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Revision History

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

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BLOCK DIAGRAM

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+24V/5V INPUT

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5V to +/- 14V using SPLIT RAIL converter

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isolated supply for AFE using LDOs, reference - serial and shunt , voltage supervisor

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+24V DC-DC + 24V POWER MODULE

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+24V INPUT SIMPLE SWITCHER + POWER MUX + MONITOR

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+24V SIMPLE SWITCHER

Orderable: N/A

TID #: 010055

Number: TIDA-010055

SVN Rev: Not in version control

Drawn By: Sreenivasa

Engineer: Sreenivasa

Designed for: Public Release

Project Title: TIDA-010055_Non-ISO_AFE-Power+Protection


Assembly Variant: 001

File: TIDA-010055_Non-ISO_AFE-Power+Protection_Schematic_Sheet

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

Mod. Date: 2/14/2019

Sheet: 1 of 9

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2

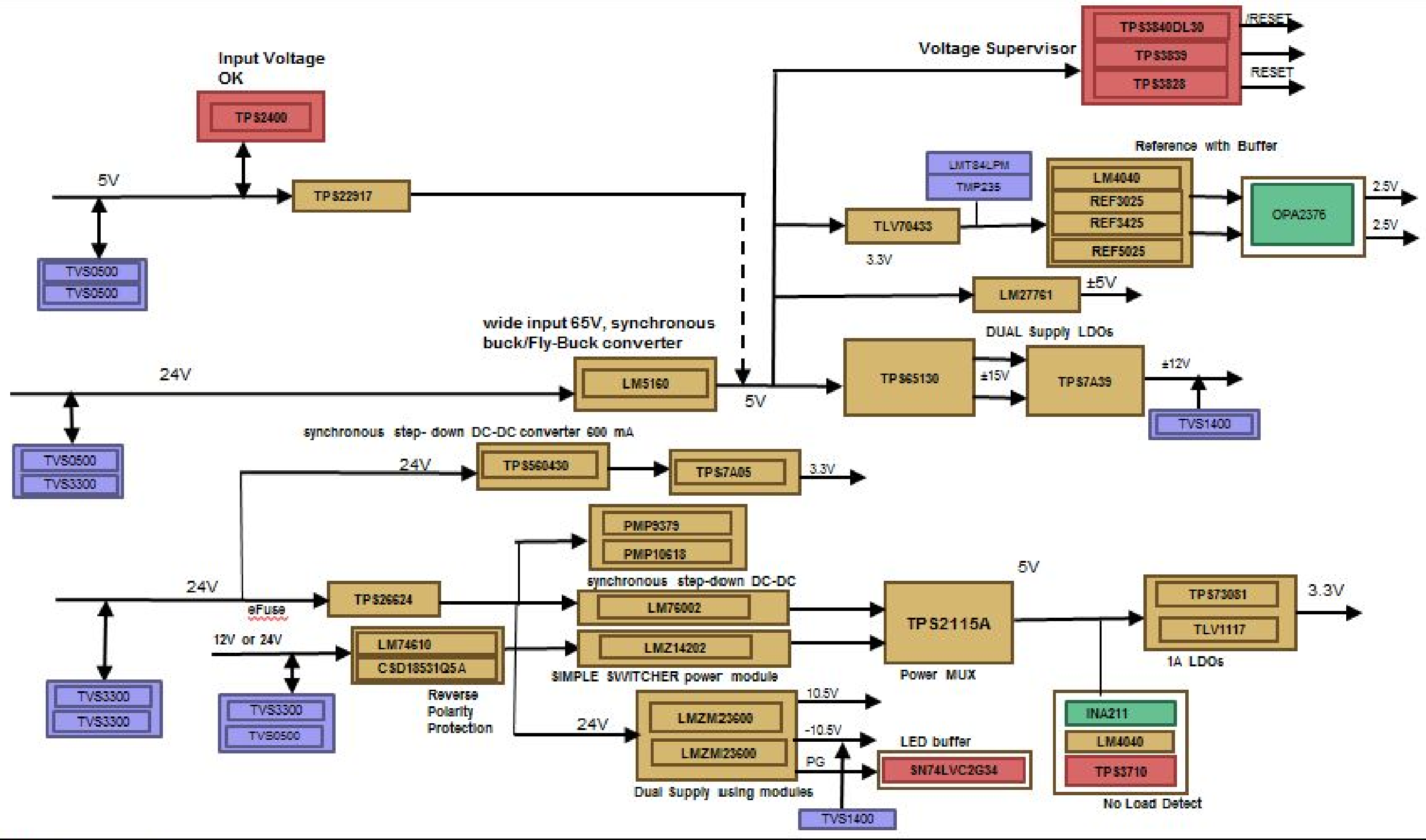
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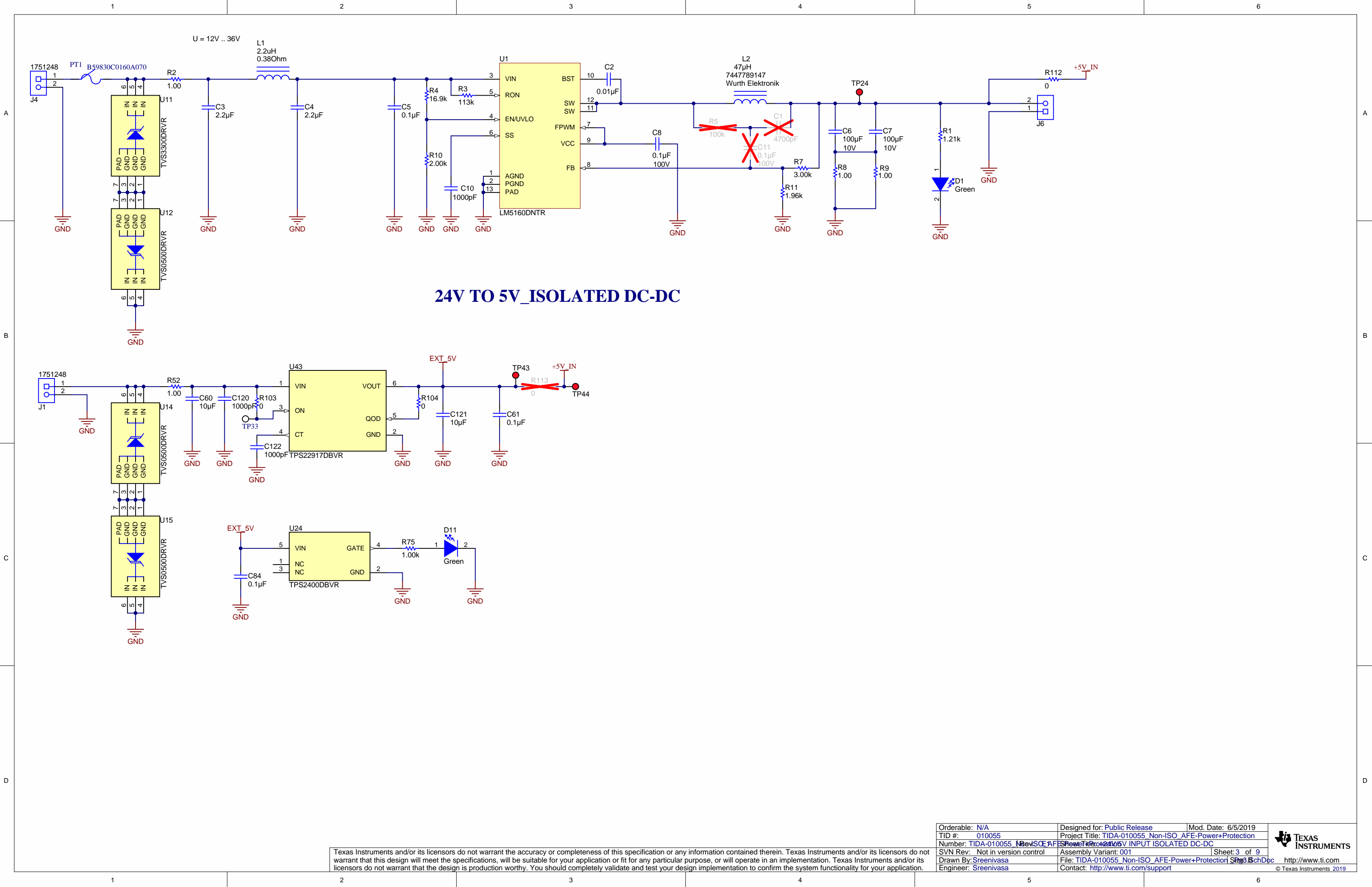
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Non isolated power architecture for Analog and Digital IO modules power supply





24V TO 5V_ISOLATED DC-DC

Orderable: N/A	Designed for: Public Release	Mod. Date: 6/5/2019
TID #: 010055	Project Title: TIDA-010055_Non-ISO_AFE-Power+Protection	
Number: TIDA-010055_Non-ISO_AFE-Power+Protection	Assembly Variant: 001	Sheet: 3 of 9
SVN Rev: Not in version control	File: TIDA-010055_Non-ISO_AFE-Power+Protection_SchDoc	http://www.ti.com
Drawn By: Sreenivasa	Contact: http://www.ti.com/support	
Engineer: Sreenivasa		© Texas Instruments 2019

