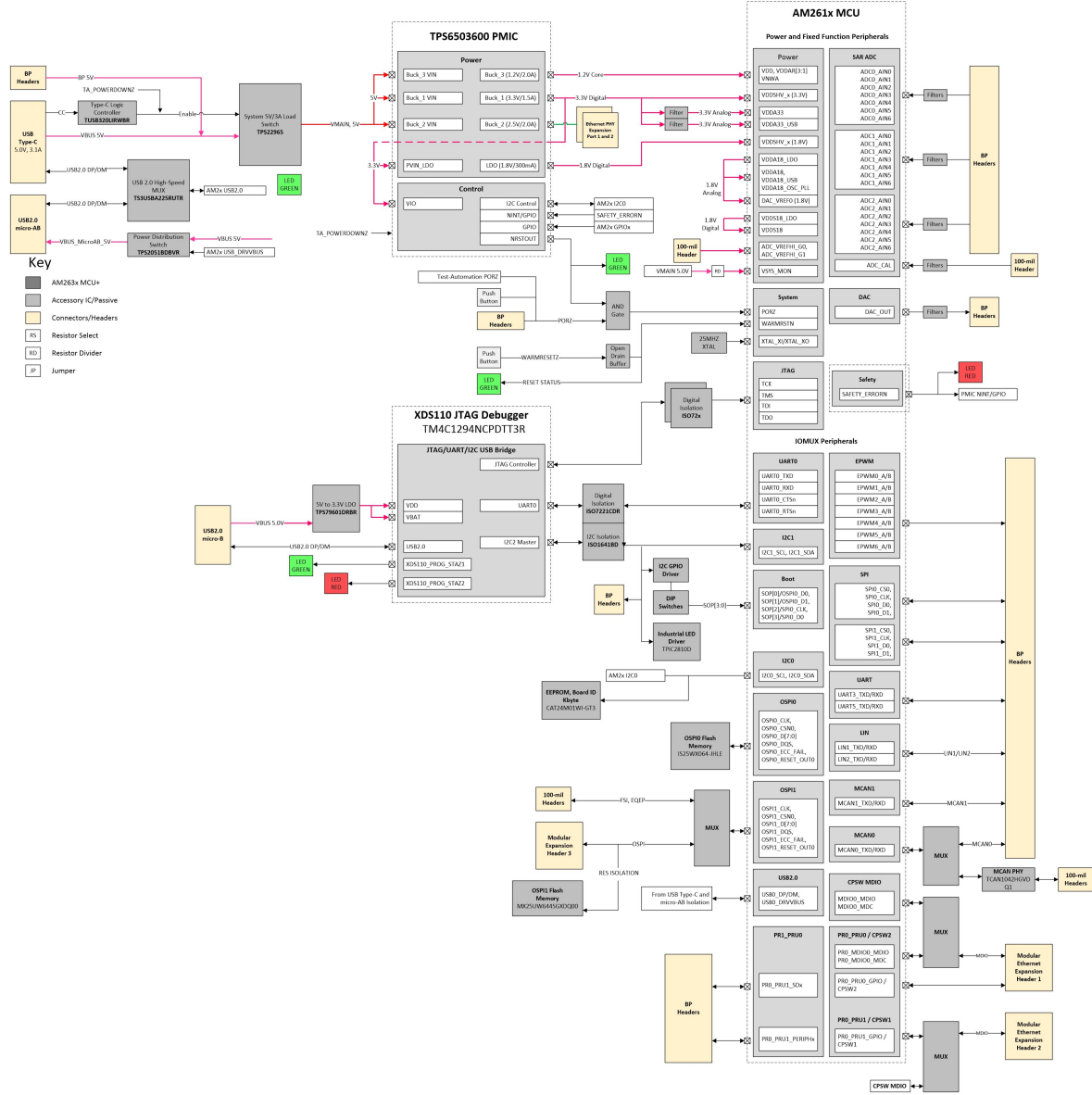


LP-AM261 - AM261x Launchpad EVM

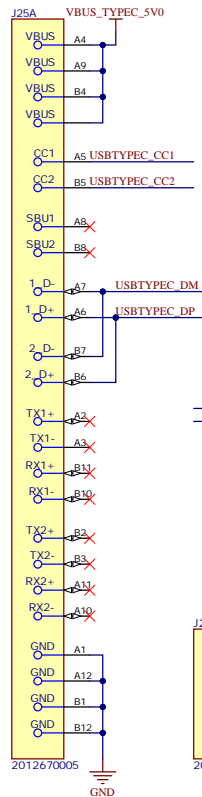
SYSTEM BLOCK DIAGRAM

- T1 Launchpad XL Form Factor
- AM261x MCU
 - Dual R5F ARM Safety Cores
 - 5 Mbyte SRAM
 - 8 Mbyte QSPI Flash Memory
 - vMByte QSPI RAM Memory (expansion)
- Analog
- 16x SAR ADC input channels
 - 1x DAC output channel
- Control
- 16x eFVM output channels
 - 2x PRU Encoder Channels
 - 6x PRU SDFM Current Sense Channels
 - 2x SDFM Current Sense Channels
 - 2x EQEP encoder input channels
 - 4x FSI channels
- Basic Connectivity
- 2x UART
 - 2x SPI
 - 2x I2C
- Industrial Networking
- 2x PRU (Programmable Real-time Units)
 - 2x RGAI/PMI/MI Industrial Ethernet
 - 2x MCAN
 - 2x LIN
- Development
- Isolated, Embedded XDS110 JTAG/JTAG

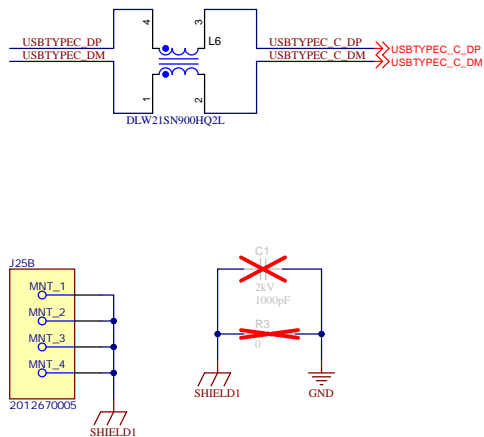
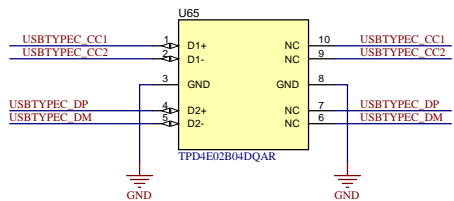


Revision History

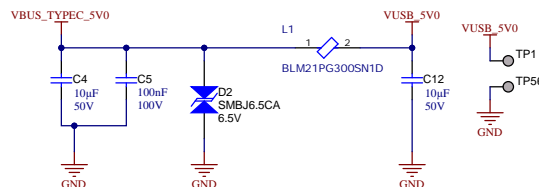
Rev	ECN #	Approved Date	Approved by	Notes
E1	N/A	2024-03-07		Initial revision



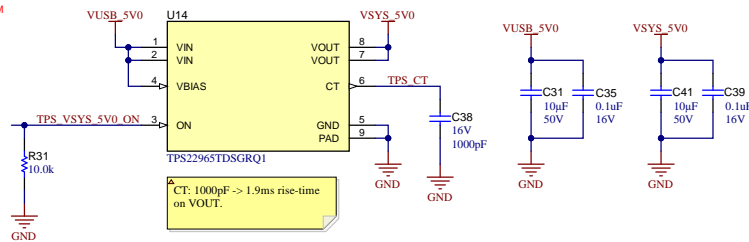
USB Type-C Power Input: 5.0V, 3.1A



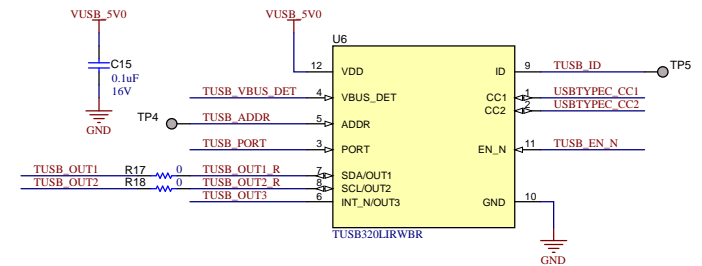
USB 5.0V Input Power Filtering



USB 5.0V Input Power Load Switch (4A max)

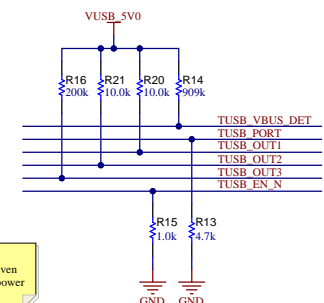


USB Type-C CC Logic Controller



PORT: pull low to enumerate as down-stream (sink) device mode.

EN_N: grounded, to enable the TUSB320 by default, but can be driven high by test automation header to power down system.



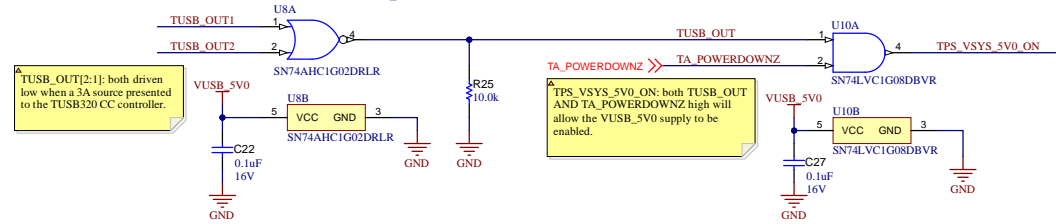
USB Type-C DFP CC Emulation



Install 10kohm resistor into R411 to allow for powering the VUSB_5V0 from the BoosterPack J26/J27 jumpers. Booster Pack power pins must supply a valid 5.0V/3A supply.

Note: Installing R411 will prevent the board from being powered through the J25 USB Type-C Connector when using a valid USB Type-C host port.

Input Power Load Switch Enable



TUSB_OUT[2:1]: both driven low when a 3A source presented to the TUSB320 CC controller.

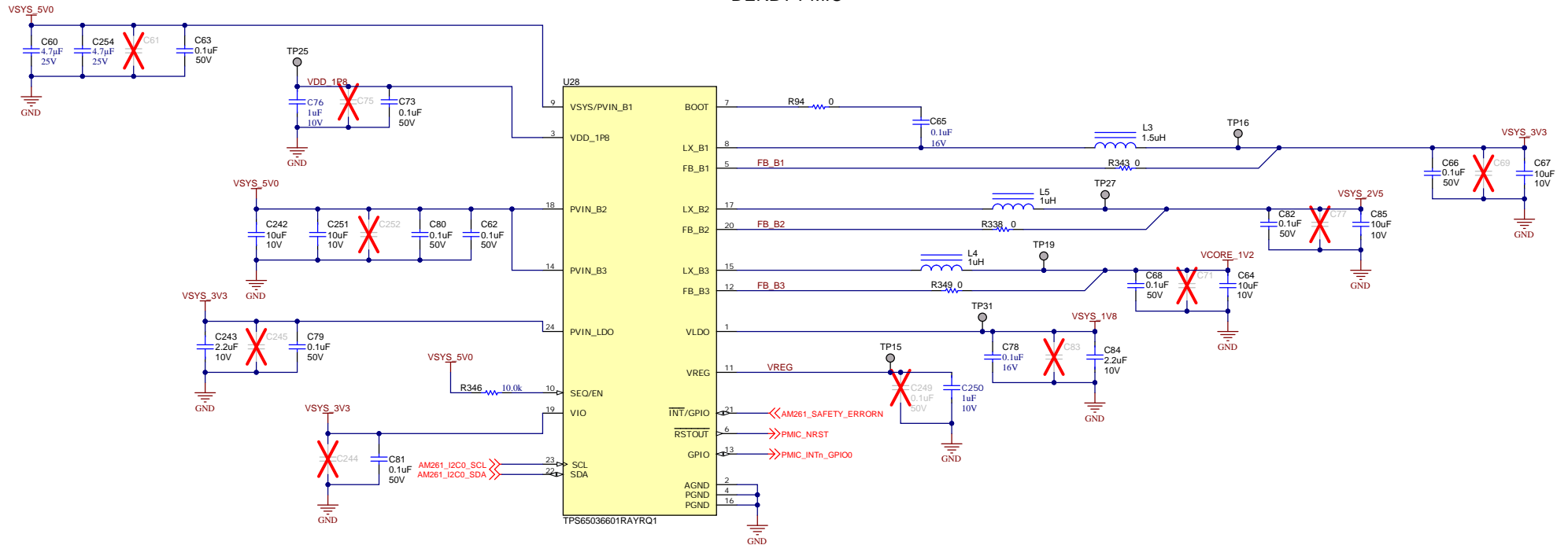
TA_POWERDOWNZ: TA_POWERDOWNZ high will allow the VUSB_5V0 supply to be enabled.

Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 09-05-2024
TID #: N/A	Project Title: USB TYPE-C INPUT PWR	
Number: PROC193	Rev: E1	Sheet 2 of 23
SVN Rev: 285	Assembly Variant: 001	File: PROC193E1_02_USB_TYPEC_IN_PWR_Sch016size: B
Drawn By: Vijetha J. Kiran	Engineer: Vijetha J. Kiran	Contact:

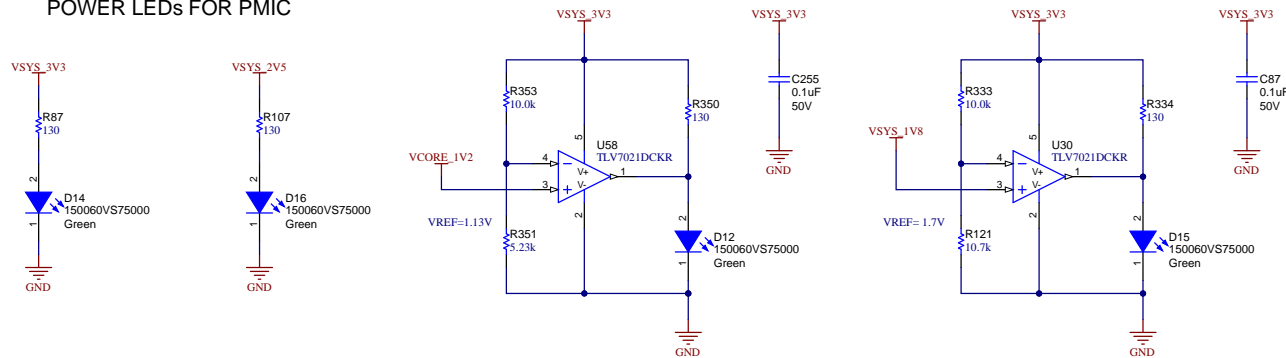
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DERBY PMIC

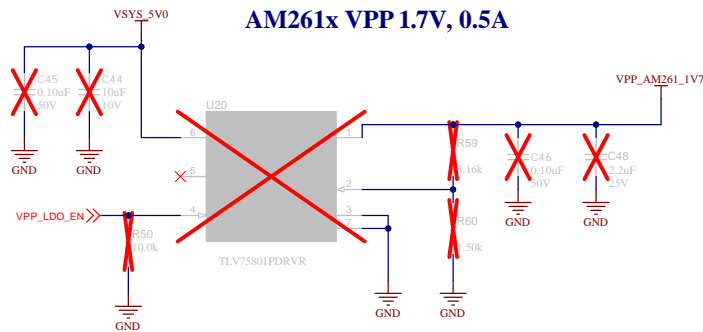


POWER LEDs FOR PMIC



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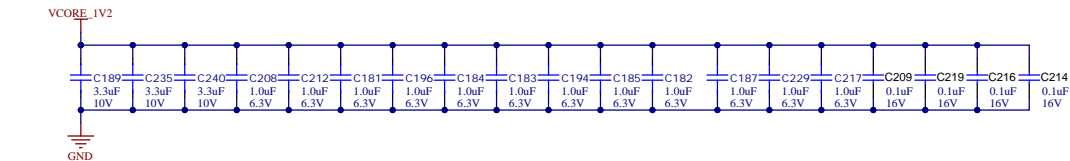
Orderable: LP-AM261	Designed for: Project Title: AM261 Launchpad	Mod. Date: 07-05-2024
TID #: N/A	Number: PROC193	Rev: E1
SVN Rev: N/A	Drawn By: Vijetha J. Kiran	Engineer: Vijetha J. Kiran
Assembly Variant: 001	File: PROC193E1_03_DerbyPMIC_PWR.SchDoc	Contact:
Sheet: 3 of 23	Size: B	http://www.ti.com
© Texas Instruments		



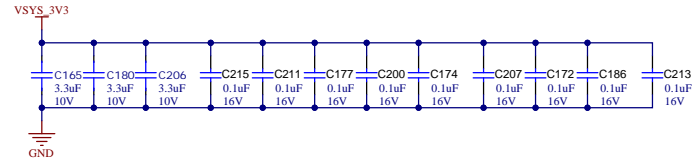
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Orderable: LP-AM261	Designed for:	Mod. Date: 07-05-2024	
TID #: N/A	Project Title: AM261 Launchpad		
Number: PROC193	Rev: E1	Sheet Title: VPP 1.7V LDO	
SVN Rev: 279	Assembly Variant: 001	Sheet: 4 of 23	
Drawn By: Vijetha J. Kiran	File: PROC193E1_04_VPP1V7_PWR.SchDoc	Size: B	
Engineer: Vijetha J. Kiran	Contact:		http://www.ti.com © Texas Instruments

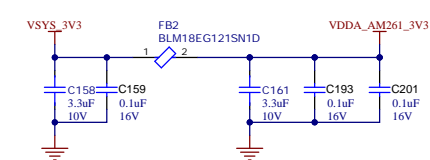
VDD 1V2 Core Digital



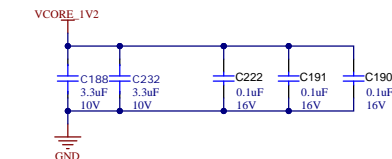
VDDSHV 3V3 Digital



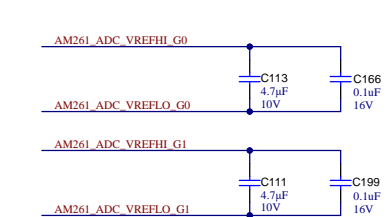
VDDA 3V3 Analog



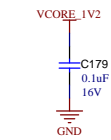
VDDAR[3:2] 1V2 SRAM Array



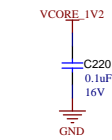
ADC VREF Decoupling



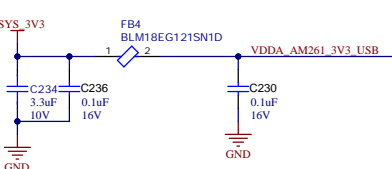
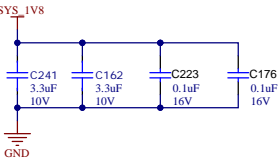
VNWA 1V2



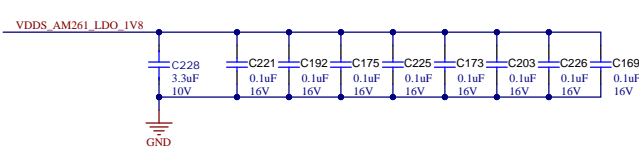
VDD 1V2 Temperature



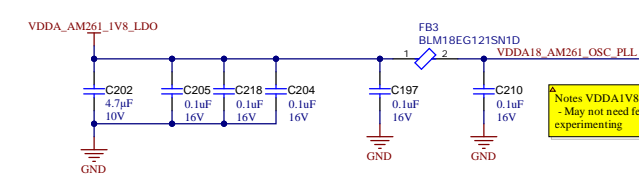
VDDSHV 1V8 Digital



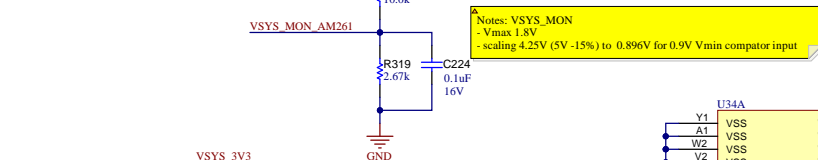
VDDS 1V8 Digital



VDDA 1V8 Analog



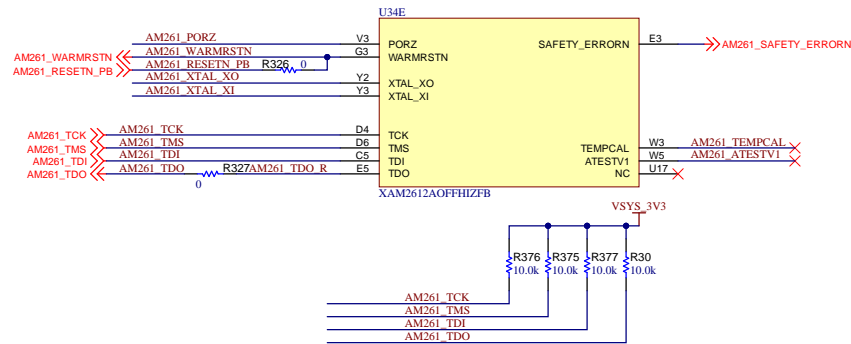
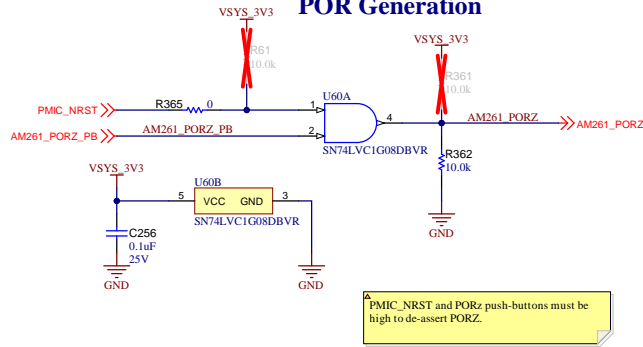
VSYS Voltage Monitor



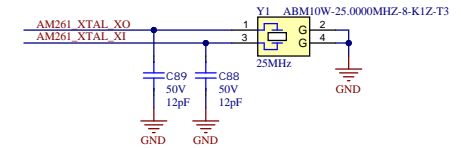
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AM261x Clock, Reset, Boot, JTAG

