

1

2

3

4

5

6

Revision History

Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A

Page 2 BLOCK DIAGRAM_DIO

Page 3 BLOCK DIAGRAM_AIO

Page 4HIGH SPEED DIGITAL OUTPUT , LOW / HIGH SIDE WITH PROTECTION

Page 5BINARY INPUT USING VOLTAGE DETECTOR AND ISOW7821 DIGITAL ISOLATOR WITH INTEGRATED POWER , DAIGNOSTIC AND PROTECTION

Page 6BINARY INPUT MODULE USING DIGITAL INPUT RECIEVER (SELF POWERED ON ISOLATED SIDE)

Page 7USB CURRENT LIMIT SWITCH AND LCD BIAS SUPPLY WITH PROTECTION

Page 8ANALOG POWER SUPPLY (+15V , -15V , 5V , 3.3V FROM SINGLE 5V SUPPLY)

Page 9ADS9588 AND ADS8688 PROTECTION AND SENSOR OPEN CONDITION TAKEN CARE

Page 10ADS131E08 AND ADS131A04 PROTECTION AND REFERENCE GENERATION

Page 11SENSOR FOR DIAGNOSTICS

Orderable: NA

TID #: 010008

Number: TIDA-010008

SVN Rev: Not in version control

Drawn By: Sreenivasa

Engineer: Sreenivasa

Designed for: Public Release

Project Title: TIDA-010008_IO-Power+protection_BIDIR

Assembly Variant: 001

File: TIDA-010008_IO-Power+protection_BIDIR_CoverSheet

Contact: http://www.ti.com/support

Mod. Date: 7/31/2018

Sheet: 1 of 12

Pg1.SchDoc

TEXASINSTRUMENTS

© Texas Instruments 2018

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.