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A

B

C

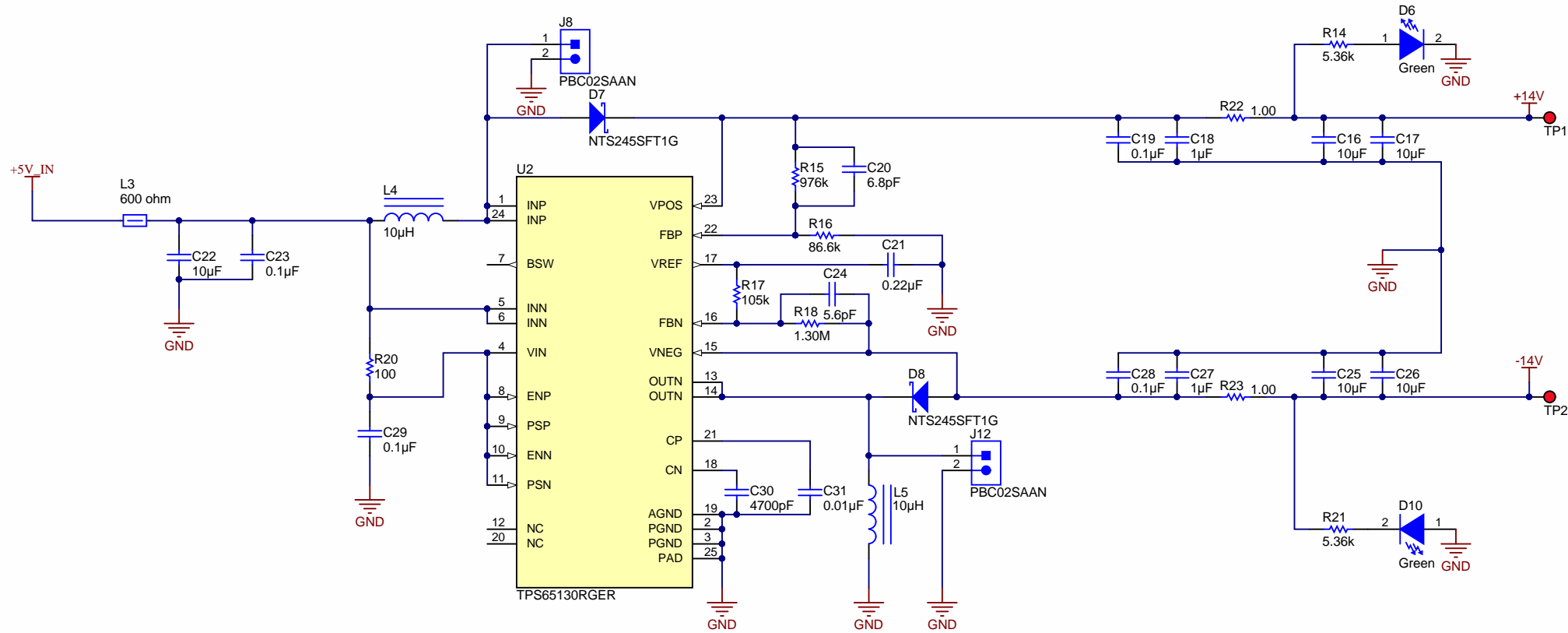
D

A

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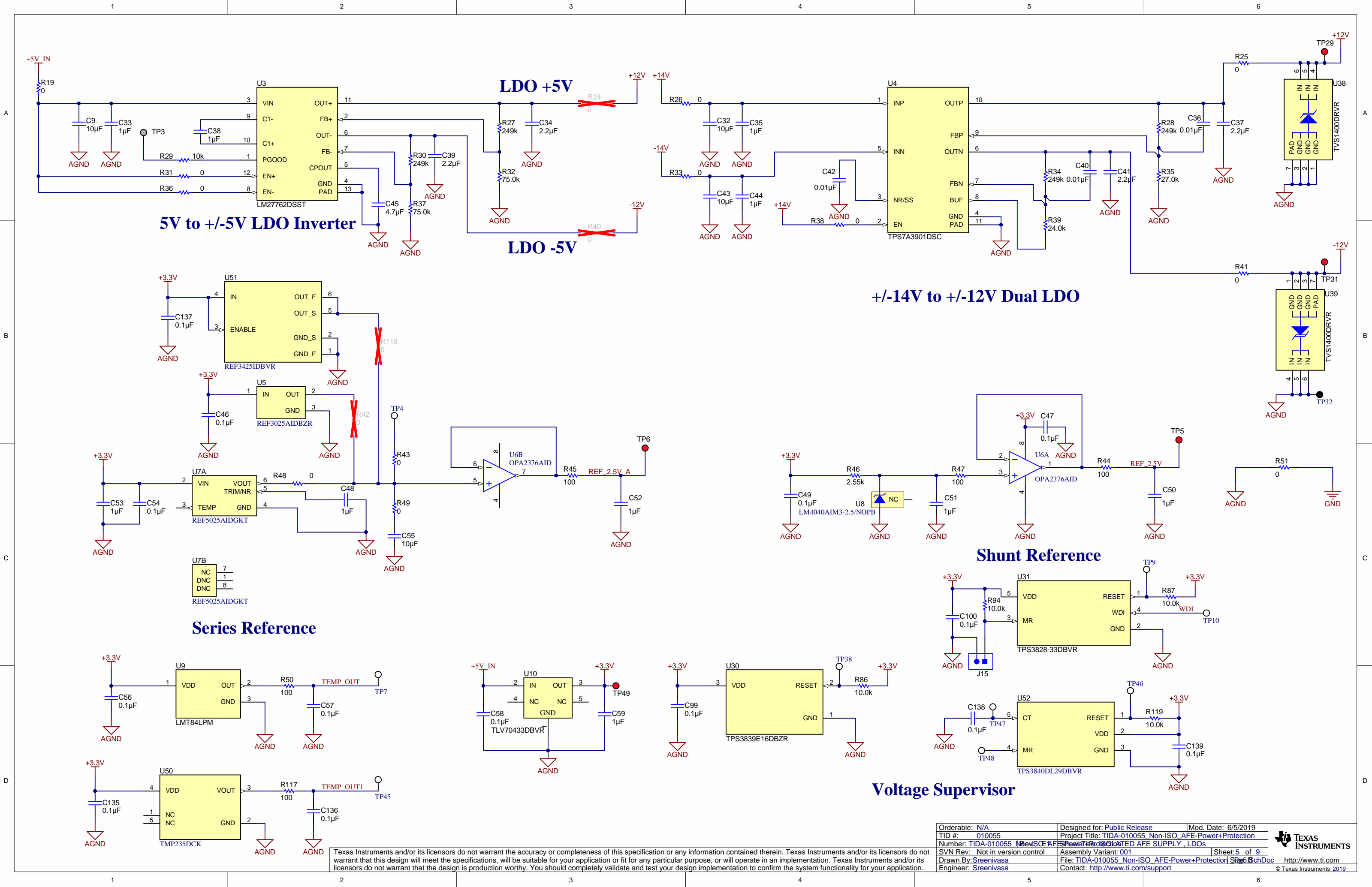
D



5V TO +/- 14V

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Orderable: N/A	Designed for: Public Release	Mod. Date: 6/5/2019
TID #: 010055	Project Title: TIDA-010055_Non-ISO_AFE-Power+Protection	
Number: TIDA-010055_Non-ISO_AFE-Power+Protection	Assembly Variant: 001	Sheet: 4 of 9
SVN Rev: Not in version control	File: TIDA-010055_Non-ISO_AFE-Power+Protection_SchDoc	http://www.ti.com
Drawn By: Sreenivasa	Contact: http://www.ti.com/support	
Engineer: Sreenivasa		



