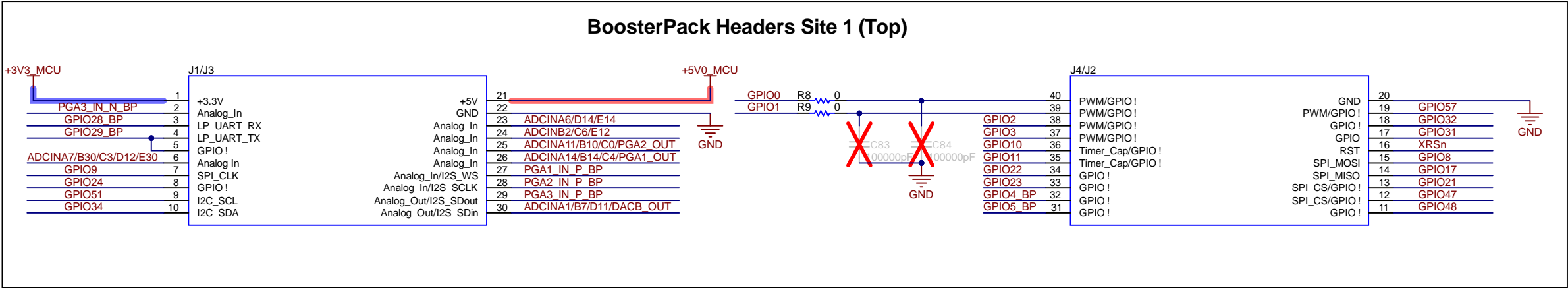


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: LAUNCHXL-F28P55X	Designed for: Public Release	Mod. Date: 5/21/2025
TID #: N/A	Project Title: LAUNCHXL-F28P55X	
Number: MCU133	Rev: C	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 8
Drawn By: Stevan Duraskovic	File: MCU133C_Block_Diagram.SchDoc	Size: B
Engineer: Stevan Duraskovic	Contact: http://www.ti.com/support	

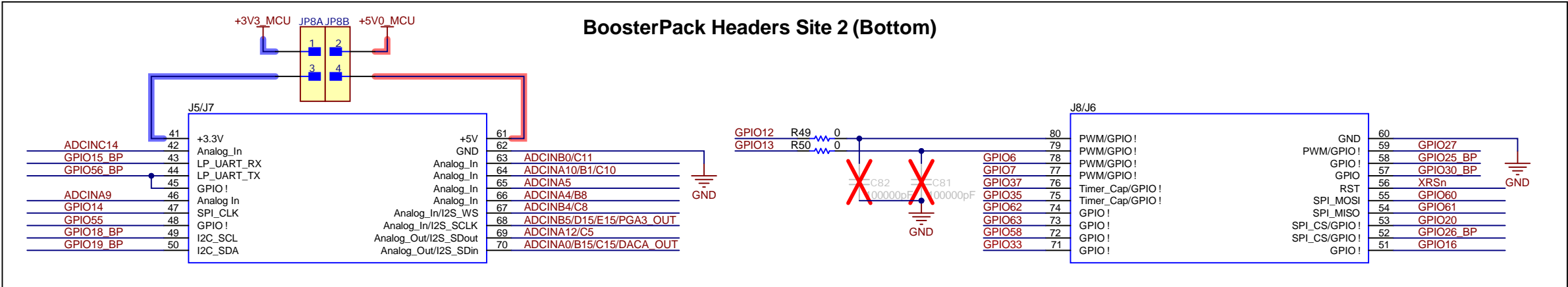
A

A



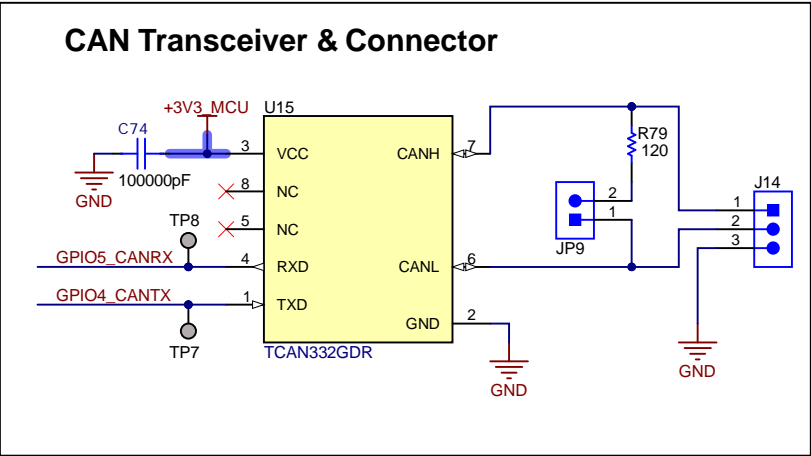
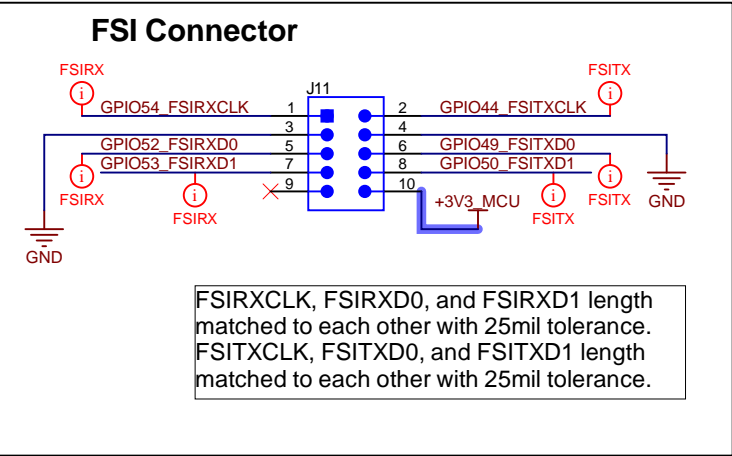
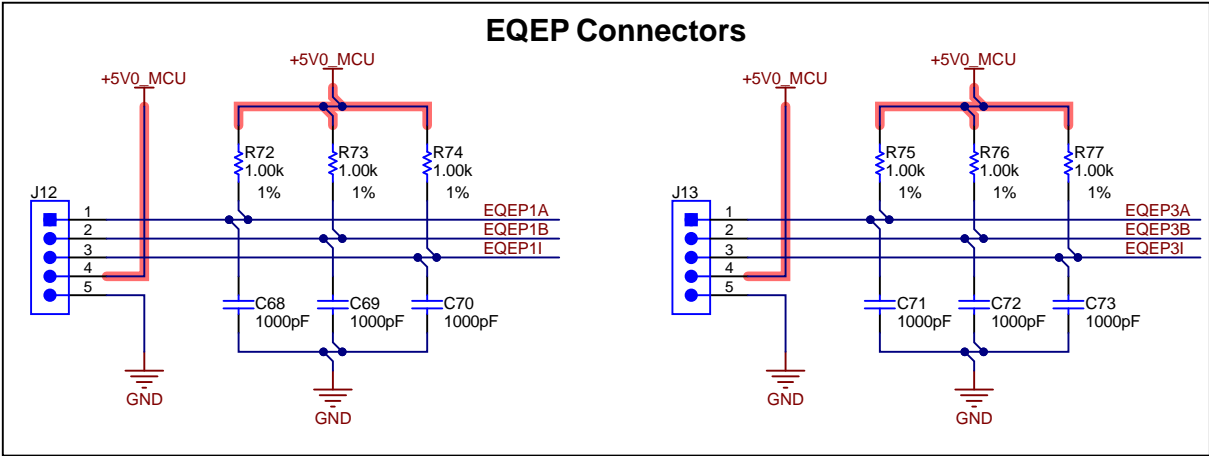
B

