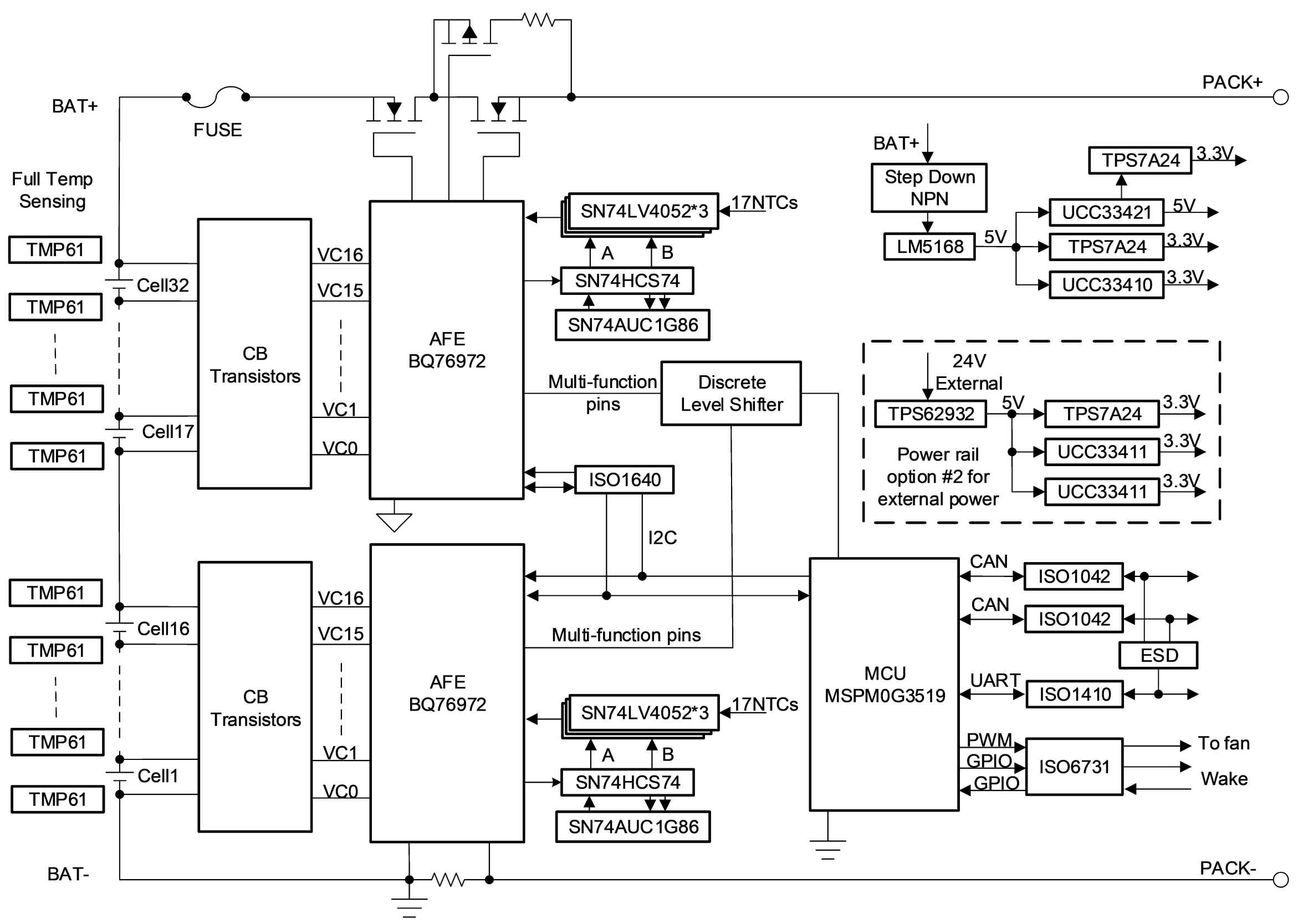


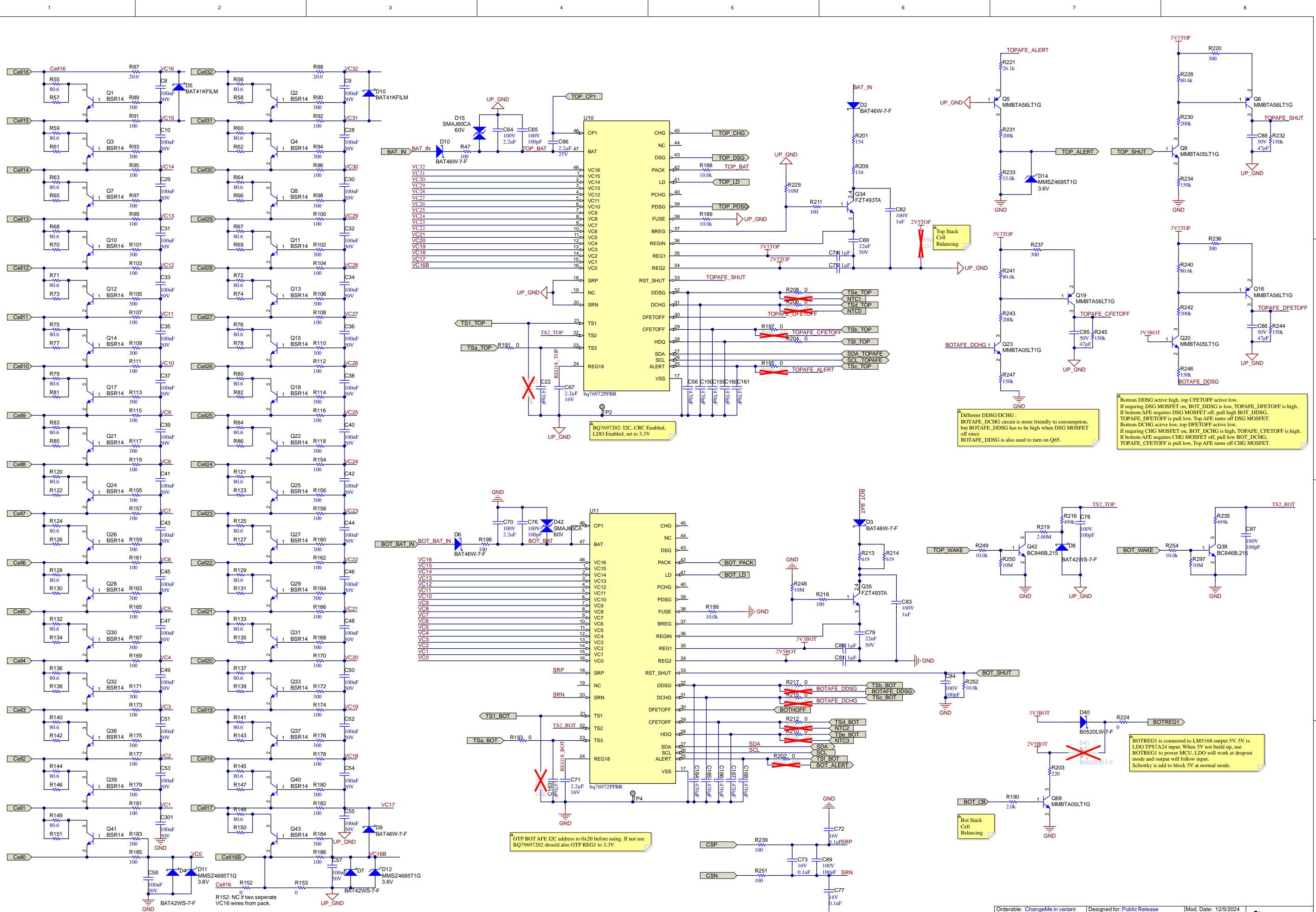
NTCs are reserved for external thermistors, can change 0ohm jumper to change the thermistors used.