1

2

3

4

5

6

A

B

C

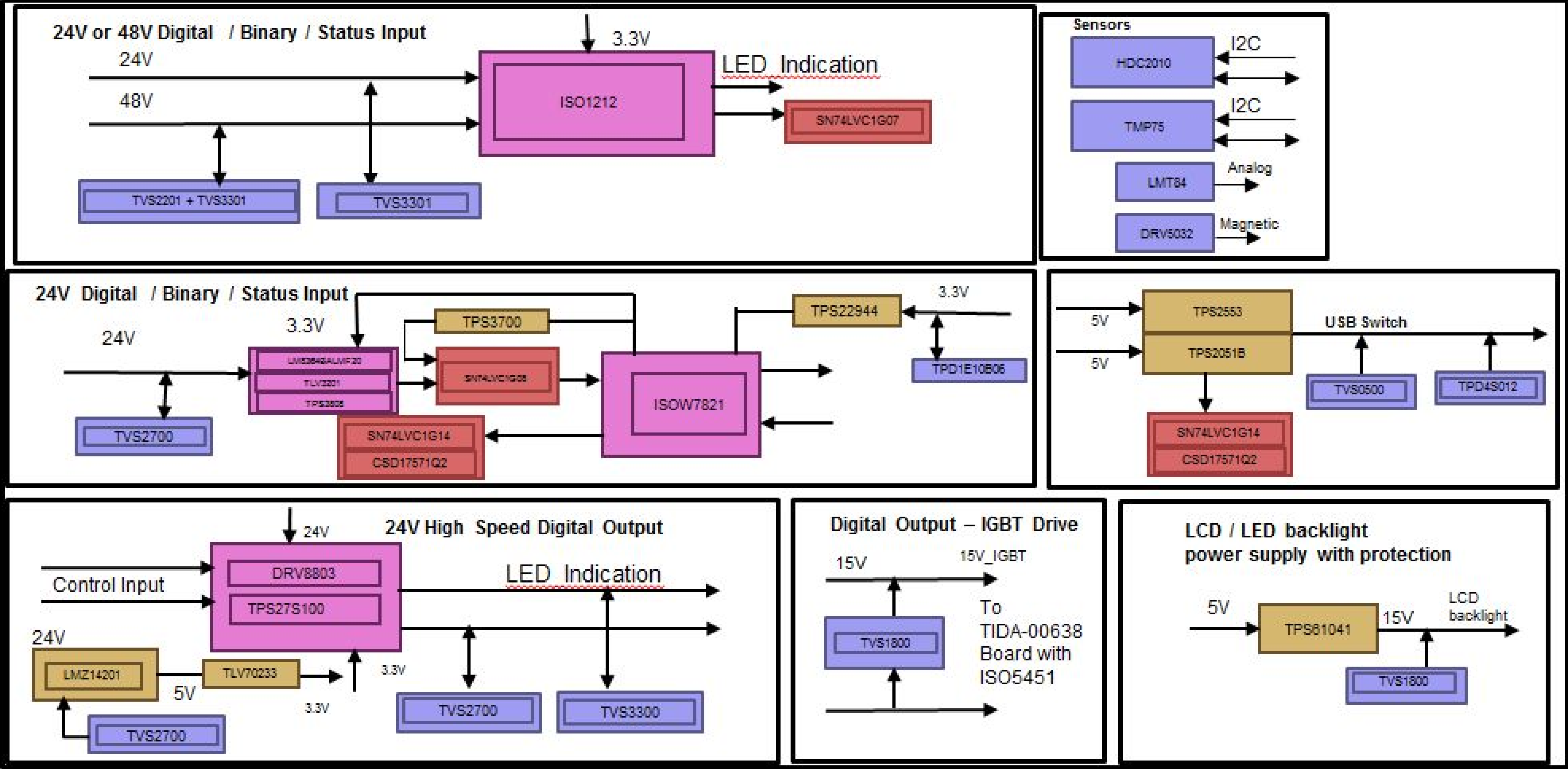
D

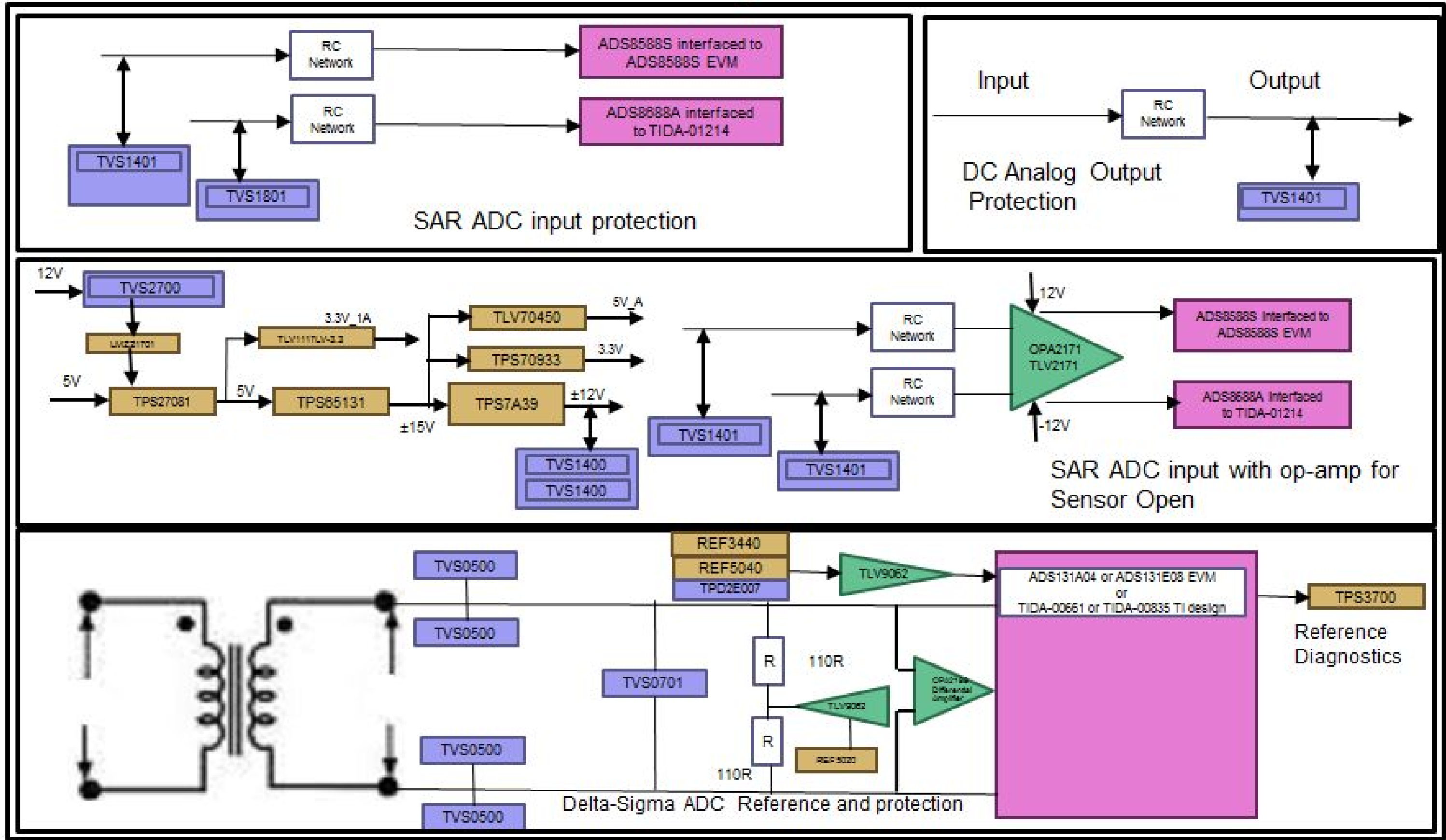
A

