Page 2	Block Diagram
Page 3	BINARY INPUT + SIGNAL CONDITIONING
Page 4	POWER SUPPLY
Page 5	POWER SUPPLY_ISO
Page 6	ADS + ISOLATOR + LED INDICATOR
Page 7	SPI ISOLATOR + DIGITAL ISOLATOR + DIAGNOSTICS
Page 8	Hardware - MIiscellaneous

Revision History

Revision	Notes

Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Reva	
SVN Rev: Not in version control	Sheet Title: Index Page	
Drawn By: Sreenivasa	Assembly Variant: 001	Sheet: 1 of 8
Engineer: SREENIVASA KALLIKUPPA	File: TIDA-00420_BIM_ADS7128_Index Page.SchDoc	Size: B
	Contact:	

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Sensor side

Host interface

5V_I

5V_I_on

TPS22919

TLV70450

5.4V

5V

UCC12040

Fault

5V or 5.4V
Selectable
output

Isolated Power

Digital comparator (internal to ADC) based group isolated AFE

Alternative Option

5V_I

TLV9001
(Buffer)

REF3425/
LM4040
(2.5V REF)

5V_I

Ch0-Ch3

INT

ADS7128

I2C

Ch4-Ch7 configured
as Comp1-Comp4

I2C interface with reinforced isolation

5V_I

3.3V

I2C

P82B96

RX

TX

ISO6742

P82B96

Interrupt

INT

5V_I

AMP1A

Ch0

TLV9002
(OPAMP1)

I2C_B

I2C

HDC1080

TCA9517

1

AMP1B

Ch1

DRV5053

Field_Out

TMP235

Temp_Out

I2C interface with basic isolation

5V_I

3.3V

I2C

ISO1640 +
ISO7710

I2C

INT

Interrupt

AC or DC
input
15-280V

5V_I

AMP6A

Ch02

Comparator Output

5V_isow

5V

Input OK

4

TLV9002
(OPAMP2)

