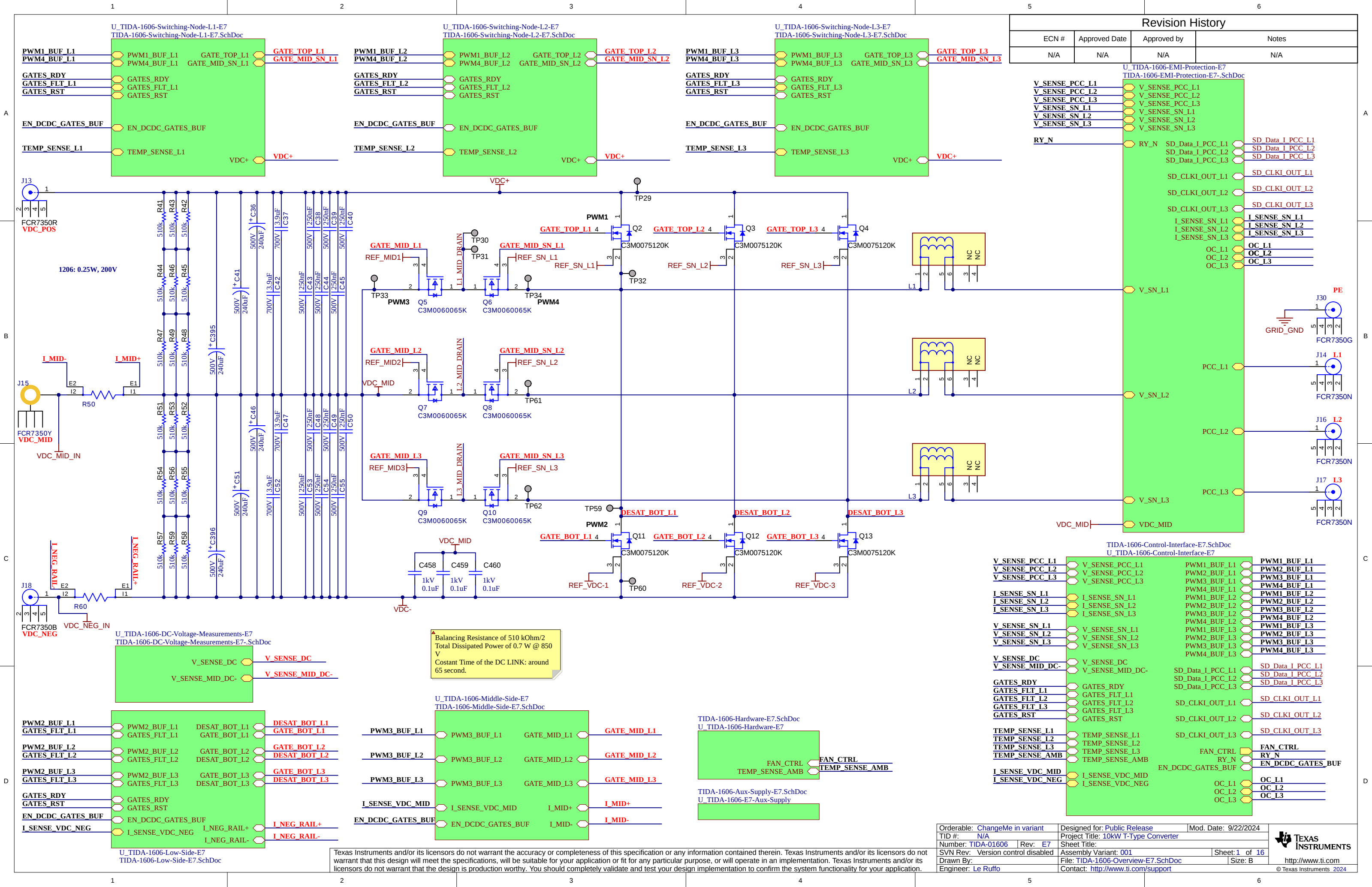




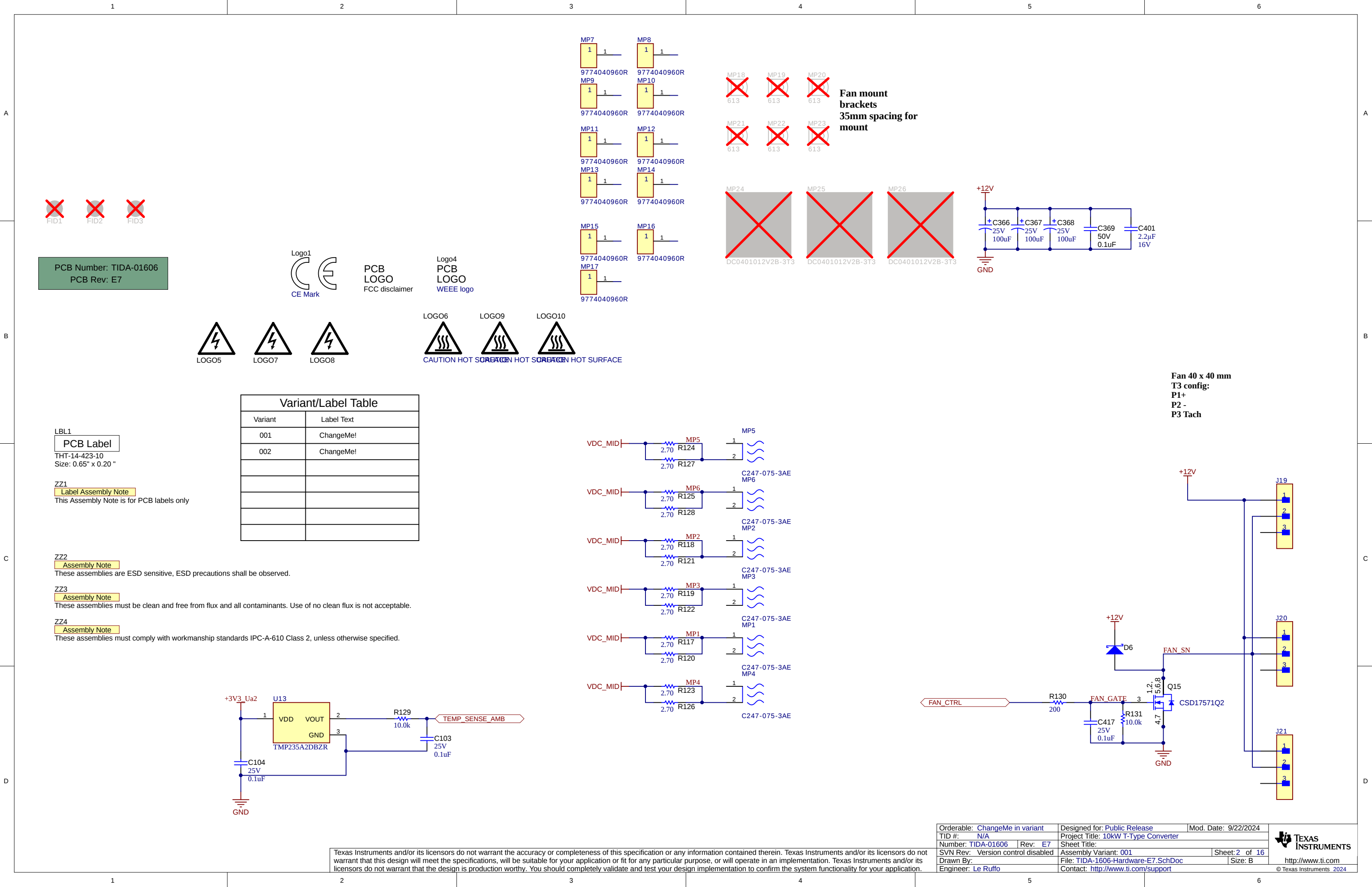
Revision History			
ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A