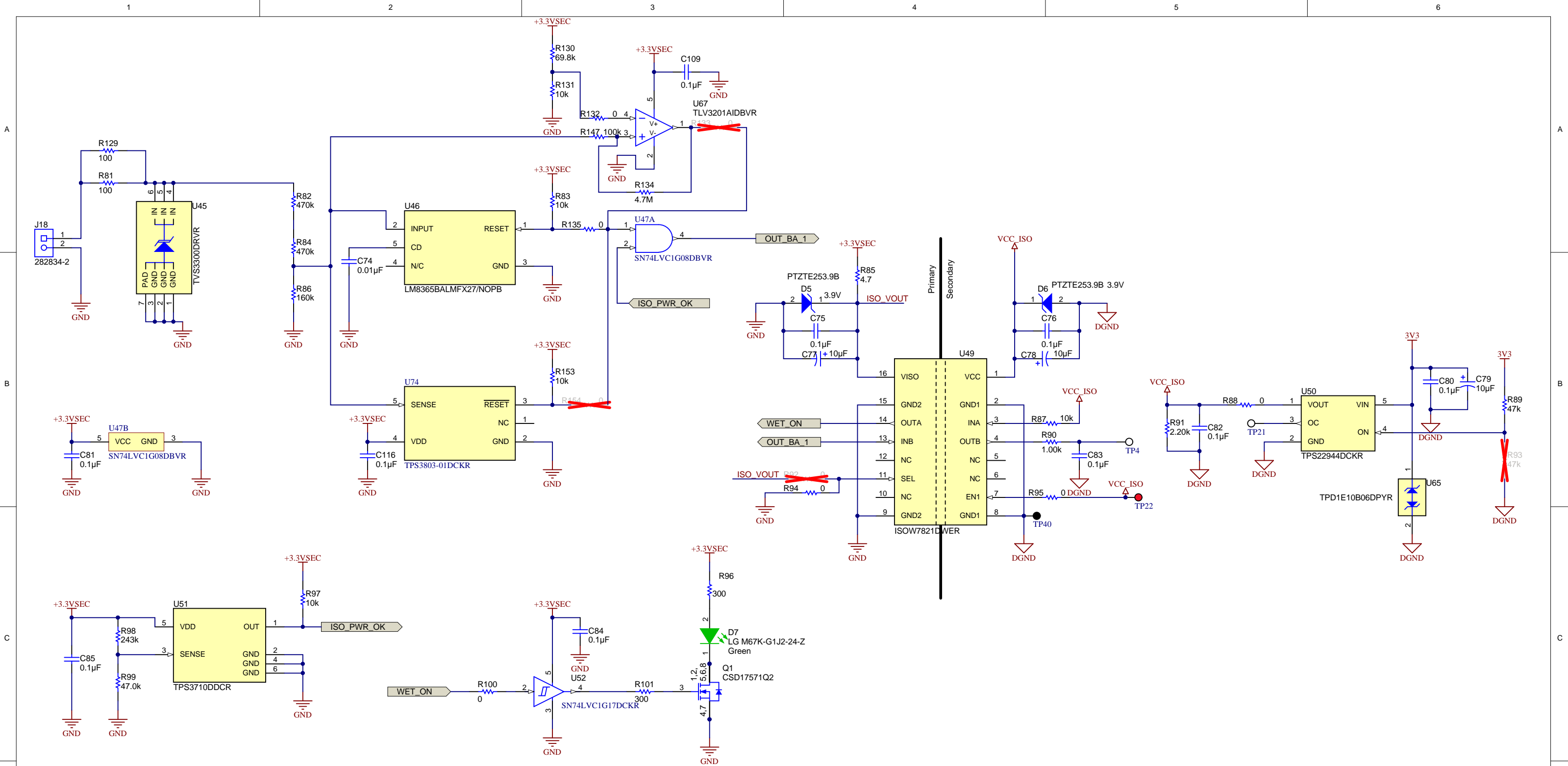
B

C

D



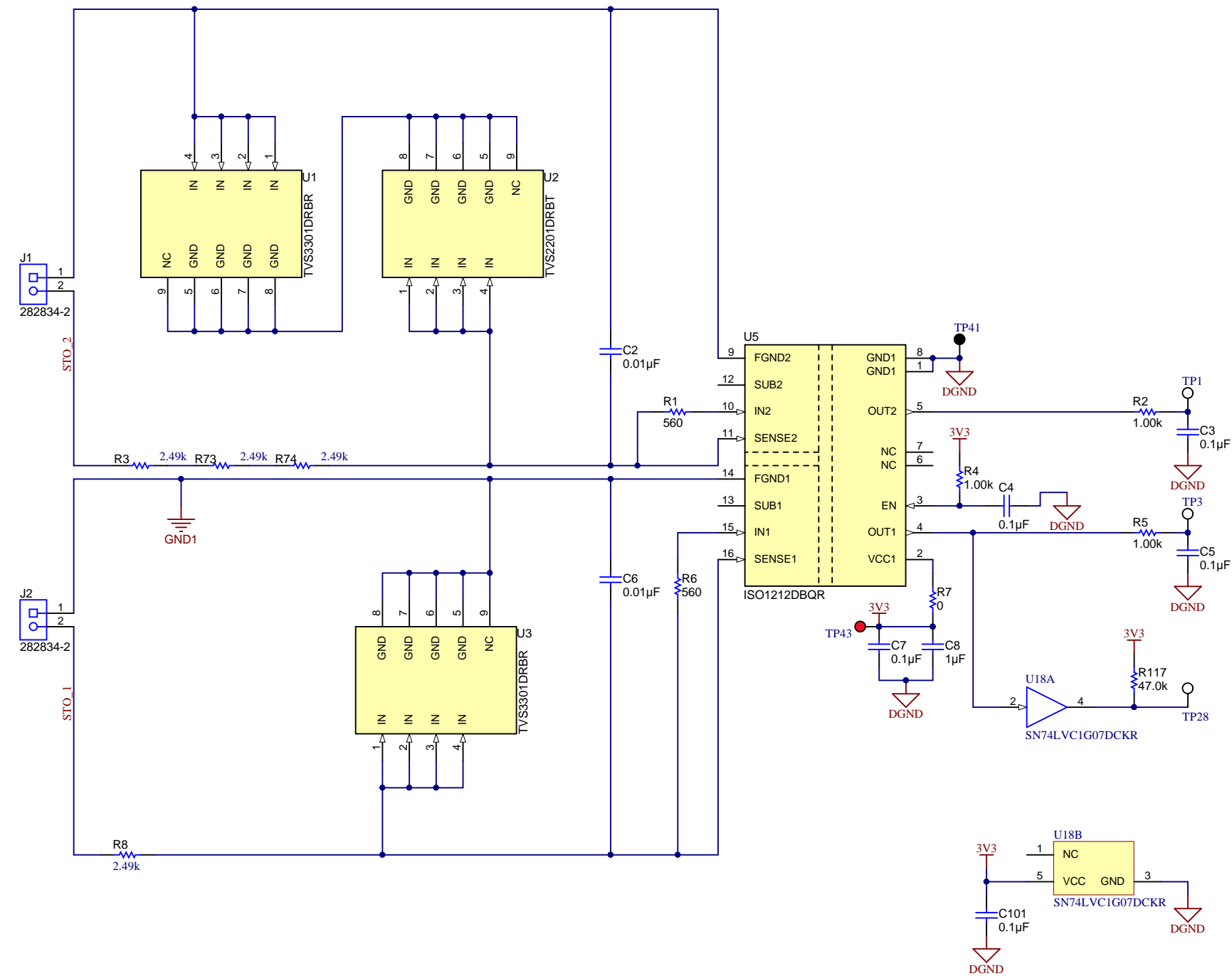




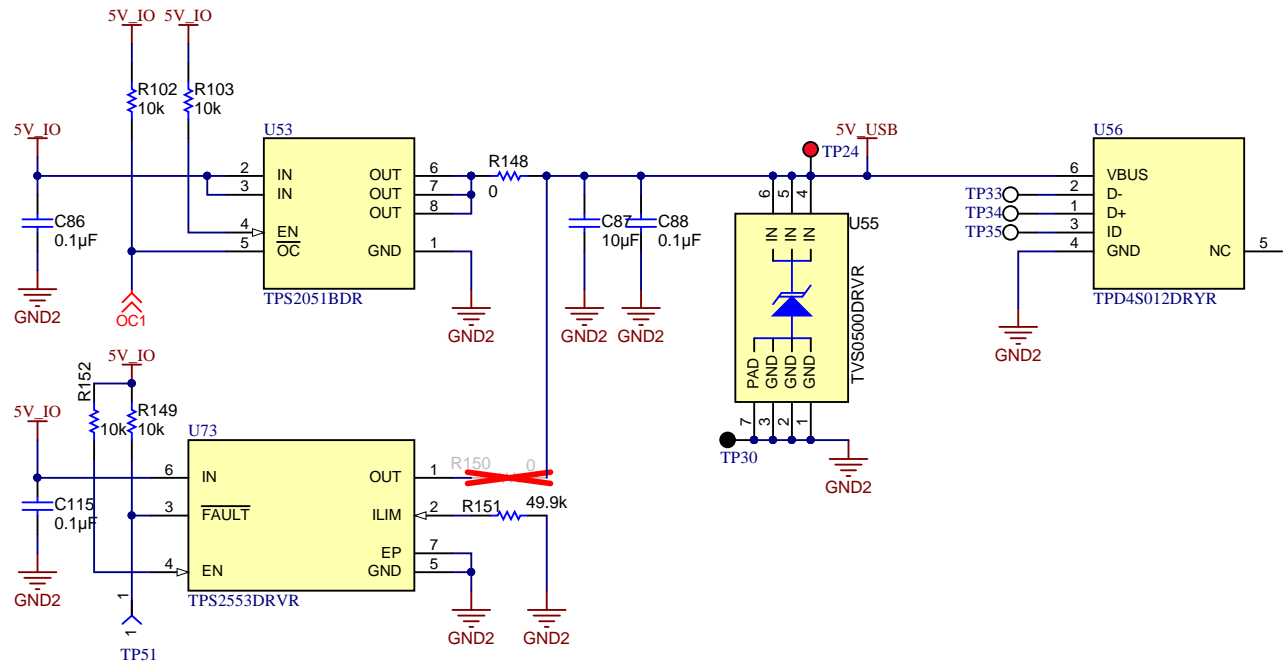
Fixed Threshold Binary Input Module With Voltage Detector

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.