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TID #: TIDA-010247	Project Title: 48v-1500v stackable BMU	
Number: TIDA-010247 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 10
Drawn By:	File: Cover Sheet.SchDoc	Size: A4
Engineer: Kian Lin	Contact: http://www.ti.com/support	



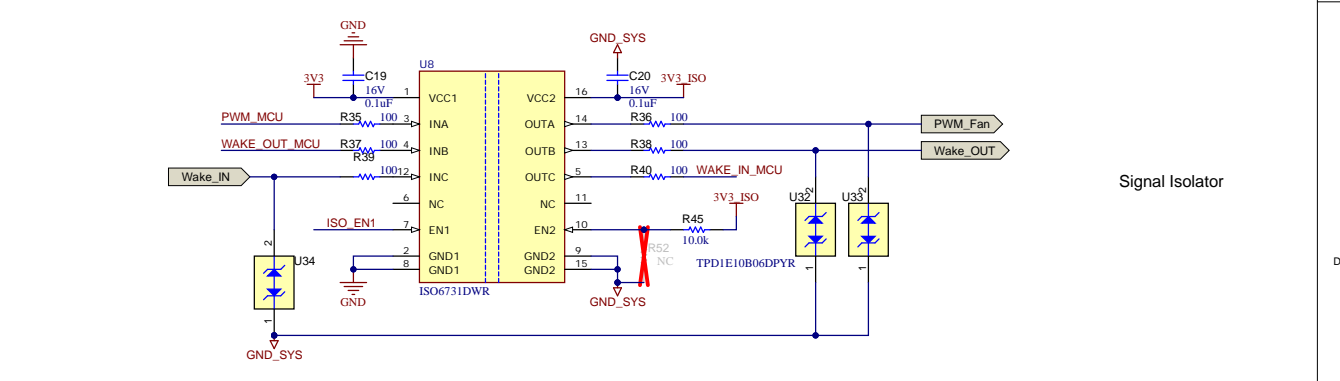
