

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

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

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

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

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

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

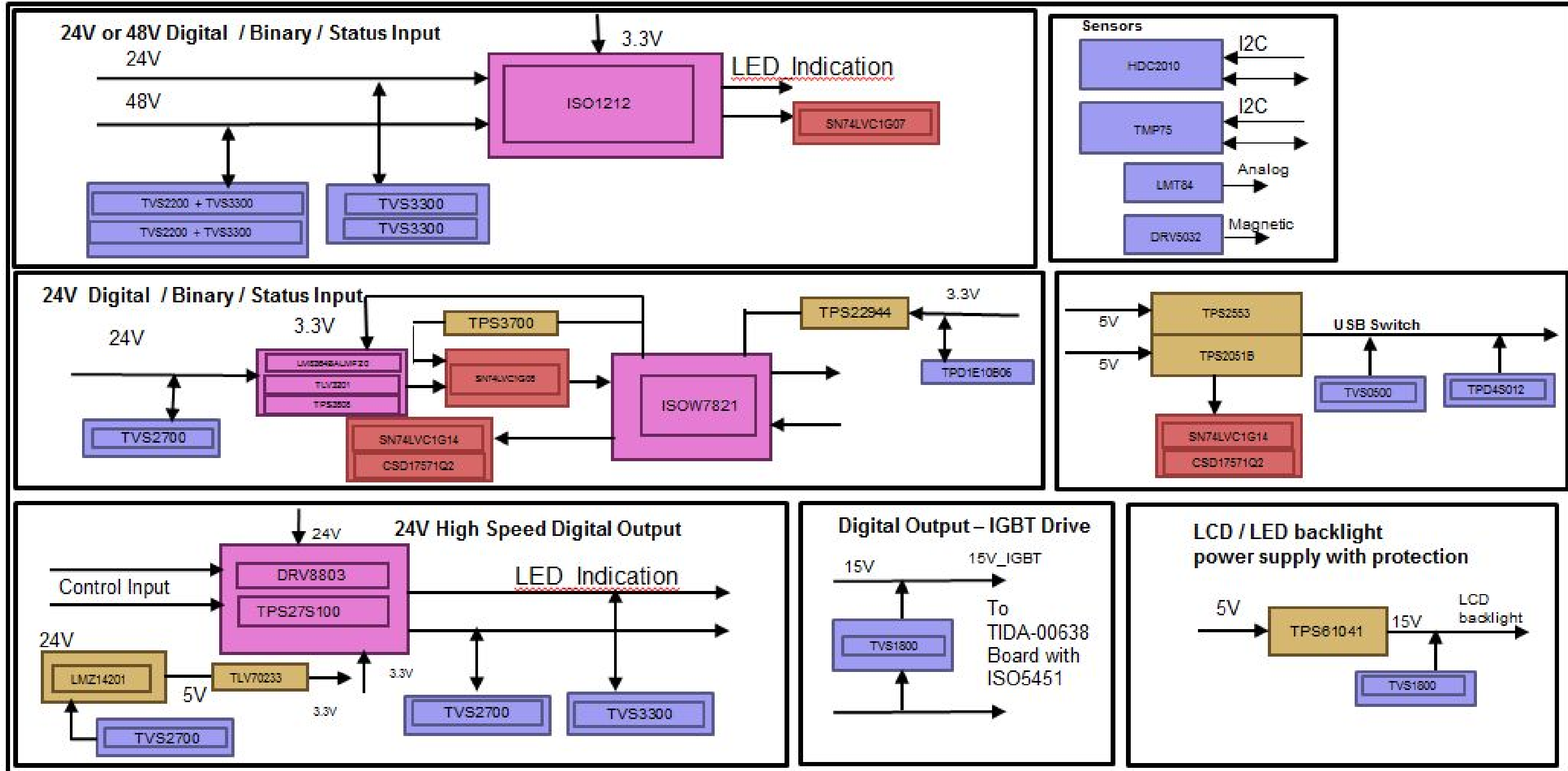
Page 10 ADS131E08 AND ADS131A04 PROTECTION AND REFERENCE GENERATION

Page 11 SENSOR FOR DIAGNOSTICS

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Orderable: NA	Designed for: Public Release	Mod. Date: 5/26/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008_IO-Power+Protection	Sheet Title: COVERSHEET	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_CoverSheet.dwg	http://www.ti.com
Engineer: Sreenivasa	Contact: http://www.ti.com/support	© Texas Instruments 2018

