
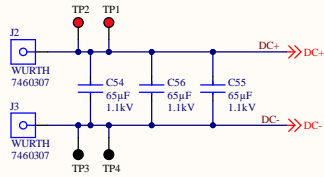


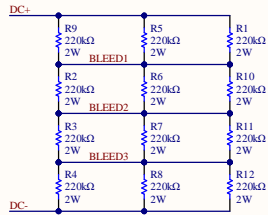
	1	2	3	4	5	6
A	<div>BOARD SPECIFICATIONS</div> <div>- Dimensions: 8in by 8in, 0.093in thick, 2oz copper on all layers, ENIG, 6 layers</div> <div>- 197mil clearance to adhere to UL 61800-5-1 Table 10 PWBs Pollution degree 2 1000Vrms</div> <div>PRESS-FIT NOTES</div> <div>- All other components should be 5mm from the center of the WolfPACK pins</div> <div>- For the REDCUBE press-fit terminals, per the application notes, other components should be spaced at least 4mm away and the hole should be at least 3mm from the edge.</div> <div>GENERAL NOTES</div> <div>- The +5V_ALT power rail is required to avoid routing the +5V rail across the DC-link copper pours on the PCB. Only route the +12V rail across the DC-link.</div>					
B						
C						
D						
	1	2	3	4	5	6

		[No Variations]	
Title: 25kW WolfPACK FM3 Six-Pack Inverter			
Drawing No: CRD25DA12N-FMC			
Date: 04/2023	Size: B	Revision: 1	Sheet 1 of 8

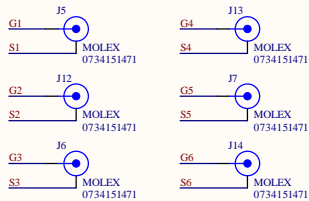
BULK CAPACITANCE



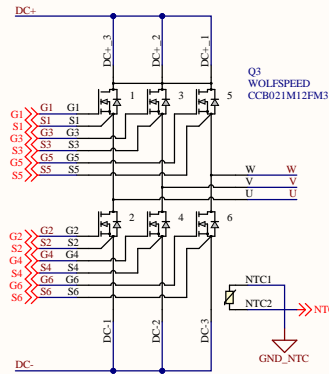
BLEED RESISTORS



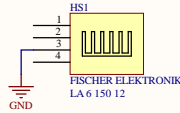
GATE METROLOGY



POWER MODULE

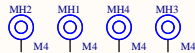


HEAT SINK



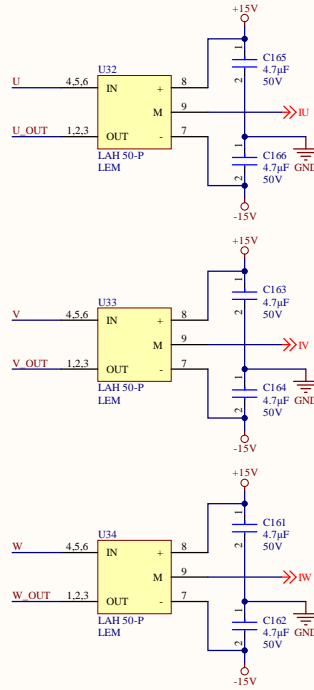
Only ground in one location to prevent ground loops.

MOUNTING HOLES

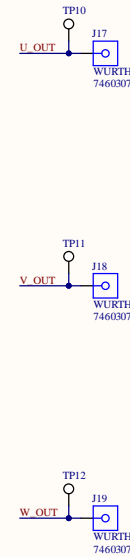


- Floating to avoid ground loops or short circuits through mounting hardware.
- Attach using 12mm standoffs (McMaster-Carr 98952A143)