ISO6740

SN74LVC1G17
SN74LVC1G14

Comp1-Comp4 Outputs

AMP6B

Ch3

Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Sheet Title: Block Diagram	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 8
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_Block Diagram.SchDoc	Size: B
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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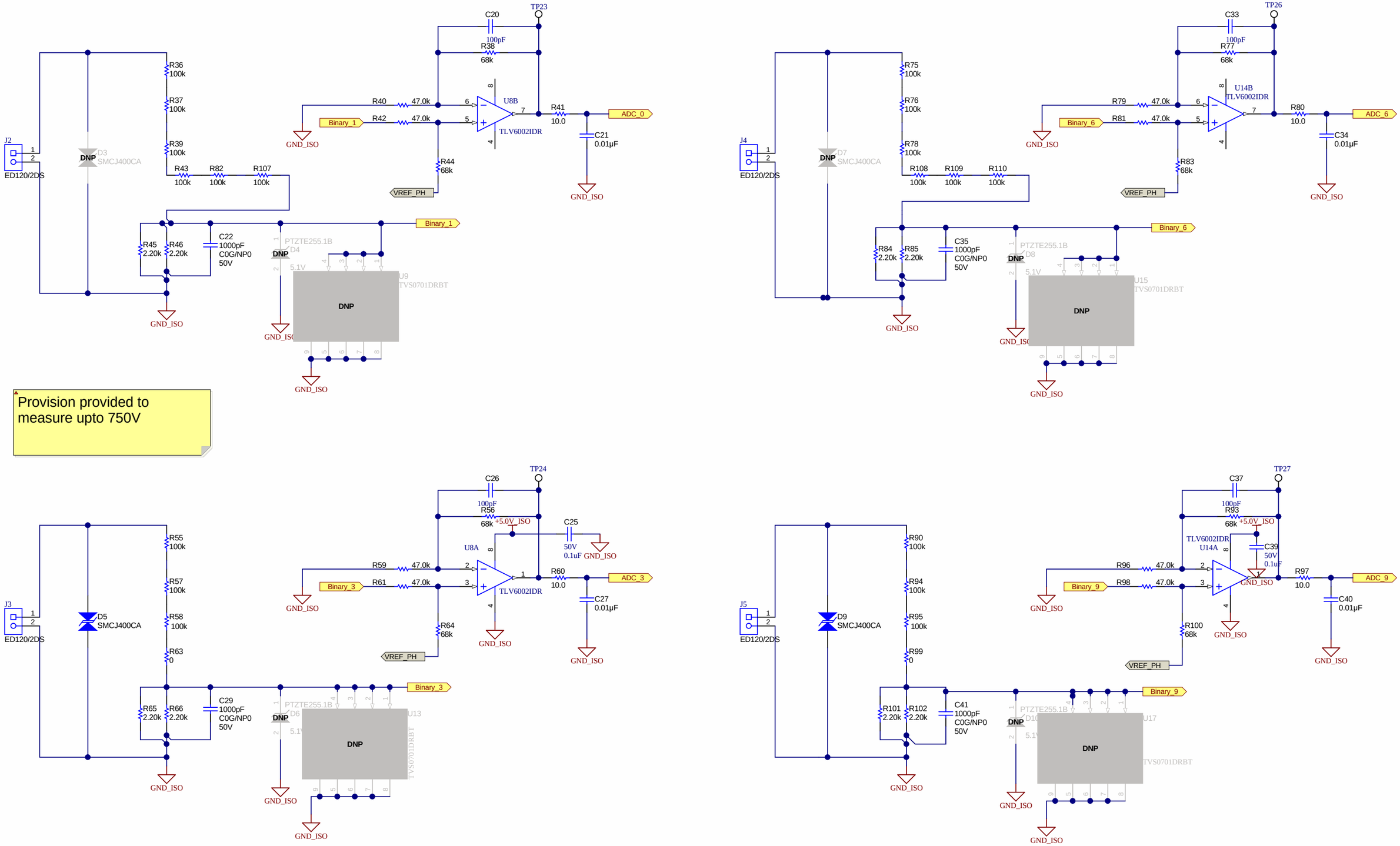

Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Sheet Title: BINARY INPUT+SIGNAL CONDITIONING	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 8
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_Binary Input.SchDoc	Size: B
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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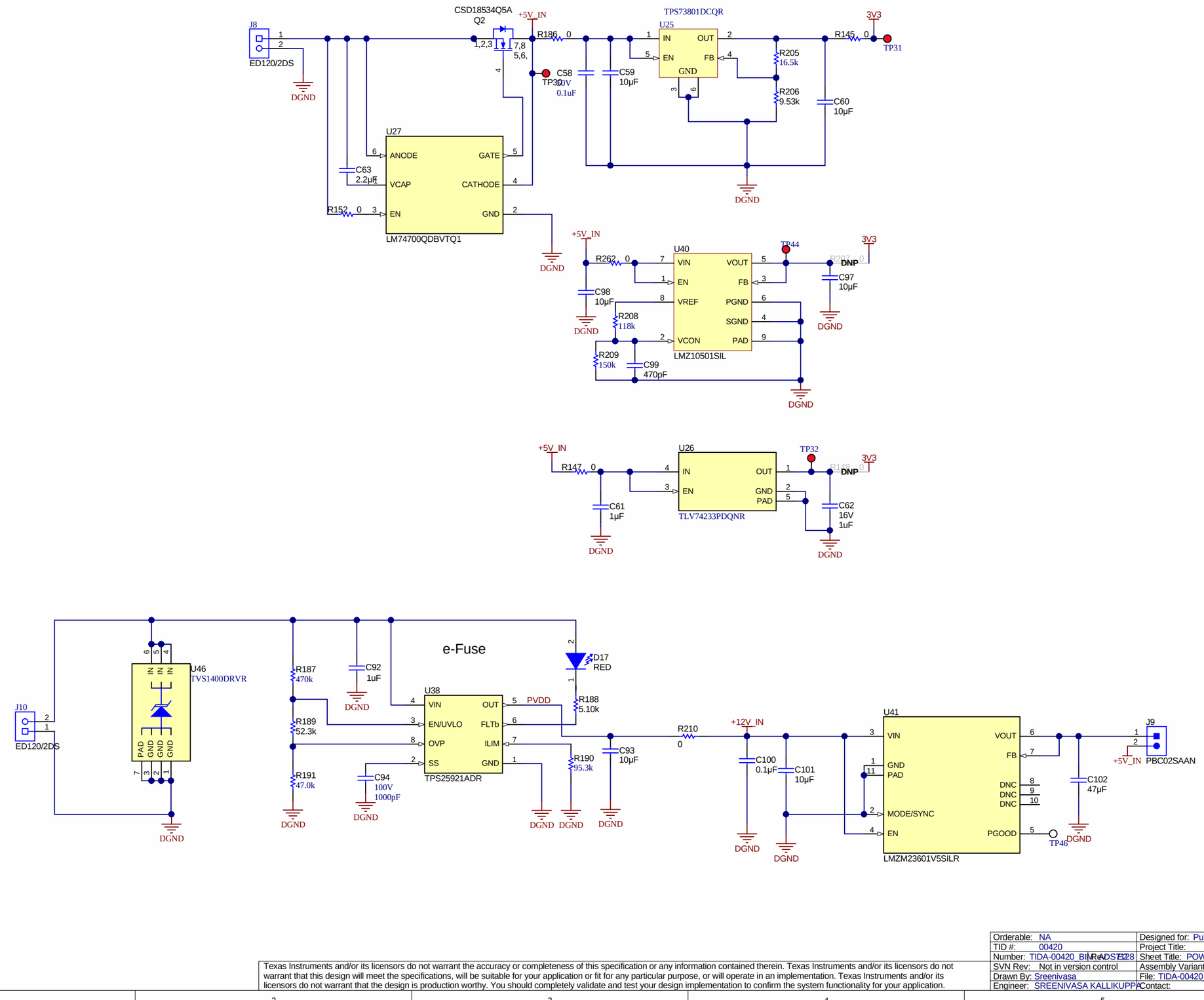