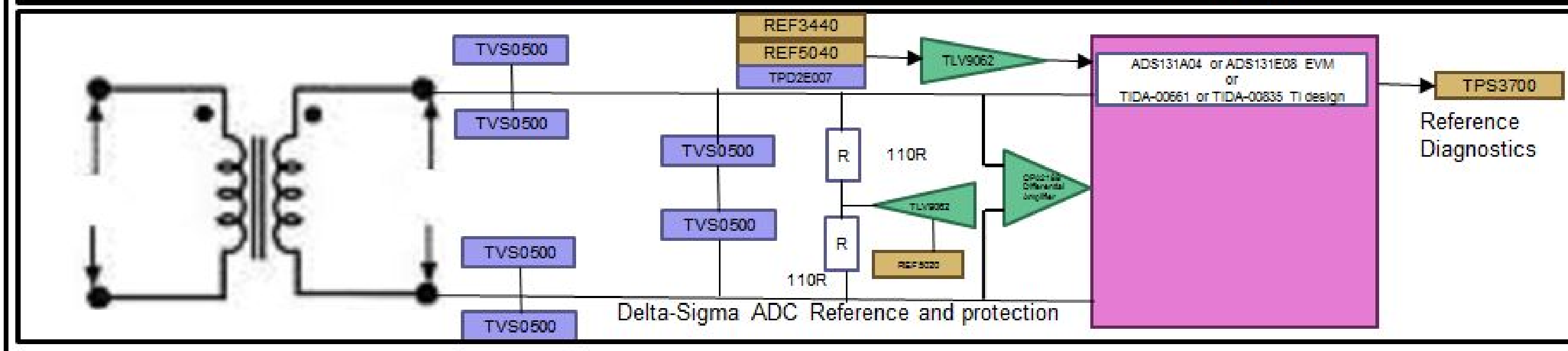
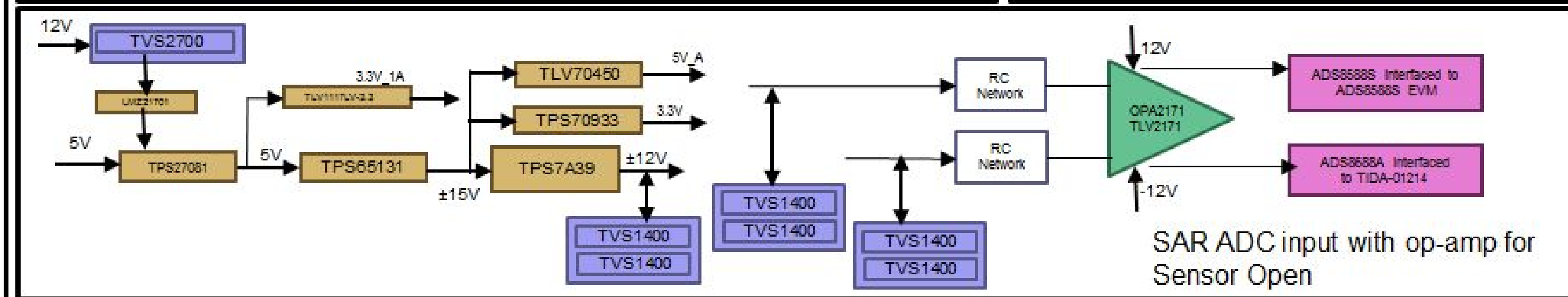
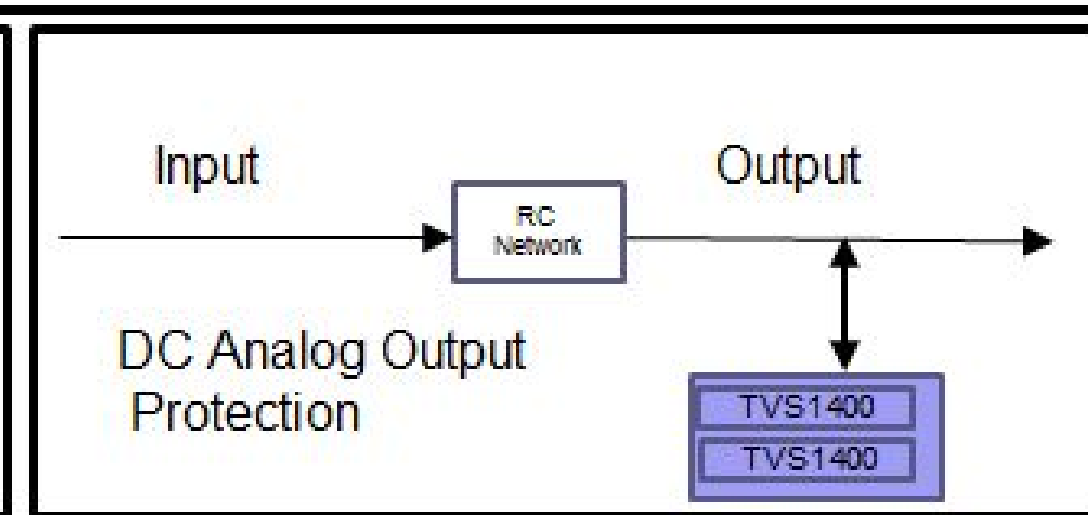
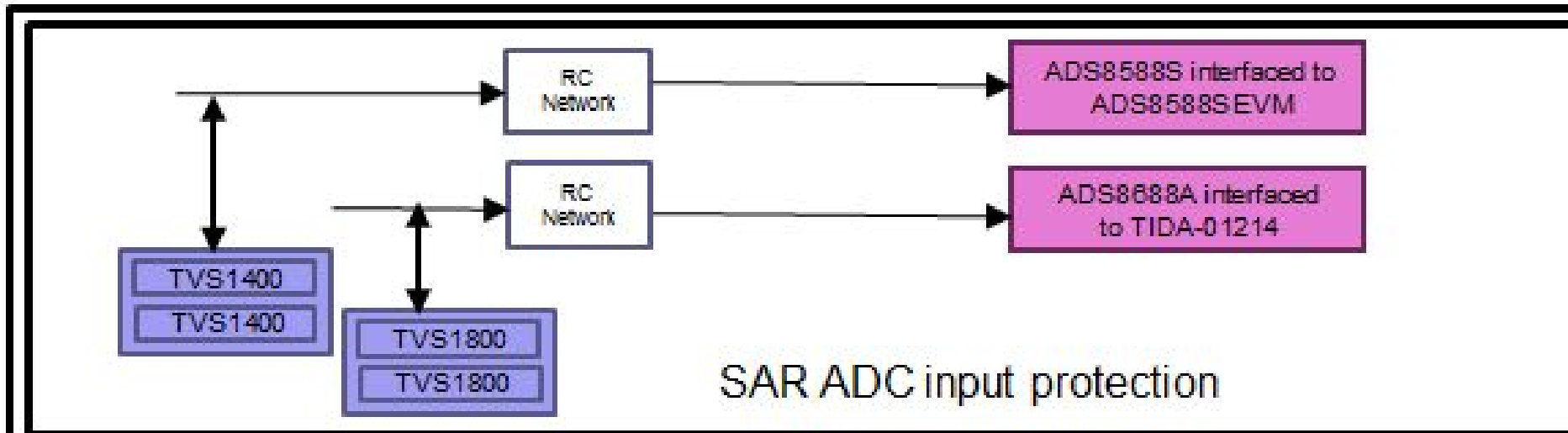


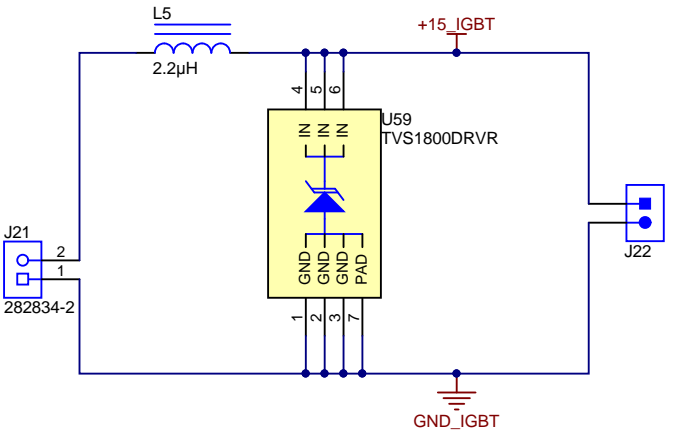


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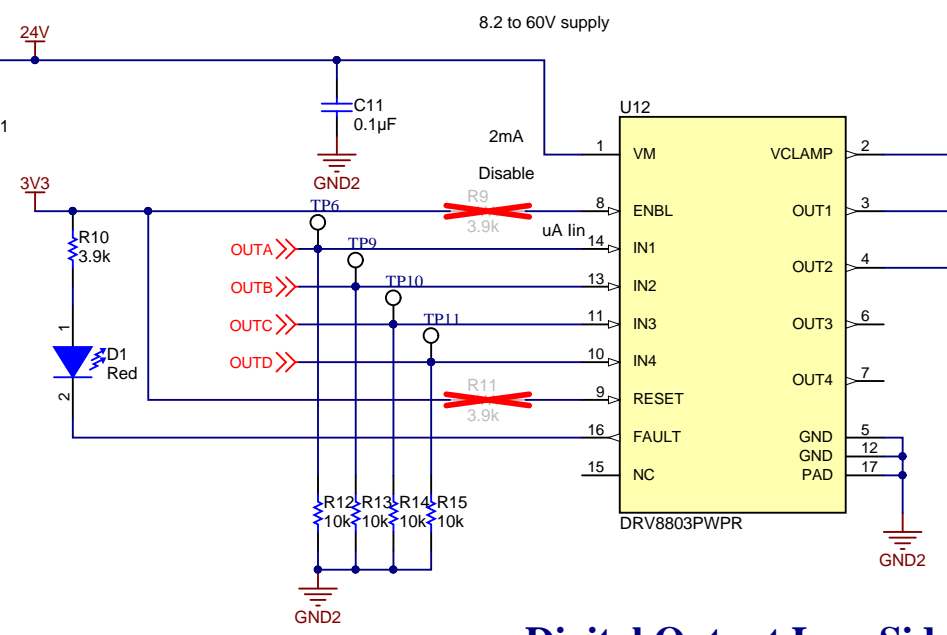
Orderable: NA	Designed for: Public Release	Mod. Date: 7/16/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008_IO-Power+Protection	Project Title: Block Diagram_DIO	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_Block Diagram_DIO_Pg2.Stp	http://www.ti.com
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