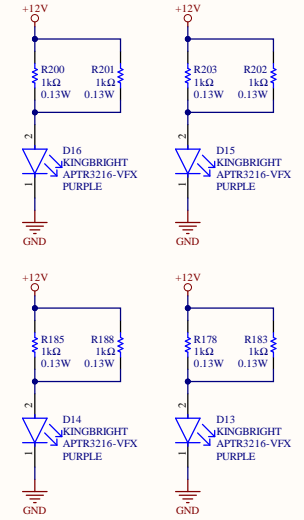
CURRENT MEASUREMENT



OUTPUT TERMINALS



UNDERGLOW



Vf = 3.3V
I = (12V-3.3V) / 500ohm = 17mA
P = (12V-3.3V)*2 / 500ohm = 151mW

Wolfspeed

[No Variations]

Title: Power Stage - 25kW WolfPACK FM3 Six-Pack Inv.

Drawing No: CRD25DA12N-FMC

Date: 04/2023

Size: B

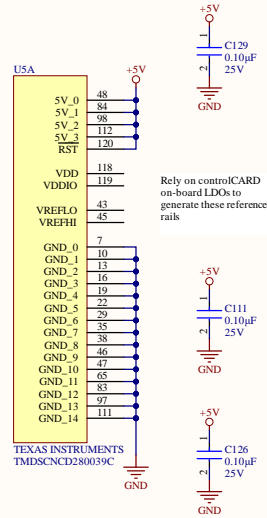
Revision: 1

Sheet: 2

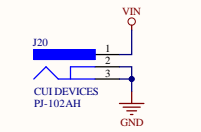
d 8

CONTROLLER

POWER

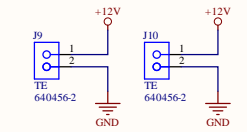


INPUT AUX POWER

