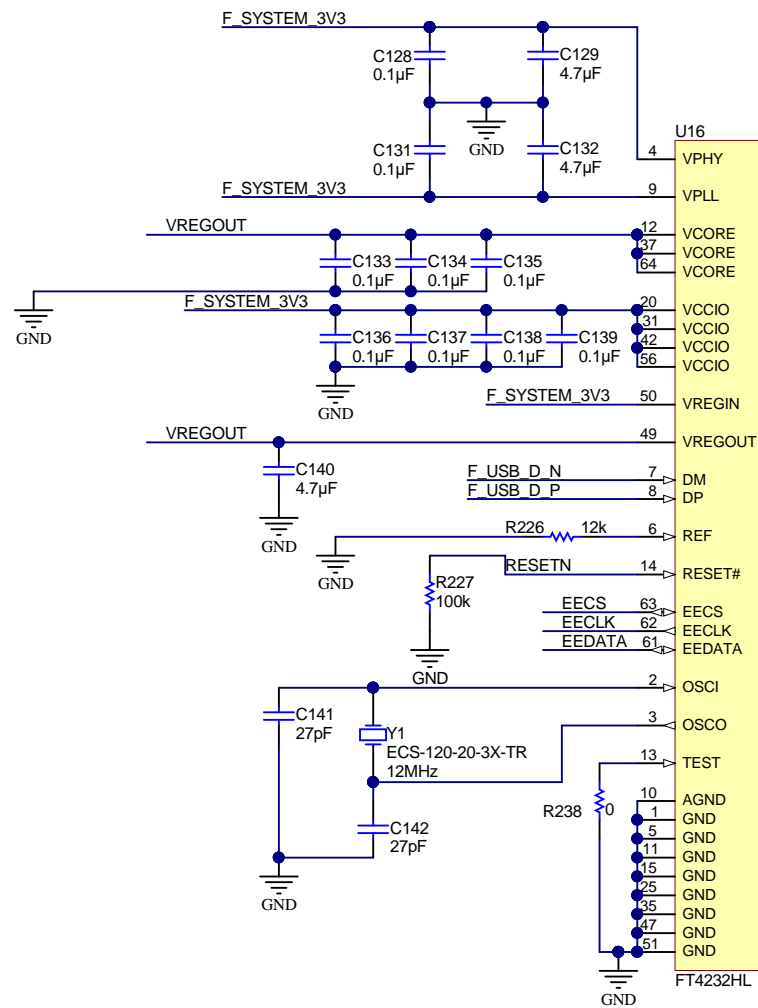




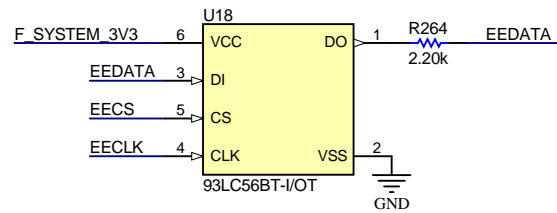
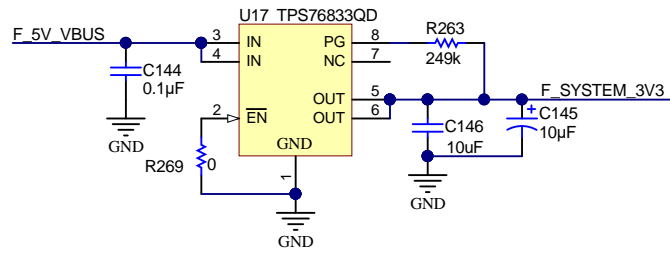
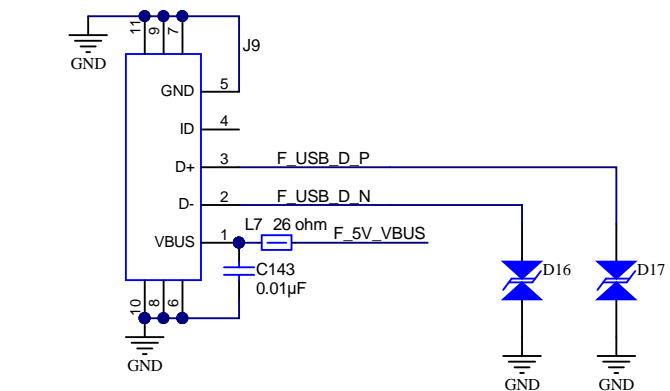
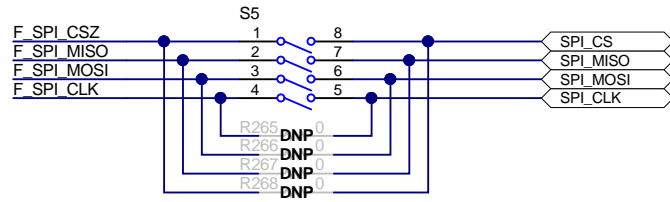
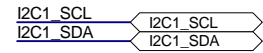
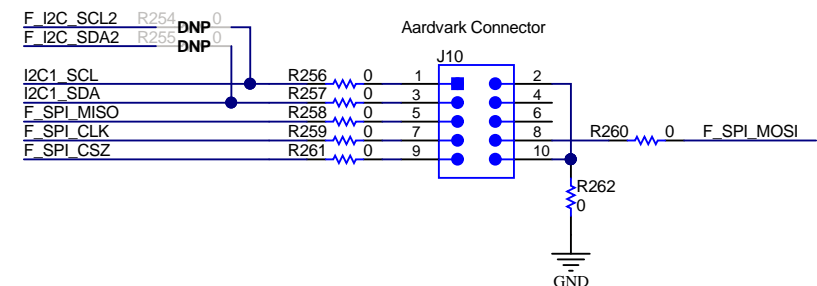
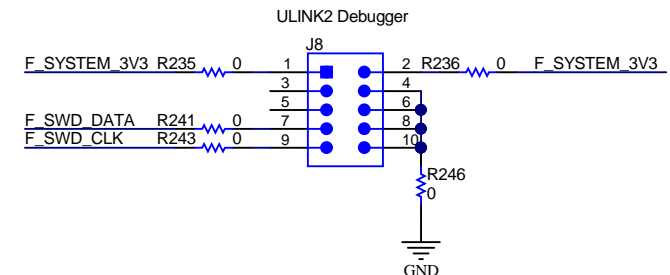
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| Number: ACS009                  | Rev: B   | Sheet Title: Type-C Connector & Protection |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 8 of 12                             |
| Drawn By: Jacob Ontiveros       | File: ACS009A_Type_C.SchDoc  | Size: B                                    |
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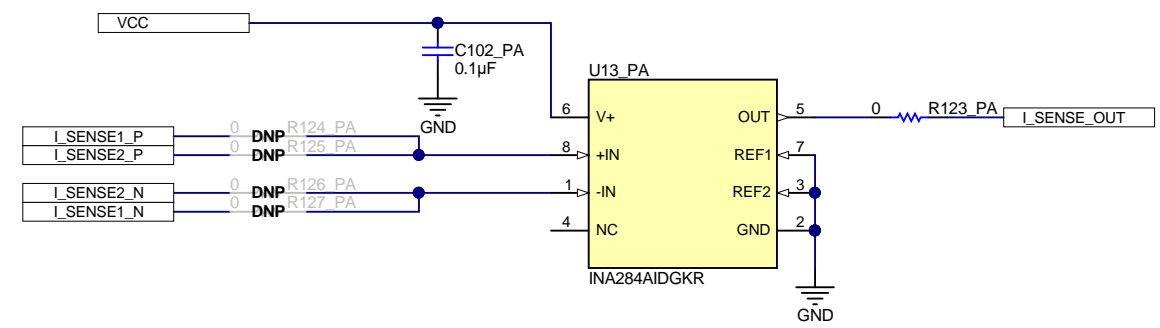
### BoosterPack Connectors