5V to +/-5V LDO Inverter

LDO +5V

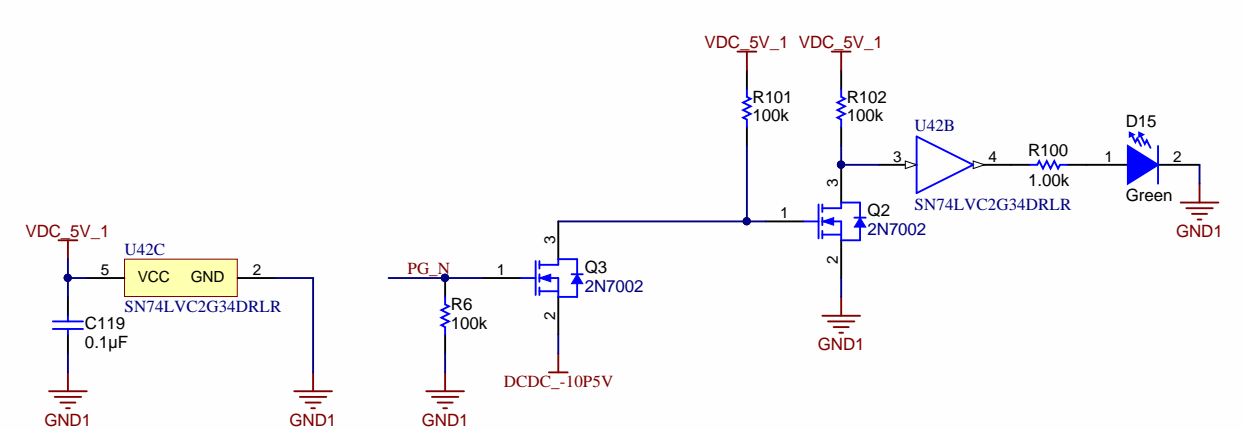
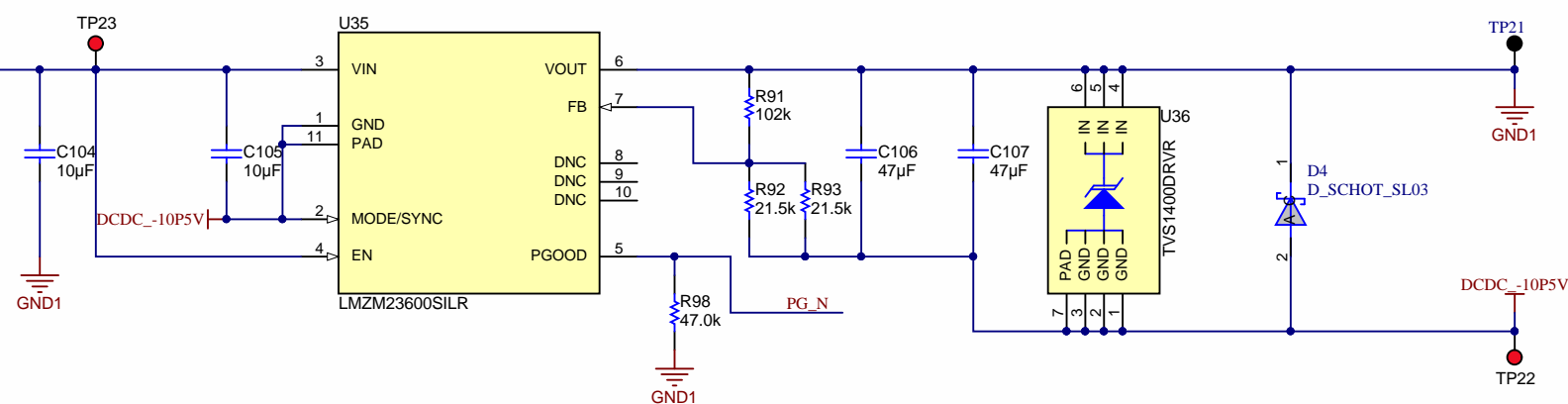