U_TIDA-1606-EMI-Protection-E7 TIDA-1606-EMI-Protection-E7-.SchDoc			
V_SENSE_PCC_L1	V_SENSE_PCC_L1		
V_SENSE_PCC_L2	V_SENSE_PCC_L2		
V_SENSE_PCC_L3	V_SENSE_PCC_L3		
V_SENSE_SN_L1	V_SENSE_SN_L1		
V_SENSE_SN_L2	V_SENSE_SN_L2		
V_SENSE_SN_L3	V_SENSE_SN_L3		
RY_N	RY_N		
SD_Data_1_PCC_L1	SD_Data_1_PCC_L1		
SD_Data_1_PCC_L2	SD_Data_1_PCC_L2		
SD_Data_1_PCC_L3	SD_Data_1_PCC_L3		
SD_CLKI_OUT_L1	SD_CLKI_OUT_L1		
SD_CLKI_OUT_L2	SD_CLKI_OUT_L2		
SD_CLKI_OUT_L3	SD_CLKI_OUT_L3		
I_SENSE_SN_L1	I_SENSE_SN_L1		
I_SENSE_SN_L2	I_SENSE_SN_L2		
I_SENSE_SN_L3	I_SENSE_SN_L3		
OC_L1	OC_L1		
OC_L2	OC_L2		
OC_L3	OC_L3		

TIDA-1606-Control-Interface-E7.SchDoc U_TIDA-1606-Control-Interface-E7			
V_SENSE_PCC_L1	V_SENSE_PCC_L1	PWM1_BUF_L1	PWM1_BUF_L1
V_SENSE_PCC_L2	V_SENSE_PCC_L2	PWM2_BUF_L1	PWM2_BUF_L1
V_SENSE_PCC_L3	V_SENSE_PCC_L3	PWM3_BUF_L1	PWM3_BUF_L1
I_SENSE_SN_L1	I_SENSE_SN_L1	PWM4_BUF_L1	PWM4_BUF_L1
I_SENSE_SN_L2	I_SENSE_SN_L2	PWM1_BUF_L2	PWM1_BUF_L2
I_SENSE_SN_L3	I_SENSE_SN_L3	PWM2_BUF_L2	PWM2_BUF_L2
V_SENSE_SN_L1	V_SENSE_SN_L1	PWM3_BUF_L2	PWM3_BUF_L2
V_SENSE_SN_L2	V_SENSE_SN_L2	PWM4_BUF_L2	PWM4_BUF_L2
V_SENSE_SN_L3	V_SENSE_SN_L3	PWM1_BUF_L3	PWM1_BUF_L3
V_SENSE_DC	V_SENSE_DC	PWM2_BUF_L3	PWM2_BUF_L3
V_SENSE_MID_DC	V_SENSE_MID_DC	PWM3_BUF_L3	PWM3_BUF_L3
GATES_RDY	GATES_RDY	PWM4_BUF_L3	PWM4_BUF_L3
GATES_FLT_L1	GATES_FLT_L1	SD_Data_1_PCC_L1	SD_Data_1_PCC_L1
GATES_FLT_L2	GATES_FLT_L2	SD_Data_1_PCC_L2	SD_Data_1_PCC_L2
GATES_FLT_L3	GATES_FLT_L3	SD_Data_1_PCC_L3	SD_Data_1_PCC_L3
GATES_RST	GATES_RST	SD_CLKI_OUT_L1	SD_CLKI_OUT_L1
TEMP_SENSE_L1	TEMP_SENSE_L1	SD_CLKI_OUT_L2	SD_CLKI_OUT_L2
TEMP_SENSE_L2	TEMP_SENSE_L2	SD_CLKI_OUT_L3	SD_CLKI_OUT_L3
TEMP_SENSE_L3	TEMP_SENSE_L3	FAN_CTRL	FAN_CTRL
TEMP_SENSE_AMB	TEMP_SENSE_AMB	RY_N	RY_N
I_SENSE_VDC_MID	I_SENSE_VDC_MID	EN_DCDC_GATES_BUF	EN_DCDC_GATES_BUF
I_SENSE_VDC_NEG	I_SENSE_VDC_NEG	OC_L1	OC_L1
		OC_L2	OC_L2
		OC_L3	OC_L3

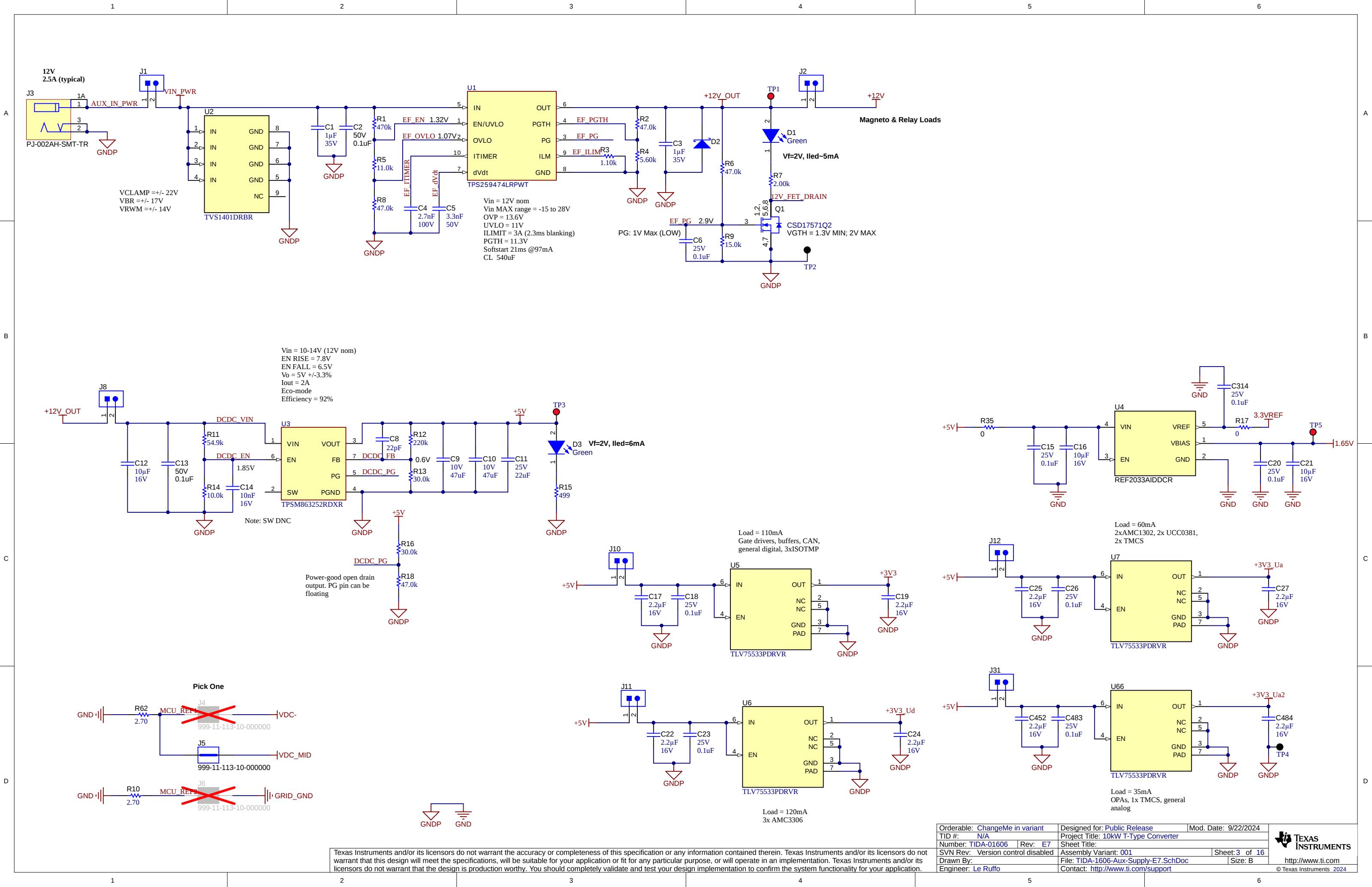
Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/22/2024
TID #: N/A	Project Title: 10kW T-Type Converter	
Number: TIDA-01606	Rev: E7	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 1 of 16
Drawn By:	File: TIDA-1606-Overview-E7.SchDoc	Size: B
Engineer: Le Ruffo	Contact: http://www.ti.com/support	

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.