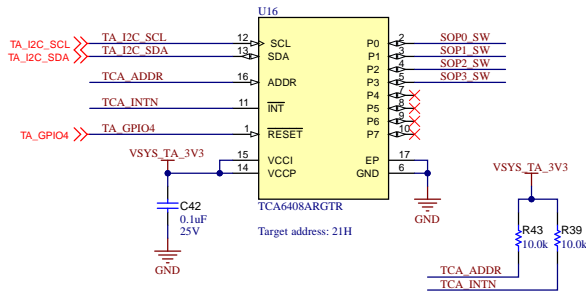
POR Generation



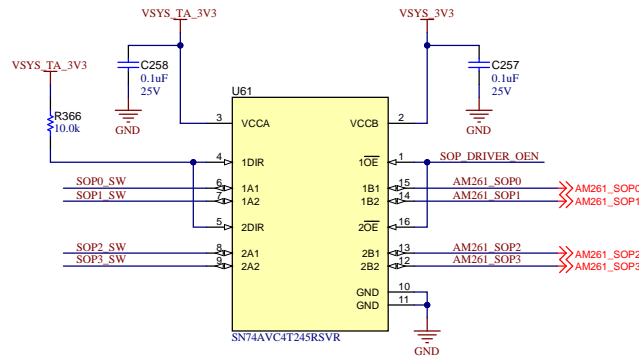
25 MHz Crystal



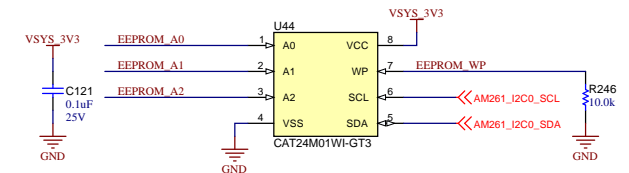
Test Automation SOP Select



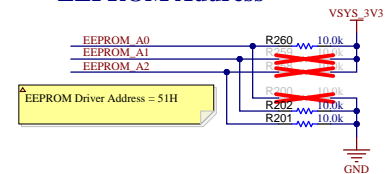
SOP State Driver



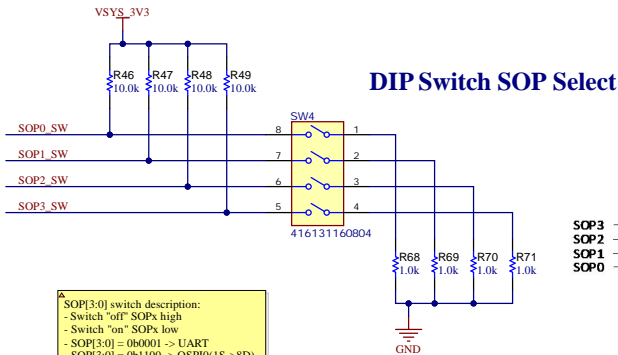
Board ID EEPROM



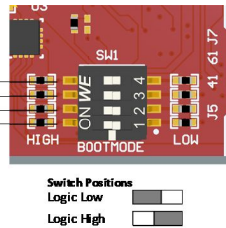
EEPROM Address



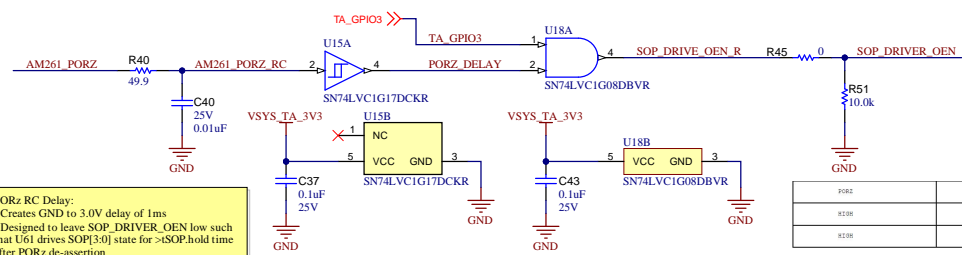
DIP Switch SOP Select



SOP[3:0] switch description:
 - Switch "off" SOPx high
 - Switch "on" SOPx low
 - SOP[3:0] = 0b0001 -> UART
 - SOP[3:0] = 0b1100 -> OSPI0(1S->8D)
 - SOP[3:0] = 0b0011 -> OSPI0(8S),SDR
 - SOP[3:0] = 0b1011 -> DevBoot
 - SOP[3:0] = 0b1111 -> USB2.0 DPU

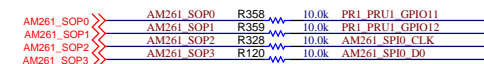
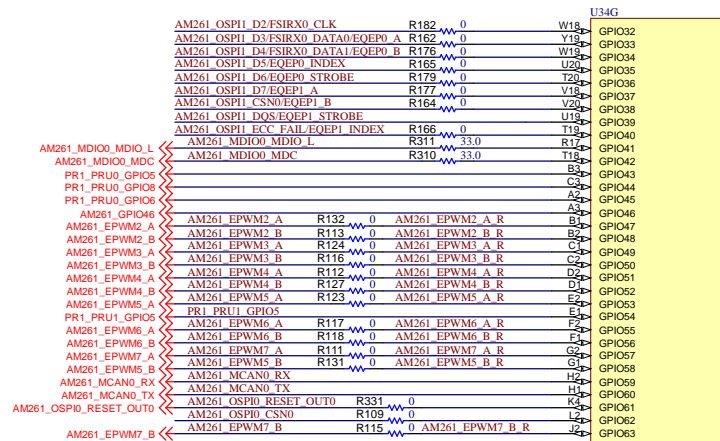
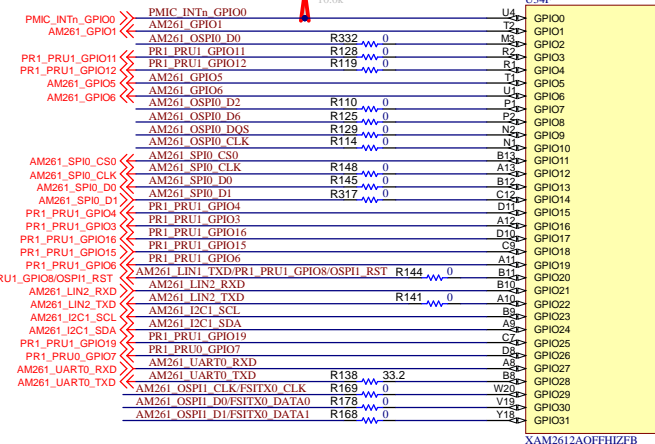
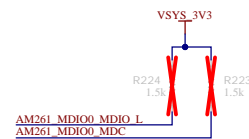
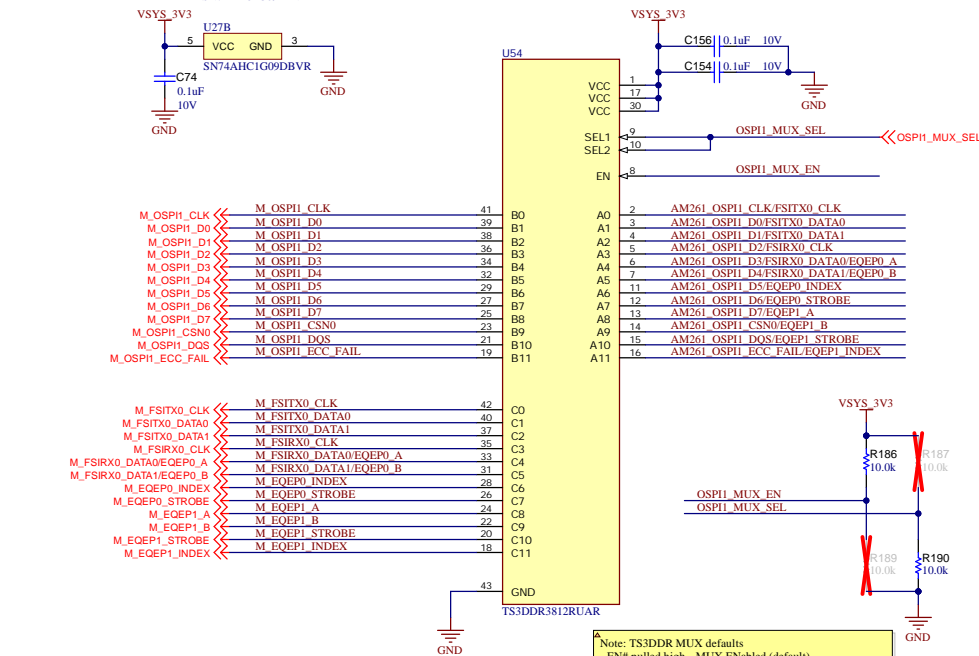
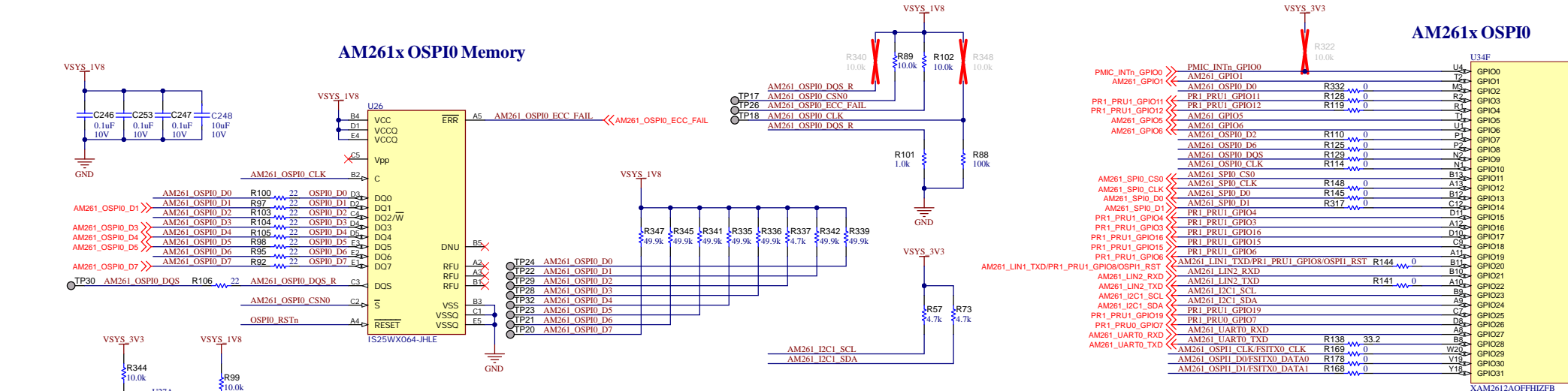


PORZ SOP Driver RC Delay

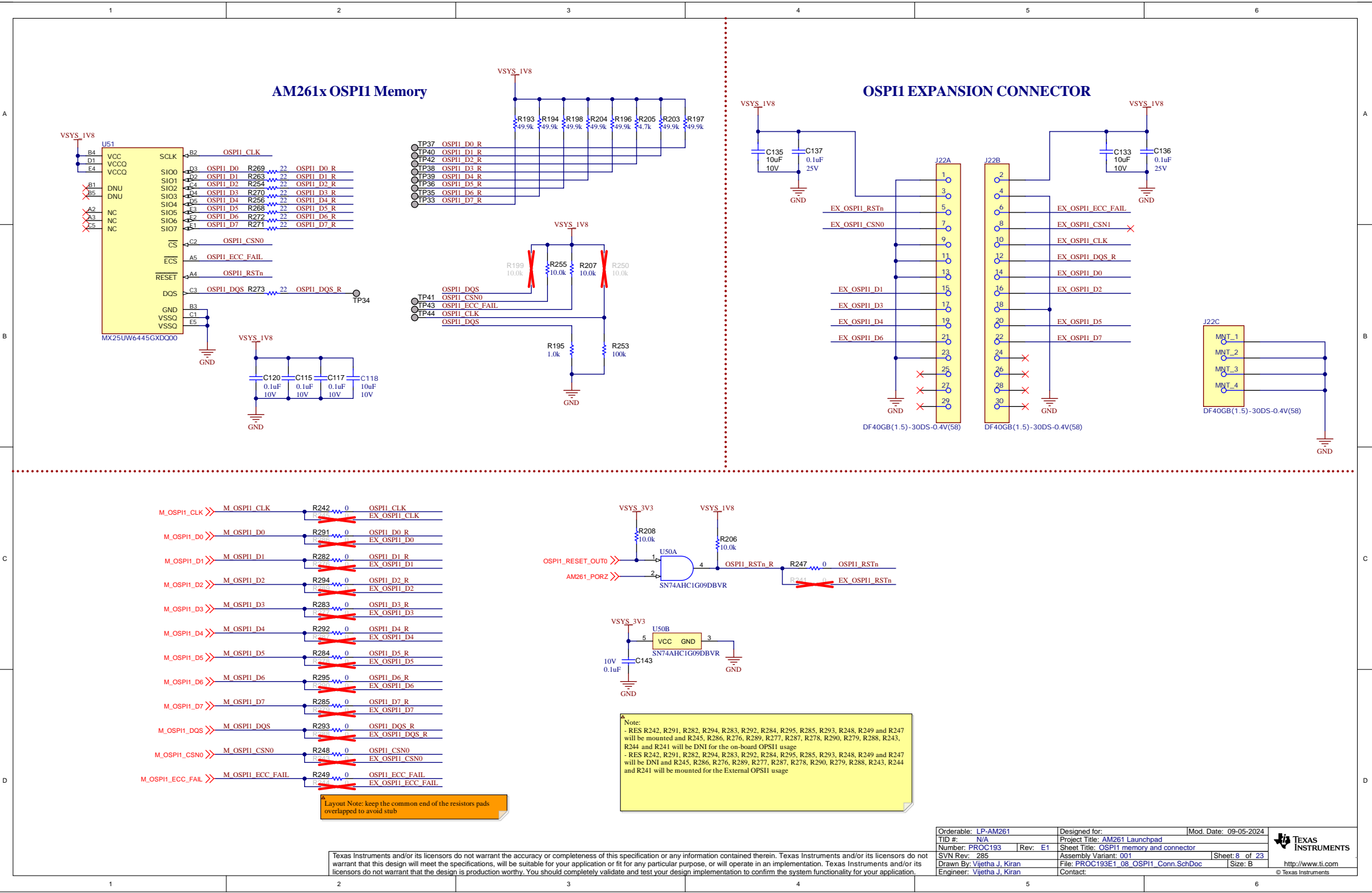


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Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 13-05-2024
TID #: N/A	Project Title: AM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: Clock Reset Boot JTAG
SVN Rev: 290	Assembly Variant: 001	Sheet 6 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_06_Clock_Reset_Boot_JTAG_Sch	Size: B
Engineer: Vijetha J. Kiran	Contact:	



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Orderable: LP-AM261	Designed for:	Mod. Date: 09-05-2024
TID #: N/A	Project Title: AM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: OSP11 memory and connector
SVN Rev: 285	Assembly Variant: 001	Sheet 8 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_08_OSP11_Conn.SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	http://www.ti.com

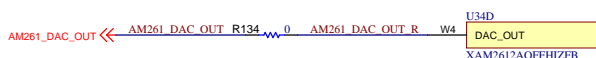


SAR ADC RC Filtering

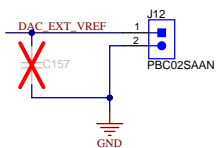


Layout Note: Place RC filters with minimal distance between components and close to MCU BGA.