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Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Sheet Title: POWER SUPPLY	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 8
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_PS.SchDoc	Size: B
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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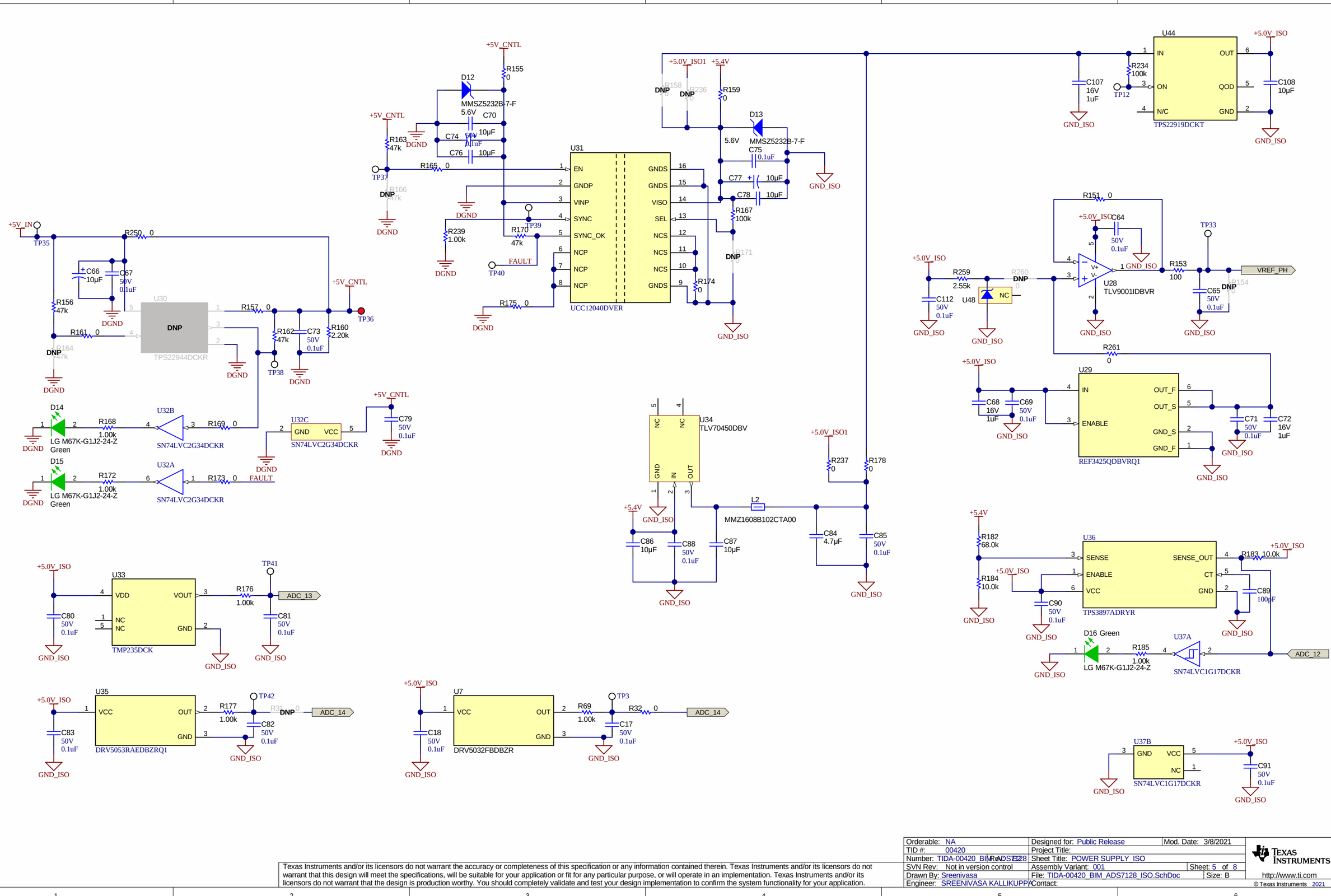