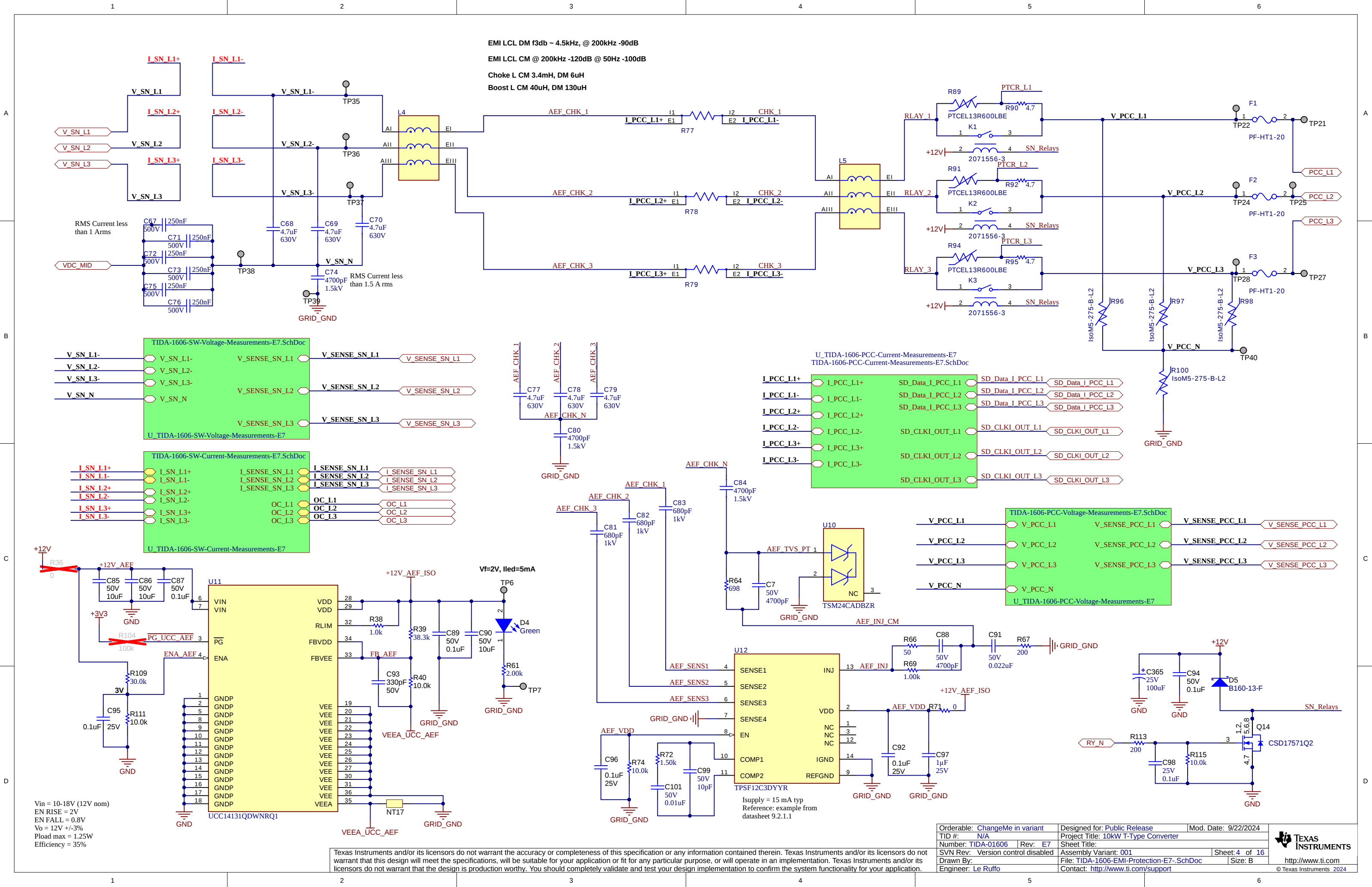
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular 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: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/22/2024
TID #: N/A	Project Title: 10kW T-Type Converter	
Number: TIDA-01606	Rev: E7	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 2 of 16
Drawn By:	File: TIDA-1606-Hardware-E7.SchDoc	Size: B
Engineer: Le Ruffo	Contact: http://www.ti.com/support	



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: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/22/2024
TID #: N/A	Project Title: 10kW T-Type Converter	
Number: TIDA-01606	Rev: E7	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 3 of 16
Drawn By:	File: TIDA-1606-Aux-Supply-E7.SchDoc	Size: B
Engineer: Le Ruffo	Contact: http://www.ti.com/support	



EMI LCL DM f3db ~ 4.5kHz, @ 200kHz -90dB

EMI LCL CM @ 200kHz -120dB @ 50Hz -100dB

Choke L CM 3.4mH, DM 6uH

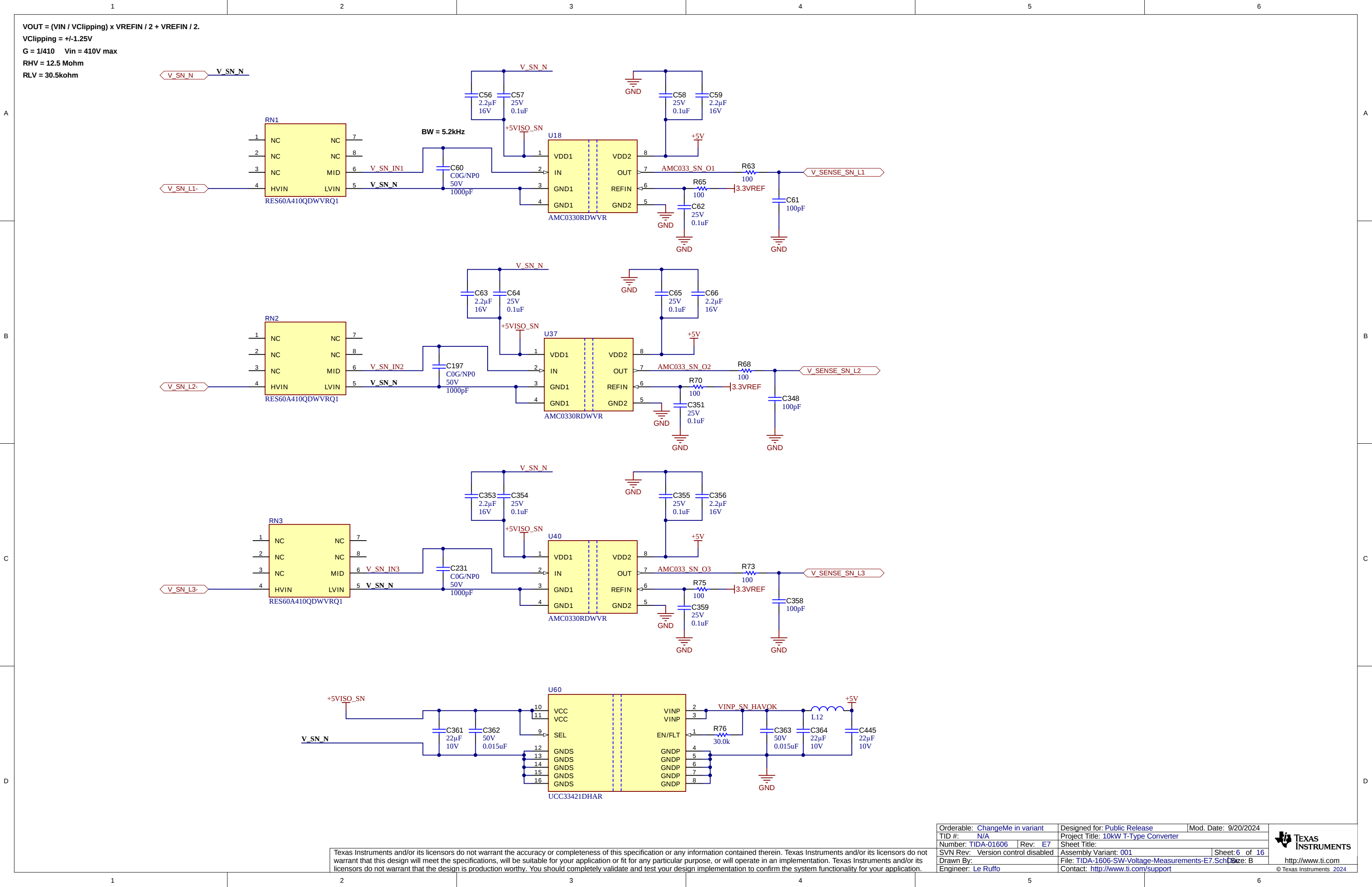
Boost L CM 40uH, DM 130uH

Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/22/2024
TID #: N/A	Project Title: 10kW T-Type Converter	
Number: TIDA-01606	Rev: E7	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 4 of 16
Drawn By:	File: TIDA-1606-EMI-Protection-E7-SchDoc	Size: B
Engineer: Le Ruffo	Contact: http://www.ti.com/support	