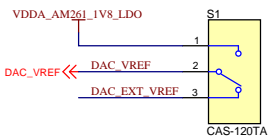
DAC Output



DAC External VREF Header

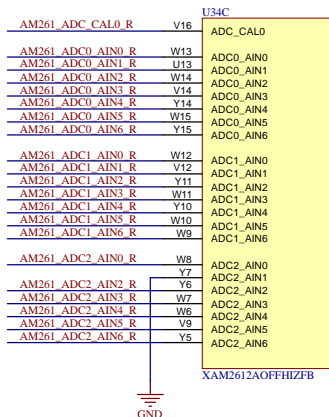


DAC VREF Select

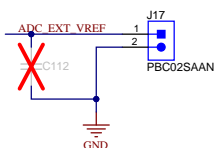


DAC VREF Switch Select - 1.8V VREF must be provided for AM261x comparators to function
 - Select pins 1-2 select AM261x 1.8V analog LDO output as DAC VREF (default)
 - Select pins 2-3 select external 1.8V VREF (if any provided)

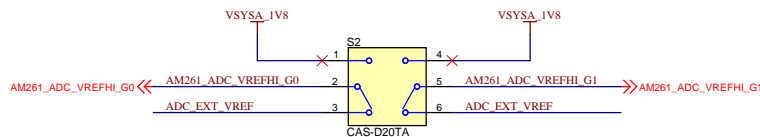
AM263x ADC and DAC



ADC External VREF Header

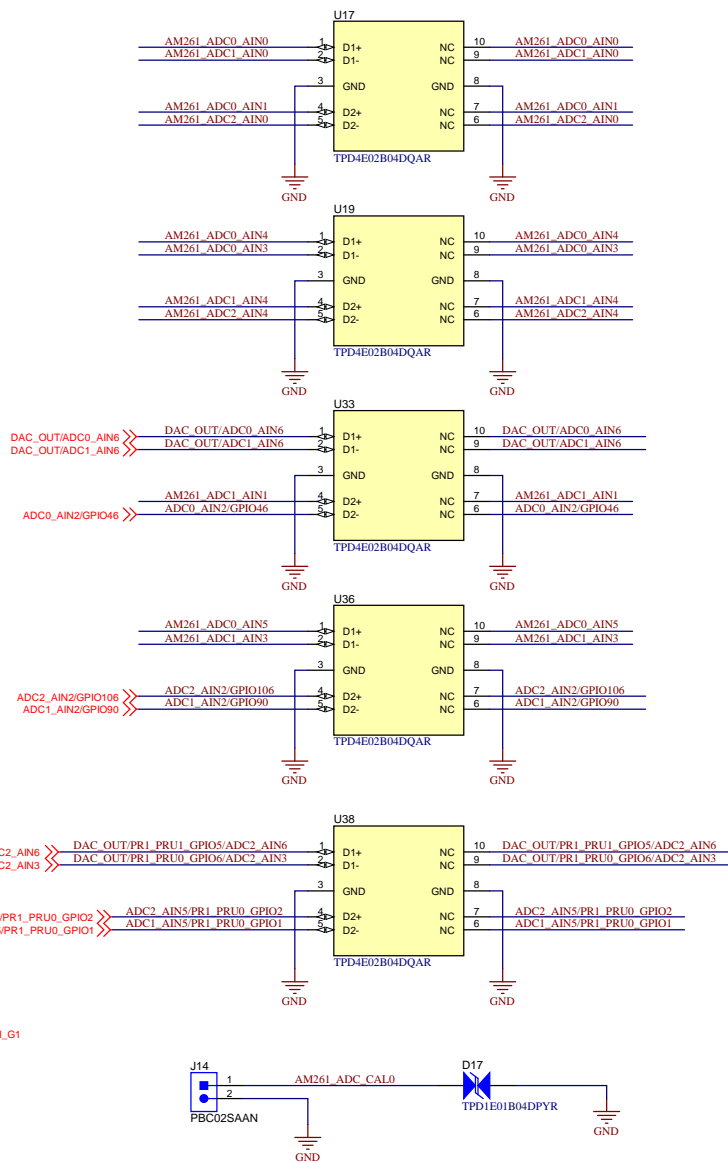


ADC VREF Select



DAC VREF Switch Select
 - Switch in 1-2 position allows AM261x on-board 1.8V VREF (VSSYS_1V8) for VREFG0
 - Switch in 2-3 position allows on-die ADC_VREF (default) or external 1.8V VREF (if any provided) for VREFG0
 - Switch in 4-5 position allows AM261x on-board 1.8V VREF (VSSYS_1V8) for VREFG0/G1
 - Switch in 5-6 position allows on-die ADC_VREF (default) or external 1.8V VREF (if any provided) for VREFG1

Layout Note: Place external ESD near connectors

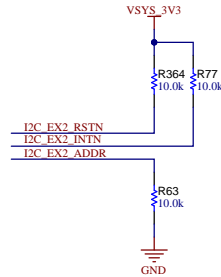
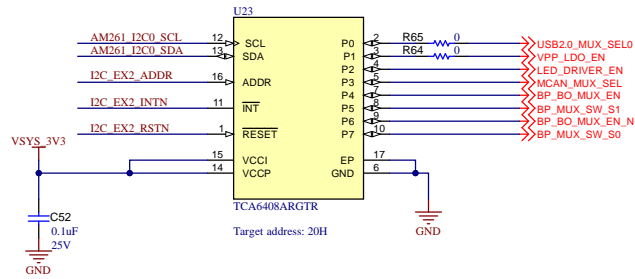
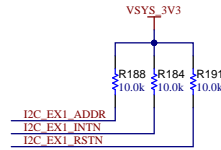
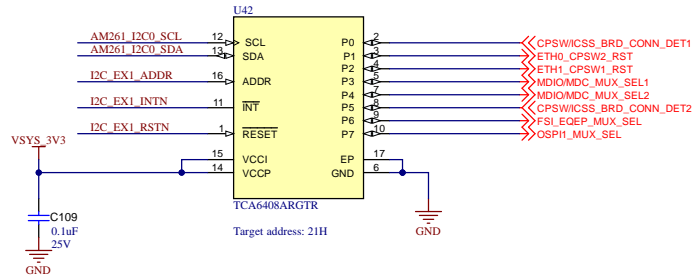


Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 07-05-2024
TID #: N/A	Project Title: AM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: ADC_DAC
SVN Rev: 279	Assembly Variant: 001	Sheet: 9 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_09_ADC_DAC_SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	http://www.ti.com

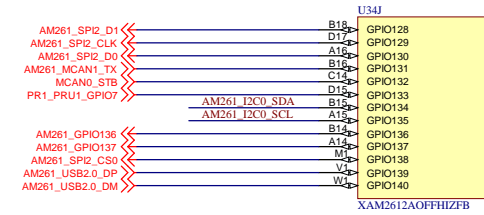
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AM261x_USB2.0, I2C0 and IO expander

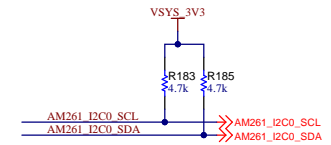
I2C IO Expanders



AM261x_USB2.0, I2C0



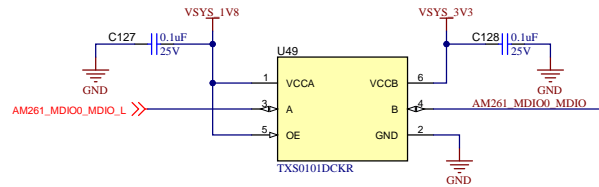
I2C0 Pull-Up



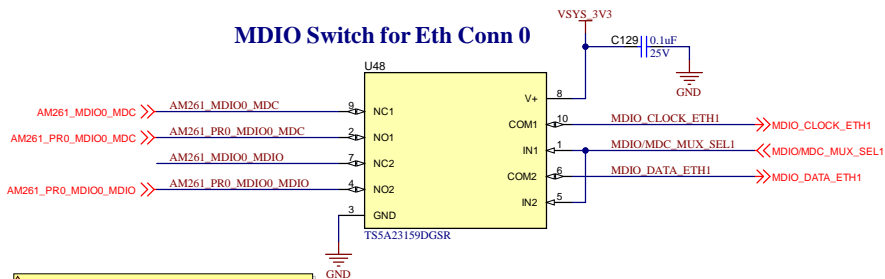
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Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 07-05-2024
TID #: N/A	Project Title: AM261x USB2.0 and I2C	
Number: PROC193	Rev: E1	Sheet: 10 of 23
SVN Rev: 279	Assembly Variant: 001	Size: B
Drawn By: Vijetha J. Kiran	File: PROC193E1_10_USB_I2C0_IOEXP.SchDoc	http://www.ti.com
Engineer: Vijetha J. Kiran	Contact:	© Texas Instruments

MDIO0_MDIO Level Translator



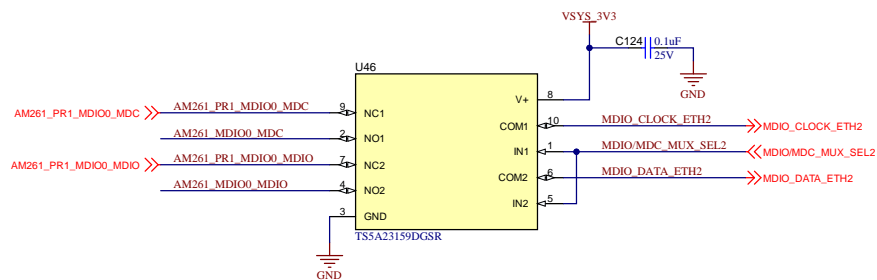
MDIO Switch for Eth Conn 0



MDIO Switch Modes
- IN1/2 pulled High by default - PR0_MDIO Selected

IN	NC to COM, COM to NC	NO to COM, COM to NO
L	ON	OFF
H	OFF	ON

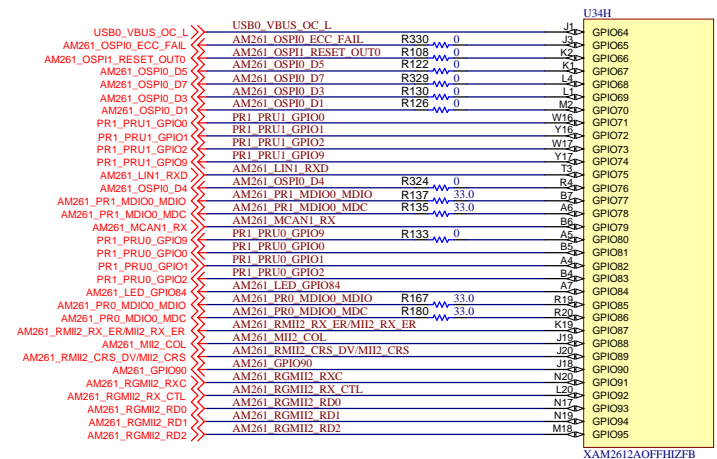
MDIO Switch for Eth Conn 1



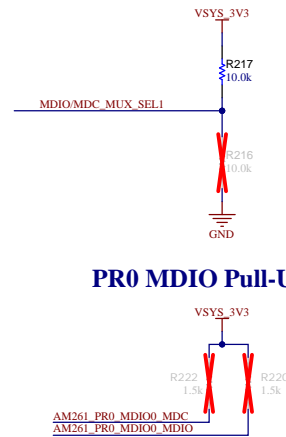
MDIO Switch Modes
- IN1/2 pulled low by default - PR1 MDIO Selected