B



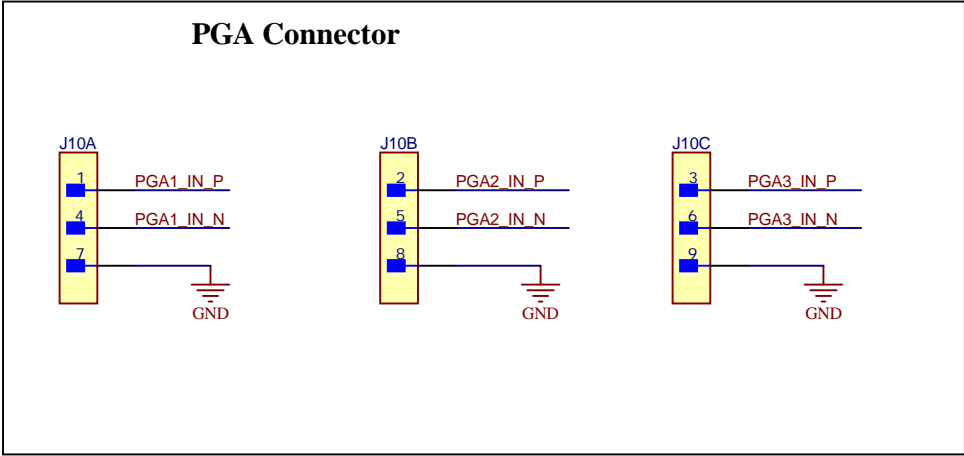
C

C



D

D

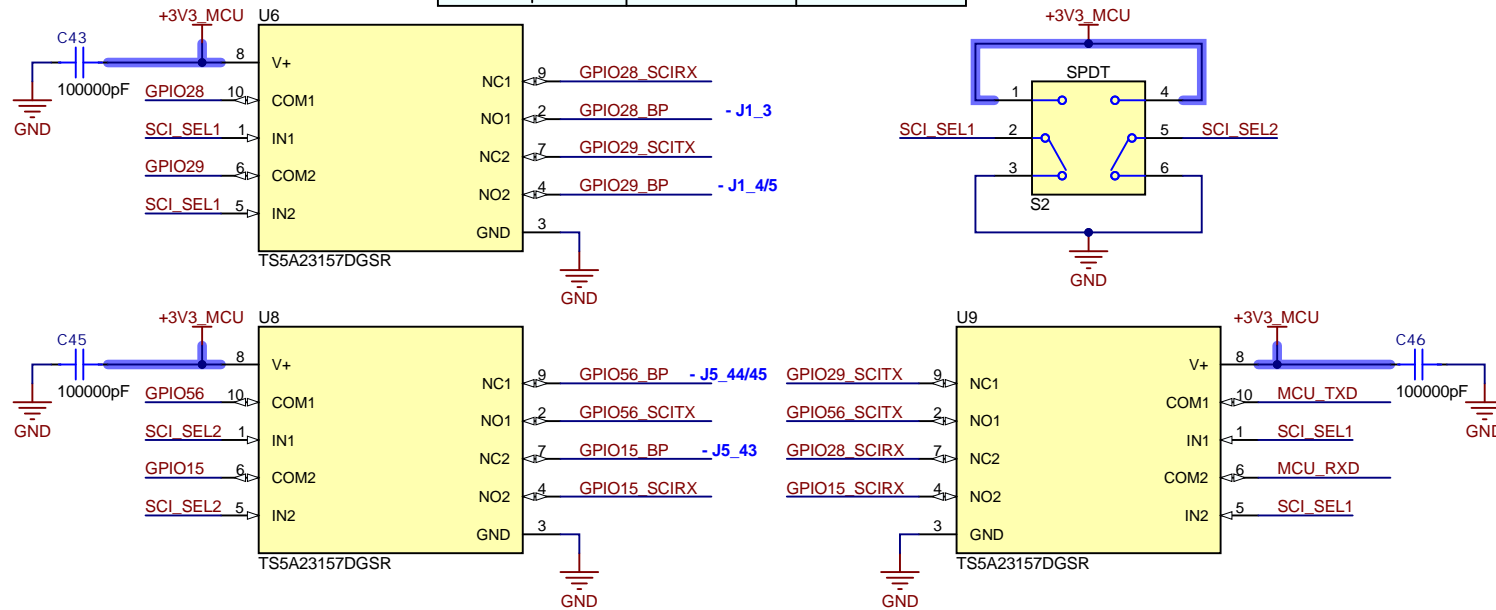


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

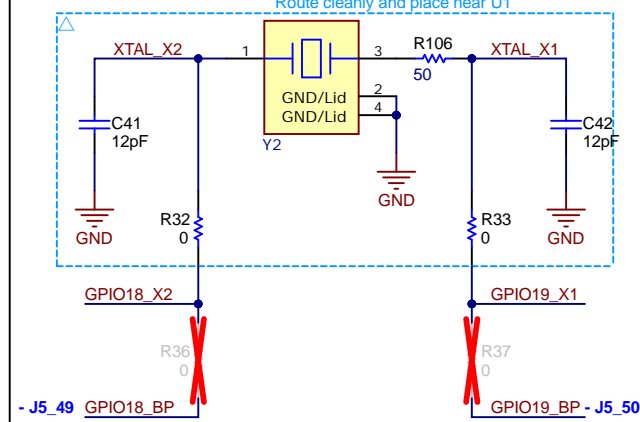
UART Routing

SCI_SEL1	SCI_SEL2	GPIO28/29 Route	GPIO15/56 Route
0	0	XDS110 COM Port	BP
0	1	XDS110 COM Port	NC
1	0	BP	BP
1	1	BP	XDS110 COM Port