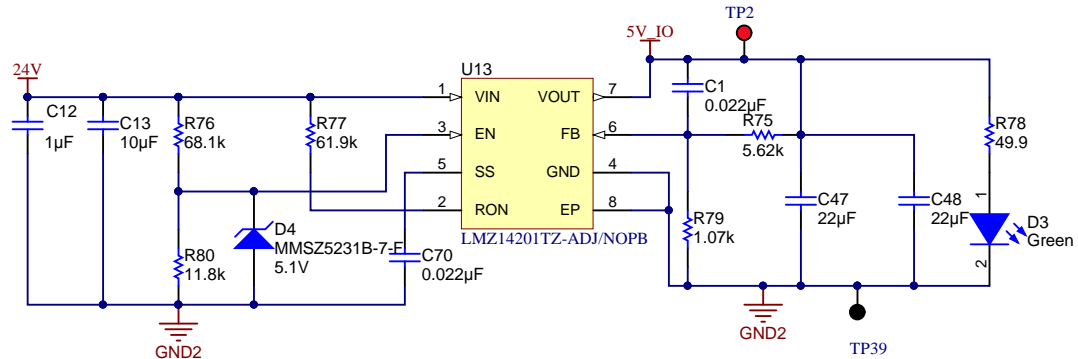




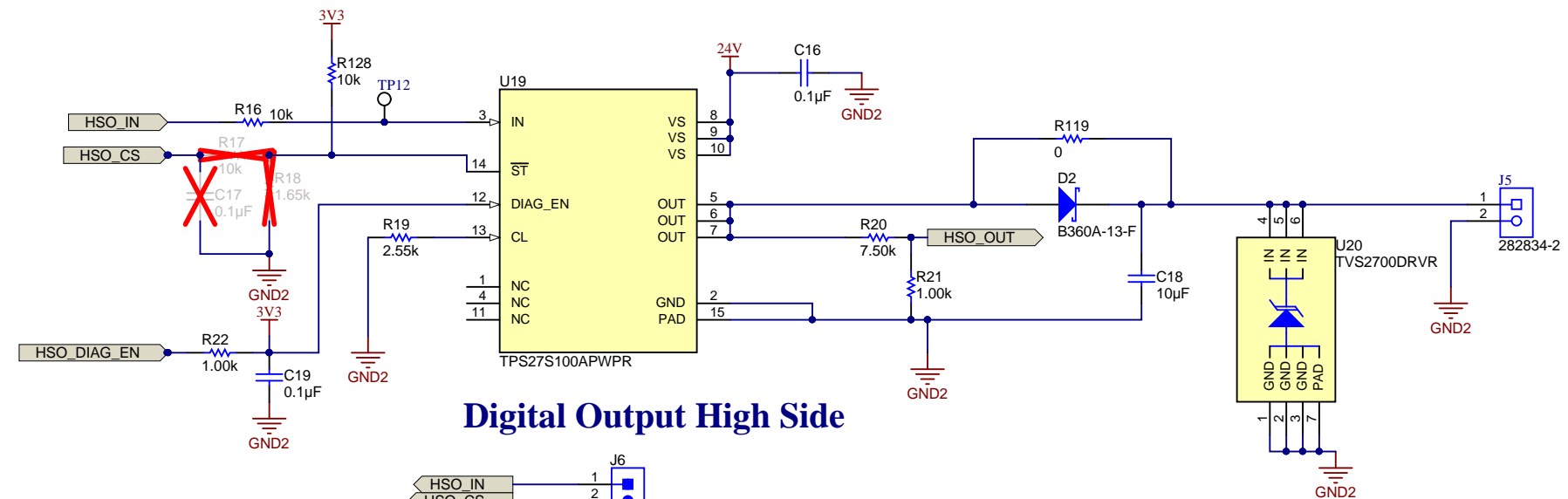
IGBT_Drive_Interface to TIDA-00638



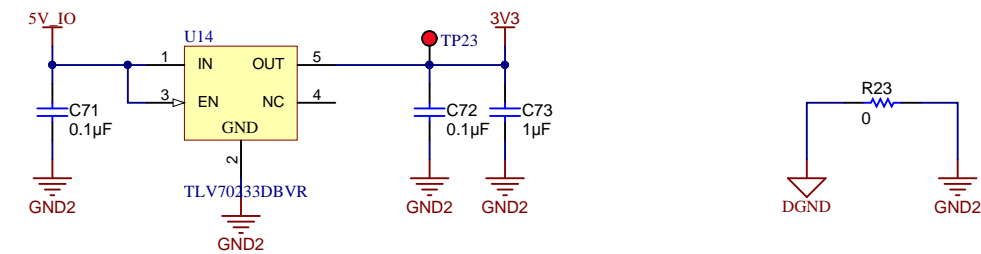
Digital Output Low Side

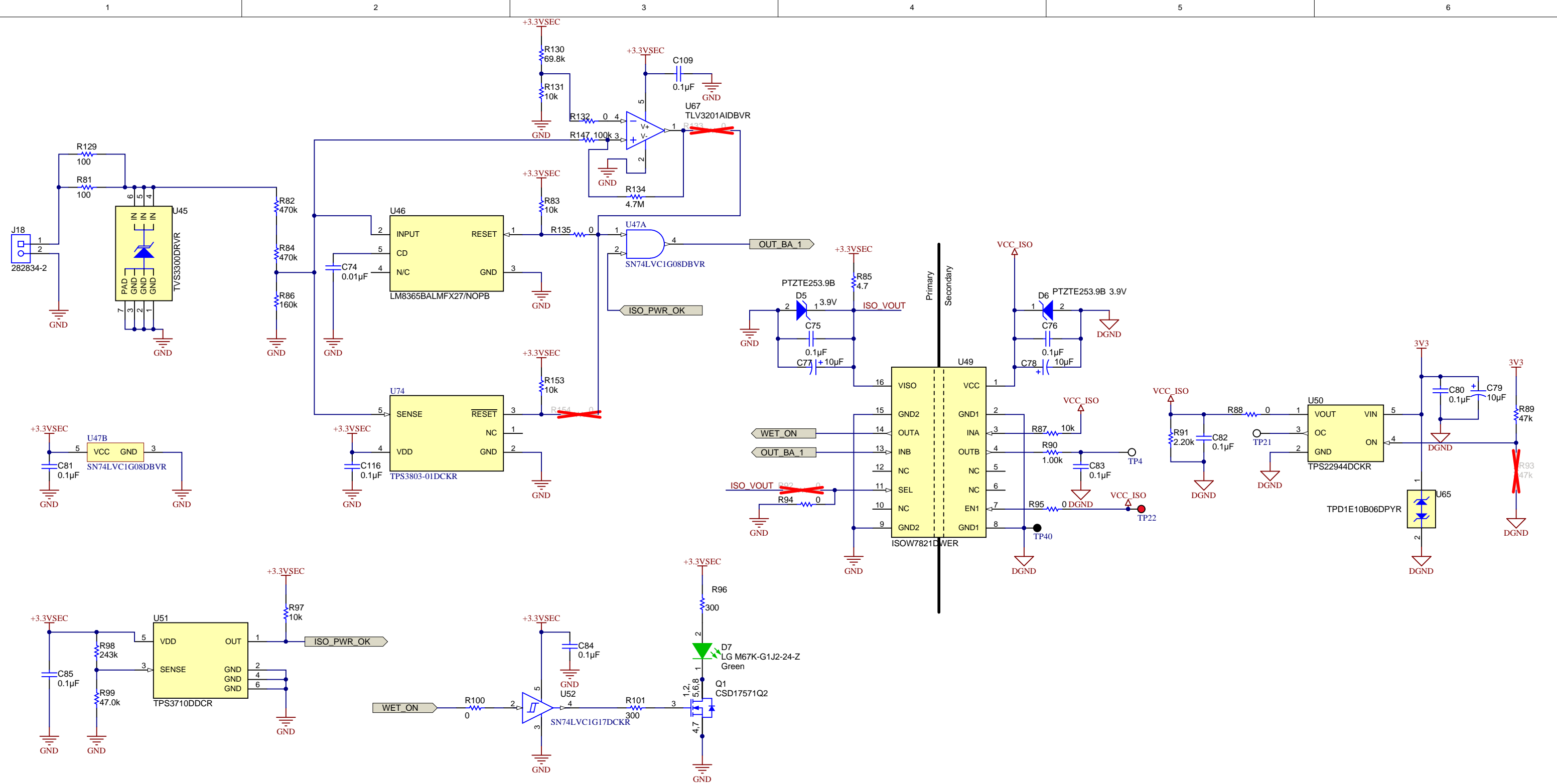


24V to 5V Simple Switcher-1A



Digital Output High Side





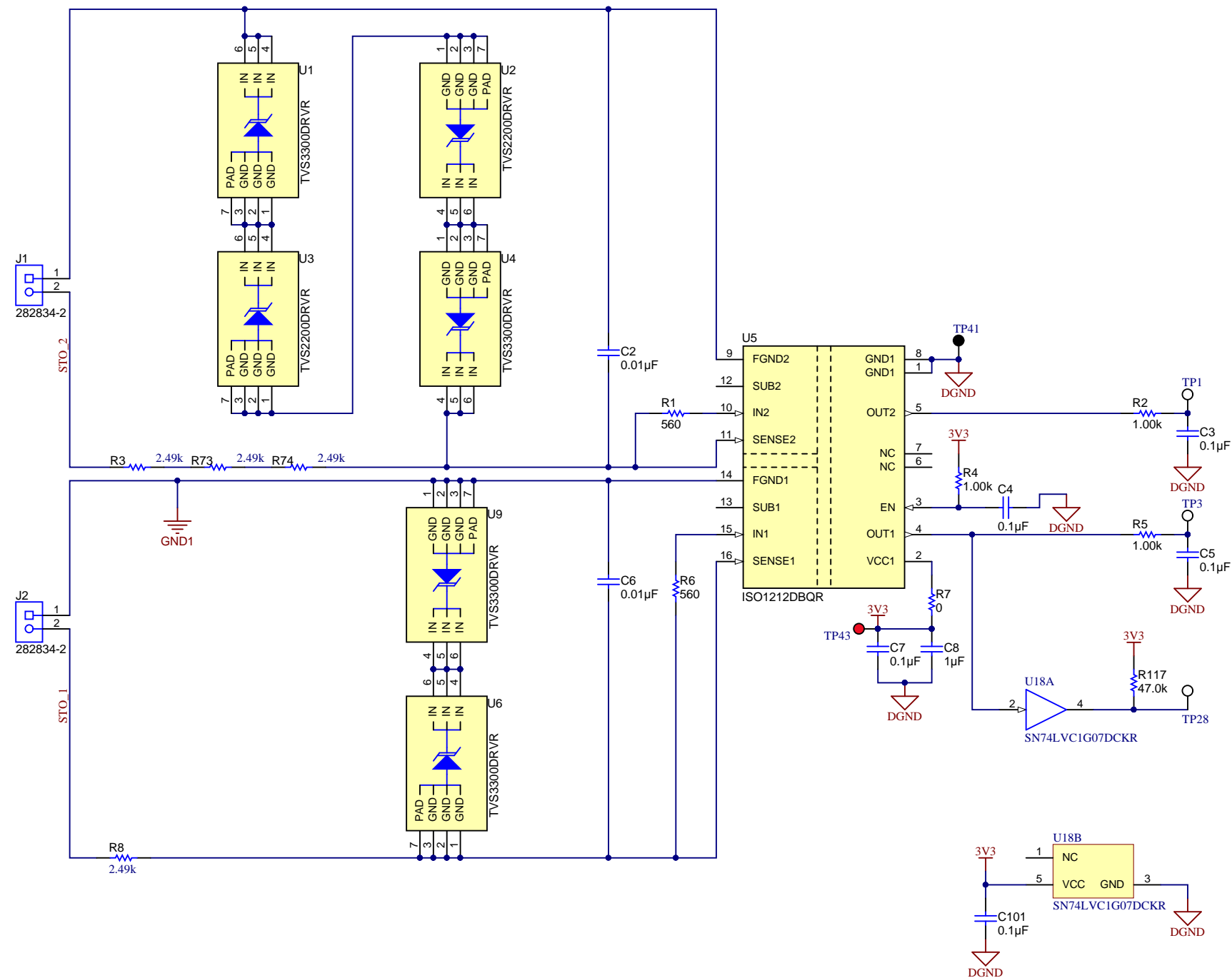
Fixed Threshold Binary Input Module With Voltage Detector

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Orderable: NA	Designed for: Public Release	Mod. Date: 7/20/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008 (Rev. 2)	Assembly Variant: 001	Sheet: 5 of 12
SVN Rev: Not in version control	File: TIDA-010008_IO-Power+Protection_Pg5.SchDoc	Size: B
Drawn By: Sreenivasa	Contact: http://www.ti.com/support	
Engineer: Sreenivasa		