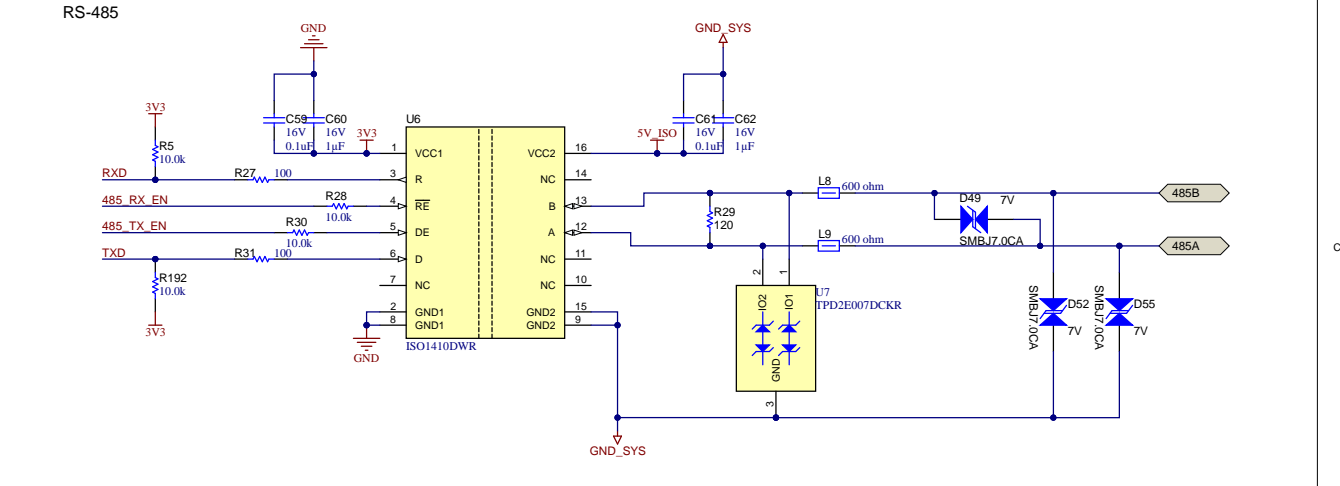
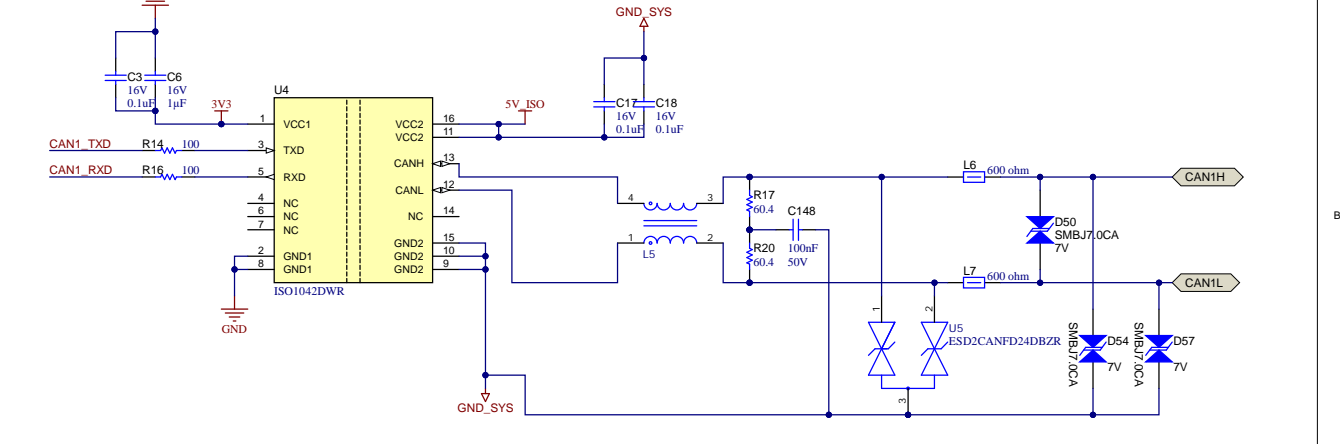
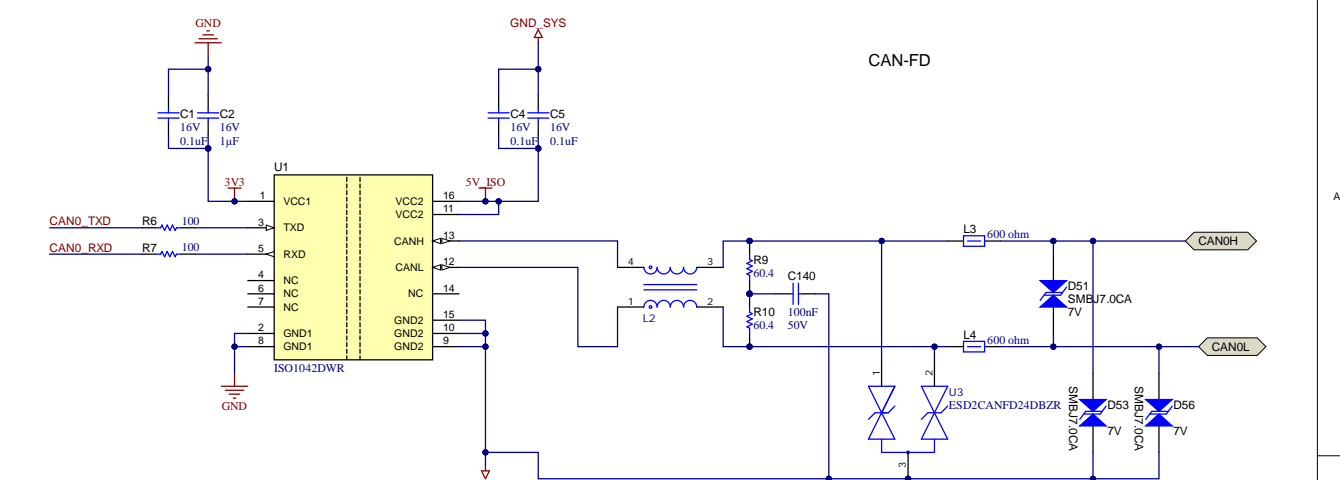
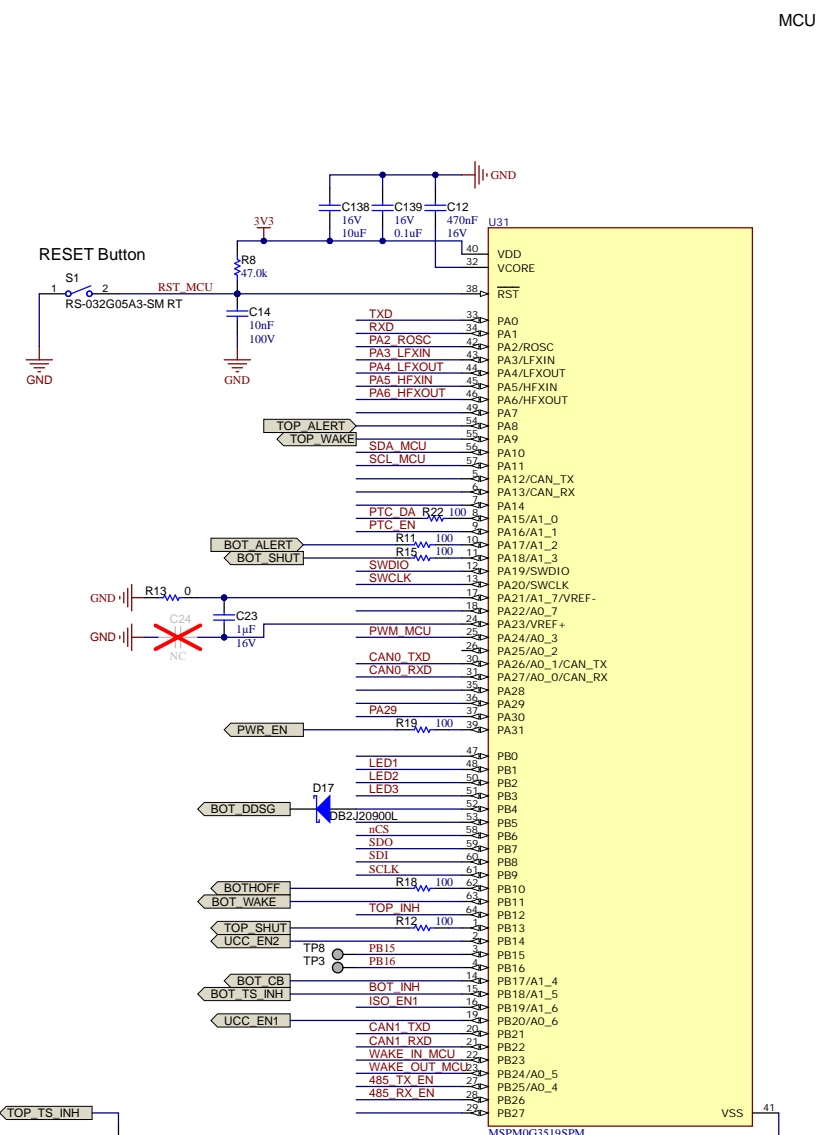
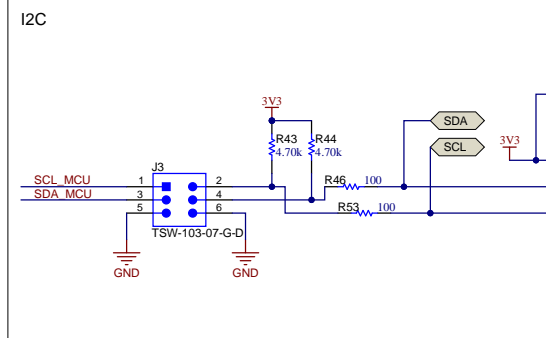
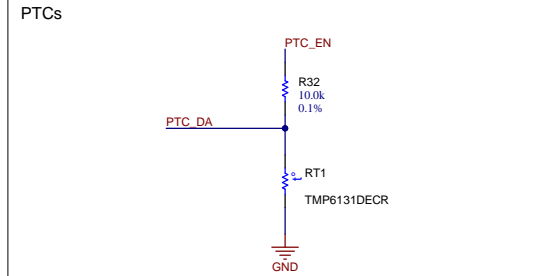
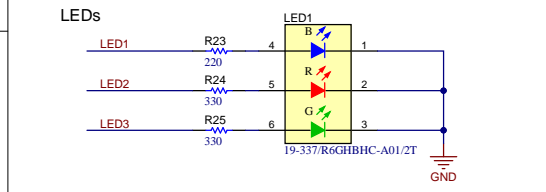
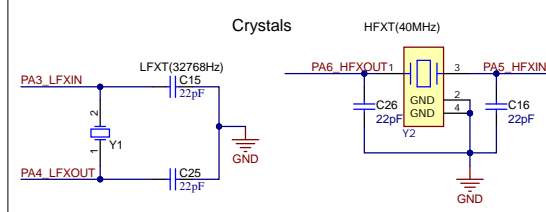
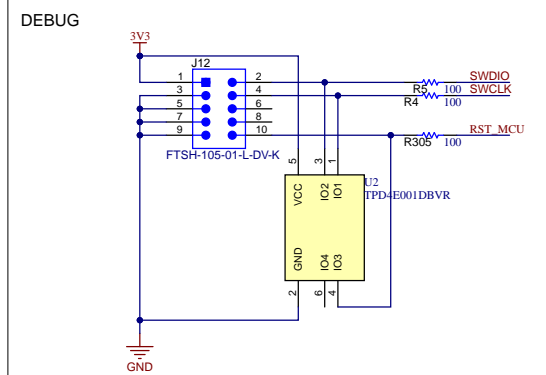