IN	NC to COM, COM to NC	NO to COM, COM to NO
L	ON	OFF
H	OFF	ON

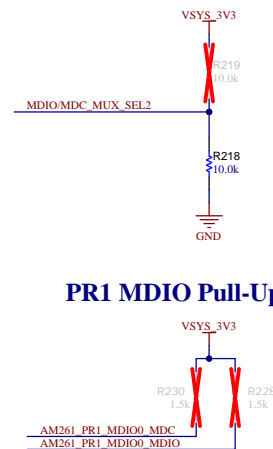
AM261x CPSW - RGMII and MDIO



PR0 MDIO Pull-Up



PR1 MDIO Pull-Up

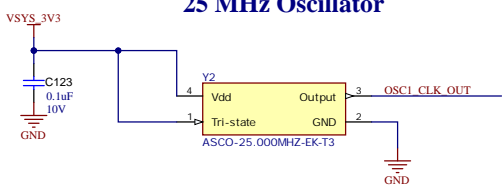


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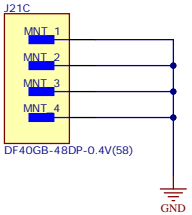
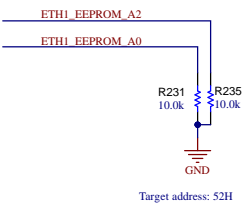
Orderable: LP-AM261	Designed for:	Mod. Date: 07-05-2024
TID #: N/A	Project Title: RM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: RGMII, MDIO
SVN Rev: 279	Assembly Variant: 001	Sheet: 11 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_11_RGMII_MII_SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	

ETH PORT 0

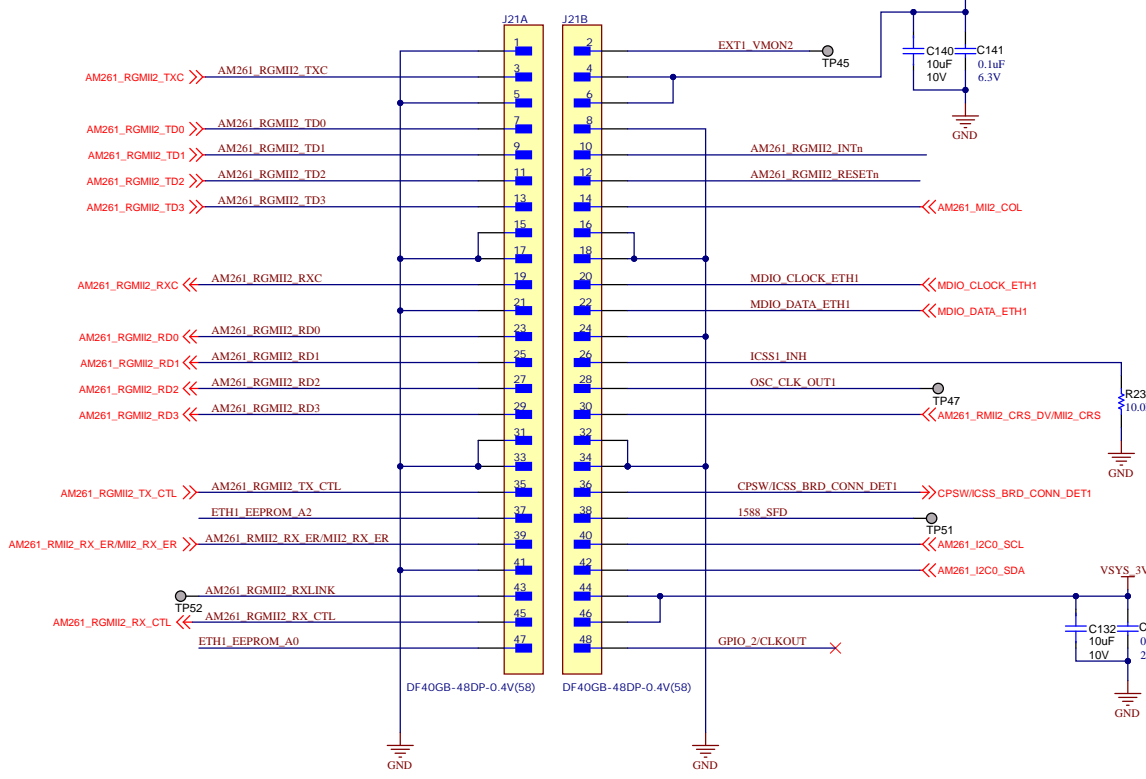
25 MHz Oscillator



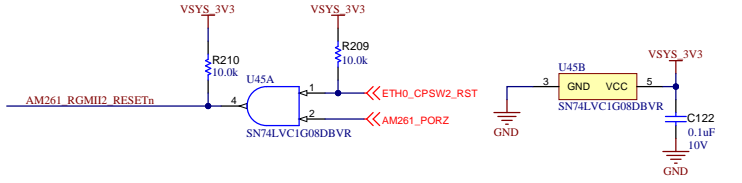
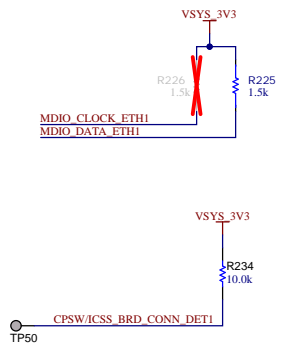
Oscillator Input Selection



AM261x PR0 PRU0 /CPSW2



MDIO Pull-Up



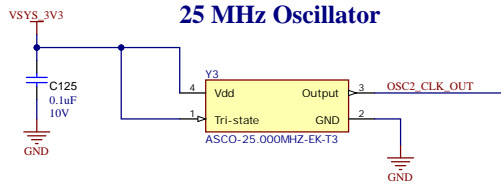
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TID #: N/A	Number: PROC193	Rev: E1
Sheet Title: Ethernet Port 0	Assembly Variant: 001	Sheet: 12 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_12_Ethernet_Conn_0.SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	

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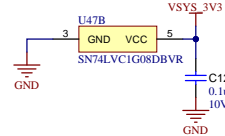
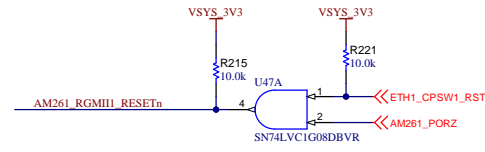
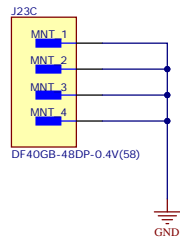
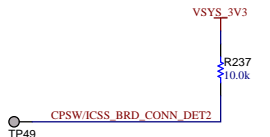
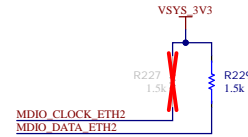
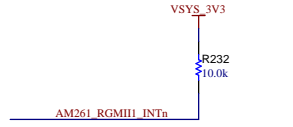
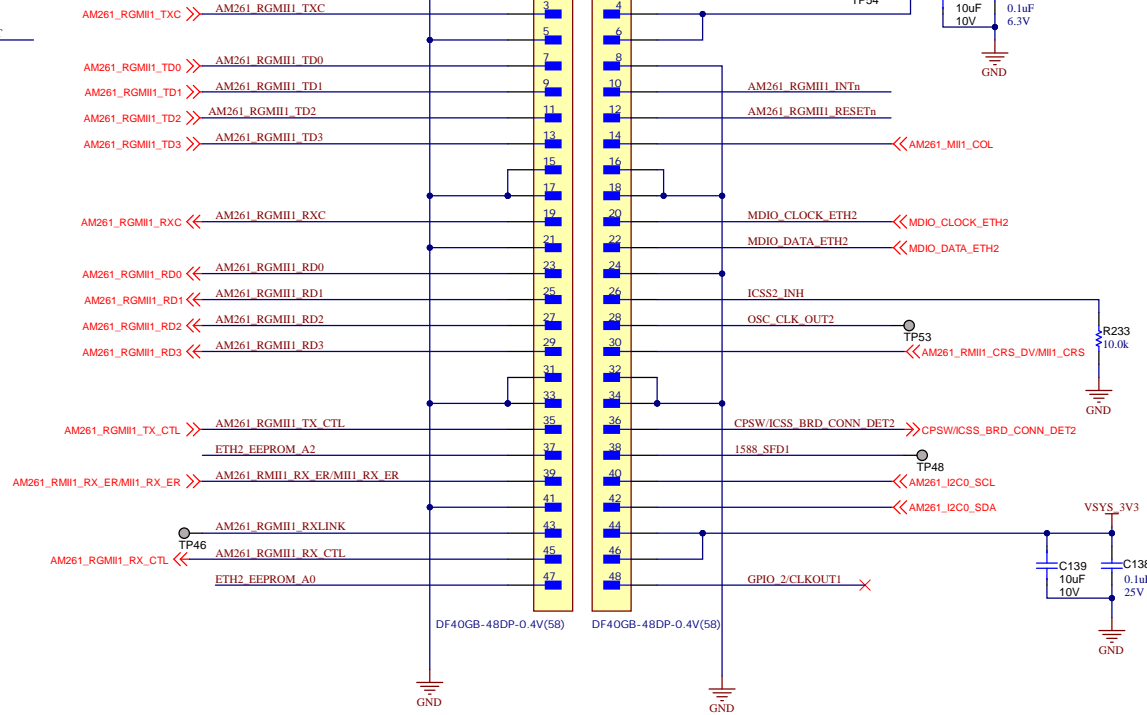
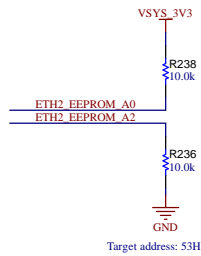
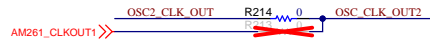


ETH PORT 1

AM261x PR0 PRU1 /CPSW1

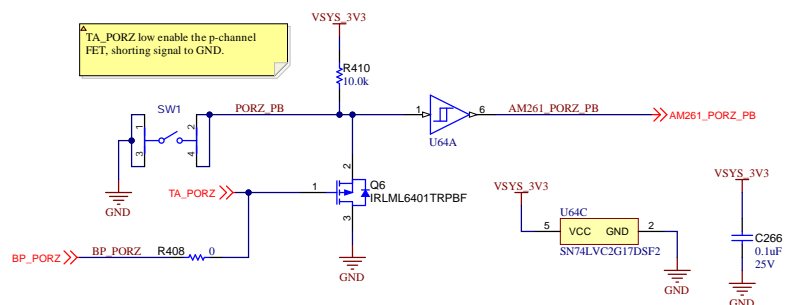


Oscillator Input Selection

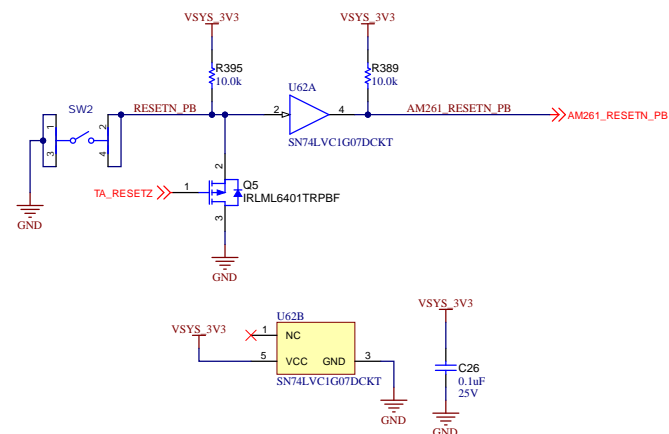


Push-Buttons

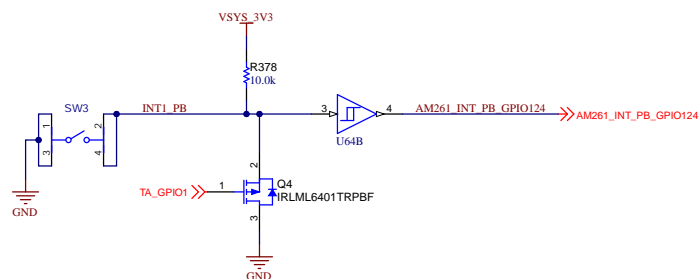
PORZ Push-Button and Test Automation




RESETZ Push-Button and Test Automation



INT1 Push-Button and Test Automation

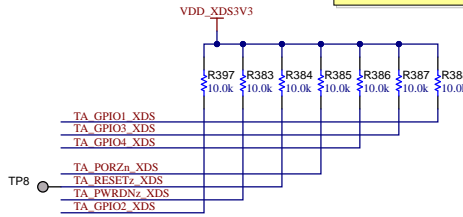
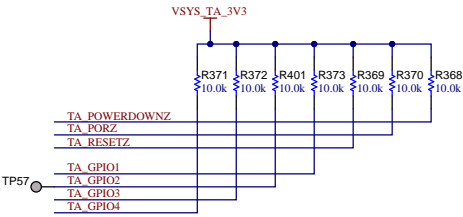