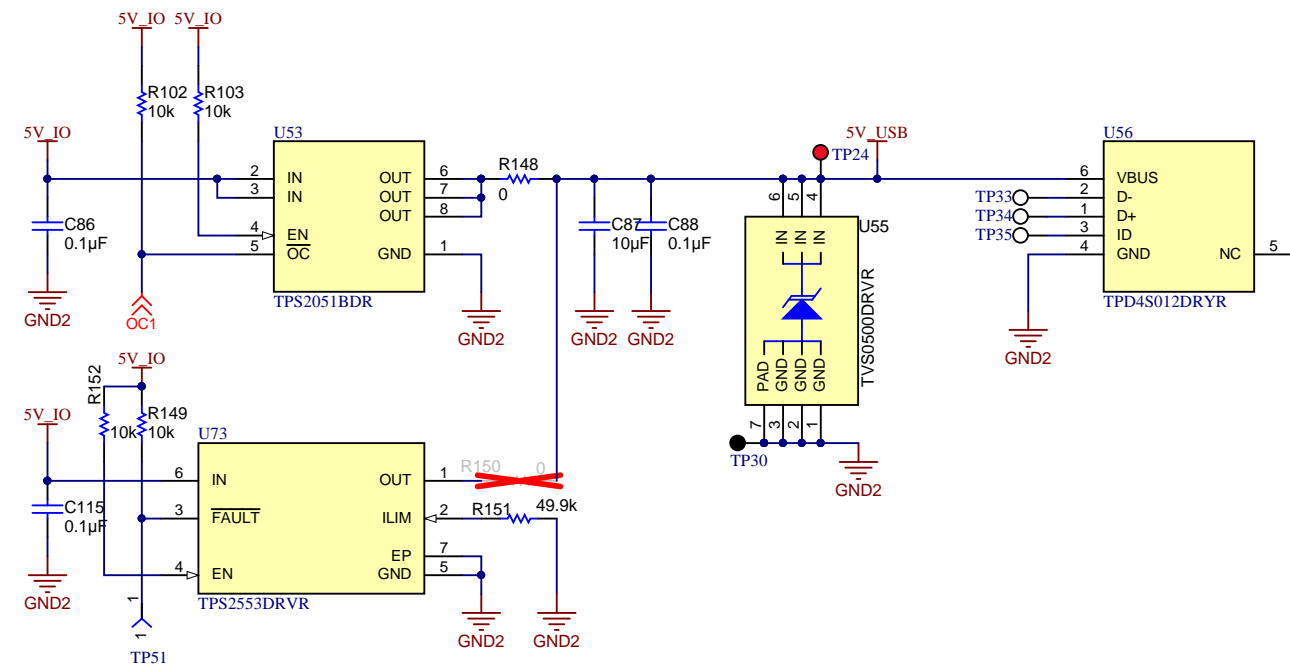
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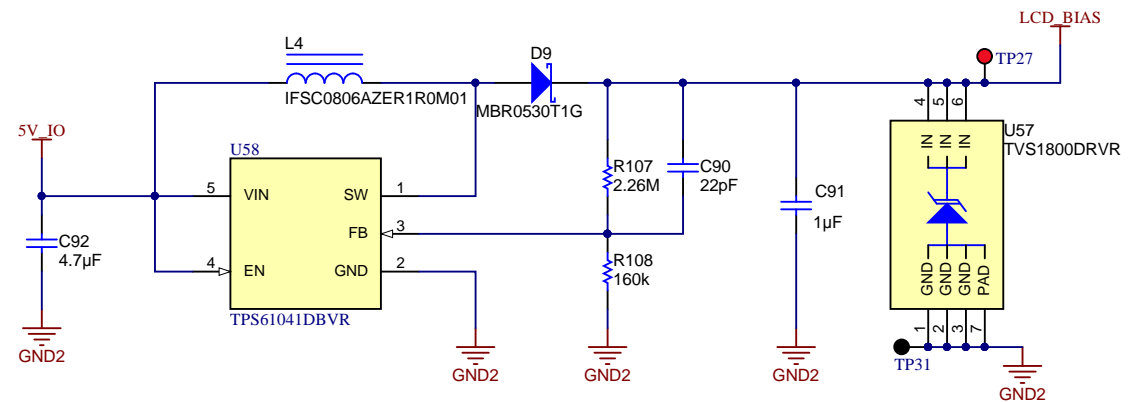
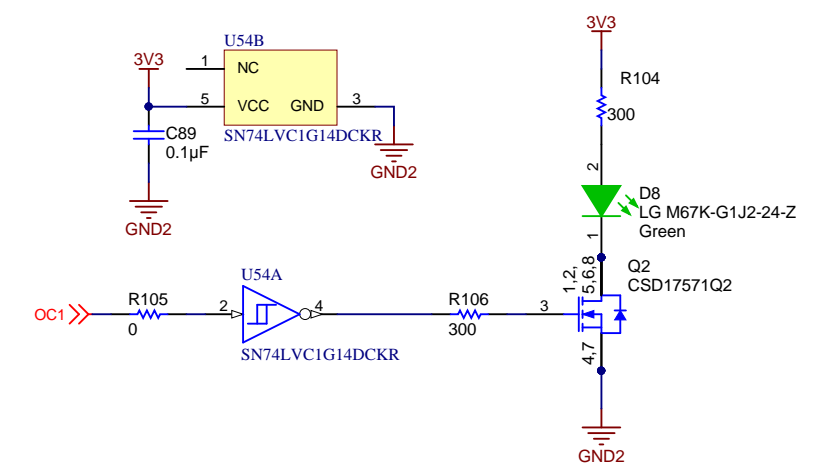
Fixed Threshold Self Powered 24V to 48V Binary Input Module

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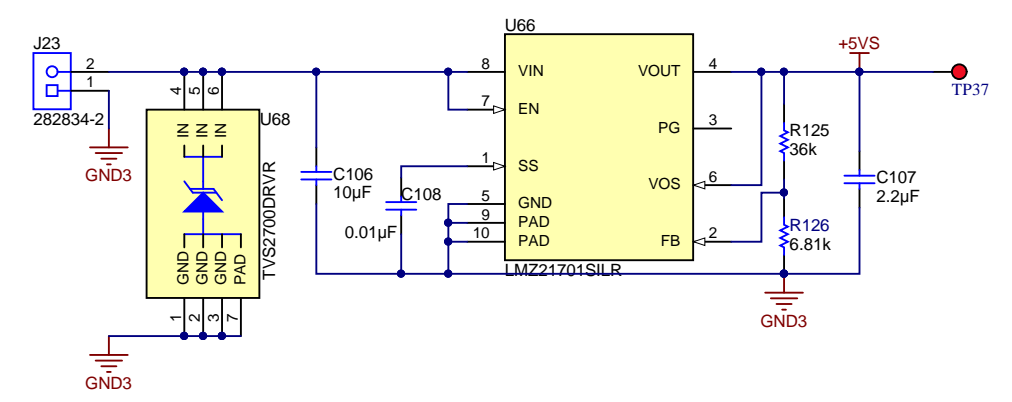
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Number: TIDA-010008 (Rev. 2.0)	Project Title: DIGITAL INPUT WITH SELF POWER	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 6 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_Pg6.SchDoc	Size: B
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