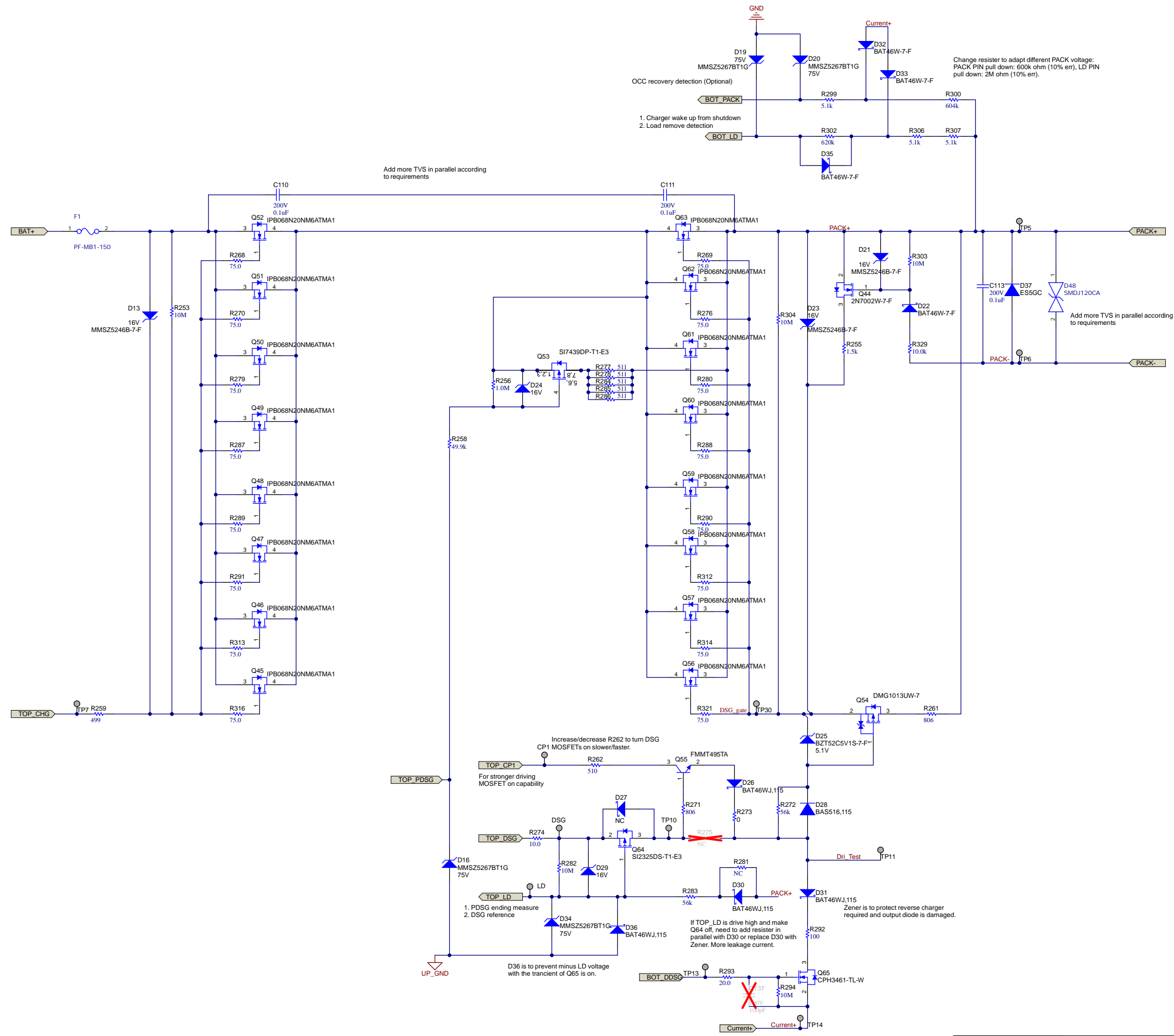
Different DDSG/DCHG: BOTAFE_DCHG is more friendly to consumption, but BOTAFE_DDSG has to be high when DSG MOSFET off since BOTAFE_DDSG is also used to turn on Q65.