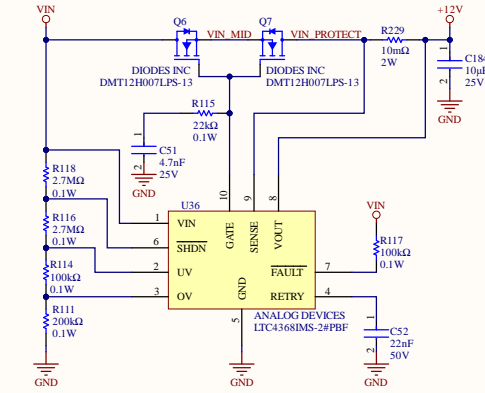


MATING: CUI DEVICES PF3-002A

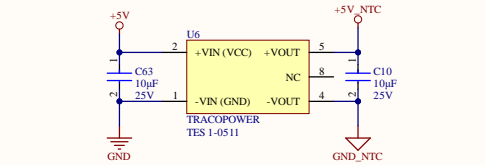
EXTERNAL FAN POWER



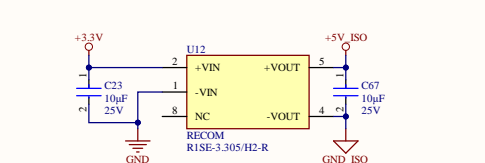
INPUT POWER CONDITIONING



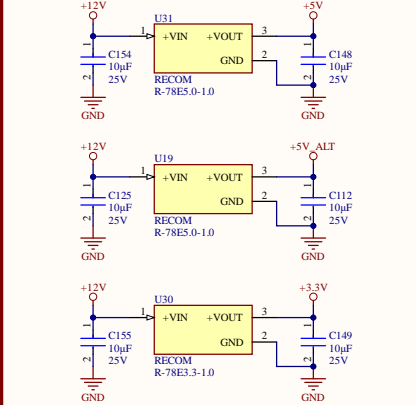
NTC ISOLATED +5V RAIL



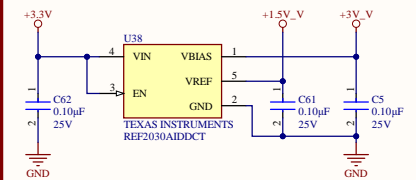
CAN ISOLATED +5V RAIL



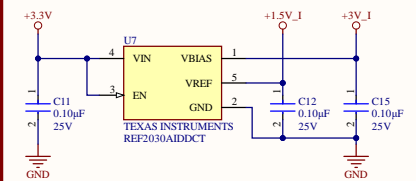
+3.3V AND +5V RAILS



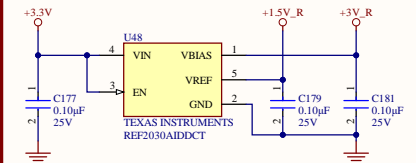
VOLTAGE REFERENCE RAILS



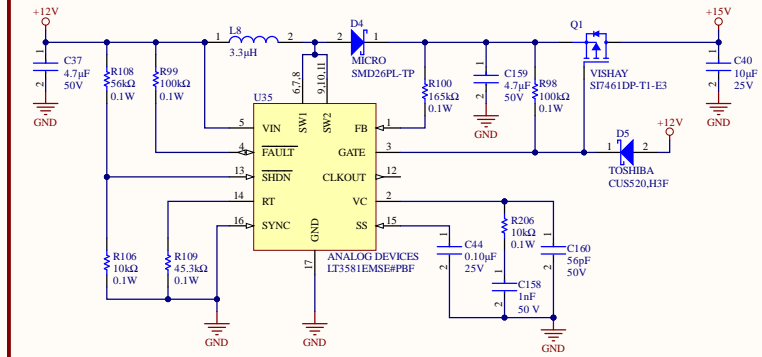