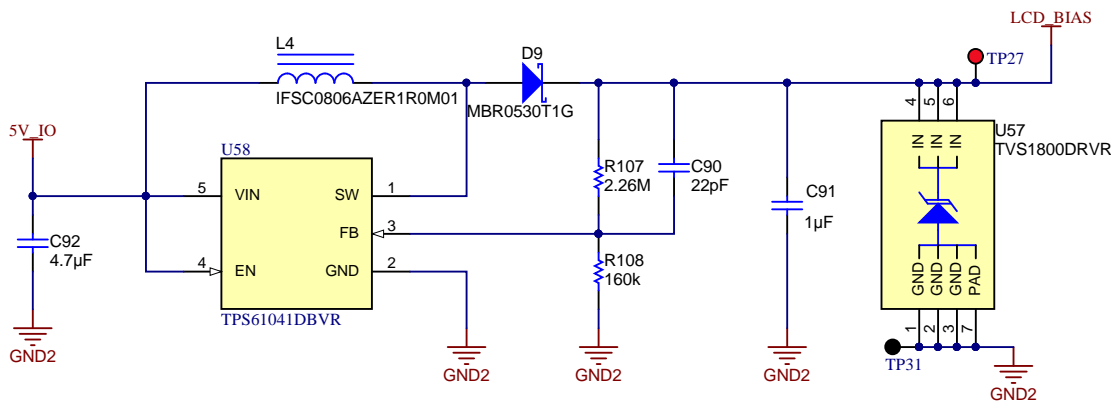
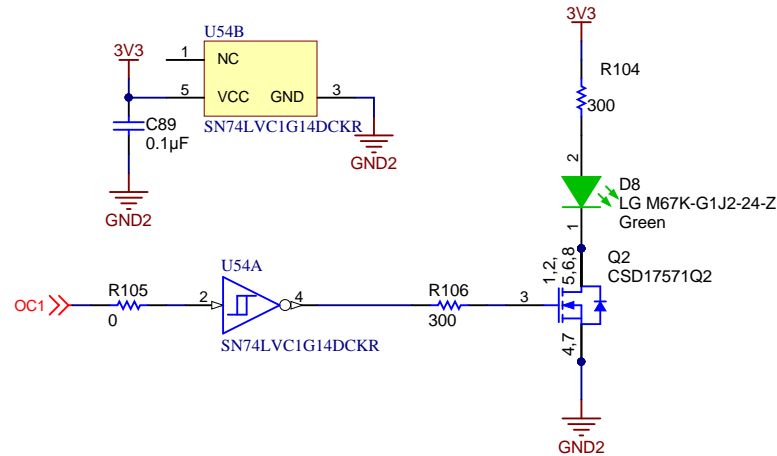
Orderable: NA	Designed for: Public Release	Mod. Date: 7/31/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+protection_BIDIR	
Number: TIDA-010008_IO-Power+protection_BIDIR	Sheet: 5 of 12	
SVN Rev: Not in version control	Assembly Variant: 001	
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+protection_BIDIR_Pgs05.txd	
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



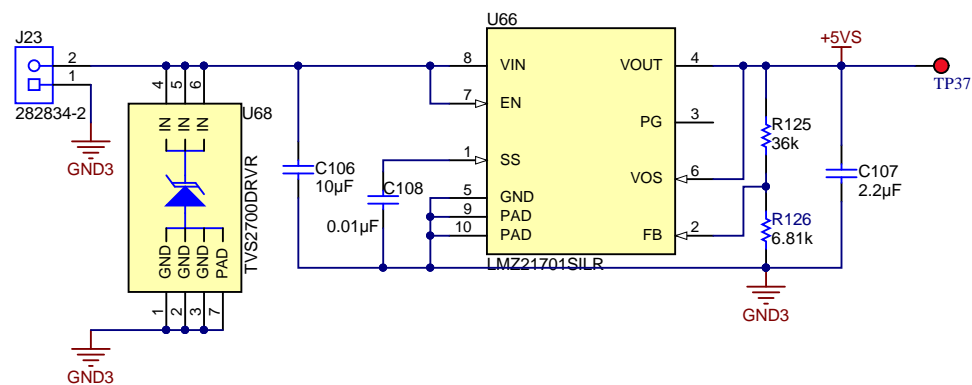
Fixed Threshold Self Powered 24V to 48V Binary Input Module