- DEFAULT

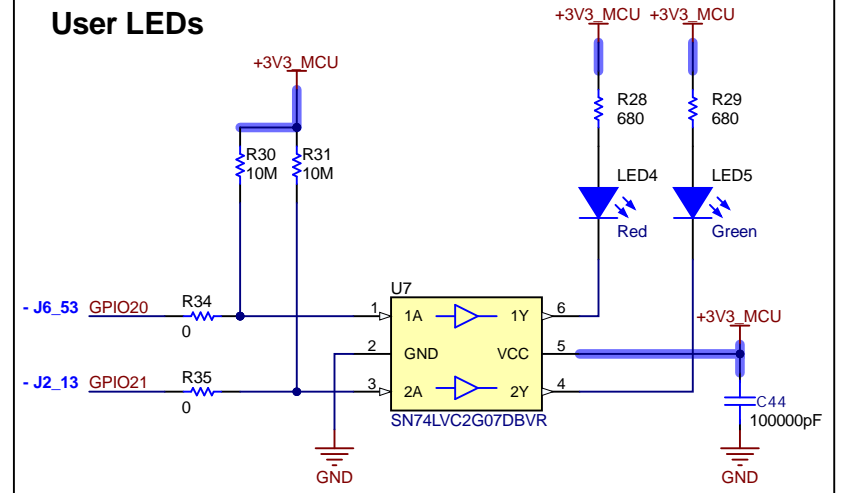


Oscillator

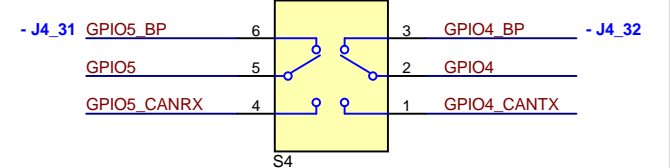


By default:
 - Crystal Y2 is connected between GPIO18_X2 and GPIO19_X1.
 - GPIO18_BP AND GPIO19_BP are connected to the BoosterPack headers.
 If GPIO18 and GPIO 19 are needed at the Boosterpac k Headers:
 - Remove R32 and R33, populate R36 and R37 with 0 ohm resistors
 - The F28P55x device's internal oscillator will need to be used

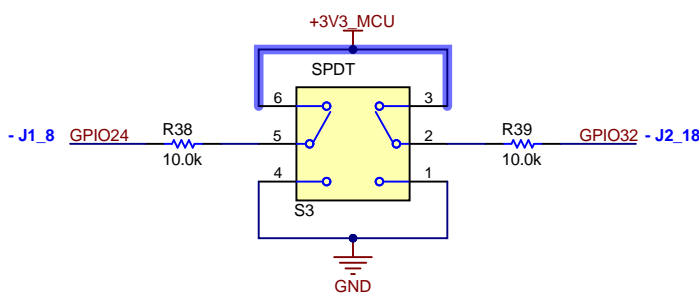
User LEDs



CAN Routing



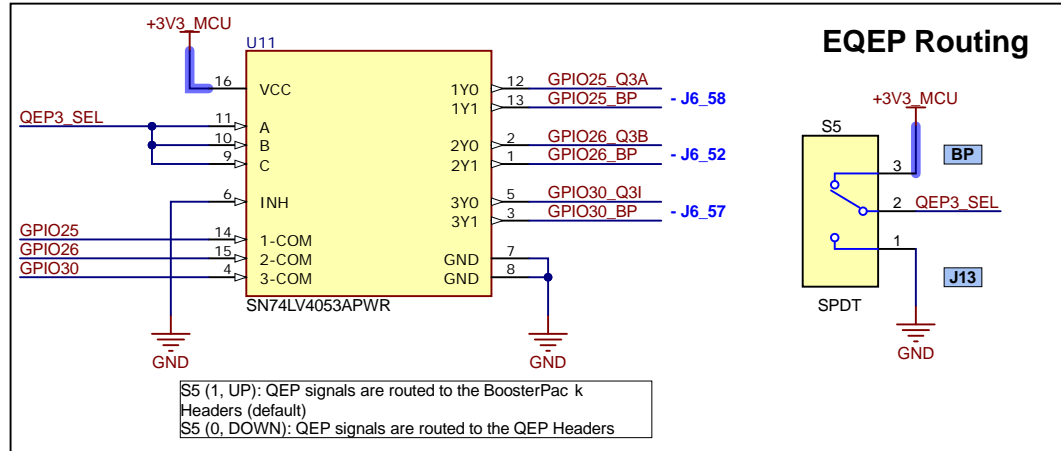
Boot Mode Select



Selected Boot Mode Chart

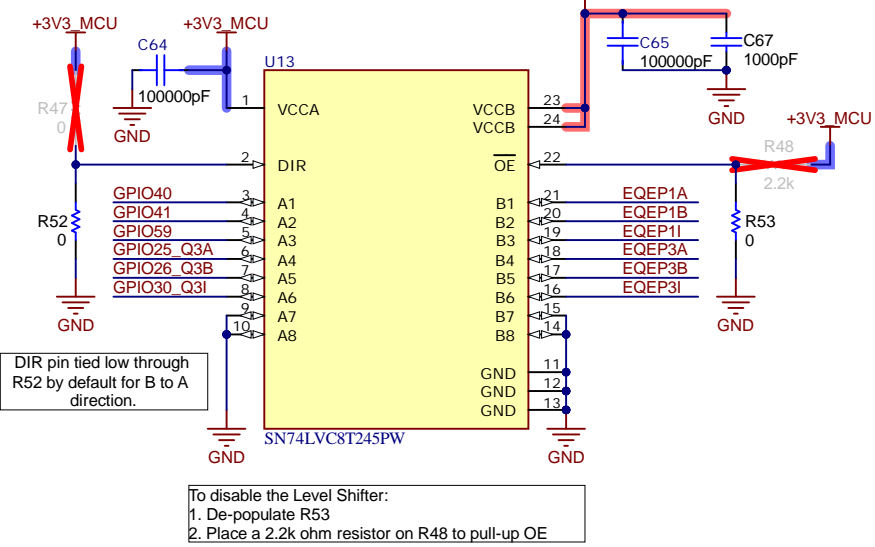
Mode #	GPIO24	GPIO32	Boot Mode
00	0	0	Boot from Parallel GPIO
01	0	1	Boot from SCI / Wait Mode
02	1	0	Boot from CAN
03	1	1	Boot from Flash