CURRENT REFERENCE RAILS



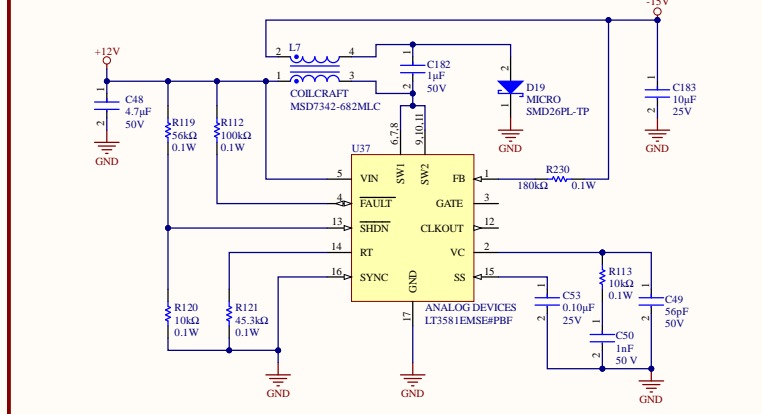
RESOLVER REFERENCE RAILS



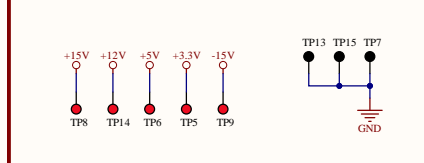
+15V RAIL



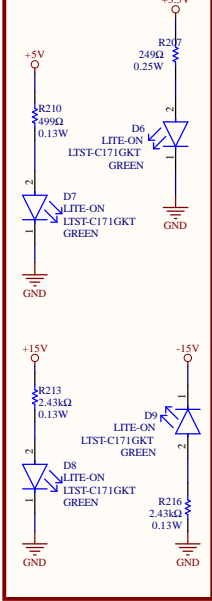
-15V RAIL




TEST POINTS

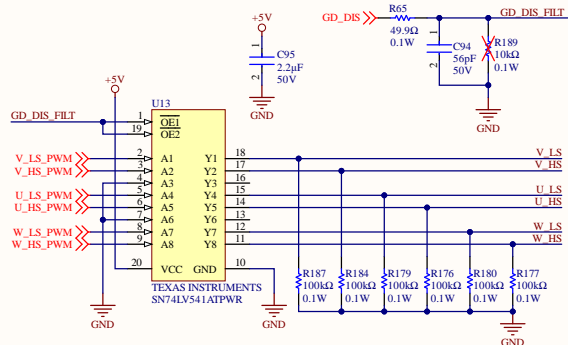


STATUS LEDS

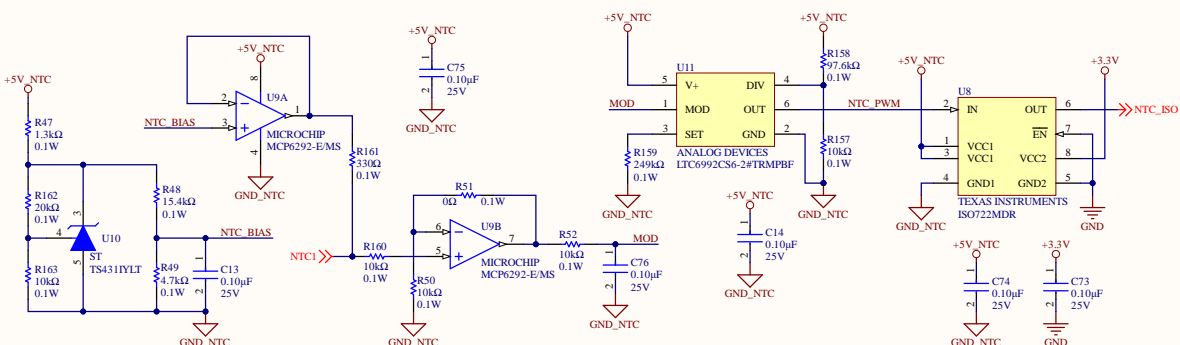


 Wolfspeed®		[No Variations]	
Title: Auxiliary Power - 25kW WolfPACK FM3 Six-Pack Inv.			
Drawing No: CRD25DA12N-FMC			
Date: 04/2023	Size: B	Revision: 1	Sheet: 4 of 8