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.

$$RLV = 30.5 \text{ kohm}$$

Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/20/2024	 TEXAS INSTRUMENTS http://www.ti.com © Texas Instruments 2024	
TID #: N/A	Project Title: 10kW T-Type Converter			
Number: TIDA-01606	Rev: E7	Sheet Title:		
SVN Rev: Version control disabled		Assembly Variant: 001		Sheet: 5 of 16
Drawn By:		File: TIDA-1606-PCC-Voltage-Measurements-E7.Sch		Size: A3
Engineer: Le Ruffo		Contact: http://www.ti.com/support		



A

B

C

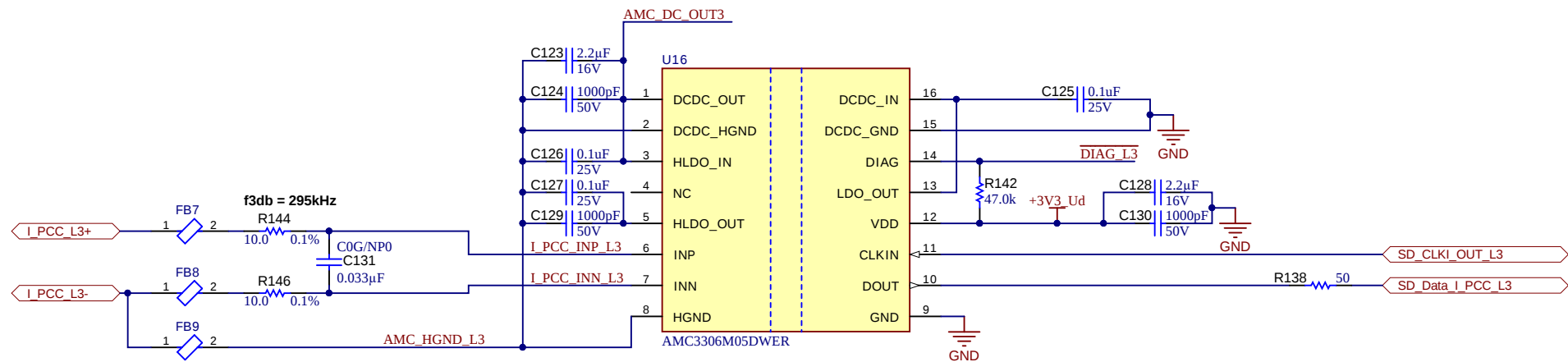
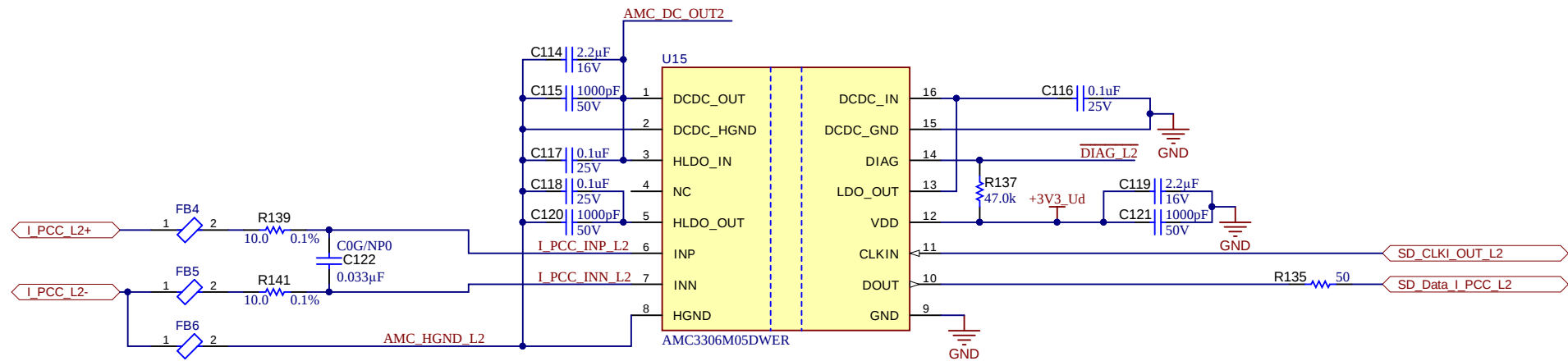
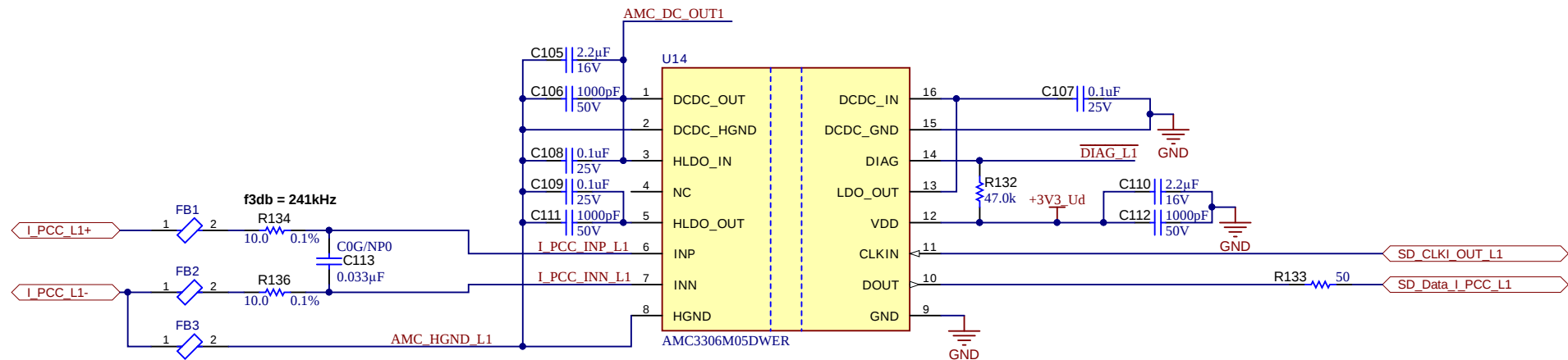
D