USB CURRENT LIMIT SWITCH



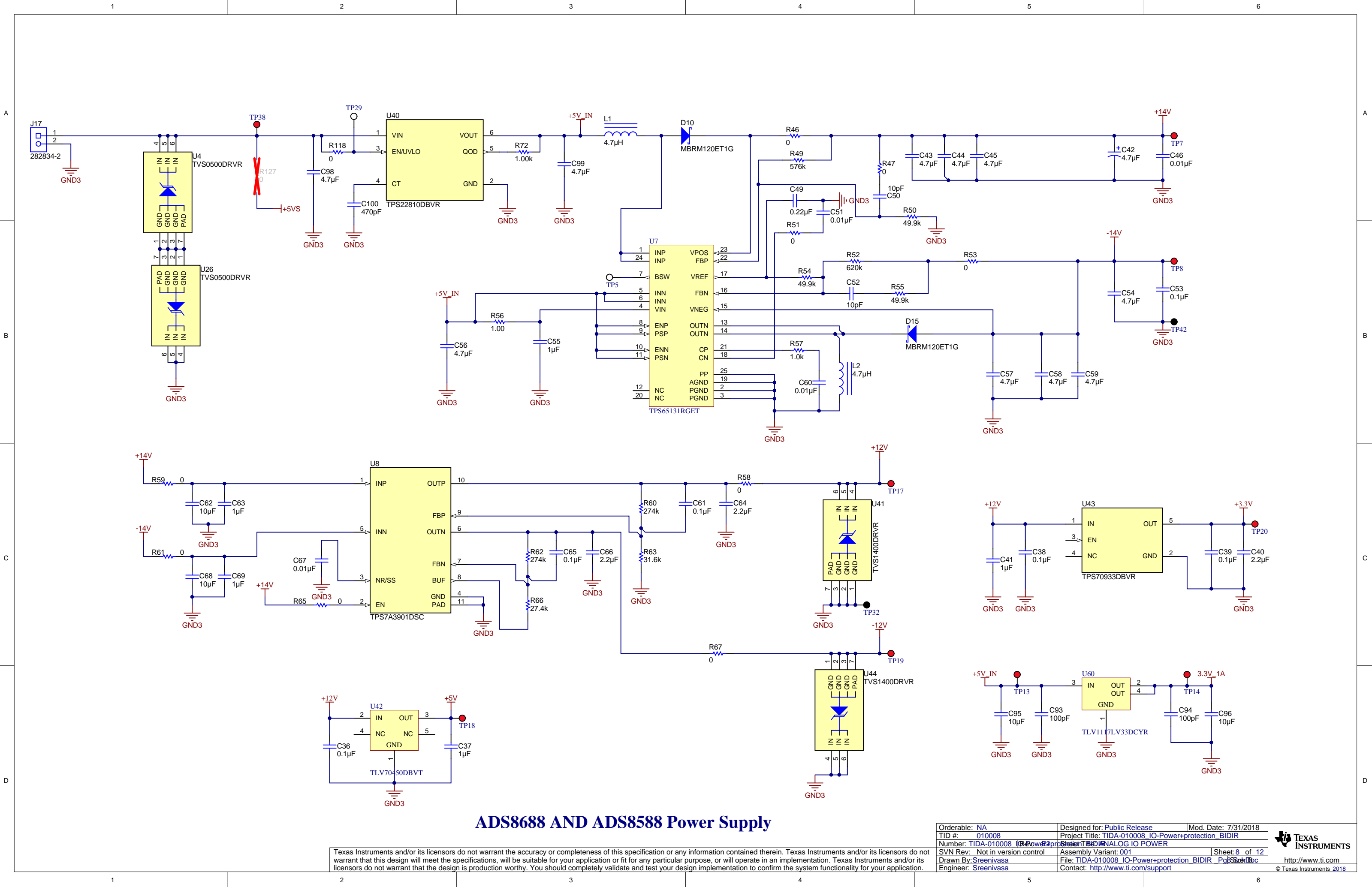
LCD BIAS SUPPLY



12V TO 5V DC-DC CONVERTOR

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.

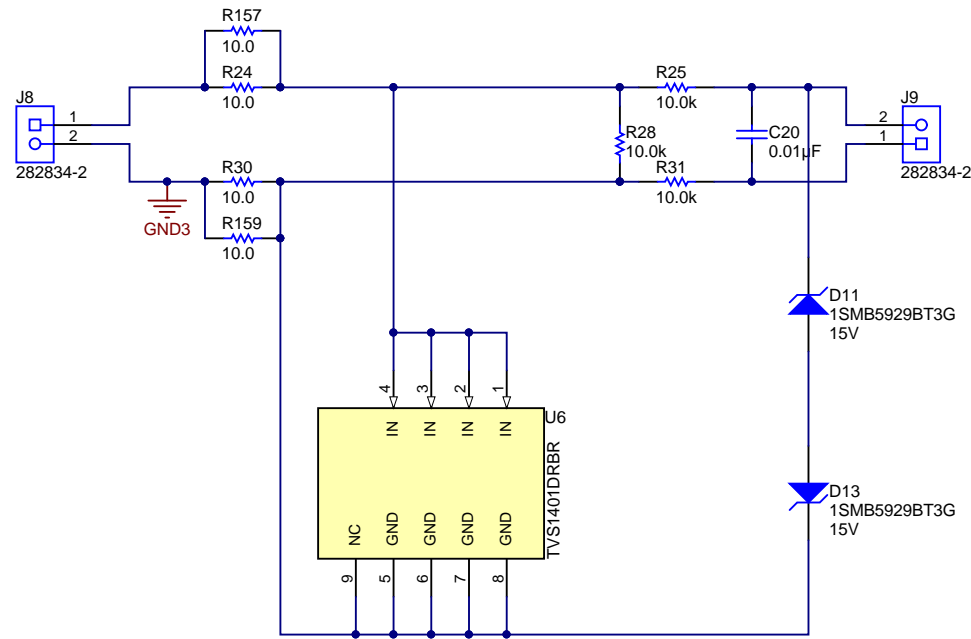
Orderable: NA	Designed for: Public Release	Mod. Date: 7/31/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+protection_BIDIR	
Number: TIDA-010008_IO-Power+protection_BIDIR + USB	Assembly Variant: 001	Sheet: 7 of 12
SVN Rev: Not in version control	File: TIDA-010008_IO-Power+protection_BIDIR_Pg7_SchDoc	Sheet: 7 of 12
Drawn By: Sreenivasa	Contact: http://www.ti.com/support	
Engineer: Sreenivasa		