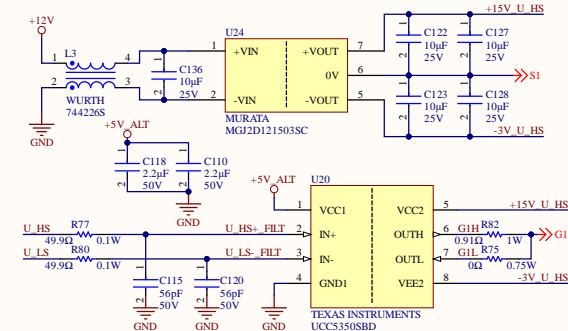
GATE DRIVER BUFFER



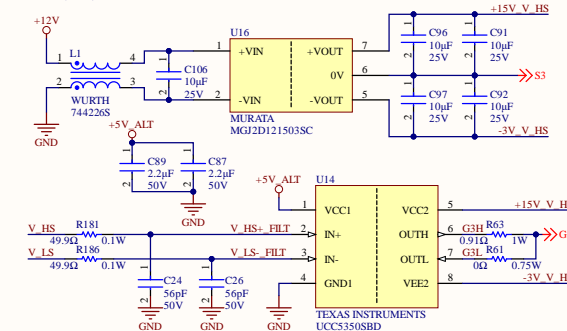
TEMPERATURE MEASUREMENT



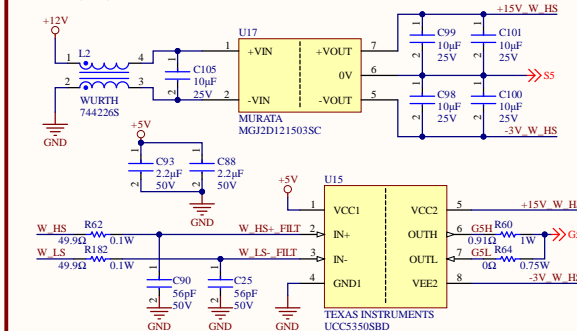
U-HS (G1) GATE DRIVER



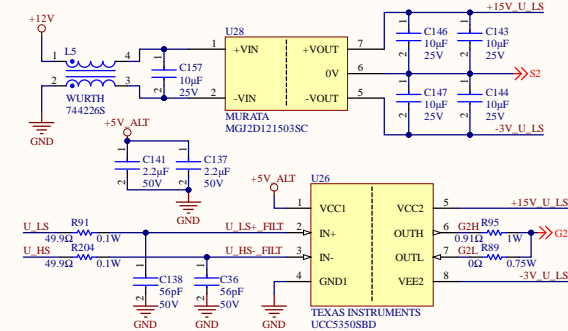
V-HS (G3) GATE DRIVER



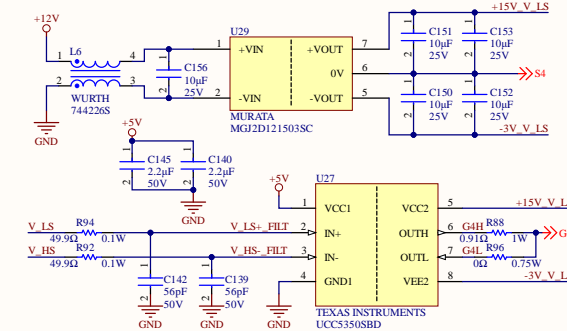
W-HS (G5) GATE DRIVER



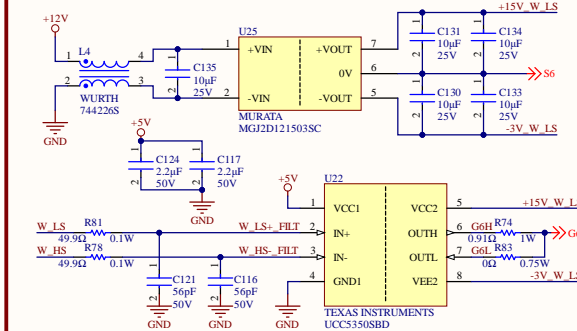
U-LS (G2) GATE DRIVER



V-LS (G4) GATE DRIVER



W-LS (G6) GATE DRIVER



[No Variations]