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Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Sheet Title: POWER SUPPLY_ISO	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 5 of 8
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_ISO.SchDoc	Size: B
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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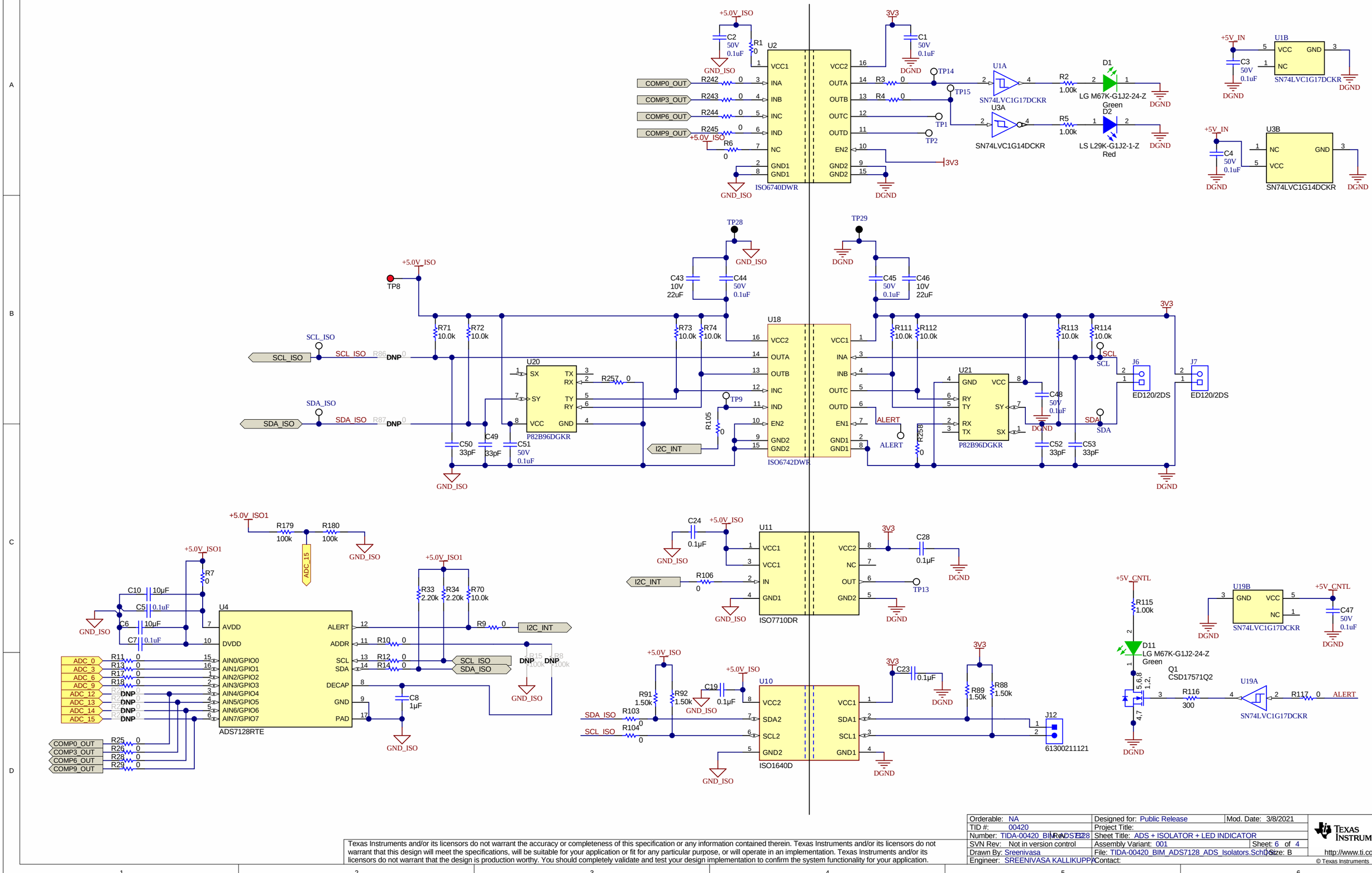