A

B

C

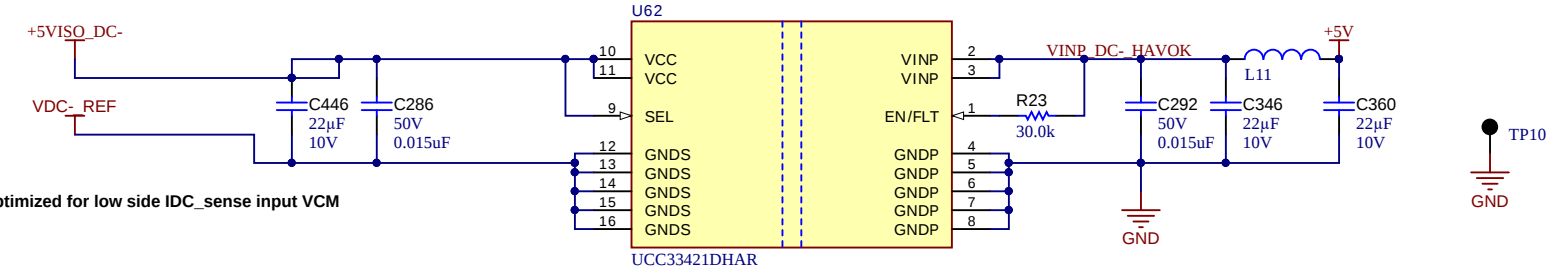
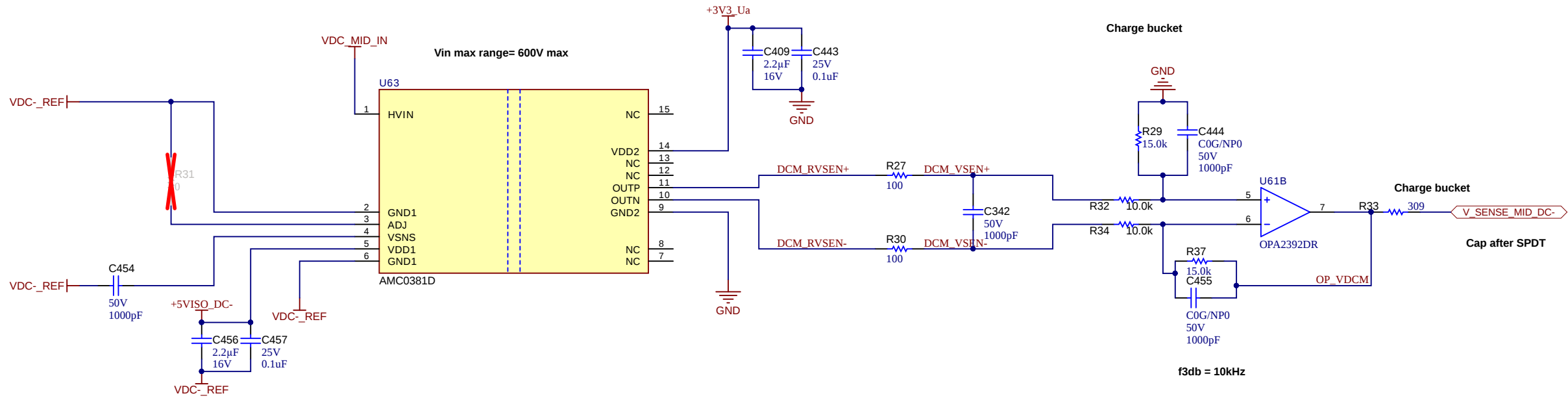
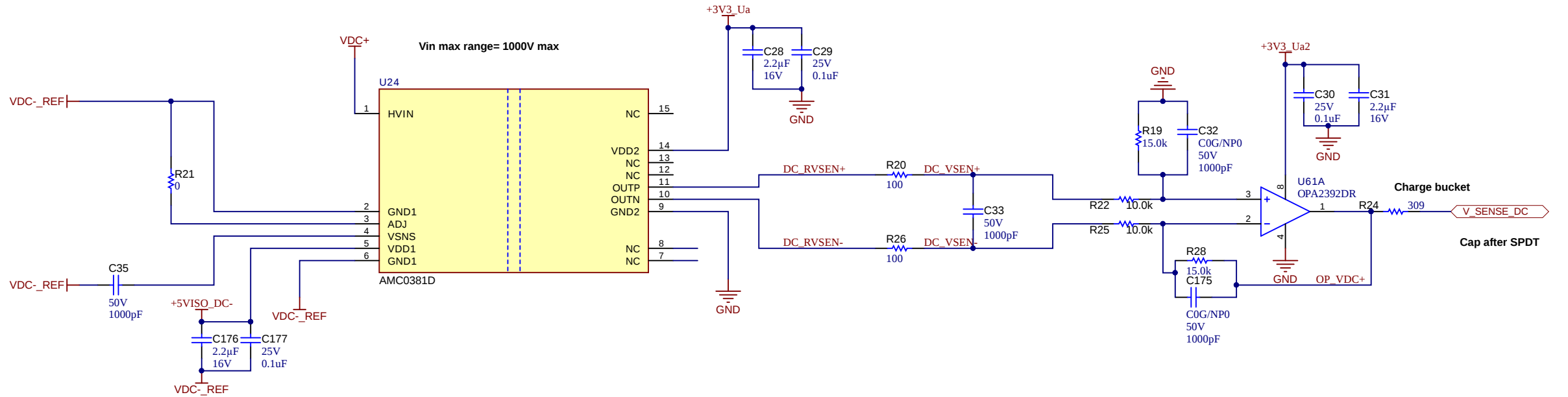
D



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.