USB CURRENT LIMIT SWITCH



LCD BIAS SUPPLY



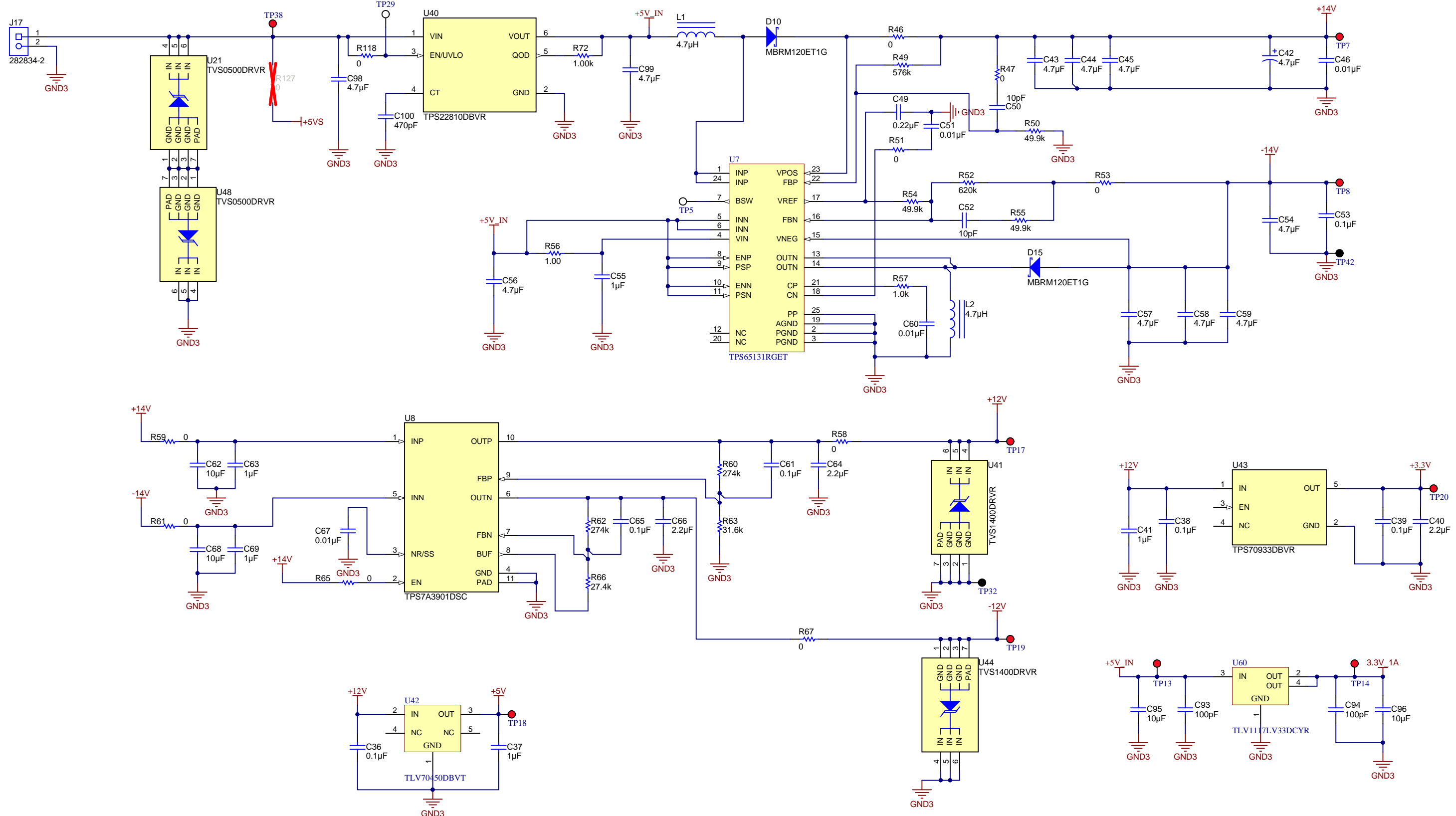
12V TO 5V DC-DC CONVERTOR

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Orderable: NA	Designed for: Public Release	Mod. Date: 7/6/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008 (Rev. 2)	Project Title: HMI + USB	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 7 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_Pg7.SchDoc	Size: B
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



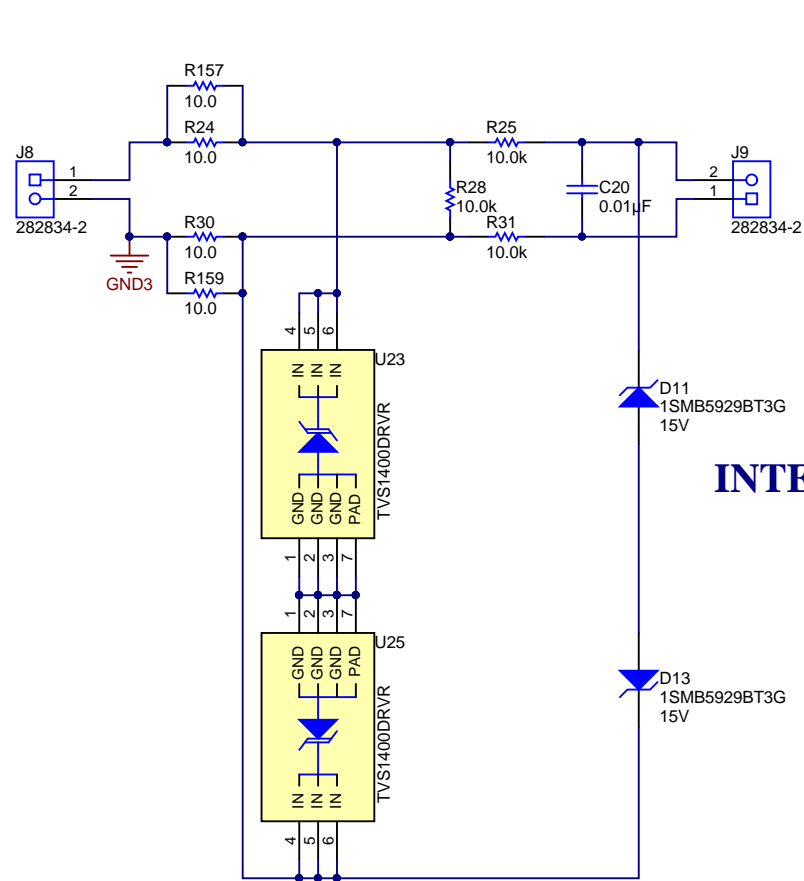
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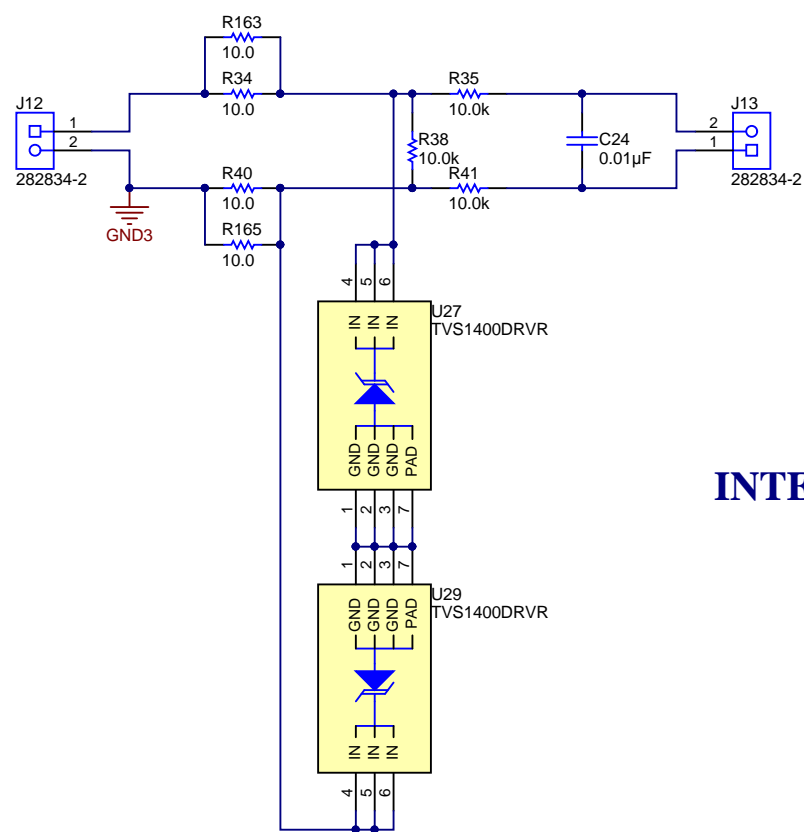
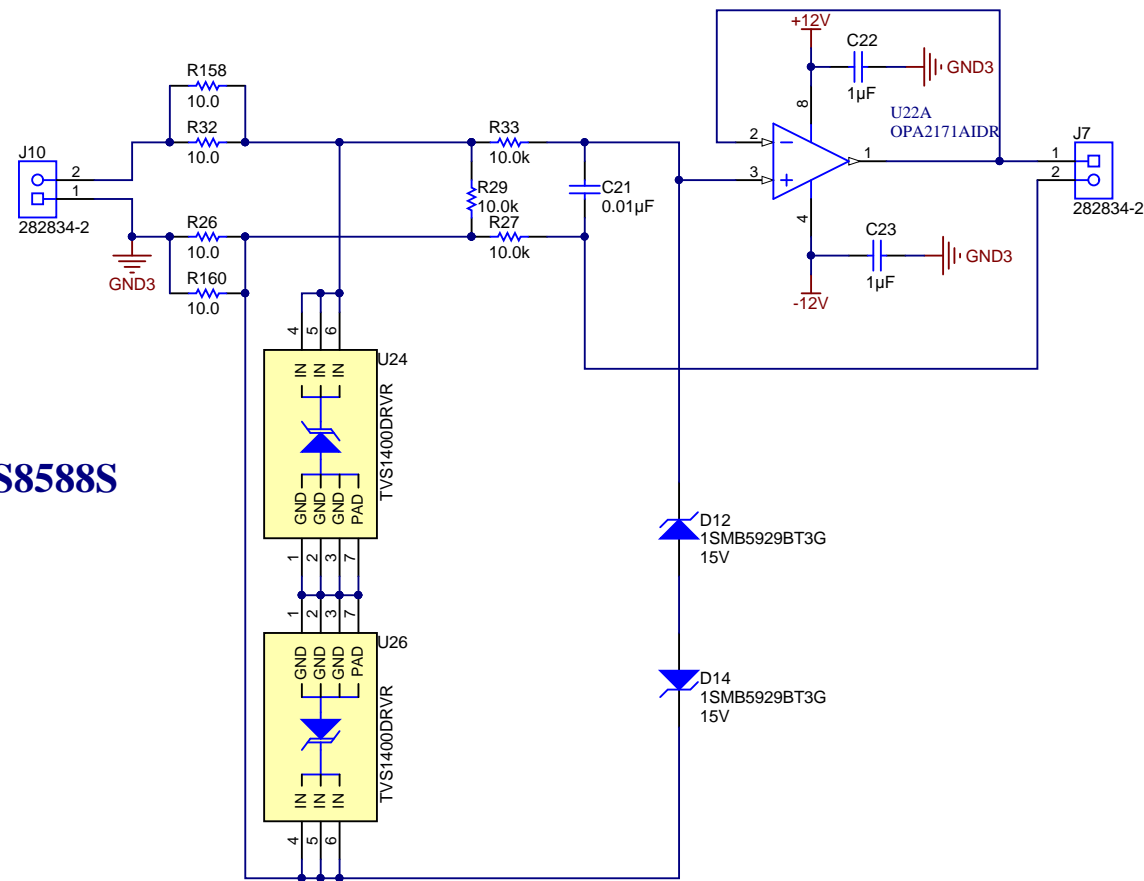
ADS8688 AND ADS8588 Power Supply