Orderable: LP-AM261	Designed for:	Mod. Date: 07-05-2024	 TEXAS INSTRUMENTS
TID #: N/A	Project Title: AM261 Launchpad		
Num: PROC193	Rev: E1	Sheet Title: Push Button	
SVN Rev: 279	Assembly Variant: 001	Sheet: 14 of 23	
Drawn By: Vietha J. Kiran	File: PROC193E1 14 Push_Buttons_SchDoc	Size: B	
Engineer: Vietha J. Kiran	Contact:		http://www.ti.com © Texas Instruments

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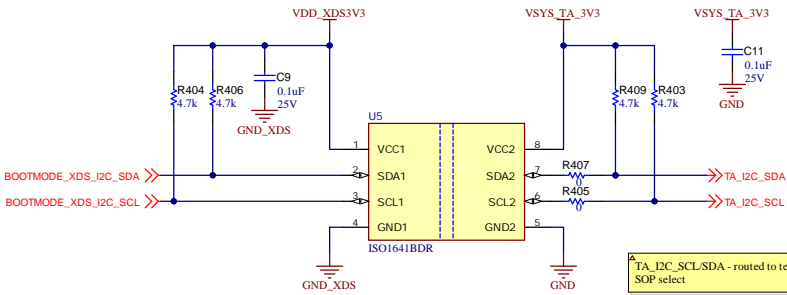
Test Automation Section

SIGNAL NAME	DESCRIPTION	Direction WRT CTRL	Internal/ External PU/PD states
TA_POWERDOWN	Used to Power down the system	OUTPUT	External Pullup
TA_PORzn	Used to Reset the SoC PORs	OUTPUT	External Pullup
TA_RESEZn	SoC Warmreset	OUTPUT	External Pullup
TA_GPIO1	Interrupt to SOC	OUTPUT	External Pullup
TA_GPIO2	Used to Enable or Disable 1.2V Regulator	OUTPUT	External Pullup
TA_GPIO3	Used to Enable the BOOTMODE Buffer	OUTPUT	External Pullup
TA_GPIO4	Used Reset Bootmode IO Exp	OUTPUT	External Pullup



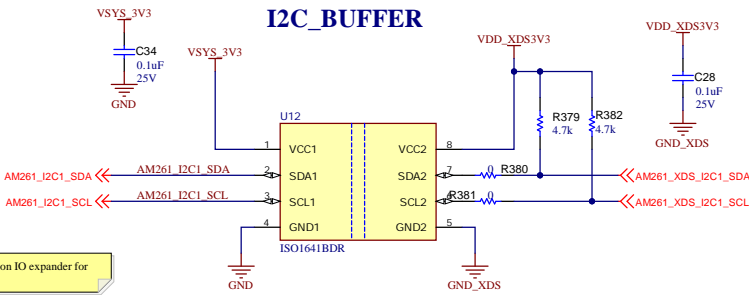
This Pulls provides a defined logic state to the Test Automation signals before XDS110 firmware is loaded

BOOTMODE_I2C_TA BUFFER

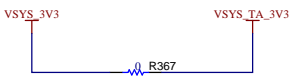


TA_I2C_SCL/SDA - routed to test automation IO expander for SOP select

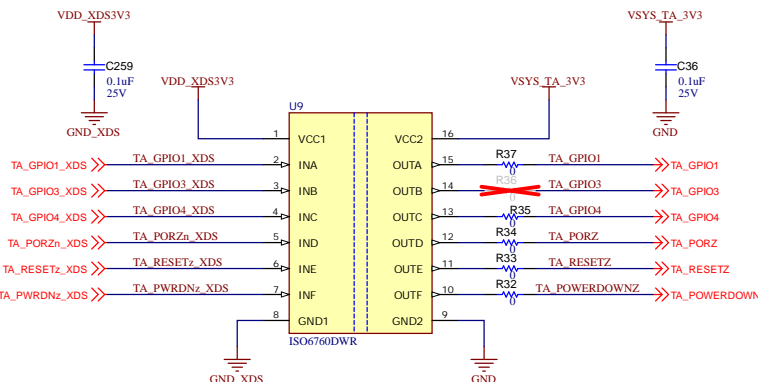
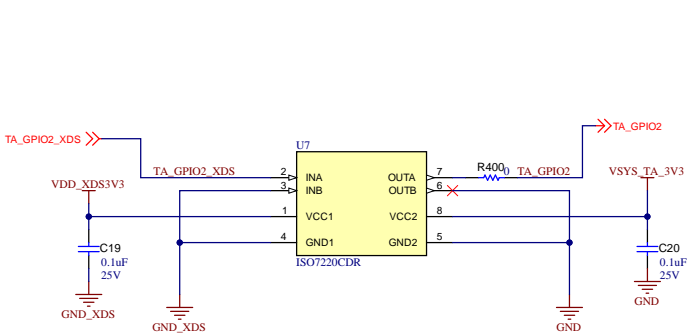
I2C_BUFFER



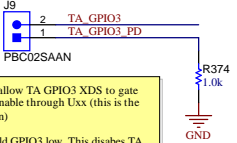
Test Automation Supply



ISOLATION BUFFERS FOR TA SIGNALS



Test-Automation PORz Override



Remove jumper to allow TA GPIO3 XDS to gate SOP driver output enable through Uxx (this is the default configuration)
Install jumper to hold GPIO3 low. This disables TA XDS SOP driver output enable.

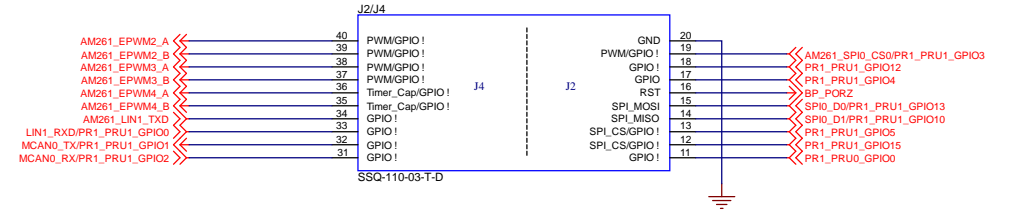
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Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 07-05-2024
TID #: N/A	Project Title: AM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: Test Automation
SVN Rev: 279	Assembly Variant: 001	Sheet 15 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_15_Test_Automation.SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	http://www.ti.com

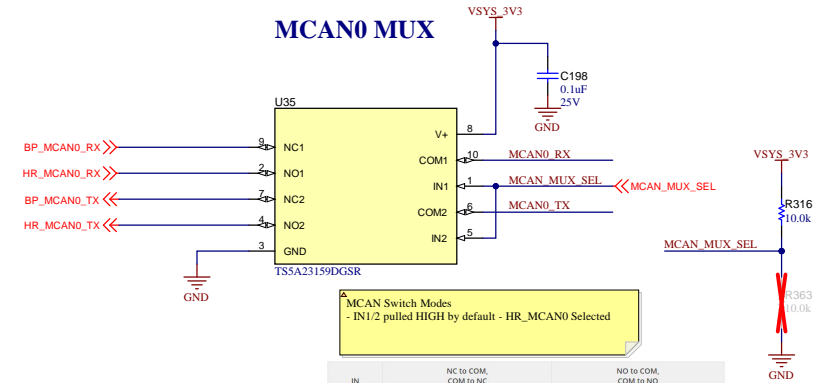


[illegible]

Figure 1 Schematic representation of the 17 kb genomic region on chromosome 17p11.2. The region is divided into two main sections: the left section (17p11.2) and the right section (17p11.2). The left section contains genes: 45V, AOC, UBR1, UBR2, UBR3, UBR4, UBR5, UBR6, UBR7, UBR8, UBR9, UBR10, UBR11, UBR12, UBR13, UBR14, UBR15, UBR16, UBR17, UBR18, UBR19, UBR20, UBR21, UBR22, UBR23, UBR24, UBR25, UBR26, UBR27, UBR28, UBR29, UBR30, UBR31, UBR32, UBR33, UBR34, UBR35, UBR36, UBR37, UBR38, UBR39, UBR40, UBR41, UBR42, UBR43, UBR44, UBR45, UBR46, UBR47, UBR48, UBR49, UBR50, UBR51, UBR52, UBR53, UBR54, UBR55, UBR56, UBR57, UBR58, UBR59, UBR60, UBR61, UBR62, UBR63, UBR64, UBR65, UBR66, UBR67, UBR68, UBR69, UBR70, UBR71, UBR72, UBR73, UBR74, UBR75, UBR76, UBR77, UBR78, UBR79, UBR80, UBR81, UBR82, UBR83, UBR84, UBR85, UBR86, UBR87, UBR88, UBR89, UBR90, UBR91, UBR92, UBR93, UBR94, UBR95, UBR96, UBR97, UBR98, UBR99, UBR100. The right section contains genes: PPM1, PPM2, PPM3, PPM4, PPM5, PPM6, PPM7, PPM8, PPM9, PPM10, PPM11, PPM12, PPM13, PPM14, PPM15, PPM16, PPM17, PPM18, PPM19, PPM20, PPM21, PPM22, PPM23, PPM24, PPM25, PPM26, PPM27, PPM28, PPM29, PPM30, PPM31, PPM32, PPM33, PPM34, PPM35, PPM36, PPM37, PPM38, PPM39, PPM40, PPM41, PPM42, PPM43, PPM44, PPM45, PPM46, PPM47, PPM48, PPM49, PPM50, PPM51, PPM52, PPM53, PPM54, PPM55, PPM56, PPM57, PPM58, PPM59, PPM60, PPM61, PPM62, PPM63, PPM64, PPM65, PPM66, PPM67, PPM68, PPM69, PPM70, PPM71, PPM72, PPM73, PPM74, PPM75, PPM76, PPM77, PPM78, PPM79, PPM80, PPM81, PPM82, PPM83, PPM84, PPM85, PPM86, PPM87, PPM88, PPM89, PPM90, PPM91, PPM92, PPM93, PPM94, PPM95, PPM96, PPM97, PPM98, PPM99, PPM100. The diagram shows the relative positions of these genes and the locations of the 17p11.2 deletion and the 17p11.2 duplication. The 17p11.2 deletion is indicated by a red arrow pointing to the left, and the 17p11.2 duplication is indicated by a red arrow pointing to the right. The 17p11.2 deletion is located between the 45V gene and the PPM1 gene. The 17p11.2 duplication is located between the PPM100 gene and the PPM1 gene. The 17p11.2 deletion and the 17p11.2 duplication are both located within the 17p11.2 region.