Title: Gate Drivers - 25kW WolfPACK EM3 Six-Pack Inv

Drawing No: CRD25DA12N-FMC

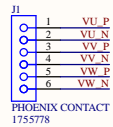
Date: 04/2023

Size: B

Revision: 1

Sheet: 5 of 8

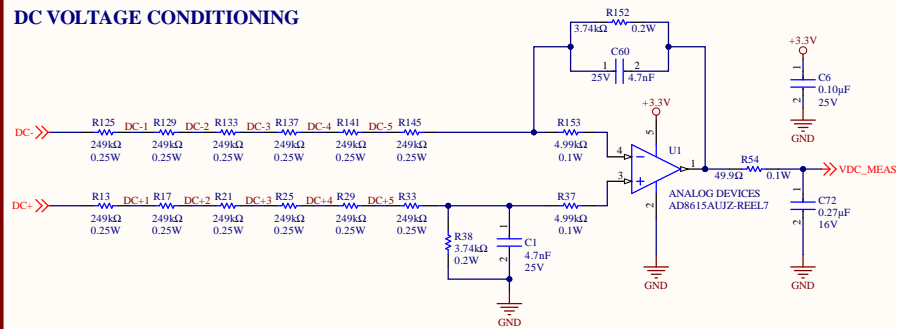
AC VOLTAGE FEEDBACK



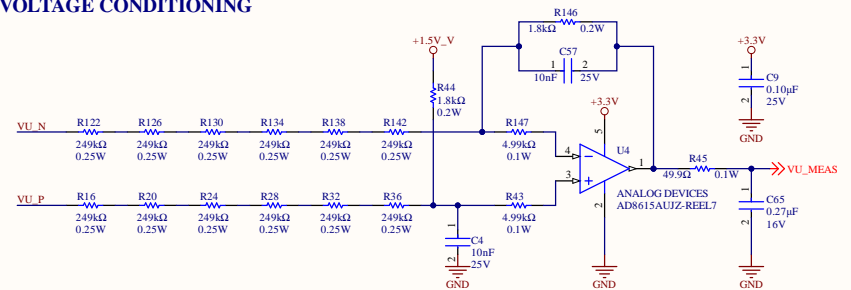
Mating Connectors:

- Connector with Wires Parallel to the PCB: Phoenix Contact 1792799
- Connector with Wires Perpendicular to the PCB: Phoenix Contact 1757051

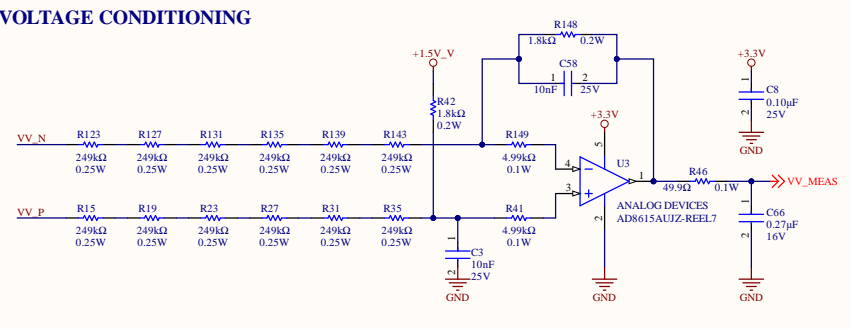
DC VOLTAGE CONDITIONING



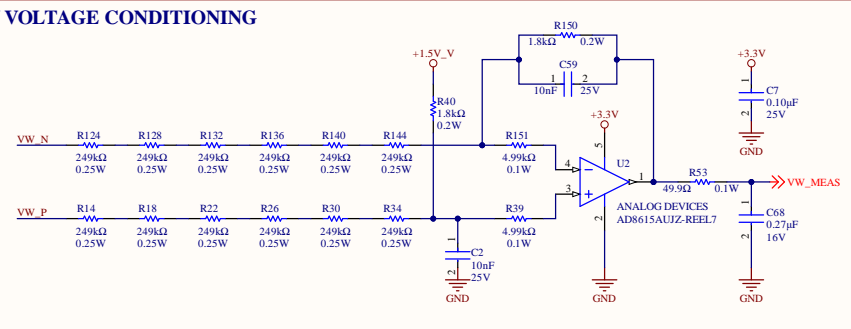
U VOLTAGE CONDITIONING



V VOLTAGE CONDITIONING



W VOLTAGE CONDITIONING



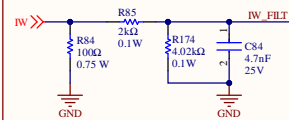
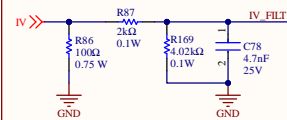
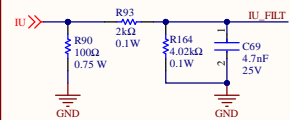
[No Variations]

Title: Voltage Sense - 25kW WolfPACK FM3 Six-Pack Inv.