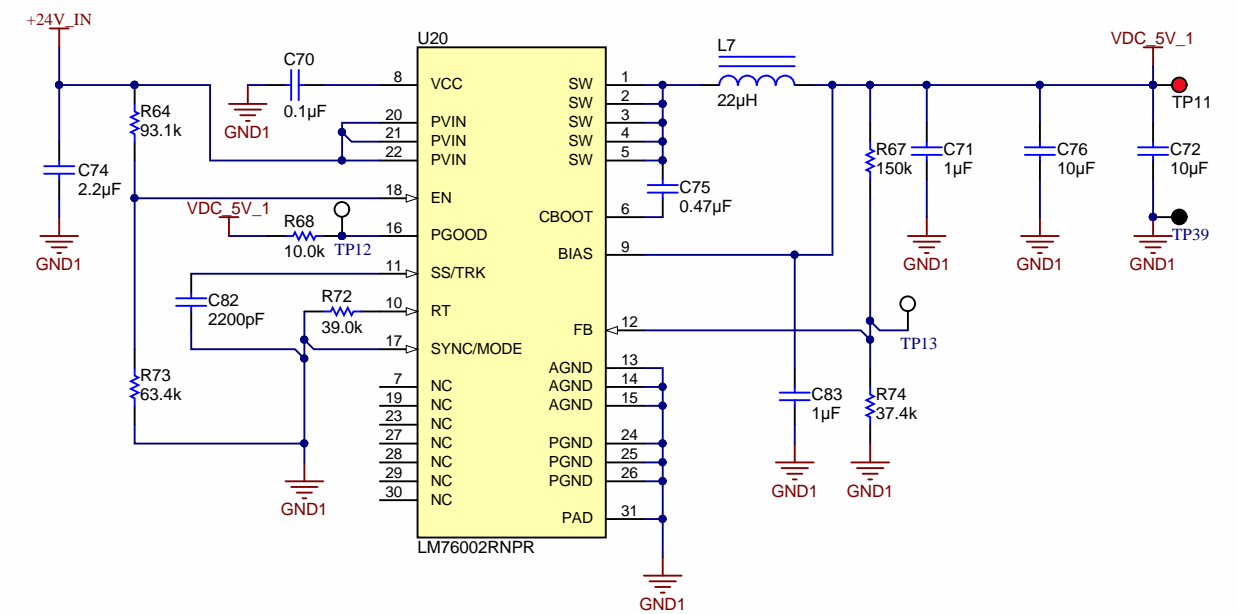
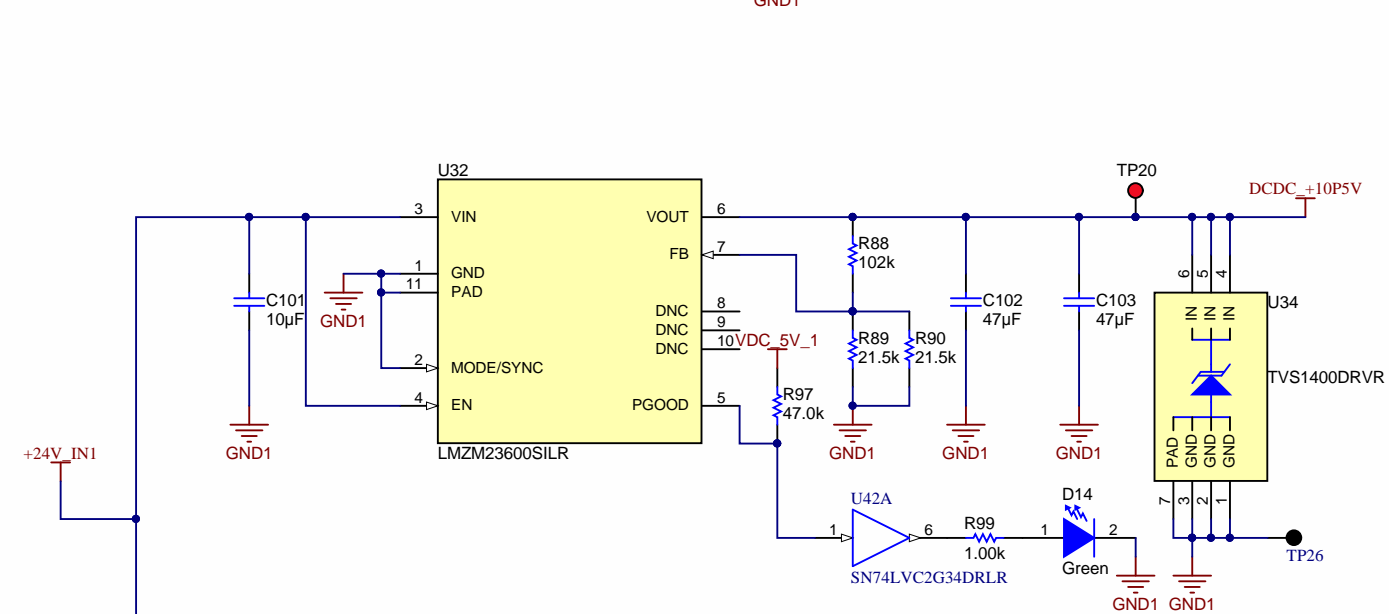
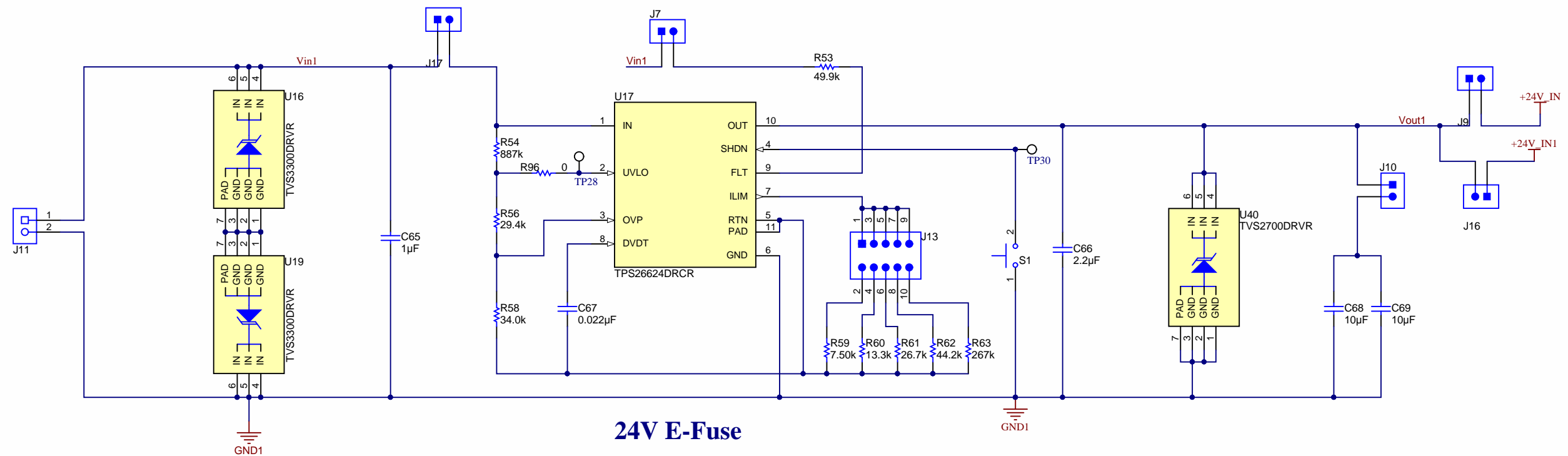
LDO -5V