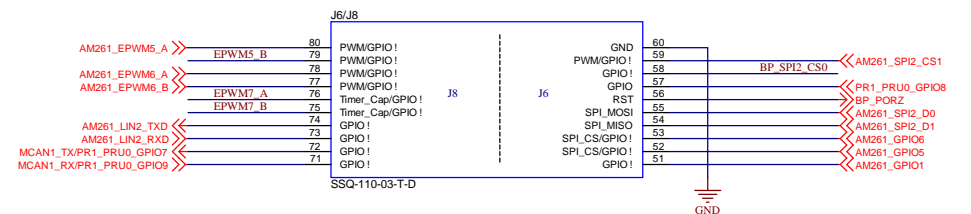



EPWM Bi-Directional Level Translator



MCAN Switch Modes
- IN1/2 pulled HIGH by default - HR_MCAN0 Selected

IN	NC to COM, COM to NC	NO to COM
L	ON	COM
H	OFF	COM

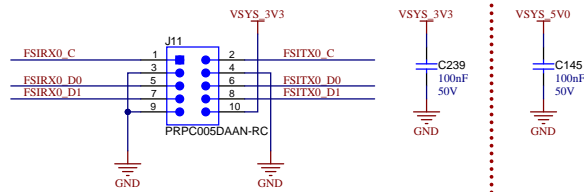


Orderable: LP-AM261		Designed for:		Mod. Date: 09-05-2024	
TID #: <u>NA</u>		Project Title: <u>AM261 Launchpad</u>		 TEXAS INSTRUMENTS	
Number: <u>PROC193</u>		Sheet Title: <u>Booster Pack Header</u>			
Rev: <u>E1</u>	Assembly Variant: <u>001</u>		Sheet: <u>16</u> of <u>23</u>		
Drawn by: <u>Vijetha J. Kiran</u>		Contact: <u>PROC193E1 16 Boosterpack Headers.SchDoc</u>			
Engineer: <u>Vijetha J. Kiran</u>		File:		http://www.ti.com © Texas Instruments	

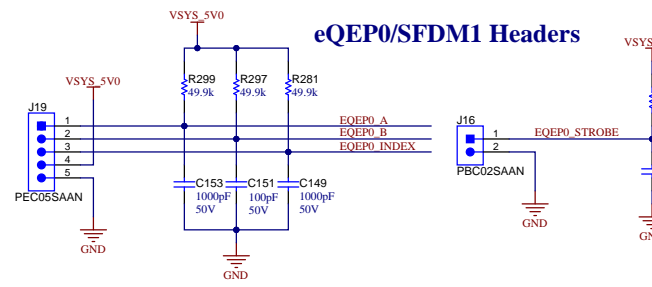
Breakout Headers

FSI Header

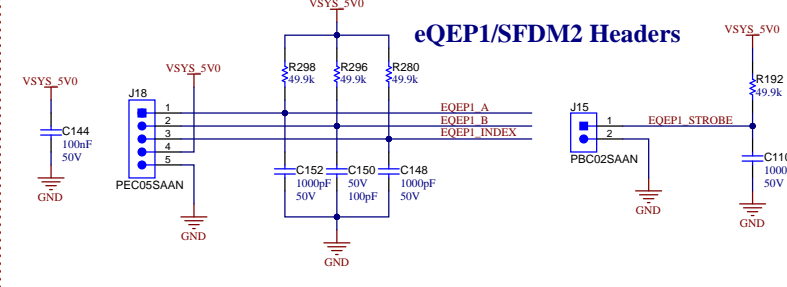
A C2000 LP Style FSI Breakout



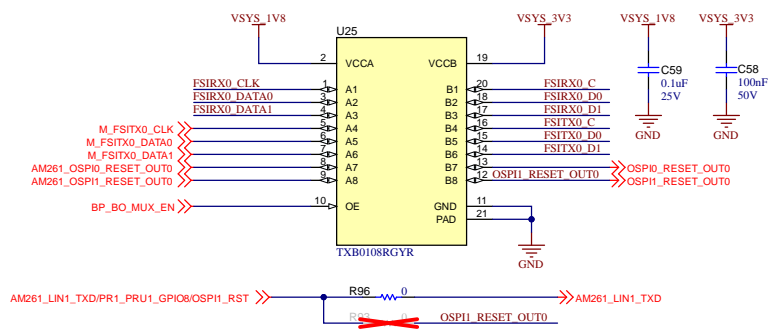
eQEP0/SFDM1 Headers



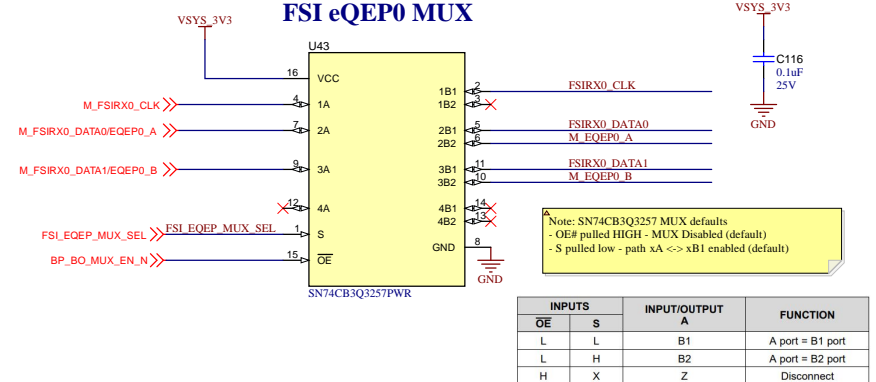
eQEP1/SFDM2 Headers



FSI Bi-Directional Level Translator



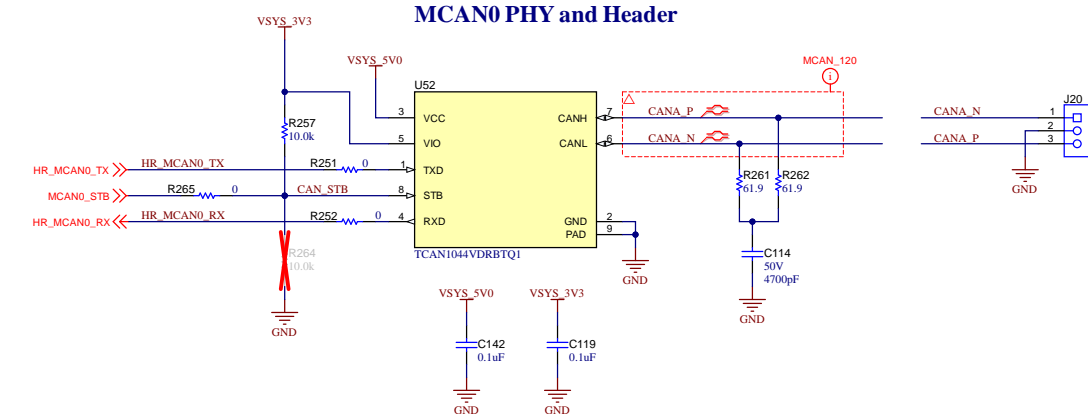
FSI eQEP0 MUX



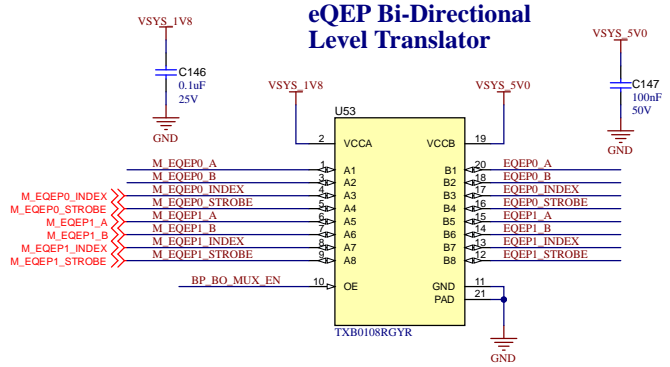
Note: SN74CB3Q3257 MUX defaults
 - OE# pulled HIGH - MUX Disabled (default)
 - S pulled low - path xA <-> xB1 enabled (default)

INPUTS		INPUT/OUTPUT A	FUNCTION
OE	S		
L	L	B1	A port = B1 port
L	H	B2	A port = B2 port
H	X	Z	Disconnect

MCAN0 PHY and Header



eQEP Bi-Directional Level Translator



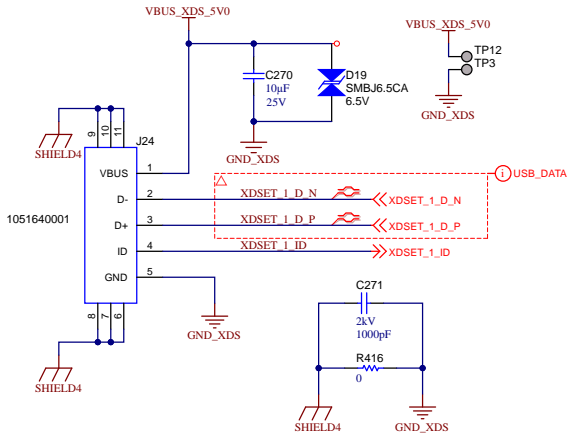
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Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 07-05-2024
TID #: N/A	Project Title: AM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: Breakout Headers
SVN Rev: 279	Assembly Variant: 001	Sheet 18 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_18_Breakout_Headers.SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	http://www.ti.com

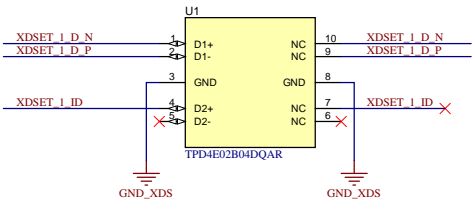


XDS110 JTAG/USB-to-UART Bridge

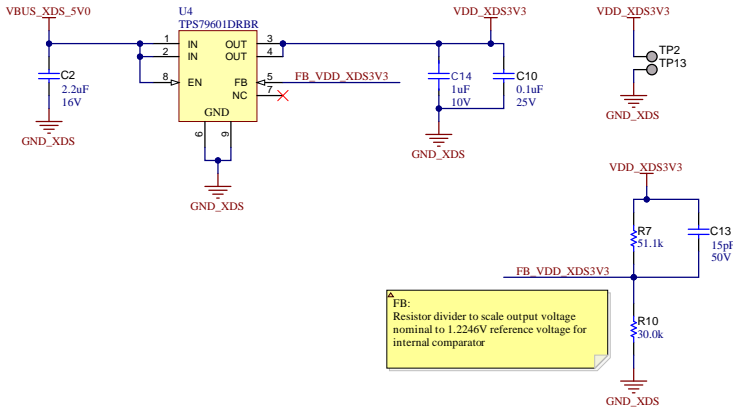
XDS110 USB Micro-B PORT



USB Mini-B ESD Protection



XDS110 3.3V LDO



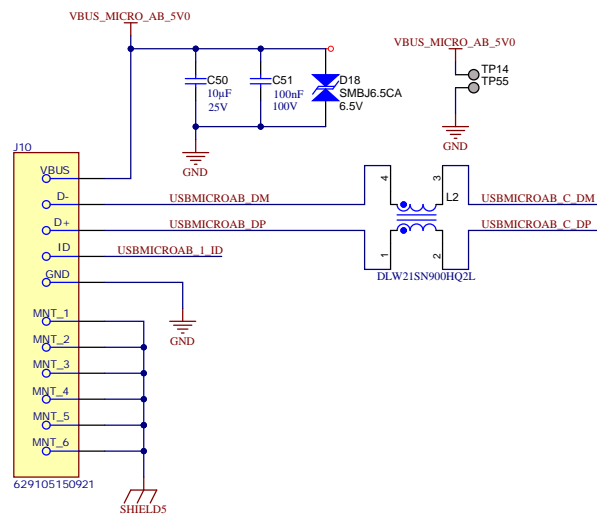
FB:
Resistor divider to scale output voltage
nominal to 1.224V reference voltage for
internal comparator

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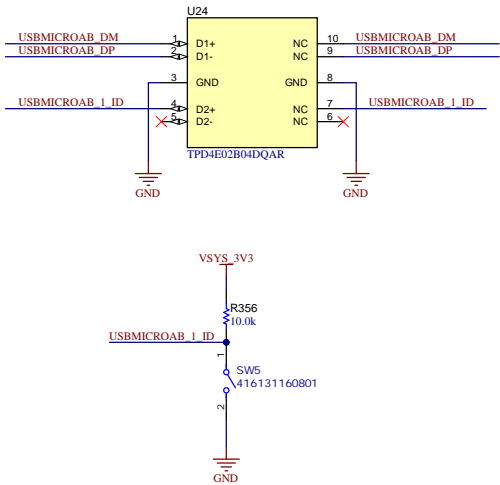
Orderable: LP-AM261	Designed for:	Mod. Date: 07-05-2024
TID #: N/A	Project Title: AM261 Launchpad	
Number: PROC193	Rev: E1	Sheet Title: XDS110/USB2.0 Micro-B Port
SVN Rev: 279	Assembly Variant: 001	Sheet: 19 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_19_USB_XDS110.SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	http://www.ti.com
		© Texas Instruments