Bottom DDSG active high, top CFETOFF active low. If requiring DSG MOSFET on, BOT_DDSG is low, TOPAFE_DFETOFF is high. If bottom AFE requires DSG MOSFET off, pull high BOT_DDSG. TOPAFE_DFETOFF is pull low, Top AFE turns off DSG MOSFET. Bottom DCHG active low, top DFETOFF active low. If requiring CHG MOSFET on, BOT_DCHG is high, TOPAFE_CFETOFF is high. If bottom AFE requires CHG MOSFET off, pull low BOT_DCHG. TOPAFE_CFETOFF is pull low, Top AFE turns off CHG MOSFET.

OTP BOT AFE IC address to 0x20 before using. If not use BQ7697202, should also OTP REG1 to 3.3V

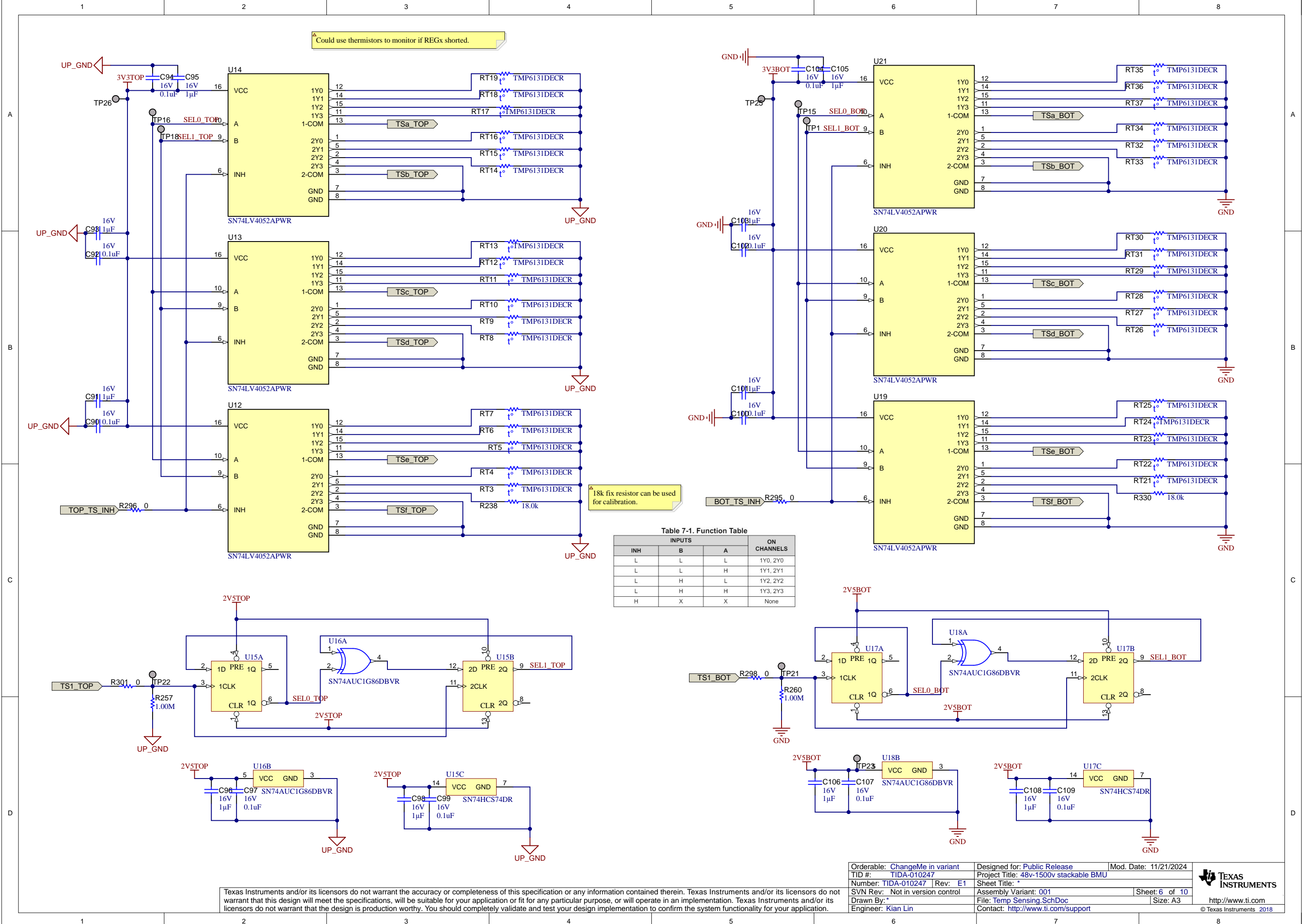
BOTREG1 is connected to LMS168 output 5V. 5V is LDO TP78A24 input. When 5V not build up, use BOTREG1 to power MCU. LDO will work at dropout mode and output will follow input. Schottky is add to block 5V at normal mode.





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TID #: TIDA-010247	Project Title: 48v-1500v stackable BMU	
Number: TIDA-010247 Rev: E1	Sheet Title: -	
SVN Rev.: Not in version control	Assembly Variant: 001	Sheet 5 of 10
Drawn By: -	File: High side FETs_SchDoc	http://www.ti.com
Engineer: Kian Lin	Contact: http://www.ti.com/support	© Texas Instruments, 2018