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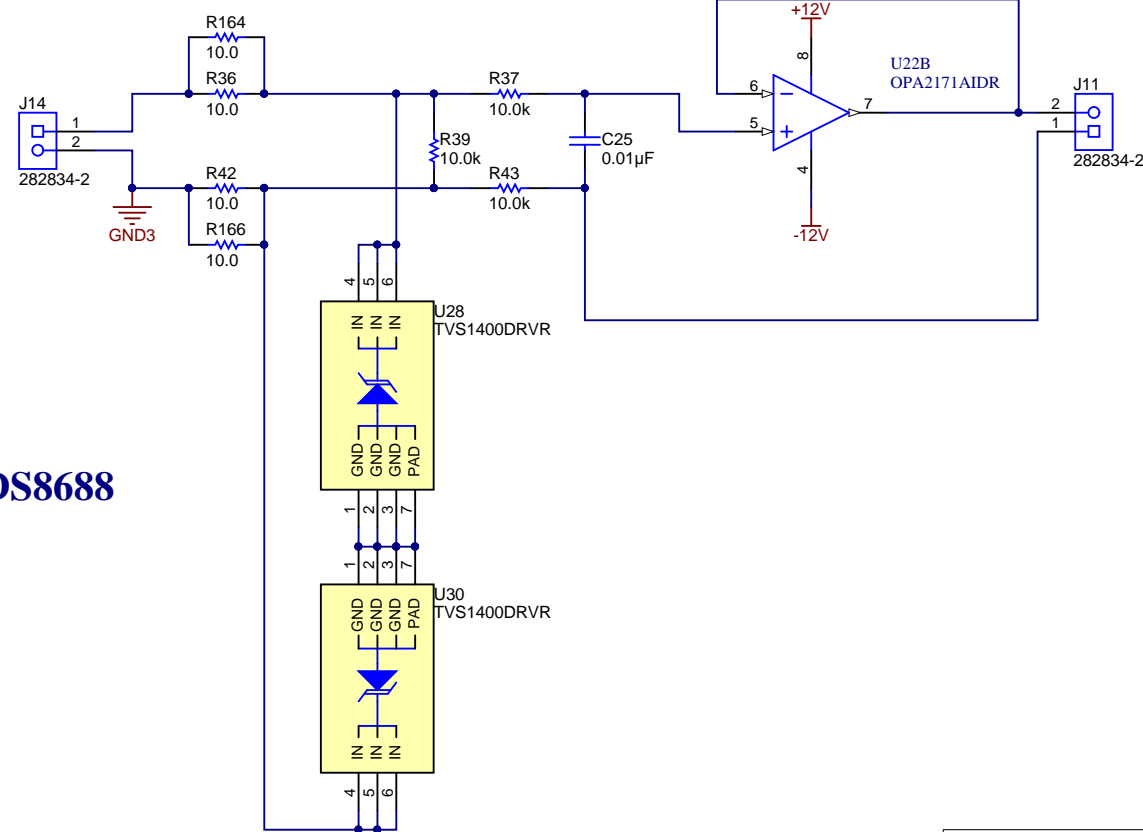
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Number: TIDA-010008_IO-Power+Protection	Project Title: ANALOG IO POWER	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 8 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_Pg8.SchDoc	Size: B
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