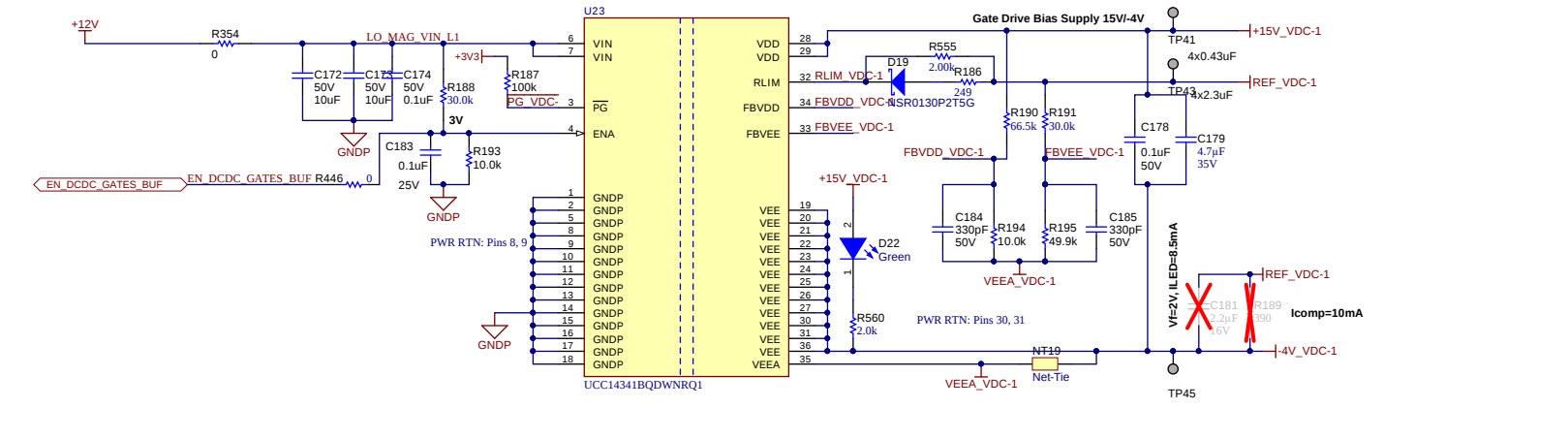
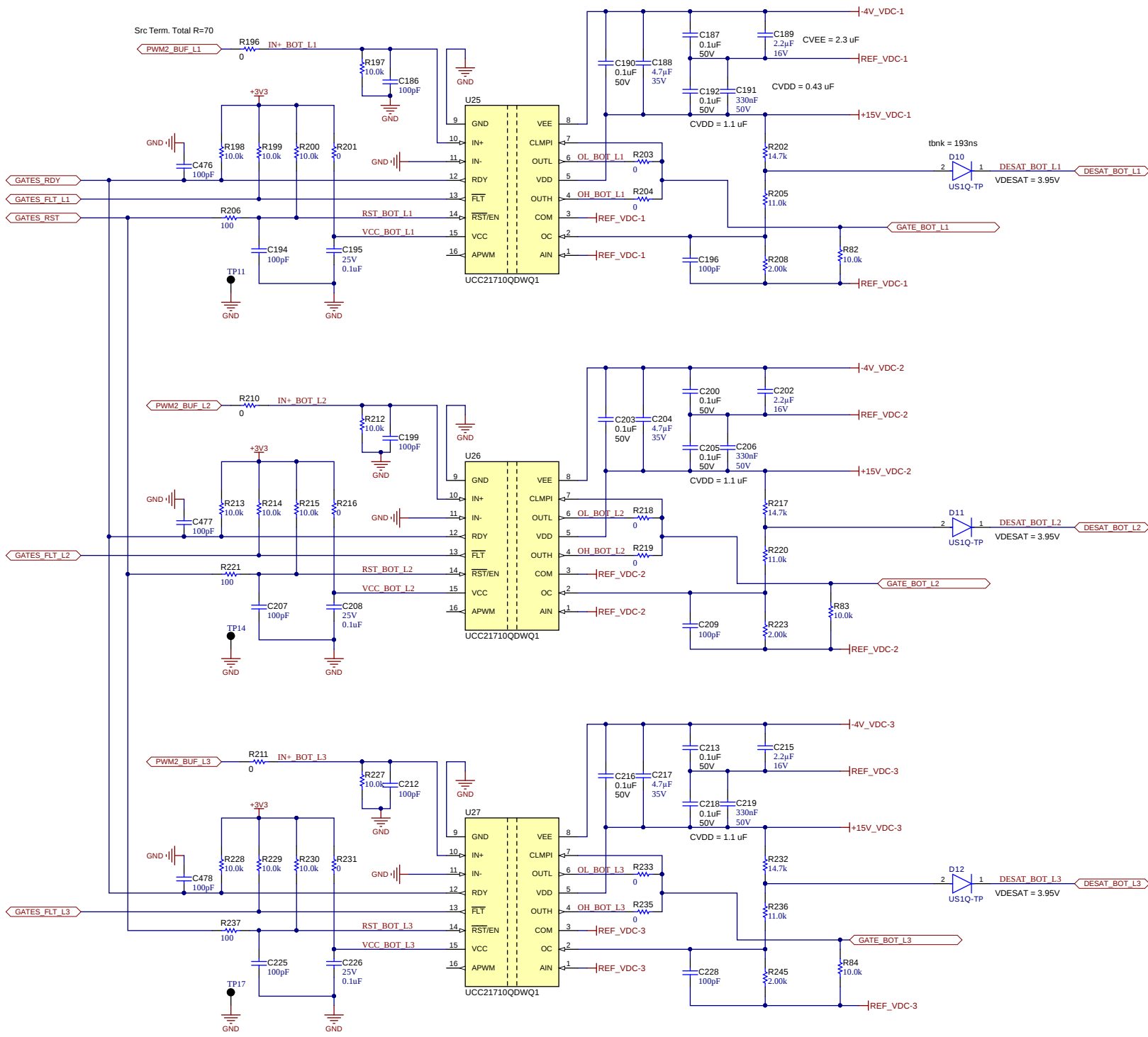
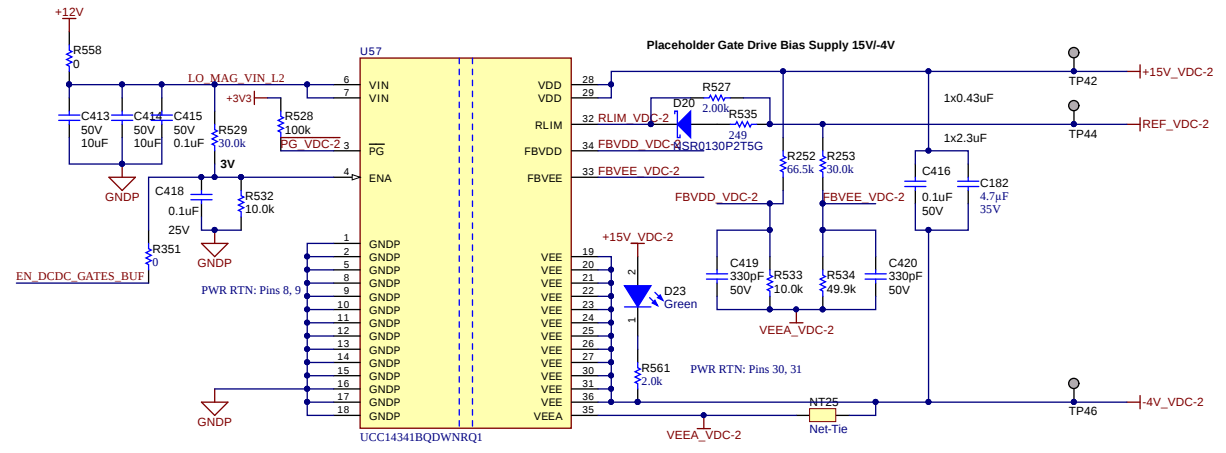
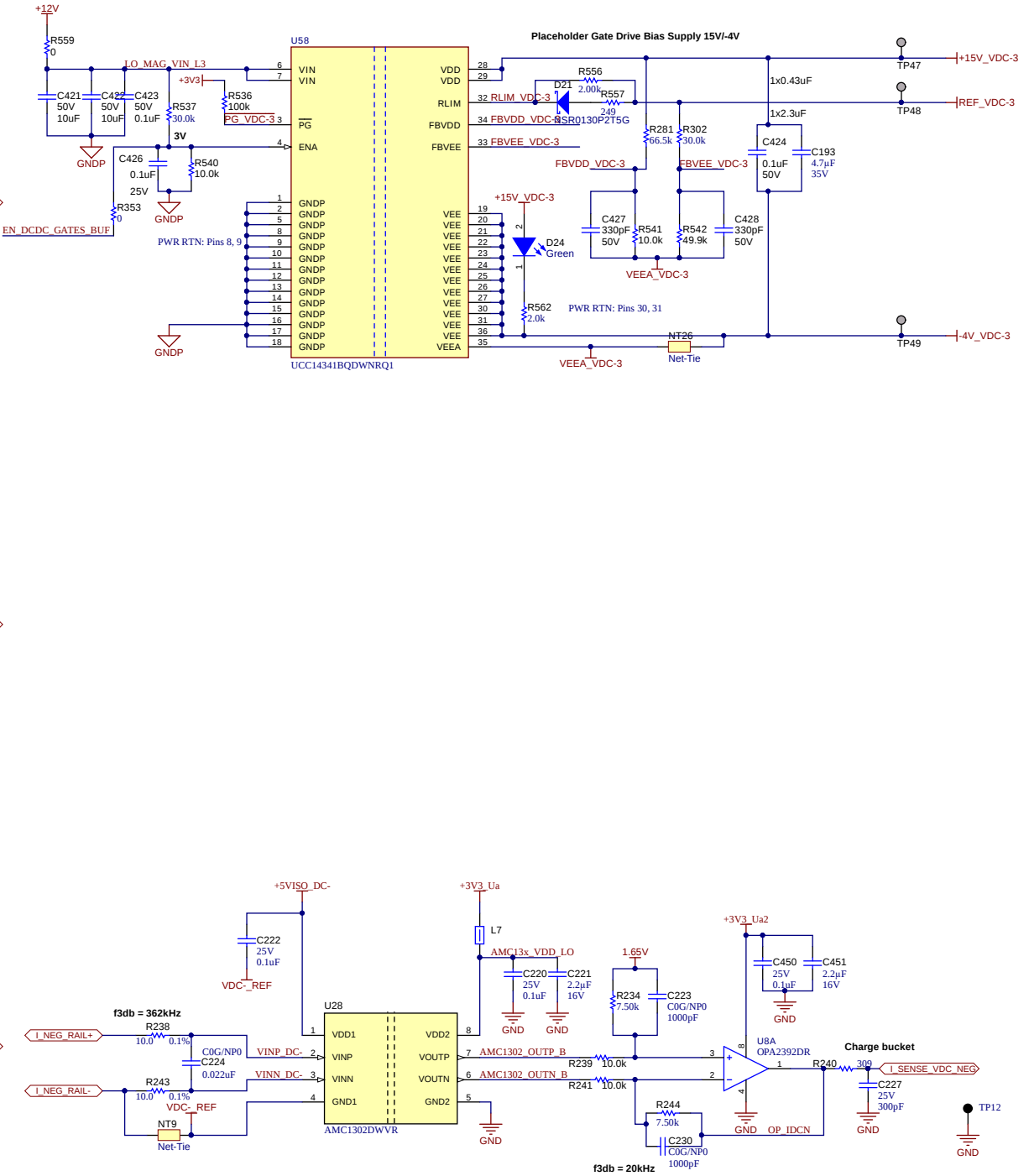
VOUT = +/-2V Differential
Vlinear= 1000
G=1/602, 1/1000 Vin max range= 1000V max
float ADJ pin for Gain = 1/602