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Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Sheet Title: ADS + ISOLATOR + LED INDICATOR	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 6 of 4
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_ADS_Isolators.SchDoc	Size: B
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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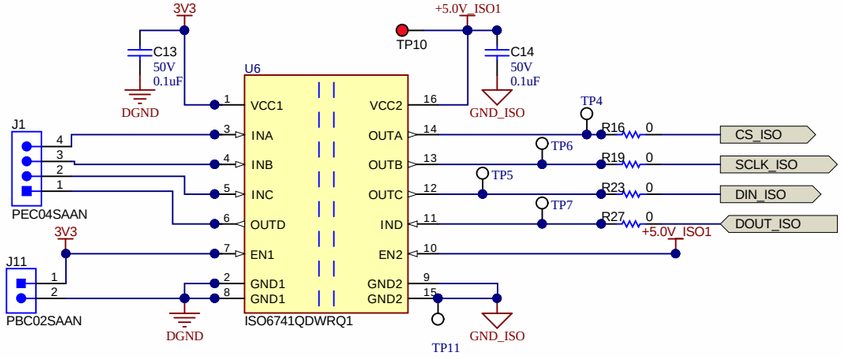
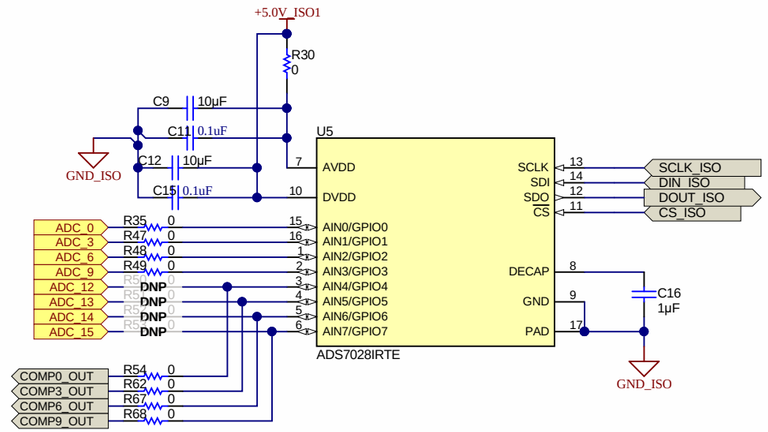
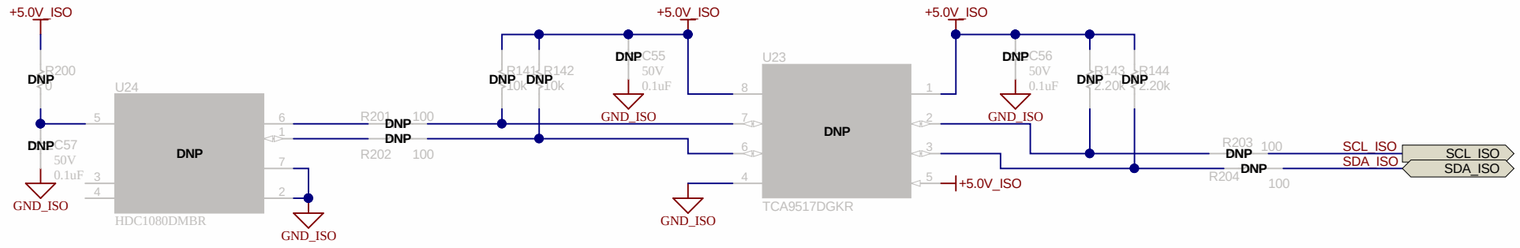
ADC WITH SPI INTERFACE





DIAGNOSTICS



Orderable: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128	Sheet Title: SPI ISOLATOR + DIGITAL ISOLATOR + DIAGNOSTIC	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 7 of 8
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_Diagnostics_Isolator_Sch.SchDoc	
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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H1 1 NY PMS 440 0025 PH

H2 1 NY PMS 440 0025 PH

H3 1 NY PMS 440 0025 PH

H4 1 NY PMS 440 0025 PH

H6 1902C

H7 1902C

H8 1902C

H9 1902C

DNP FID1

DNP FID2

DNP FID3

PCB LOGO
Logo2

PCB LOGO

PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

PCB Number: TIDA-00420_BIM_ADS7128
PCB Rev: E2

Variant/Label Table	
Variant	Label Text
001	ChangeMe!
002	ChangeMe!

LBL1

PCB Label

THT-14-423-10
Size: 0.65" x 0.20 "

ZZ1

Label Assembly Note

This Assembly Note is for PCB labels only

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: NA	Designed for: Public Release	Mod. Date: 3/8/2021
TID #: 00420	Project Title:	
Number: TIDA-00420_BIM_ADS7128 Rev: E2	Sheet Title: Hardware - Miscellaneous	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 8 of 8
Drawn By: Sreenivasa	File: TIDA-00420_BIM_ADS7128_EVM_Hardware.SchDoc	Size: B
Engineer: SREENIVASA KALLIKUPPA	Contact:	

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