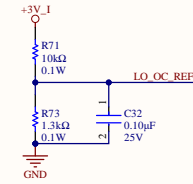
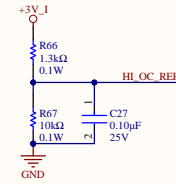
Drawing No: CRD25DA12N-FMC

Date: 04/2023	Size: B	Revision: 1	Sheet: 6 of 8
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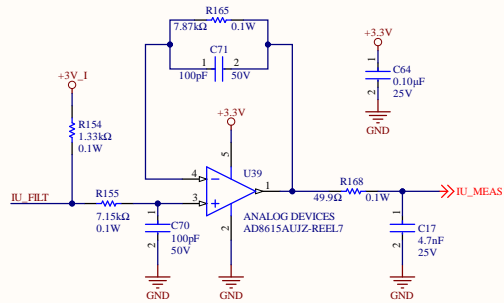
I-TO-V CONVERSION



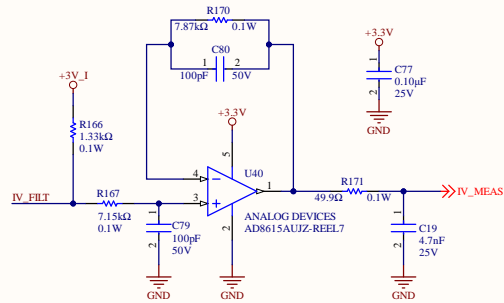
OVERCURRENT REFERENCES



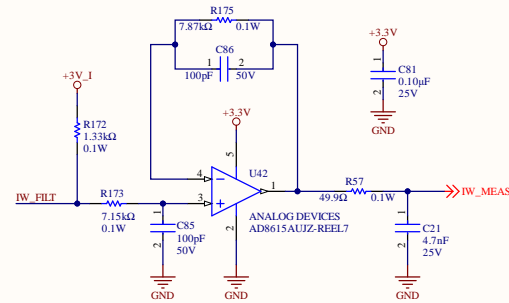
U CURRENT CONDITIONING



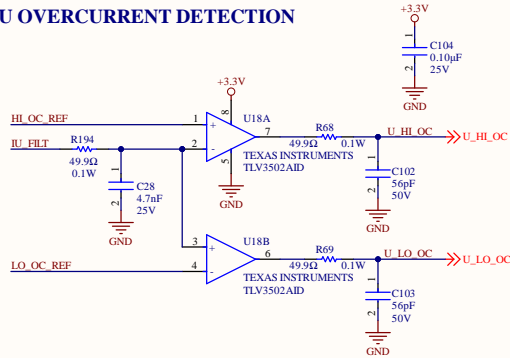
V CURRENT CONDITIONING



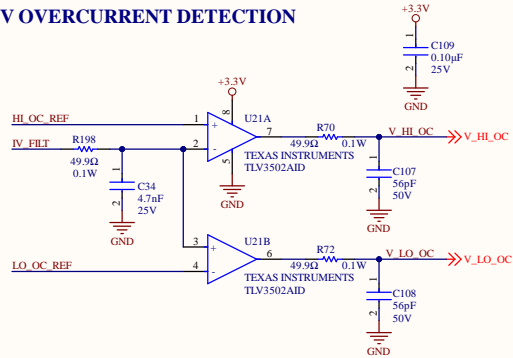
W CURRENT CONDITIONING



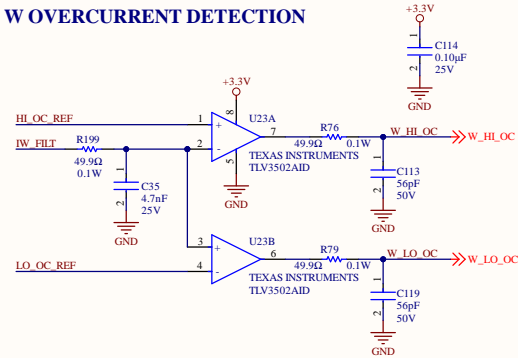
U OVERCURRENT DETECTION



V OVERCURRENT DETECTION



W OVERCURRENT DETECTION



Wolfspeed

[No Variations]

Title: Current Sense - 25kW WolfPACK FM3 Six-Pack Inv.