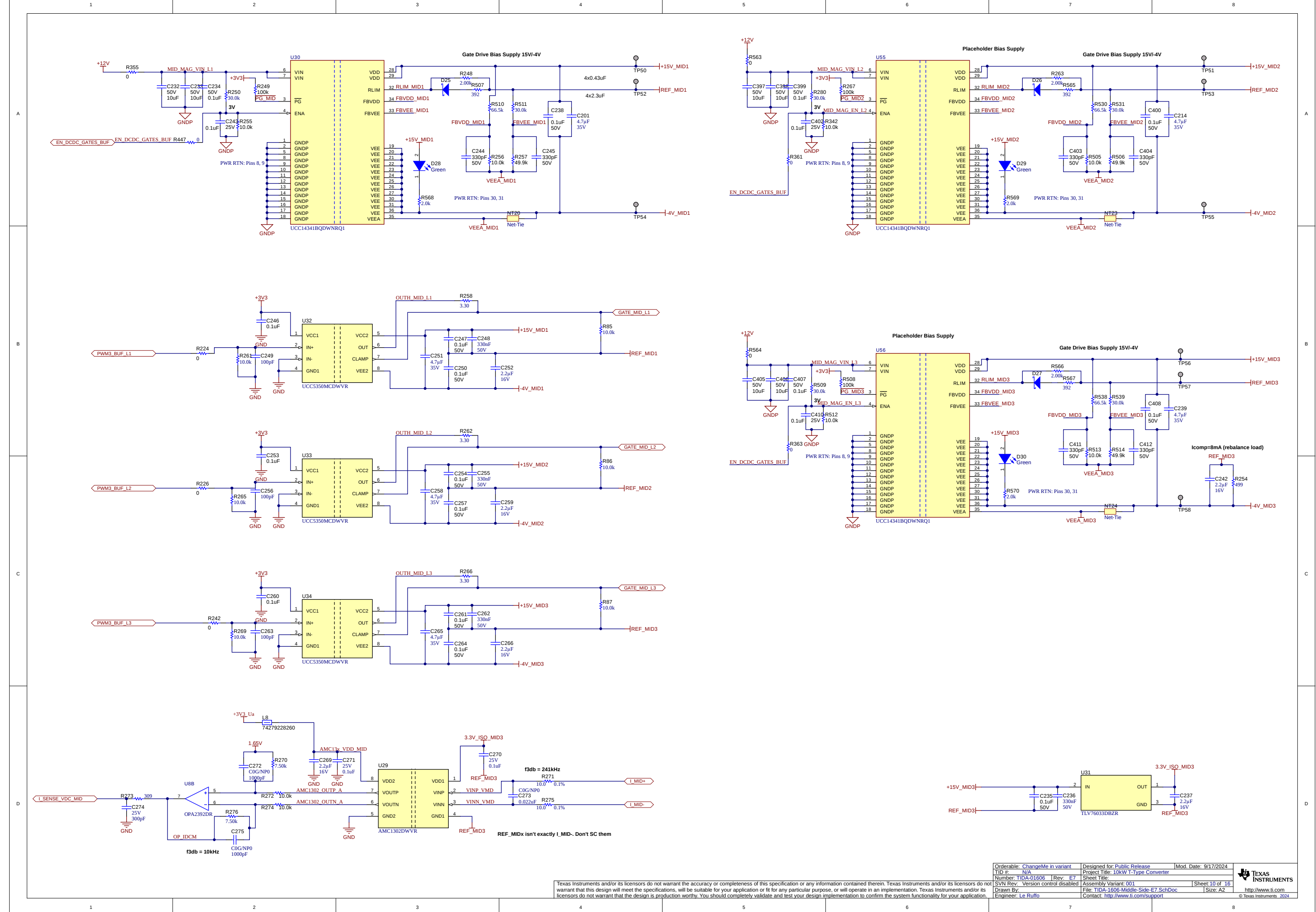


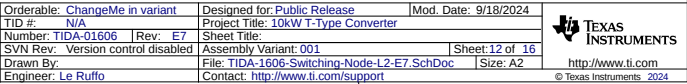
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular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

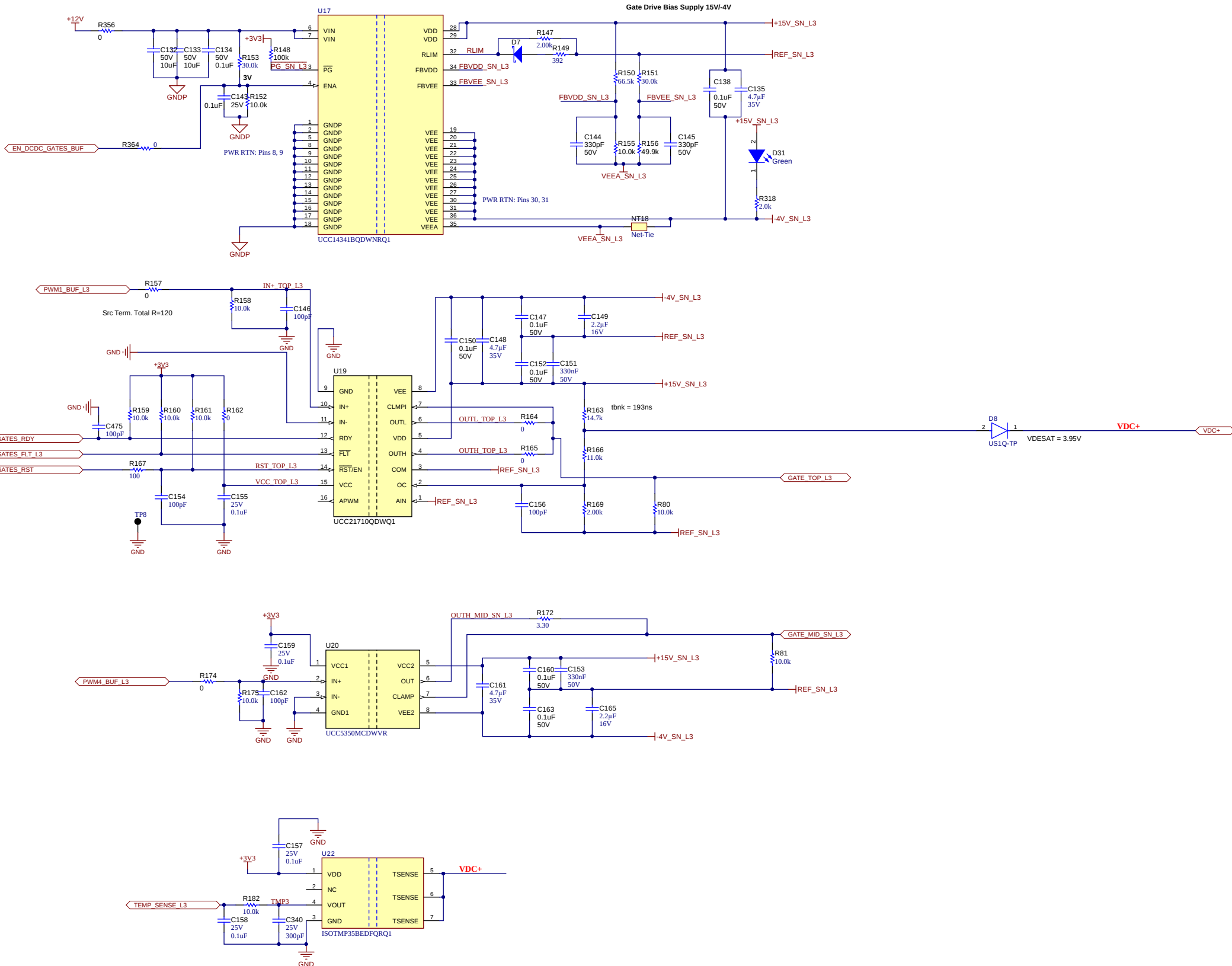
Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/23/2024
TID #: N/A	Project Title: 10kW T-Type Converter	
Number: TIDA-01606	Rev: E7	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet 8 of 16
Drawn By:	File: TIDA-1606-DC-Voltage-Measurements-E7-Sch	Size: B
Engineer: Le Ruffo	Contact: http://www.ti.com/support	