USB Micro-AB 2.0

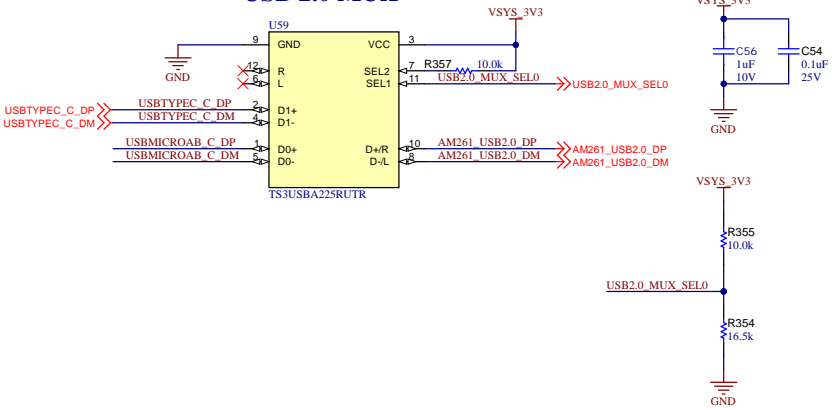
USB2.0 Micro_AB PORT



USB Micro-AB ESD Protection



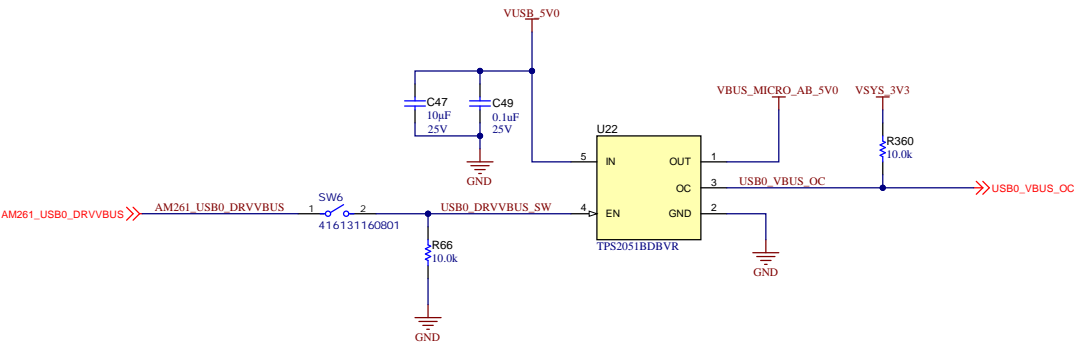
USB 2.0 MUX



USB 2.0 characterization Res

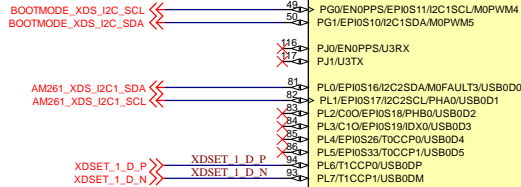
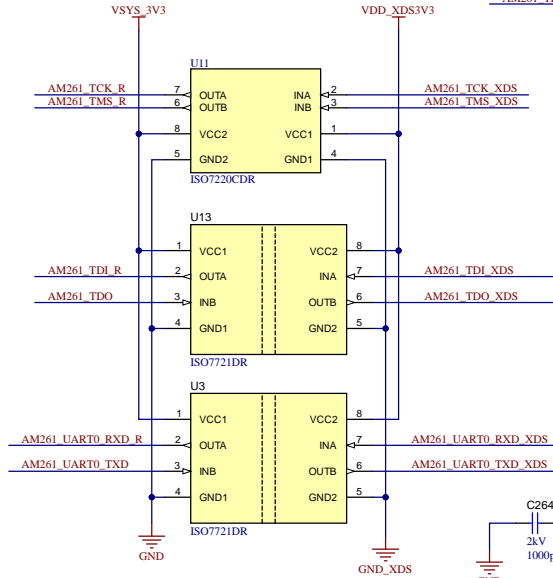
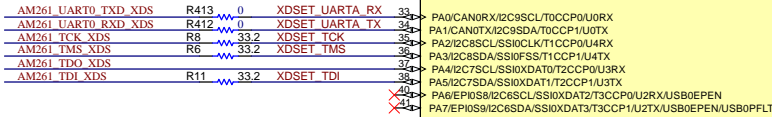
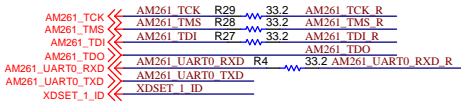


USB micro AB Power-Distribution Switch



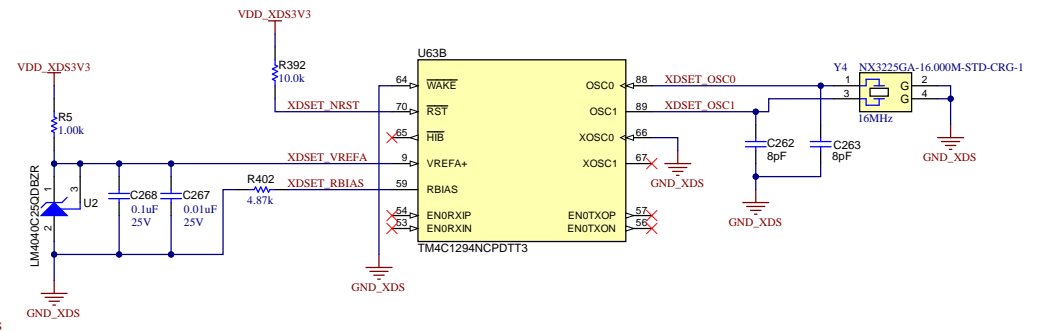
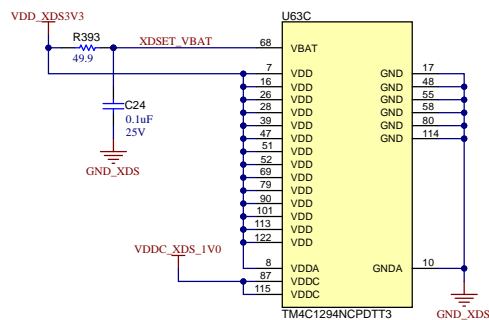
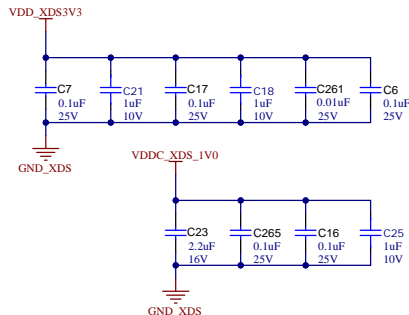
TM4C1294NCPDT Datasheet XDS110 Collateral

XDS110 JTAG/USB-to-UART Bridge



Note: C264 shorts GND_XDS and GND. This should be done close to the ISO7721 components, bridging the air-gap between the two portions of the PCB

XDS110 DECOUPLING CAPS



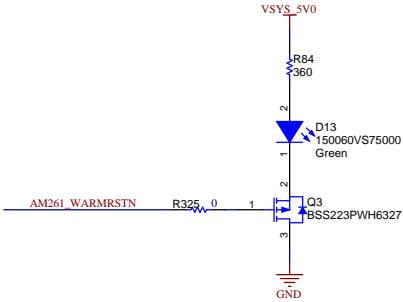
Orderable: LP-AM261	Designed for: AM261 Launchpad	Mod. Date: 09-05-2024
TID #: N/A	Project Title: XDS110 JTAG/USB-to-UART Bridge	Sheet: 21 of 23
Number: PROC193	Rev: E1	Assembly Variant: 001
SVN Rev: 285	Drawn By: Vijetha J. Kiran	File: PROC193E1_21_XDS110_2_SchDoc
Engineer: Vijetha J. Kiran	Contact:	Size: B

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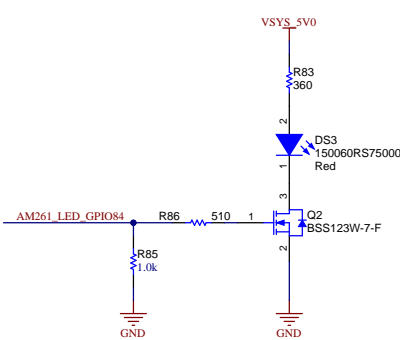


System LED Indicators

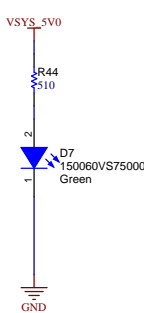
AM261_WARMRSTN



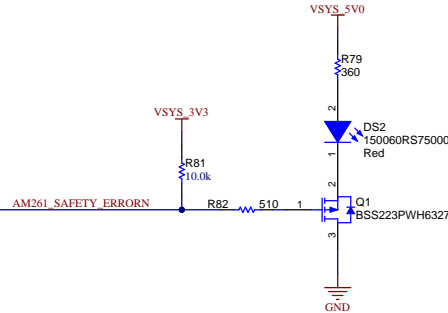
AM261 GPIO LED



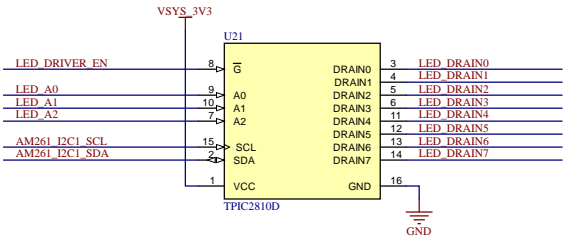
System 5.0V



AM261x Safety Error

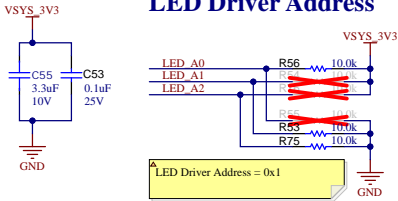


Industrial LED Driver

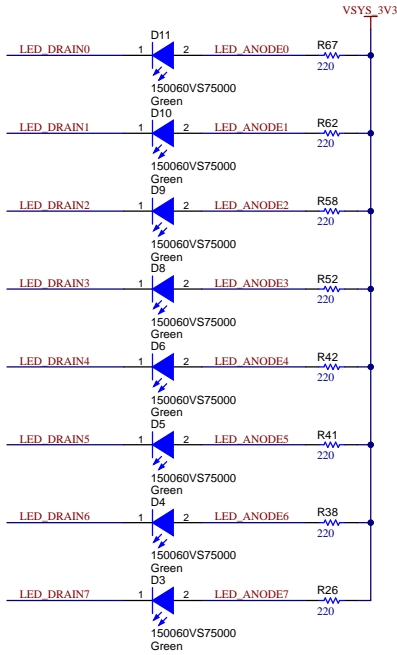
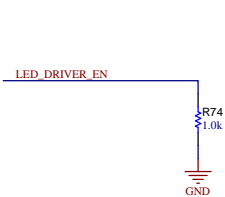


AM261_I2C1_SCL >> AM261_I2C1_SCL
AM261_I2C1_SDA >> AM261_I2C1_SDA
LED_DRIVER_EN >> LED_DRIVER_EN
AM261_LED_GPIO84 >> AM261_LED_GPIO84
AM261_SAFETY_ERRORN >> AM261_SAFETY_ERRORN
AM261_WARMRSTN >> AM261_WARMRSTN

LED Driver Address



LED Driver Enable



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Orderable: LP-AM261	Designed for: Project Title: AM261 Launchpad	Mod. Date: 07-05-2024
TID #: N/A	Number: PROC193	Rev: E1
SVN Rev: 279	Assembly Variant: 001	Sheet: 22 of 23
Drawn By: Vijetha J. Kiran	File: PROC193E1_22_LED.SchDoc	Size: B
Engineer: Vijetha J. Kiran	Contact:	http://www.ti.com

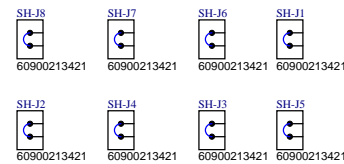


System Hardware, Notes, Labels

PCB Fiducials



Included Jumpers



PCB Labels and Silkscreen



LBL 1
PCB Label
THT-14-423-10
Size: 0.65" x 0.20"

PCB Labels and Silkscreen

ZZ4
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ3
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.

ZZ1
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.