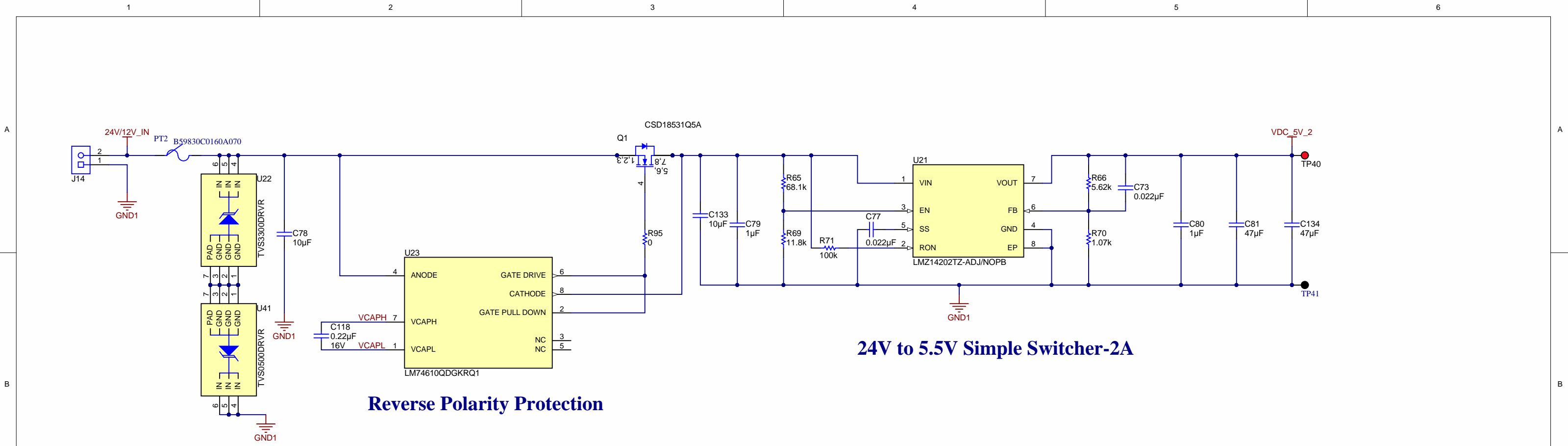
+/-14V to +/-12V Dual LDO

Series Reference

Shunt Reference

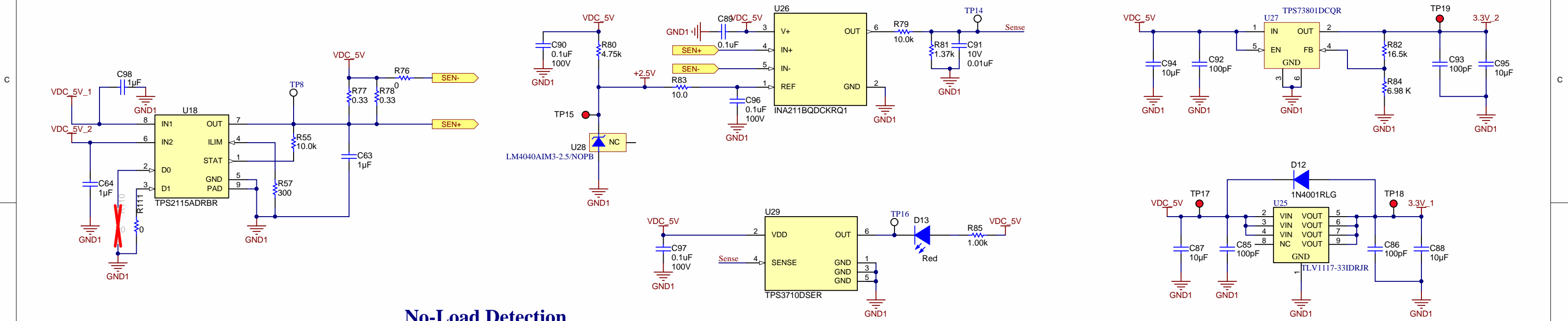
Voltage Supervisor





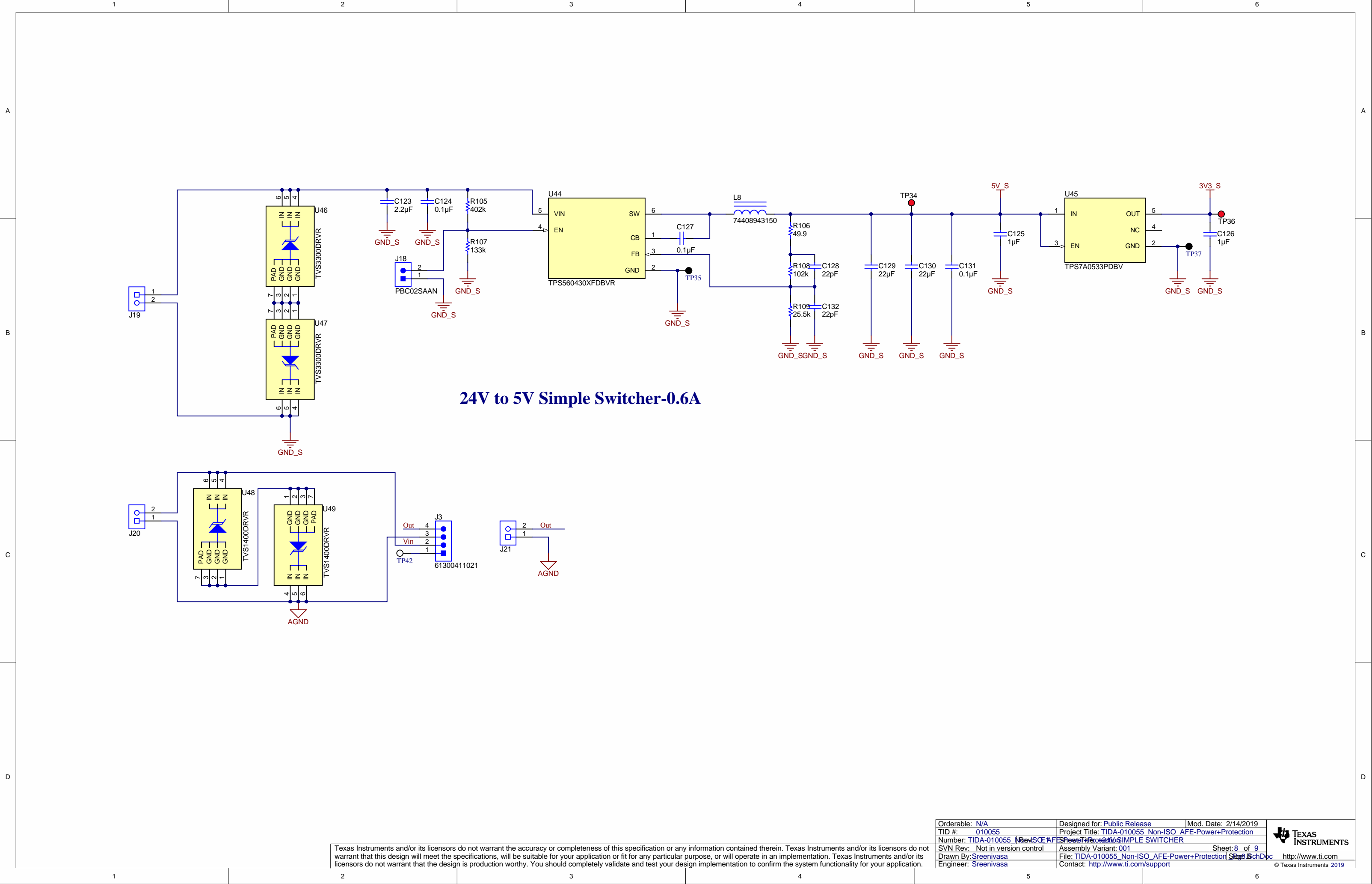
Reverse Polarity Protection

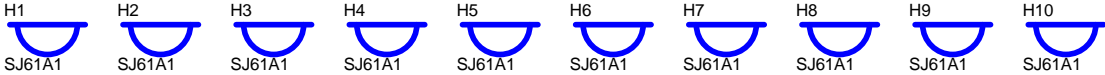
24V to 5.5V Simple Switcher-2A



No-Load Detection

LDO , High Current





PCB Number: TIDA-010055_Non-ISO_AFE-Power+Protection
PCB Rev: E1

Logo1
PCB
LOGO
WEEE logo

PCB
LOGO
Pb-Free Symbol

PCB
LOGO
FCC disclaimer

PCB
LOGO
Logo4

Label Table	
Variant	Label Text

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

ZZ2
Assembly Note
This Assembly Note will show in the PcbDoc and associated outputs

ZZ3
Assembly Note
This Assembly Note will show in the PcbDoc and associated outputs

ZZ4
Assembly Note
This Assembly Note will show in the PcbDoc and associated outputs