EQEP Routing



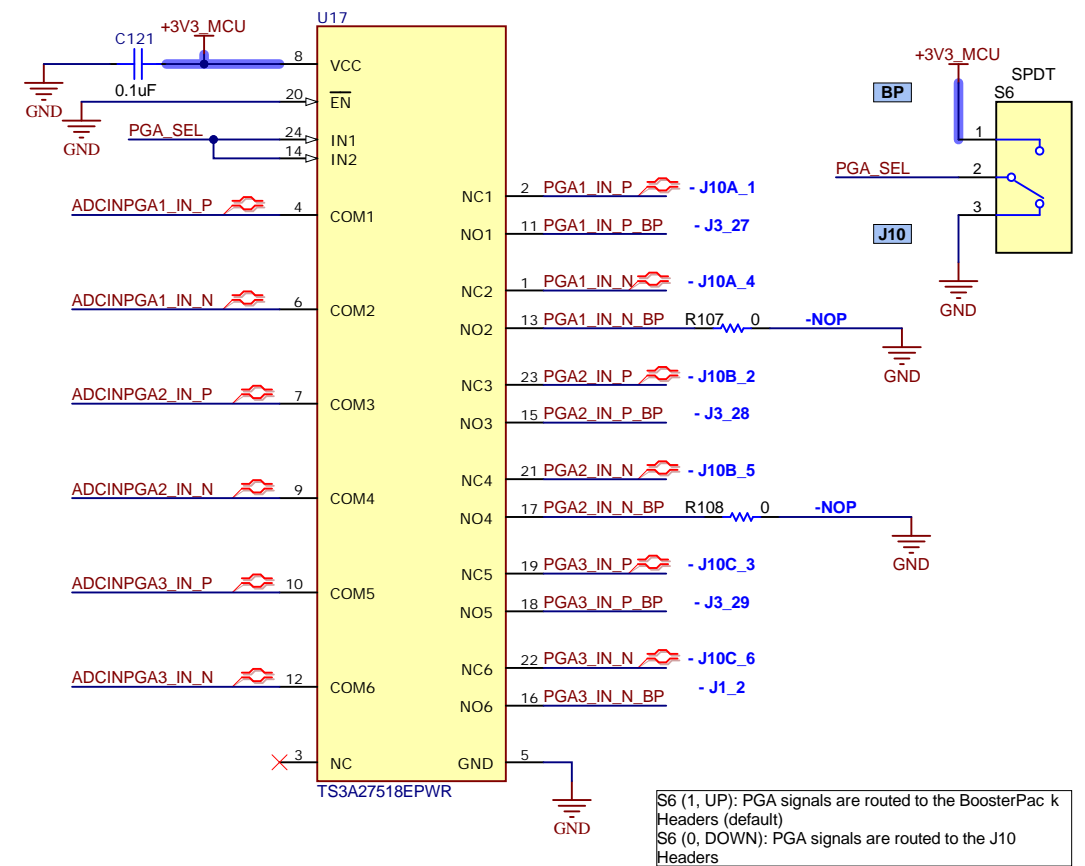
S5 (1, UP): QEP signals are routed to the BoosterPac k Headers (default)
 S5 (0, DOWN): QEP signals are routed to the QEP Headers

EQEP Level Shifter



To disable the Level Shifter:
 1. De-populate R53
 2. Place a 2.2k ohm resistor on R48 to pull-up OE