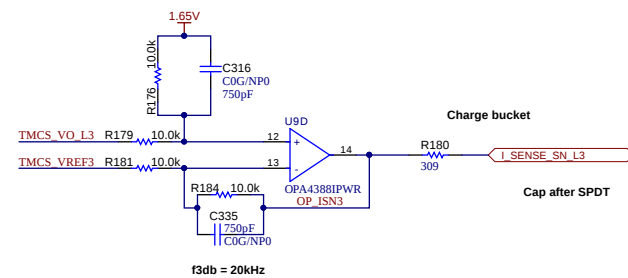
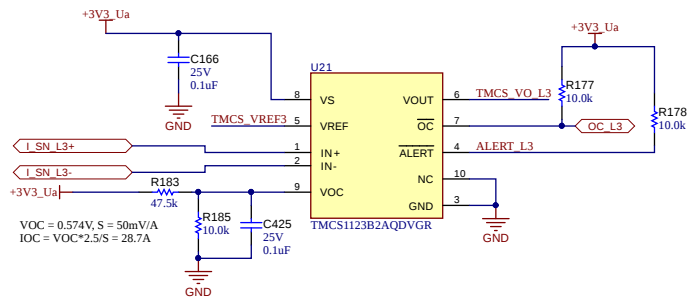
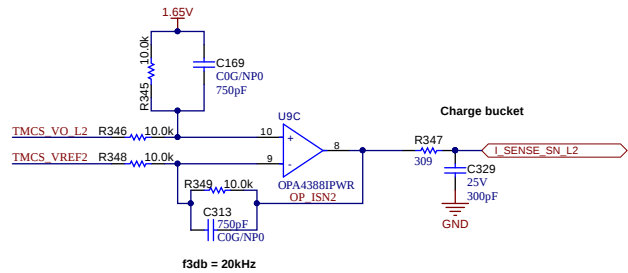
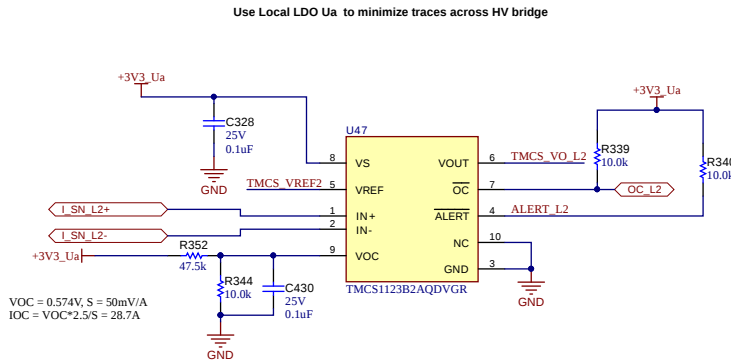
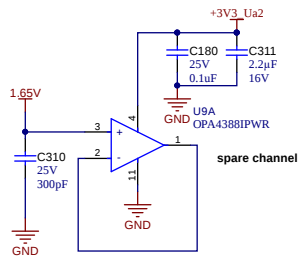
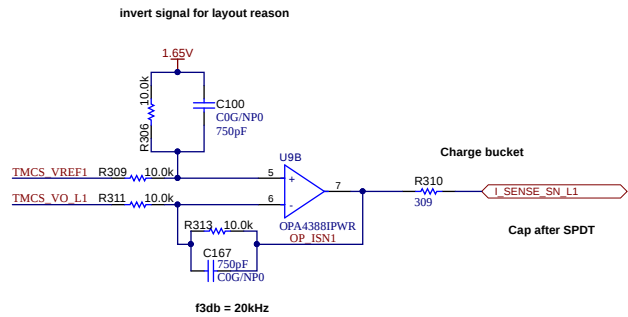
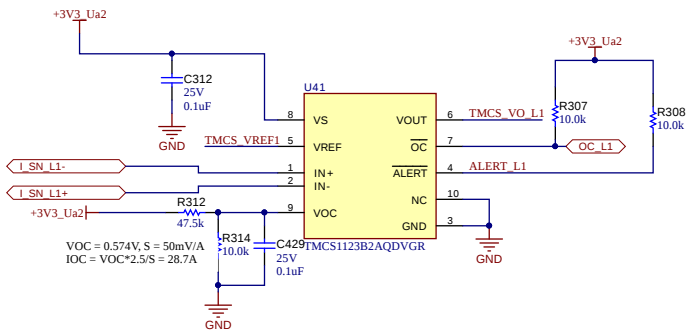
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular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











A

B

C

D

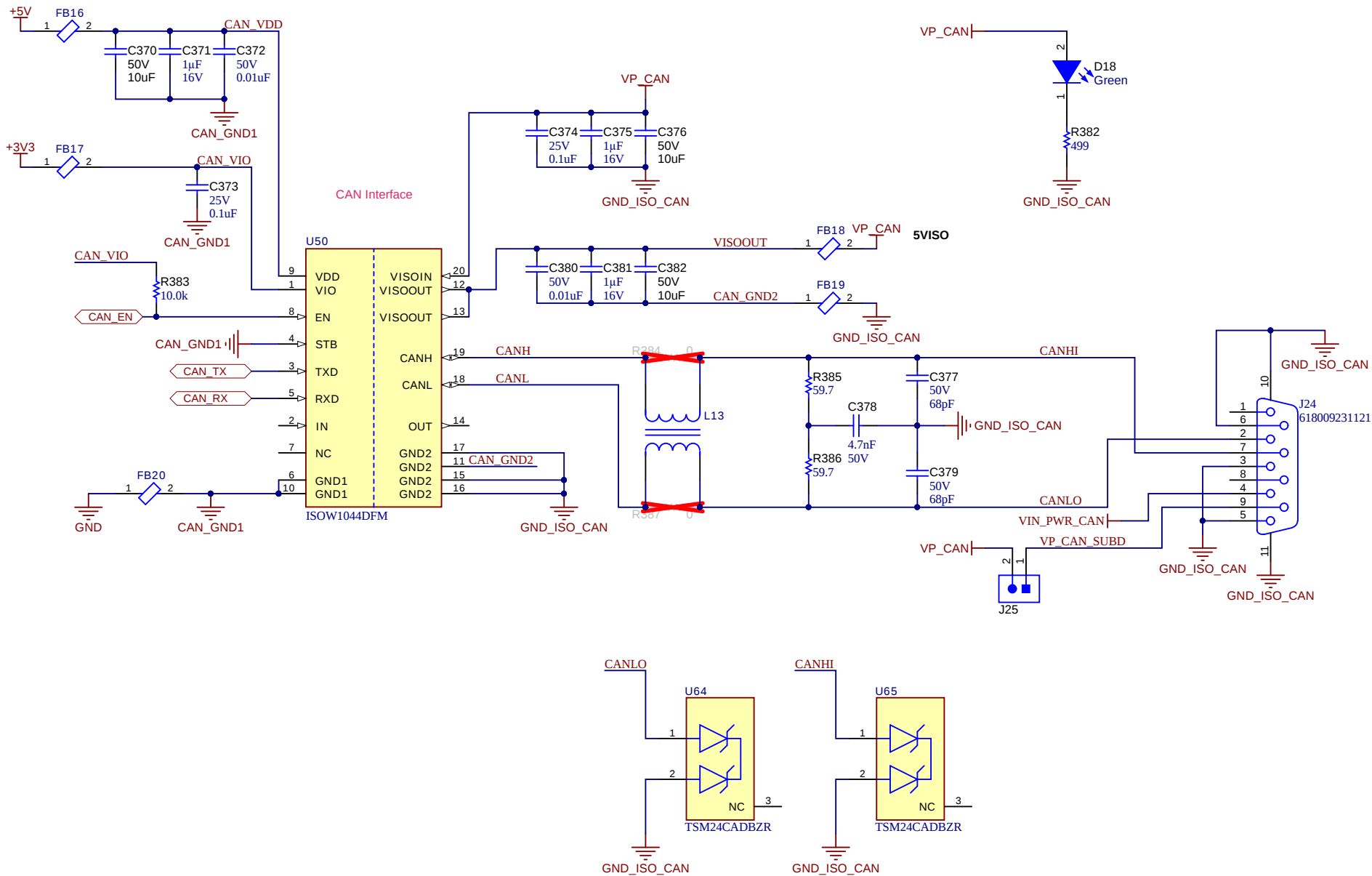
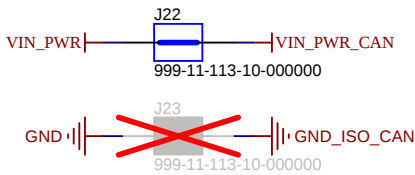
A

B

C

D

Daisy Chain Aux PWR to Another System



Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 9/17/2024
TID #: N/A	Project Title: 10kW T-Type Converter	
Number: TIDA-01606	Rev: E7	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 15 of 16
Drawn By:	File: TIDA-1606-CAN-Communication-E7.SchDoc	Size: A3
Engineer: Le Ruffo	Contact: http://www.ti.com/support	



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.