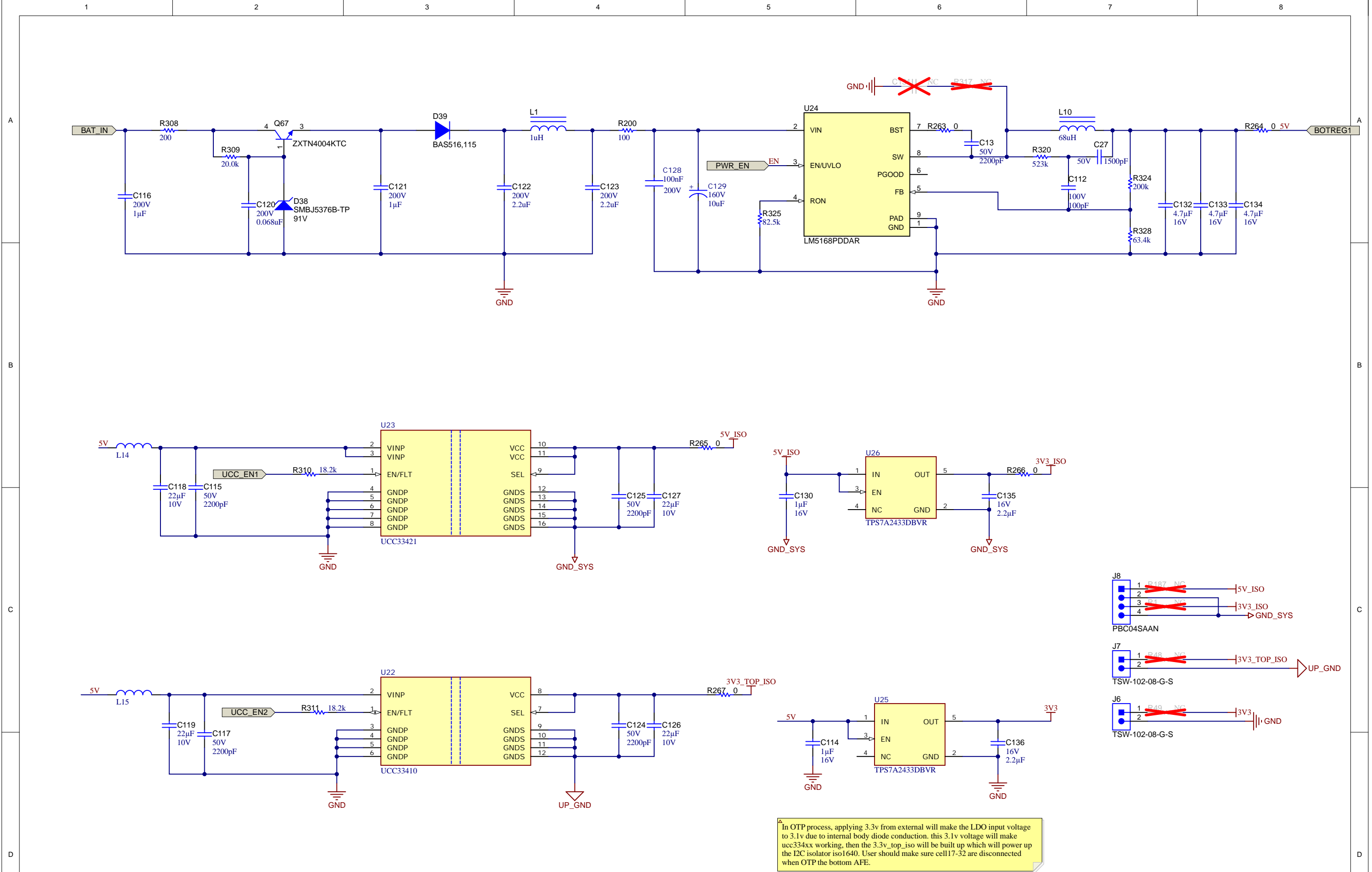
Could use thermistors to monitor if REGx shorted.

18k fix resistor can be used for calibration.