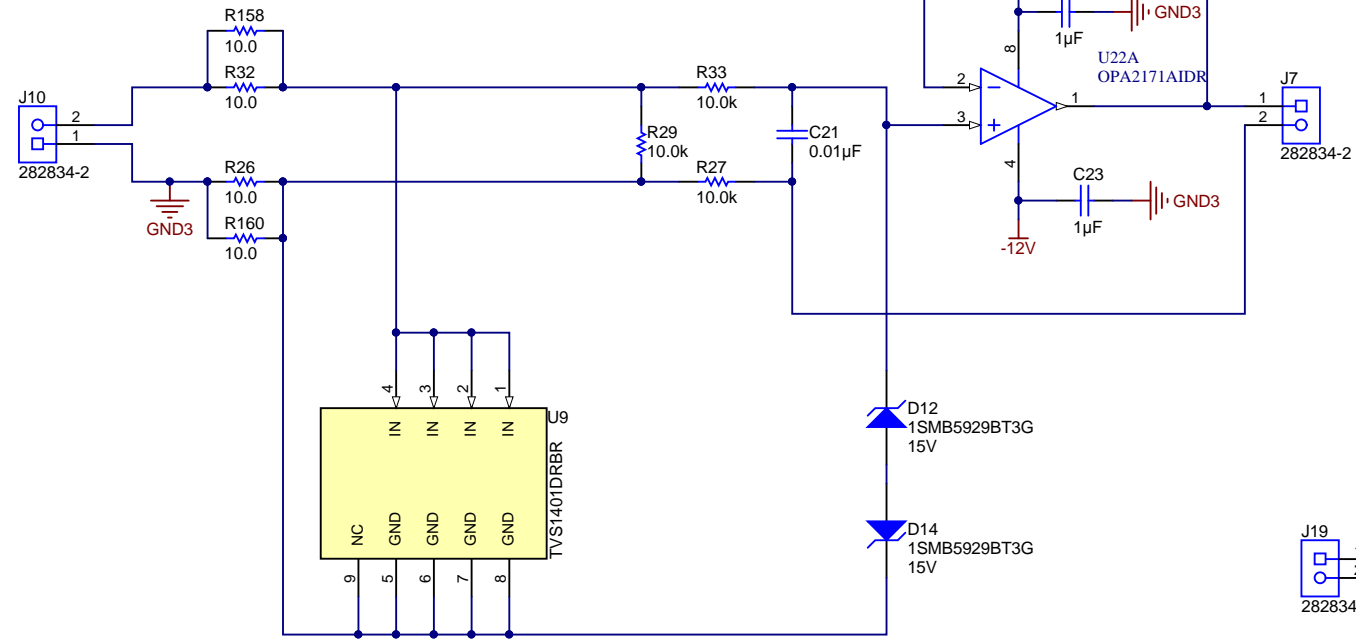
ADS8688 AND ADS8588 Power Supply

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.

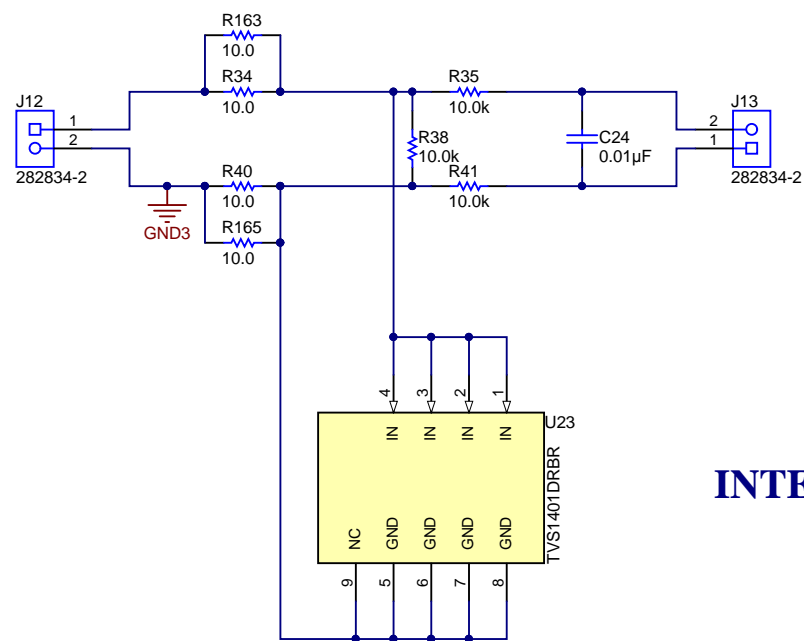
Orderable: NA	Designed for: Public Release	Mod. Date: 7/31/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+protection_BIDIR	
Number: TIDA-010008_IO-Power+protection_BIDIR	Assembly Variant: 001	Sheet: 8 of 12
SVN Rev: Not in version control	File: TIDA-010008_IO-Power+protection_BIDIR_Pgsheet8.doc	
Drawn By: Sreenivasa	Contact: http://www.ti.com/support	
Engineer: Sreenivasa		