PGA Routing

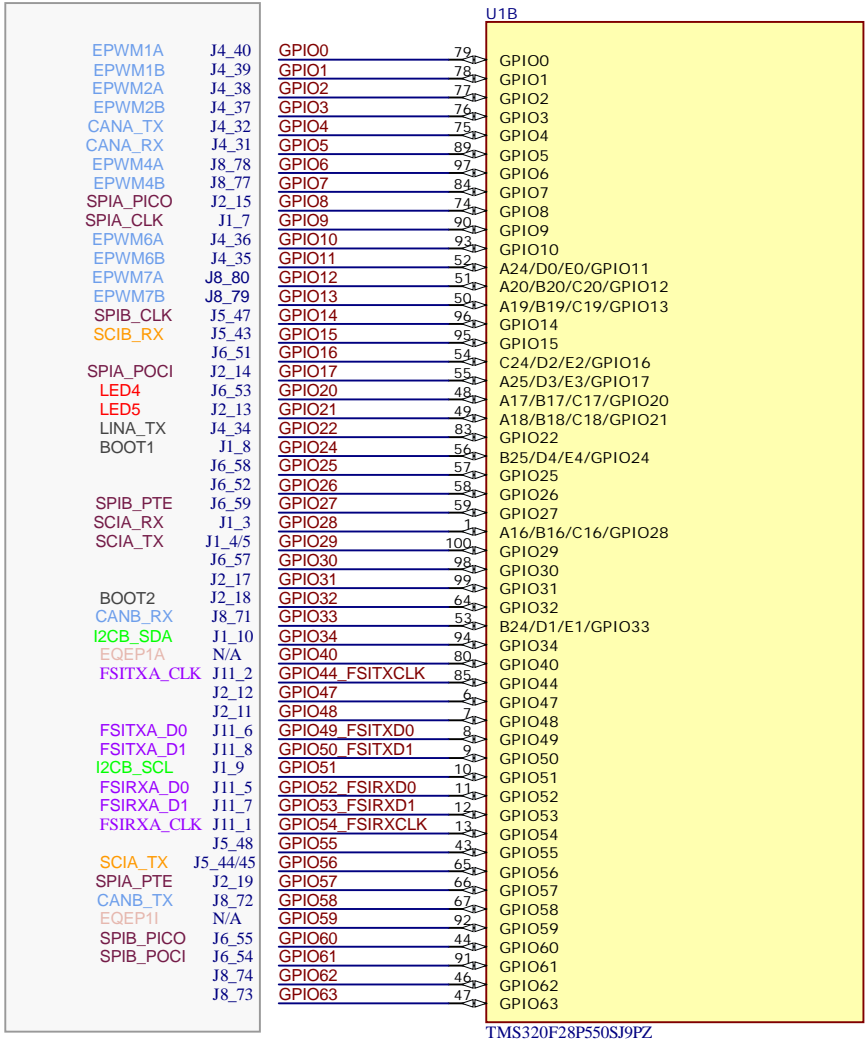
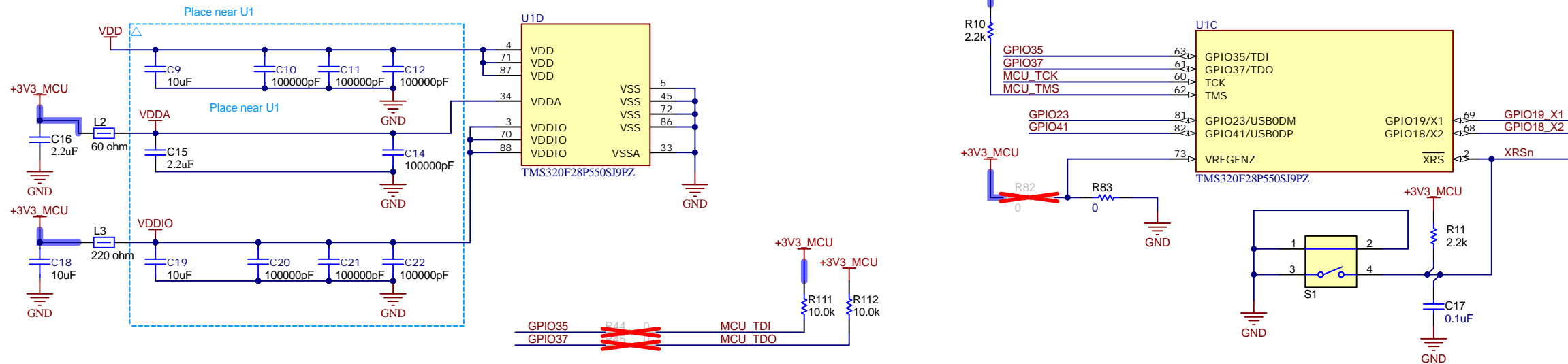


S6 (1, UP): PGA signals are routed to the BoosterPac k Headers (default)
 S6 (0, DOWN): PGA signals are routed to the J10 Headers

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: LAUNCHXL-F28P55X	Designed for: Public Release	Mod. Date: 3/1/2024
TID #: N/A	Project Title: LAUNCHXL-F28P55X	
Number: MCU133	Rev: C	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 8
Drawn By: Stevan Duraskovic	File: MCU133C_AltRouting_Misc.SchDoc	Size: B
Engineer: Stevan Duraskovic	Contact: http://www.ti.com/support	