Table 7-1. Function Table

INPUTS			ON CHANNELS
INH	B	A	
L	L	L	1Y0, 2Y0
L	L	H	1Y1, 2Y1
L	H	L	1Y2, 2Y2
L	H	H	1Y3, 2Y3
H	X	X	None

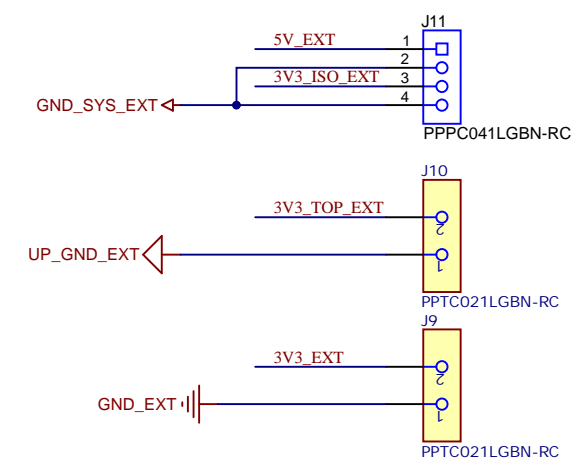
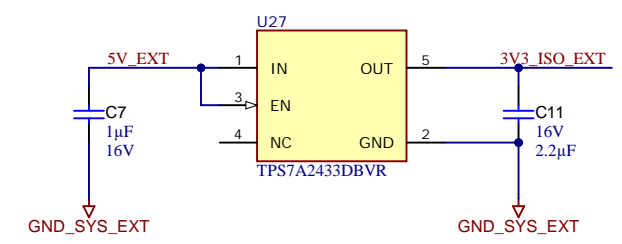
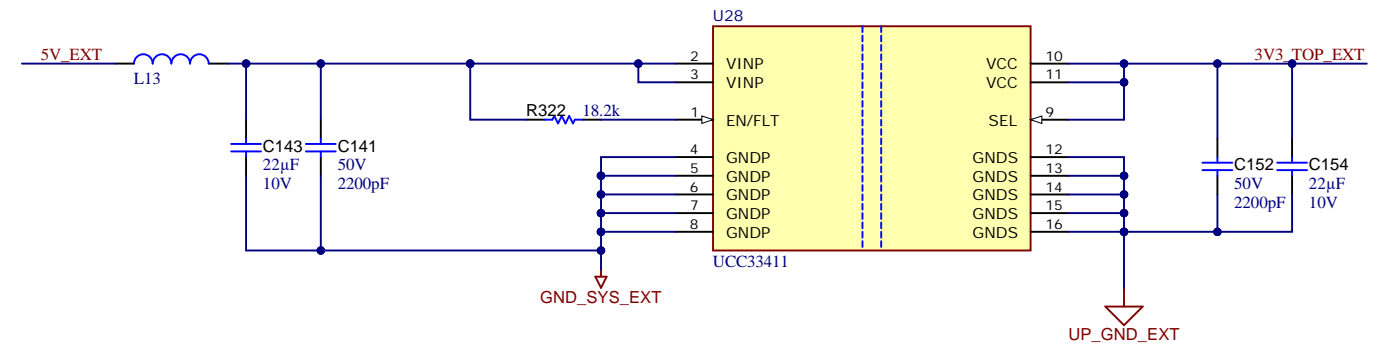
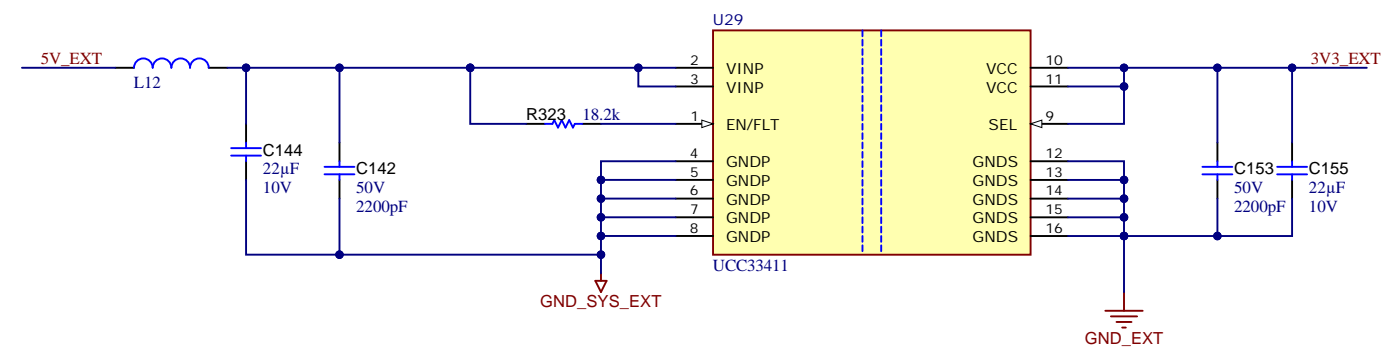
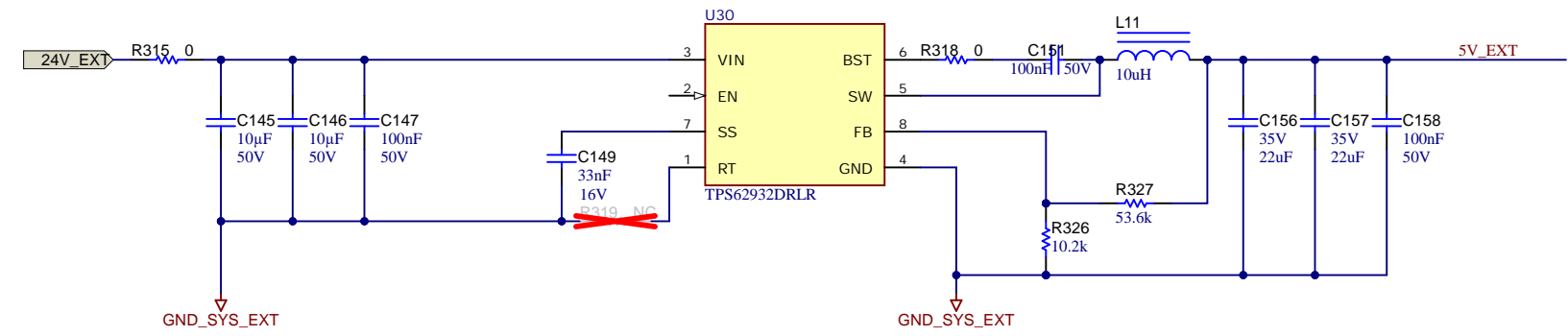
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In OTP process, applying 3.3v from external will make the LDO input voltage to 3.1v due to internal body diode conduction. this 3.1v voltage will make ucc334xx working, then the 3.3v_top_iso will be built up which will power up the I2C isolator iso1640. User should make sure cell I7-32 are disconnected when OTP the bottom AFE.

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TID #: TIDA-010247	Project Title: 48v-1500v stackable BMU	Sheet: 7 of 10	
Number: TIDA-010247 Rev: E1	Sheet Title: *	File: AUX Power Supply.SchDoc	Size: A3
SVN Rev: Not in version control	Assembly Variant: 001	http://www.ti.com	© Texas Instruments 2018
Drawn By: *	Engineer: Kian Lin	Contact: http://www.ti.com/support	



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TID #: TIDA-010247	Project Title: 48v-1500v stackable BMU	Sheet: 8 of 10	
Number: TIDA-010247 Rev: E1	Sheet Title:	Size: A3	http://www.ti.com
SVN Rev: Not in version control	Assembly Variant: 001	Contact: http://www.ti.com/support	
Drawn By:	File: AUX Power Supply #2 Card_SchDoc		
Engineer: Kian Lin			