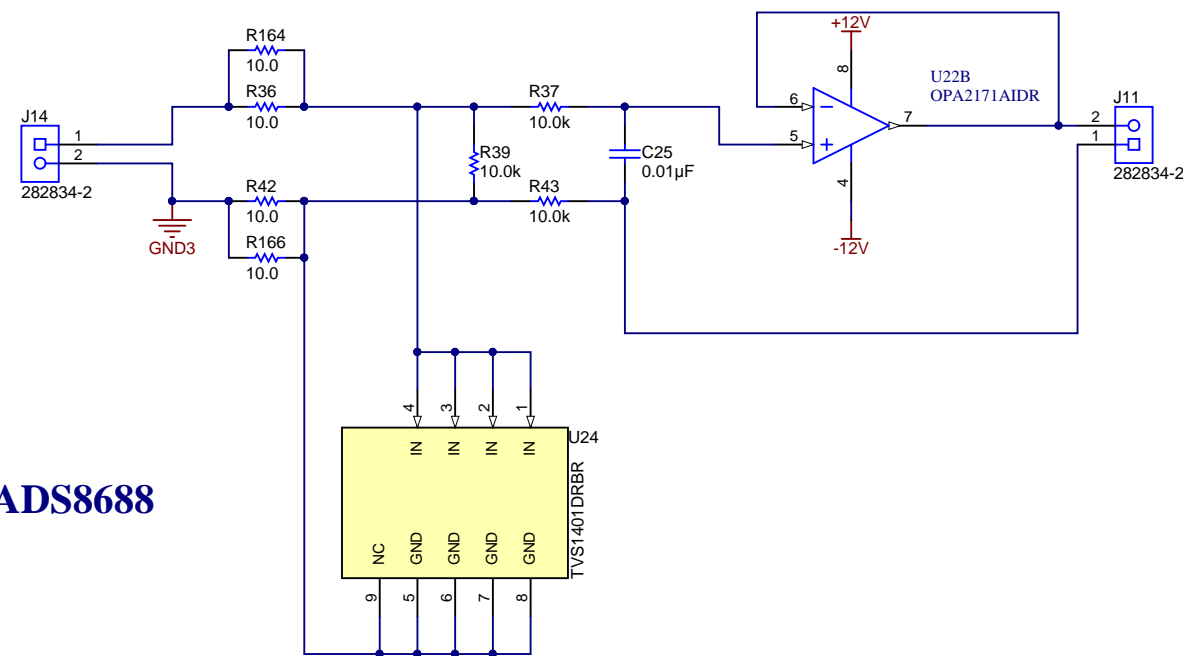
INTEREFACE TO ADS8588S



INTEREFACE TO ADS8688

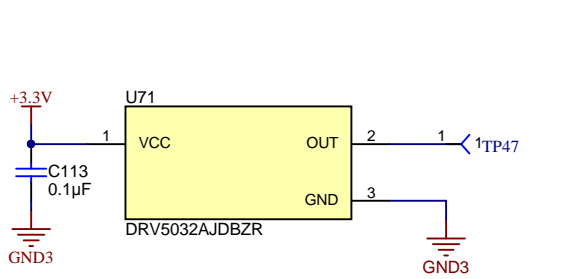


INTEREFACE TO DAC8771 EVM

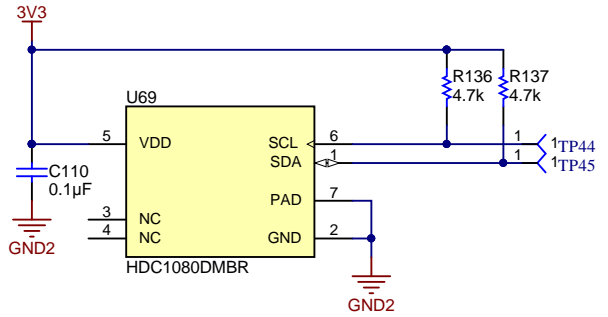




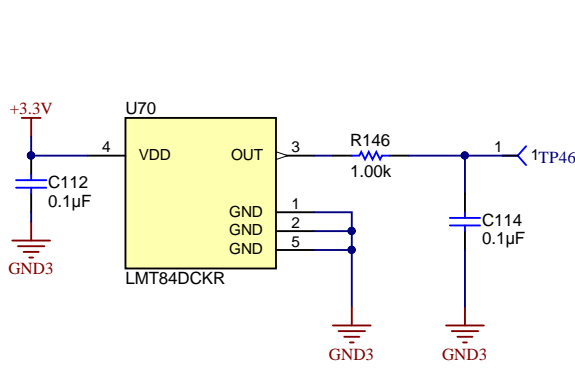
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular 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.



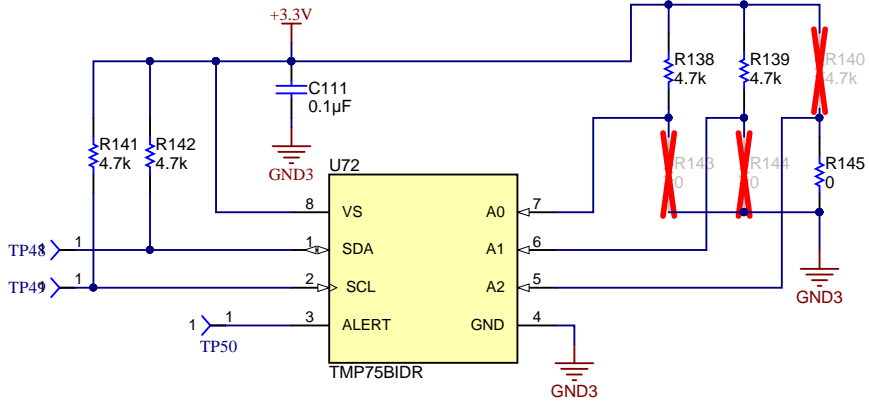
Digital-Switch Hall Effect Sensor

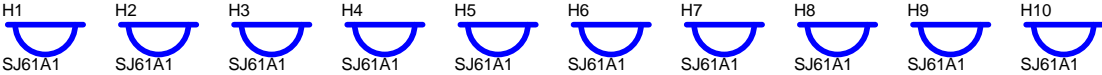


Humidity to Digital Converter



Temperature Sensor





PCB Number: TIDA-010008_IO-Power+protection_BIDIR
PCB Rev: E2

PCB
LOGO
Pb-Free Symbol

PCB
LOGO
FCC disclaimer

PCB
LOGO
Logo4

LBL1
PCB Label
Size: 0.65" x 0.20 "

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

Variant/Label Table	
Variant	Label Text
001	Version E1

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.

Preliminary Version. Not tested. Subject to change without notice

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: NA	Designed for: Public Release	Mod. Date: 7/31/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+protection_BIDIR	
Number: TIDA-010008_IO-Power+protection_BIDIR	Sheet: 12 of 12	
SVN Rev: Not in version control	Assembly Variant: 001	File: TIDA-010008_IO-Power+protection_BIDIR_EVS
Drawn By: Sreenivasa	Size: B	Size: B
Engineer: Sreenivasa	Contact: http://www.ti.com/support	