F28P55x Device



A

B

C

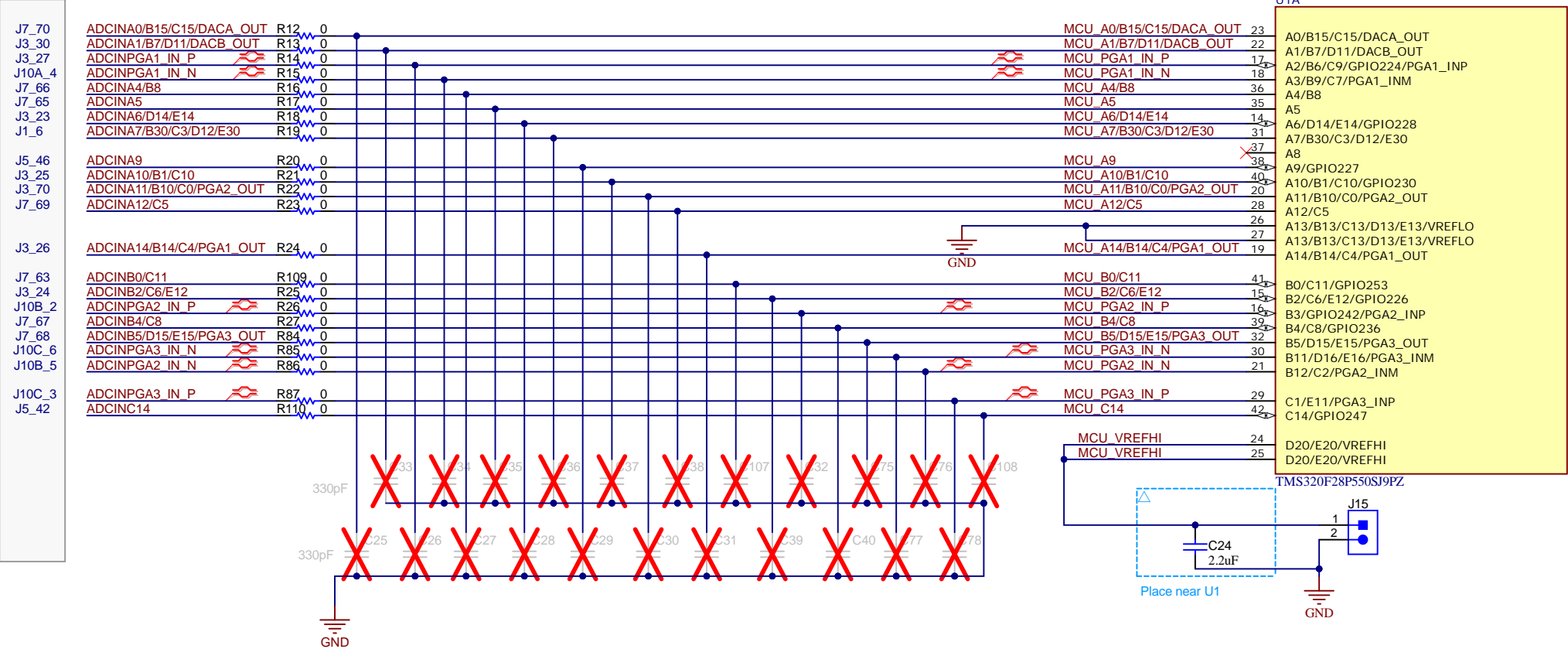
D

A

B

C

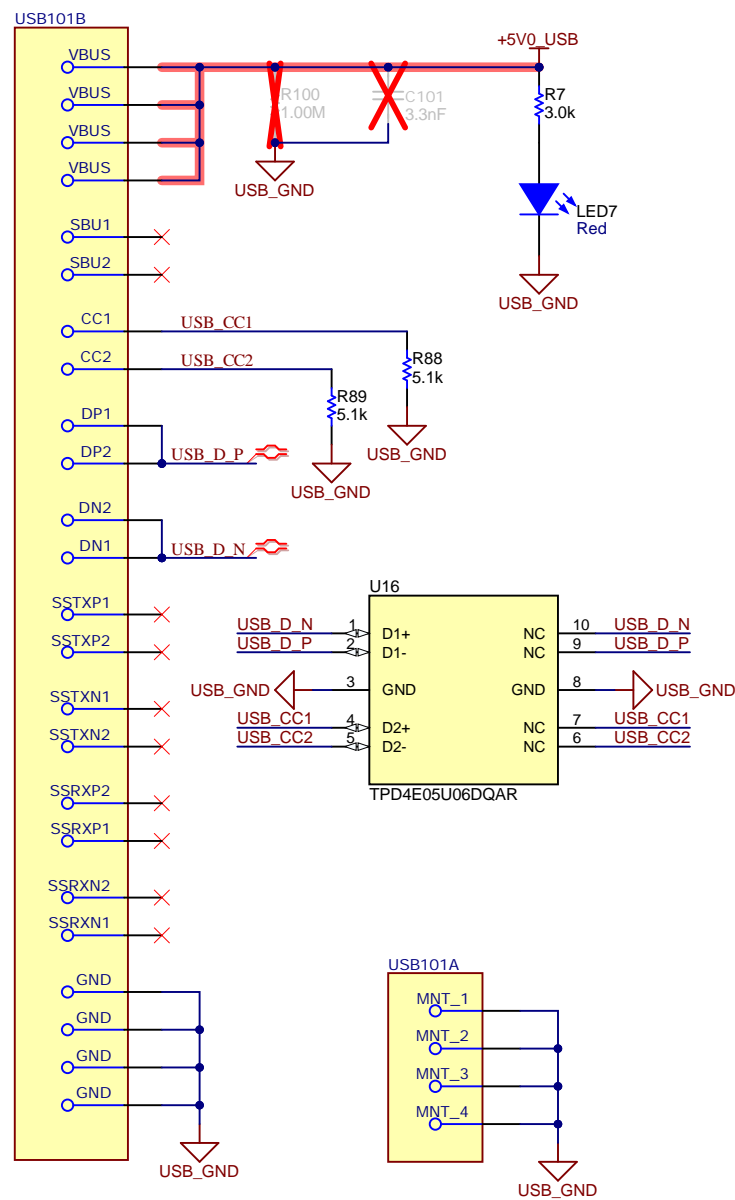
D



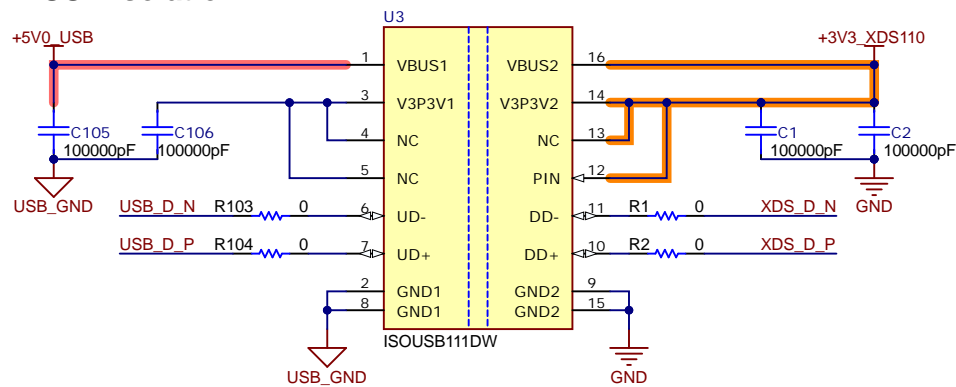
F28P55X ADC Pins

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

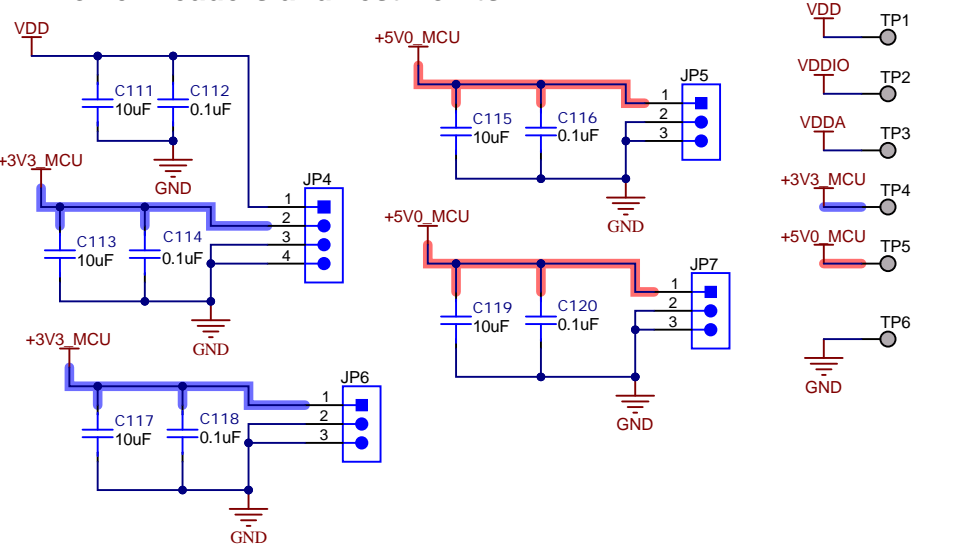
USB-C Connector



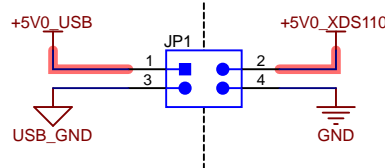
USB Isolation



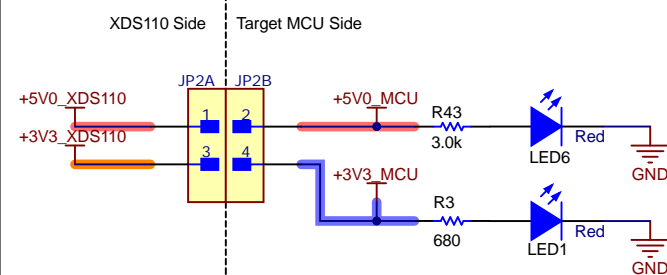
Power Headers and Test Points



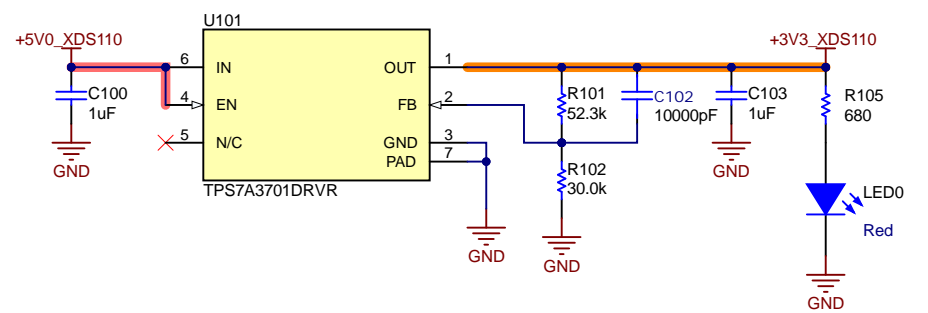
PWR & GND Isolation Boundary



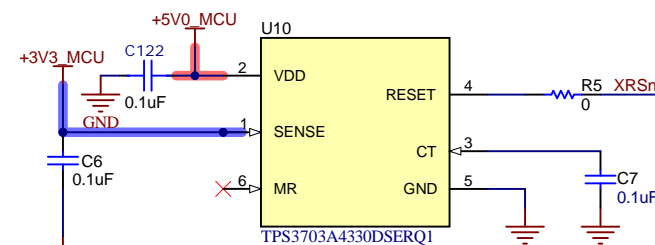
5V & 3.3V Isolation Boundary



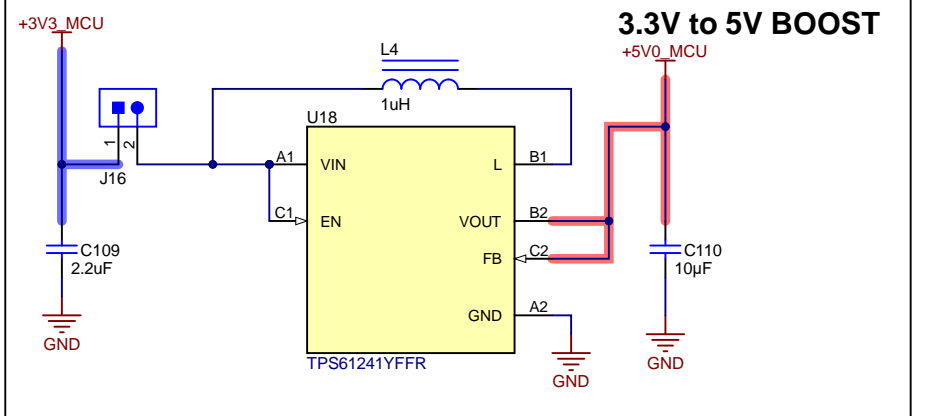
5V to 3.3V



System Supervisory Circuit



3.3V to 5V BOOST