Drawing No: CRD25DA12N-FMC

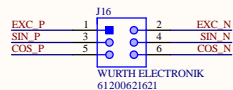
Date: 04/2023

Size: B

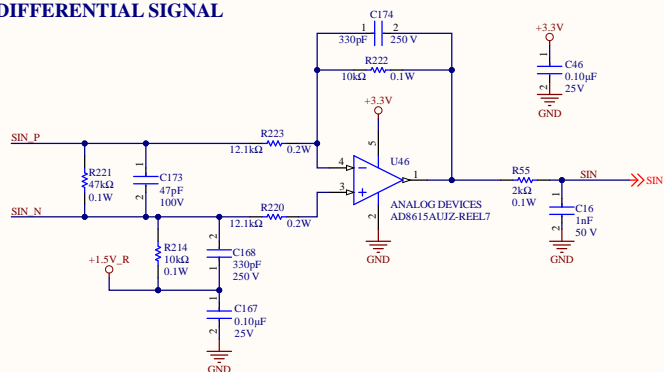
Revision: 1

Sheet: 7

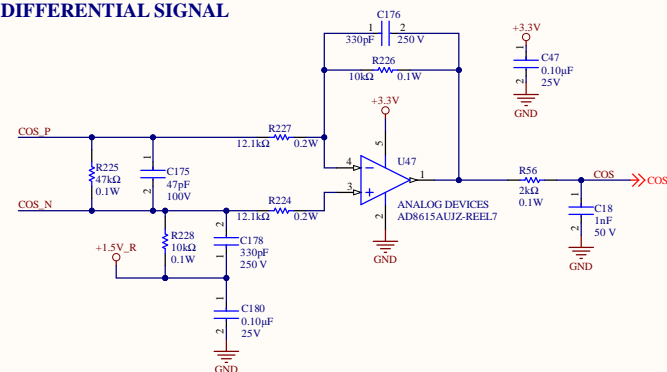
d 8



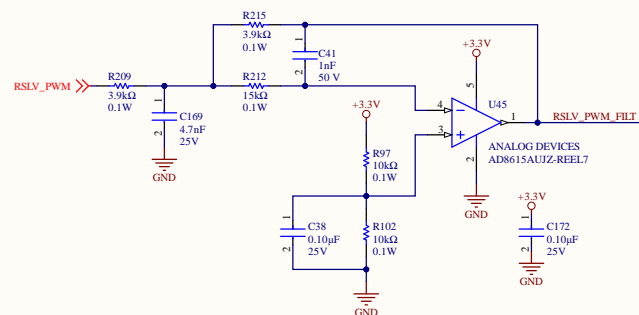
SINE DIFFERENTIAL SIGNAL



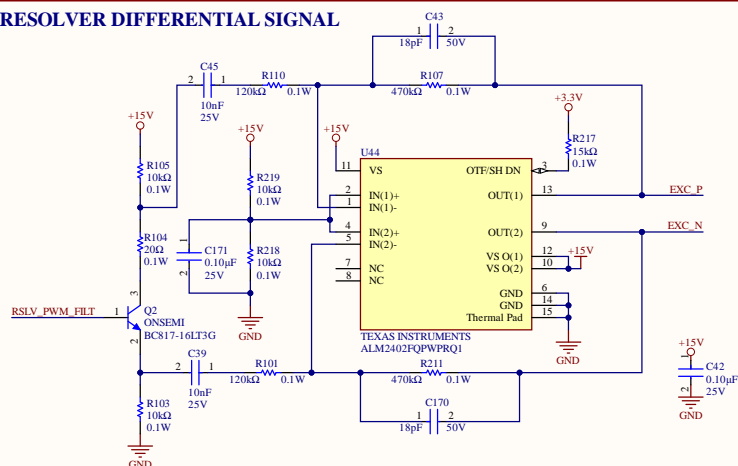
COSINE DIFFERENTIAL SIGNAL



RESOLVER CONDITIONING



RESOLVER DIFFERENTIAL SIGNAL



PROTECTION