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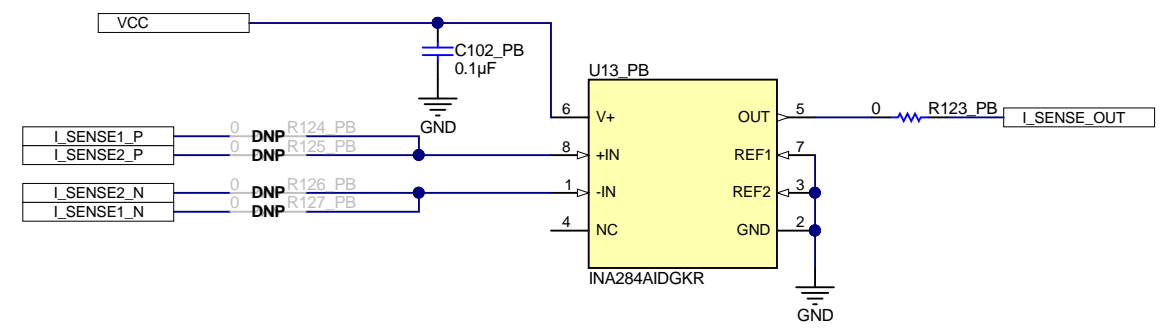
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| Number: ACS009                  | Rev: B   | Sheet Title: FTDI Debug Board |
| SVN Rev: Not in version control | Assembly Variant: 001  | Sheet: 9 of 12                |
| Drawn By: Jacob Ontiveros       | File: ACS009A_FTDI_Debug_SchDoc  | Size: B                       |
| Engineer: Jacob Ontiveros       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |                               |





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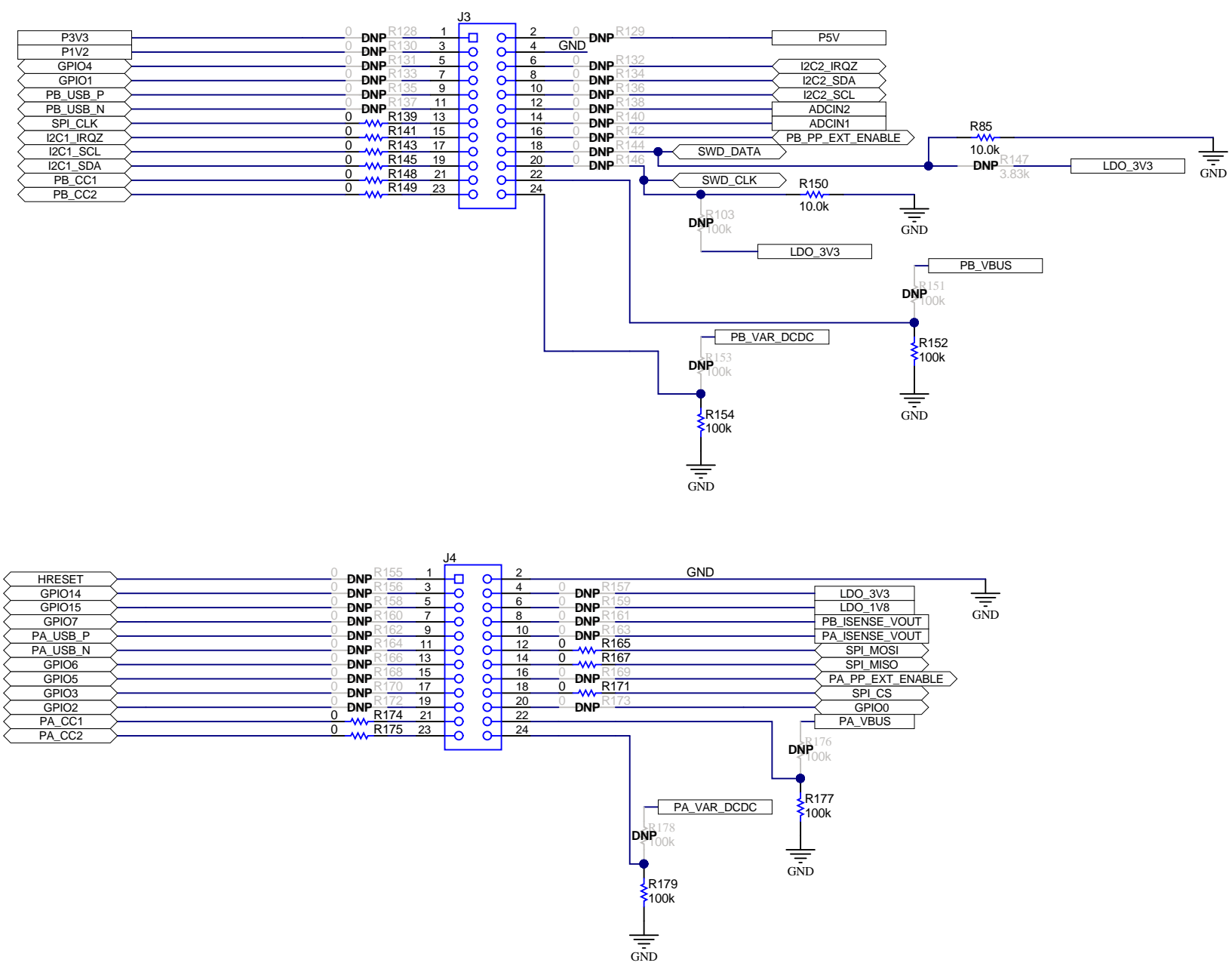
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| Orderable: <a href="#">TPS65988EVM</a>          | Designed for: <a href="#">Public Release</a>                               | Mod. Date: 5/2/2018                             | <br><a href="http://www.ti.com">http://www.ti.com</a><br>© Texas Instruments 2017 |
| TID #: <a href="#">N/A</a>                      | Project Title: <a href="#">TPS65988EVM</a>                                 |   |  |
| Number: <a href="#">ACS009</a>                  | Rev: <a href="#">B</a>   | Sheet Title: <a href="#">Current Sense</a>      |  |
| SVN Rev: <a href="#">Not in version control</a> | Assembly Variant: <a href="#">001</a>                                      | Sheet: <a href="#">10</a> of <a href="#">12</a> |  |
| Drawn By: <a href="#">Jacob Ontiveros</a>       | File: <a href="#">ACS009A_Current_Sense.SchDoc</a>                         | Size: <a href="#">B</a>                         |  |
| Engineer: <a href="#">Jacob Ontiveros</a>       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |   |  |