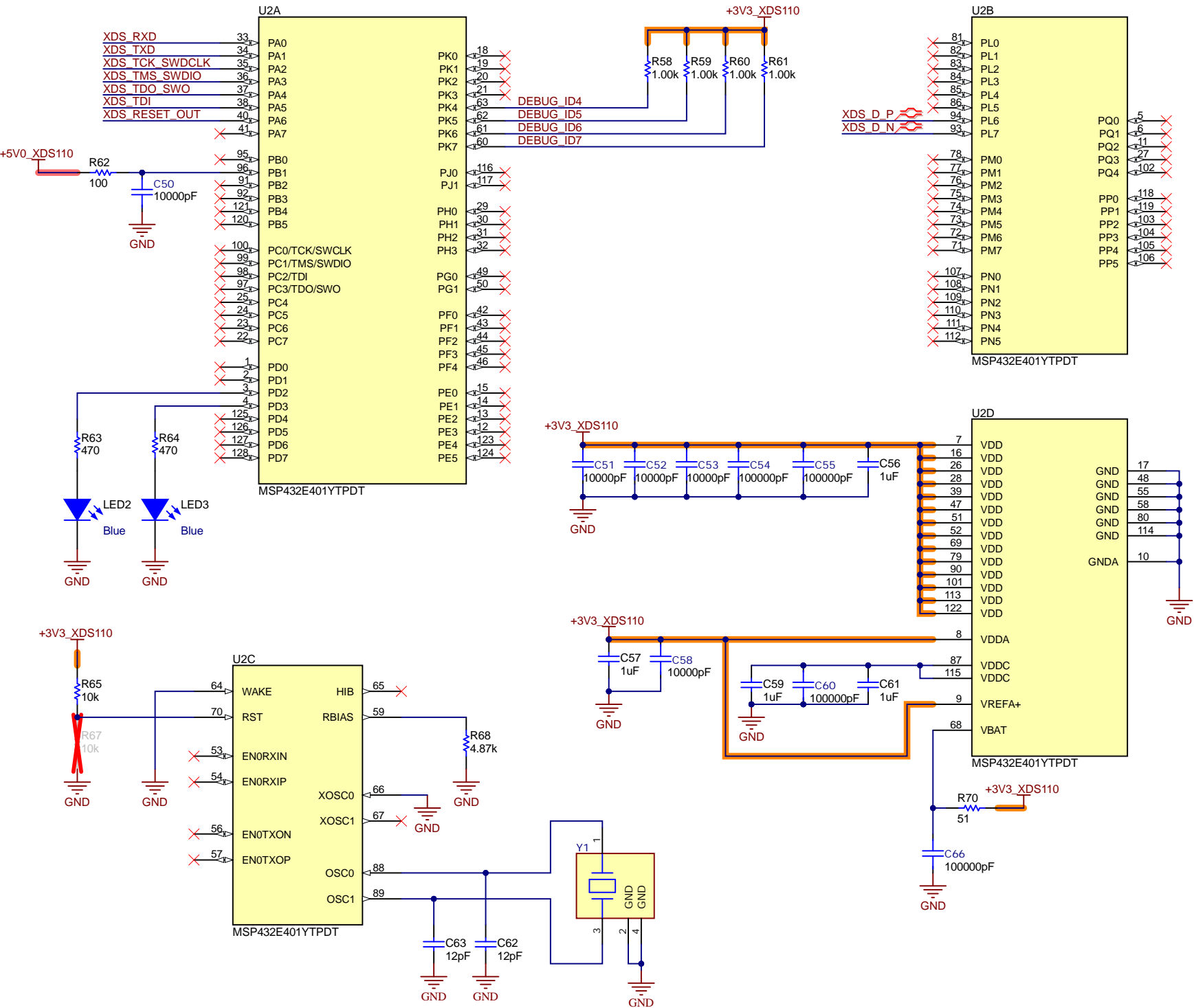


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

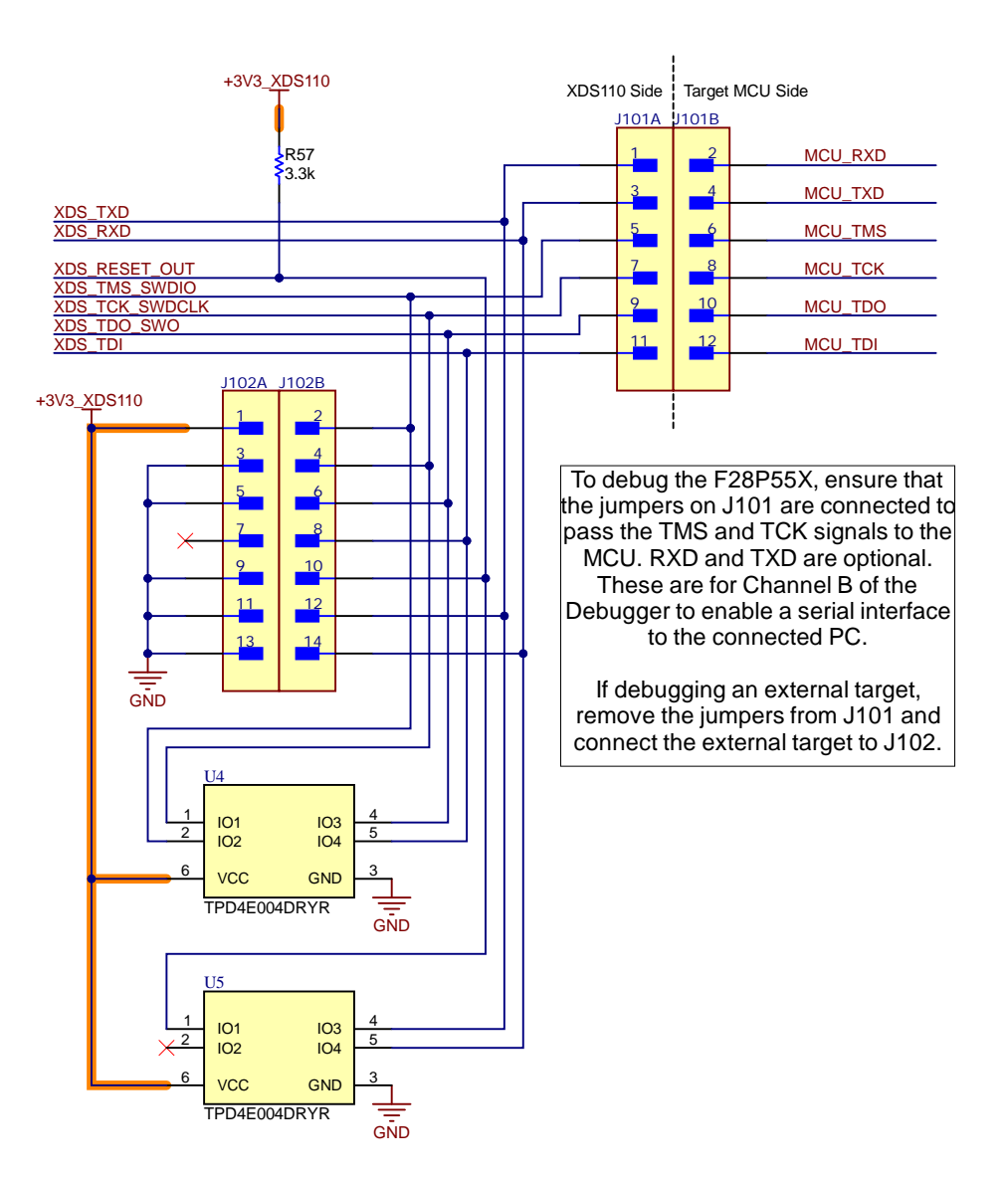
Orderable: LAUNCHXL-F28P55X	Designed for: Public Release	Mod. Date: 2/10/2024
TID #: N/A	Project Title: LAUNCHXL-F28P55X	
Number: MCU133	Rev: C	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 6 of 7
Drawn By: Stevan Duraskovic	File: MCU133C_USB_and_Power.SchDoc	Size: B
Engineer: Stevan Duraskovic	Contact: http://www.ti.com/support	© Texas Instruments 2024



XDS110 Device



XDS110 Target Interface



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

A

A

B

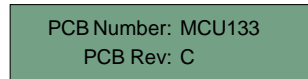
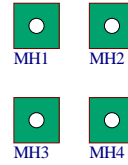
B

C

C

D

D



ZZ1

Assembly Note

These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ2

Assembly Note


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

ZZ3

Assembly Note

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

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: LAUNCHXL-F28P55X	Designed for: Public Release	Mod. Date: 2/3/2024		
TID #: N/A	Project Title: LAUNCHXL-F28P55X			
Number: MCU133	Rev: C	Sheet Title:		
SVN Rev: Not in version control		Assembly Variant: 001		Sheet: 8 of 8
Drawn By: Stevan Duraskovic	File: MCU133C_Hardware.SchDoc	Size: B		http://www.ti.com
Engineer: Stevan Duraskovic	http://www.ti.com/support		© Texas Instruments 2024	