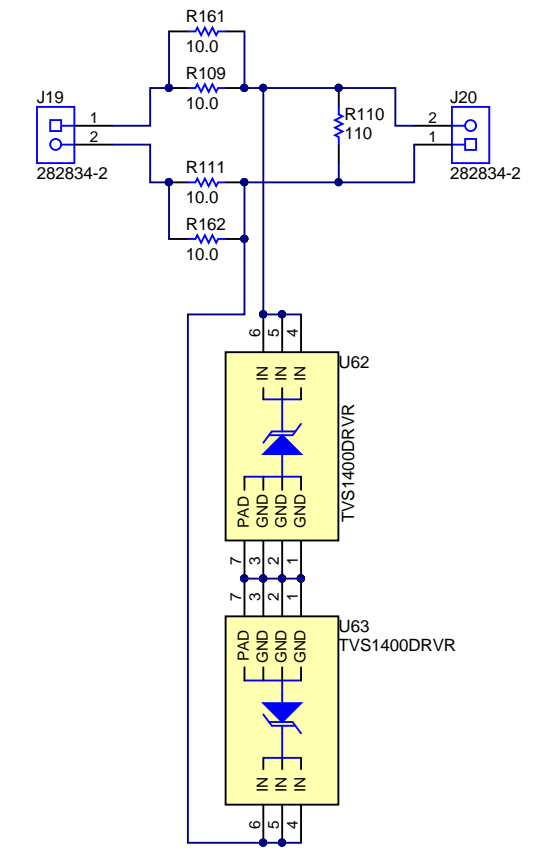
INTEREFACE TO ADS8588



INTEREFACE TO ADS8688



INTEREFACE TO DAC8771 EVM

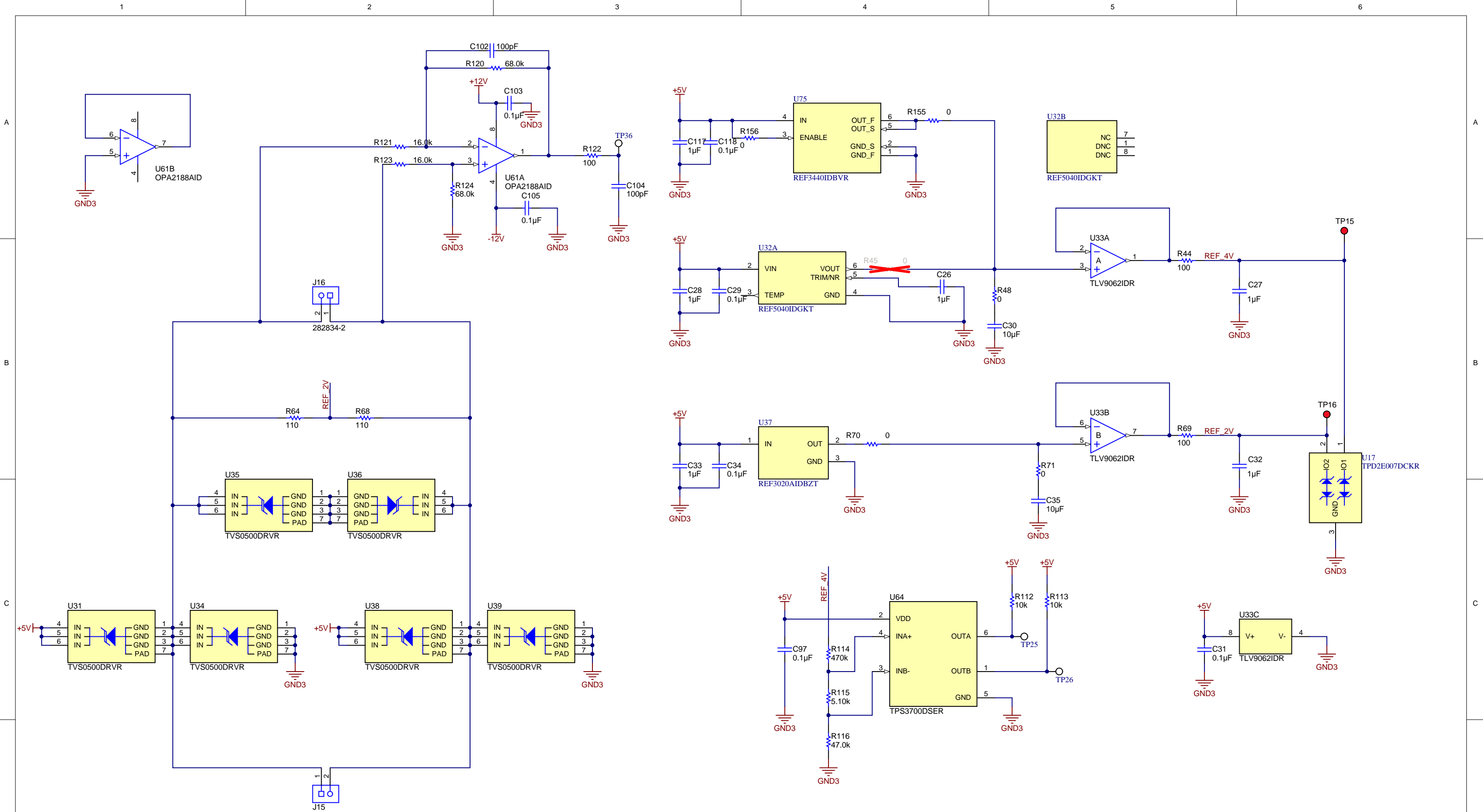


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Orderable: NA	Designed for: Public Release	Mod. Date: 7/2/2019
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008 (Rev. 2)	Project Title: ADS8588 + ADS8688 PROTECTION	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 9 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_Pg9.SchDoc	Size: B
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



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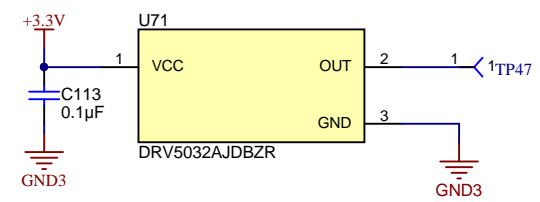
Delta-Sigma_ADC-ADS131E0X_ADS131A0X Interface

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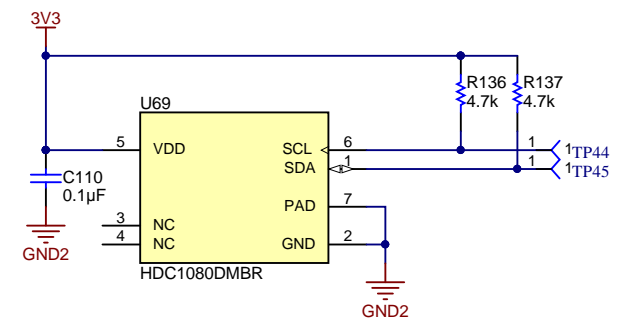
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TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008 (Rev. 2)	Assembly Variant: 001	Sheet: 10 of 12
SVN Rev: Not in version control	File: TIDA-010008_IO-Power+Protection_Pg10.Sch	Size: B
Drawn By: Sreenivasa	Contact: http://www.ti.com/support	
Engineer: Sreenivasa		



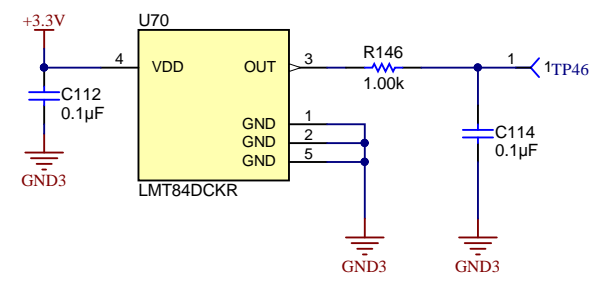
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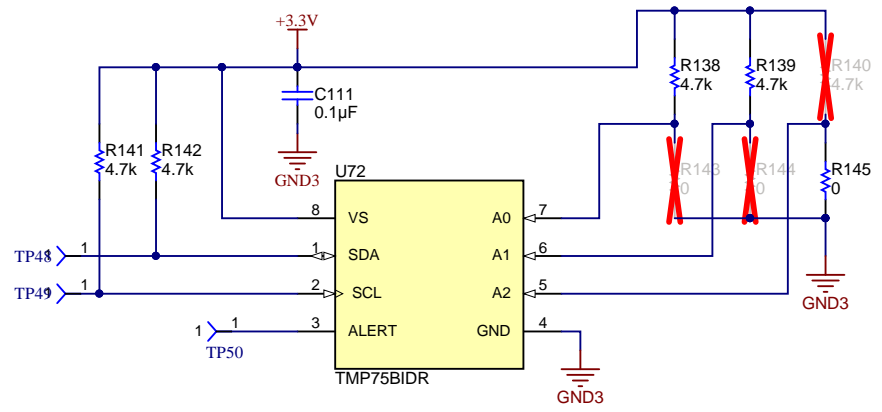
Digital-Switch Hall Effect Sensor



Humidity to Digital Converter



Temperature Sensor



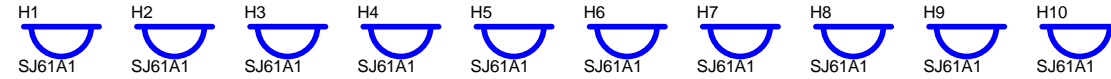
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Orderable: NA	Designed for: Public Release	Mod. Date: 7/6/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008 (Rev. 2)	Project Title: Sensor	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 11 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_Pg11.Sch	Size: B
Engineer: Sreenivasa	Contact: http://www.ti.com/support	



A

A



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

PCB LOGO
Pb-Free Symbol

PCB LOGO
FCC disclaimer

PCB LOGO
Logo4

B

B

Variant/Label Table	
Variant	Label Text
001	Version E1

LBL1
PCB Label
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.

D

D

Preliminary Version. Not tested. Subject to change without notice

Orderable: NA	Designed for: Public Release	Mod. Date: 7/17/2018
TID #: 010008	Project Title: TIDA-010008_IO-Power+Protection	
Number: TIDA-010008_IO-Power+Protection	Sheet Title: Hardware	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 12 of 12
Drawn By: Sreenivasa	File: TIDA-010008_IO-Power+Protection_EVM_Hardware_SchDoc	Size: 8.5 x 11.0
Engineer: Sreenivasa	Contact: http://www.ti.com/support	

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