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| TID #: <a href="#">N/A</a>                      | Project Title: <a href="#">TPS65988EVM</a>                                 |   |
| Number: <a href="#">ACS009</a>                  | Rev: <a href="#">B</a>   | Sheet Title: <a href="#">Current Sense</a>        |
| SVN Rev: <a href="#">Not in version control</a> | Assembly Variant: <a href="#">001</a>                                      | Sheet: <a href="#">10 of 12</a>                   |
| Drawn By: <a href="#">Jacob Ontiveros</a>       | File: <a href="#">ACS009A_Current_Sense.SchDoc</a>                         | Size: <a href="#">B</a>                           |
| Engineer: <a href="#">Jacob Ontiveros</a>       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> | <a href="http://www.ti.com">http://www.ti.com</a> |





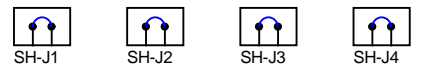
High Current Capable

P5V  
PA\_VBUS  
PA\_VAR\_DCDC  
PB\_VBUS  
PB\_VAR\_DCDC

R151/153/177/178  
Replace w/ zero Ohm or short

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DNP FID1  
 DNP FID2  
 DNP FID3  
 DNP FID4  
 DNP FID5  
 DNP FID6



PCB LOGO  
 ESD Susceptible  
 PCB LOGO  
 WEEE logo  
 PCB LOGO  
 Texas Instruments  
 PCB LOGO  
 FCC disclaimer



PCB Number: ACS009  
 PCB Rev: A

ZZ2  
 Assembly Note  
 These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3  
 Assembly Note  
 These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4  
 Assembly Note  
 These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

|   |  |   |  |
|---|--|---|--|
| Orderable: <a href="#">TPS65988EVM</a>          | Designed for: <a href="#">Public Release</a>                               | Mod. Date: 4/17/2018                      | <br><a href="http://www.ti.com">http://www.ti.com</a><br>© Texas Instruments 2017 |
| TID #: <a href="#">N/A</a>                      | Project Title: <a href="#">TPS65988EVM</a>                                 |   |  |
| Number: <a href="#">ACS009</a>                  | Rev: <a href="#">B</a>   | Sheet Title: <a href="#">EVM Hardware</a> |  |
| SVN Rev: <a href="#">Not in version control</a> | Assembly Variant: <a href="#">001</a>                                      | Sheet: <a href="#">12 of 12</a>           |  |
| Drawn By: <a href="#">Jacob Ontiveros</a>       | File: <a href="#">ACS009A_EVM_Hardware.SchDoc</a>                          | Size: <a href="#">B</a>                   |  |
| Engineer: <a href="#">Jacob Ontiveros</a>       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |   |  |

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