A

A

B

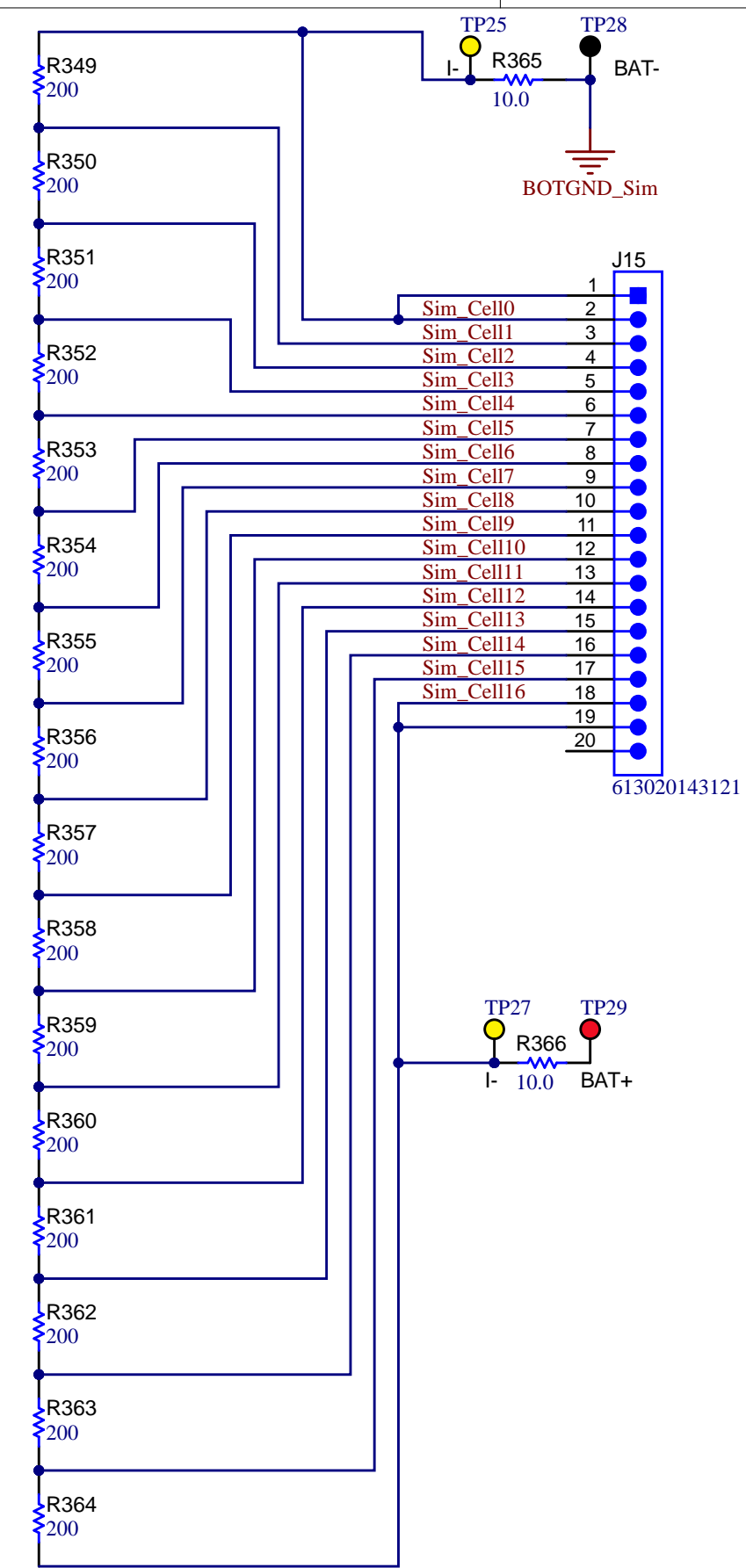
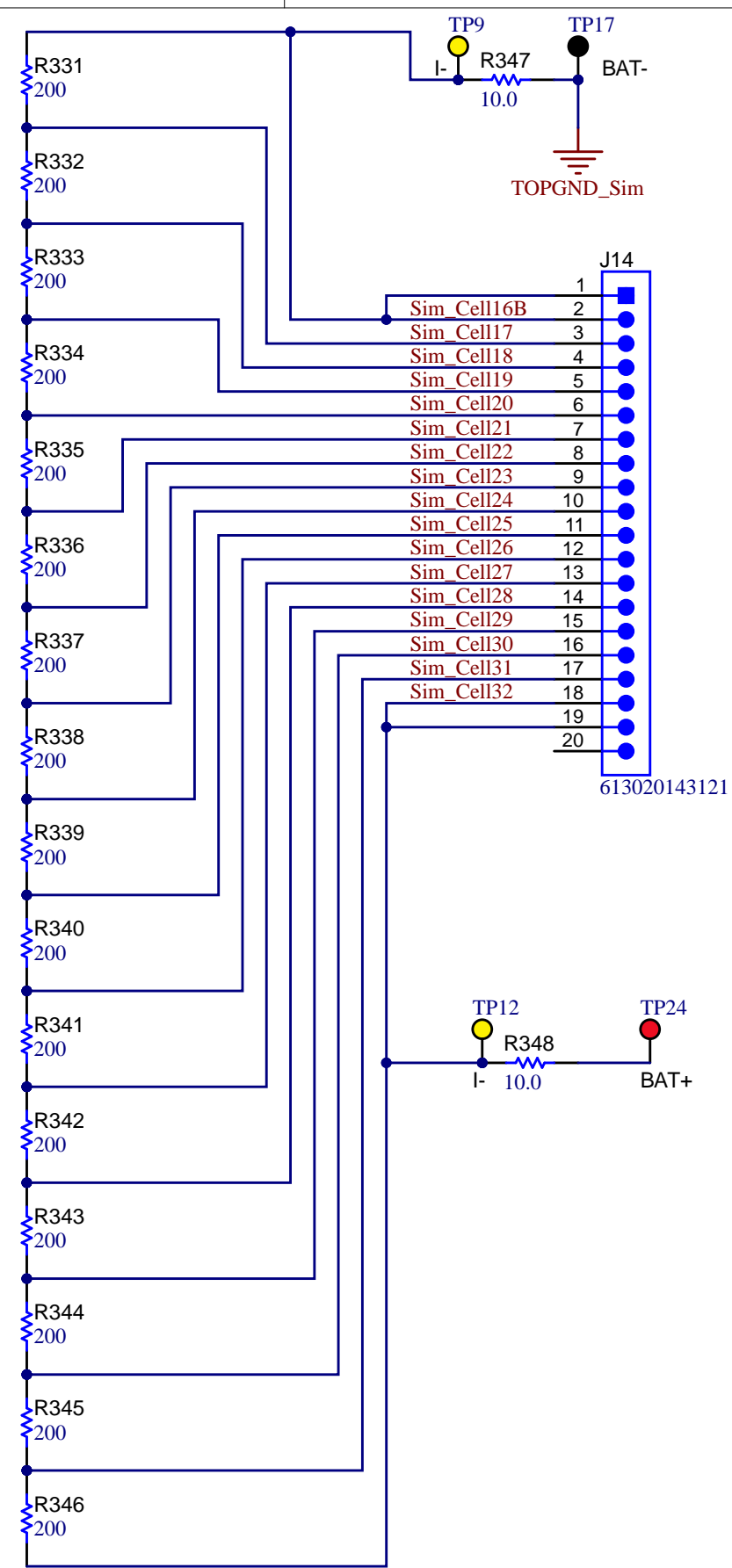
B

C

C

D

D



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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 11/5/2024
TID #: TIDA-010247	Project Title: 48v-1500v stackable BMU	
Number: TIDA-010247	Rev: E1	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 9 of 10
Drawn By:	File: Cell simulator.SchDoc	Size: A4
Engineer: Kian Lin	Contact: http://www.ti.com/support	



PCB Number: TIDA-010247
PCB Rev: E1



PCB LOGO
FCC disclaimer



PCB LOGO
WEEE logo

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

ZZ1
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.

ZZ3
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 12/3/2024
TID #: TIDA-010247	Project Title: 48v-1500v stackable BMU	
Number: TIDA-010247 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 10 of 10
Drawn By:	File: EVM_Hardware.SchDoc	Size: B
Engineer: Kian Lin	Contact: http://www.ti.com/support	

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