

Isolated Inverter Platform


Table of Contents

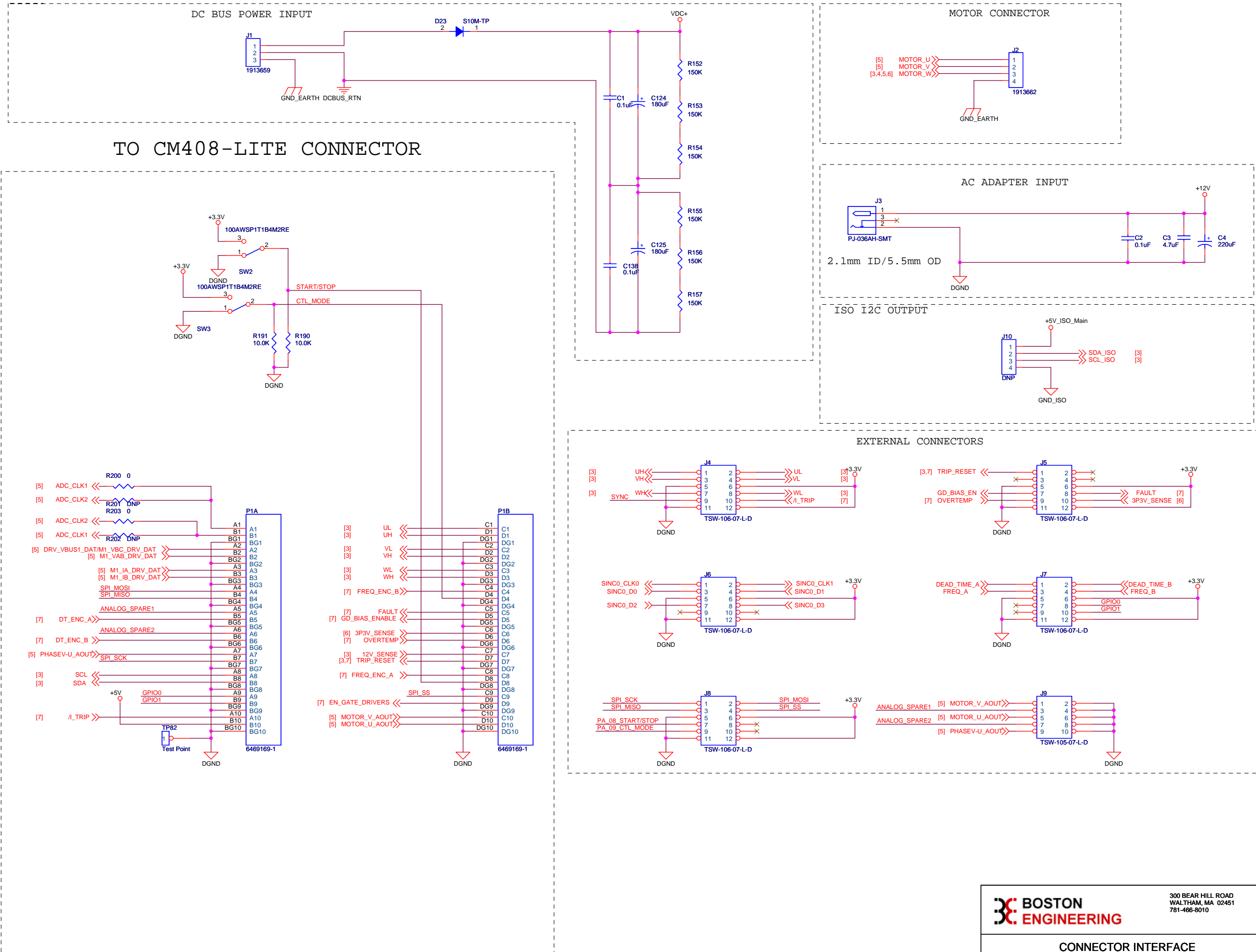
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|---------|------------------------|
| PAGE 1: | COVER |
| PAGE 2: | CONNECTOR INTERFACE |
| PAGE 3: | POWER , ISOLATION |
| PAGE 4: | MOTOR DRIVER |
| PAGE 5: | VBUS / CURRENT SENSING |
| PAGE 6: | POWER SUPPLIES |
| PAGE 7: | BUFFER / LOGIC |

Revision History

- Rev 1: Initial Draft
- Rev 2:
1. Add pull down resistors R184-R189 on PWM channels
 2. Change C14 to 10uF and added C145,C146 10uF in parallel
 3. Add D23 S10M-TP at the DC bus voltage input
 4. Add toggle switch SW2, SW3 for start/stop and control mode select and connect to PA08 and PA09
 5. Add momentary switch SW4 for manual reset and connect to TRIP_RESET with pull up and pull down resistor R192, R193
 6. Add pull down resistor R190, R191 to PA08 and PA09 for start/stop and control mode signals
 7. Install R148-R151, R175 to 0 ohm by default
 8. Change D18-D20 to LG L29K-G2J1-24-Z green LED and D17, D21 to LS L29K-H1J2-1-Z for the same series red LED
 9. Change U27 to NOR gate 74LVC1G02GW,125
 10. Change R140 and R110 to 100kohm
 11. Update netlist error on page 6 change +7.5VPhaseW to +7.5PhaseW

Rev 3: Replace P1 to new 40 pin connector

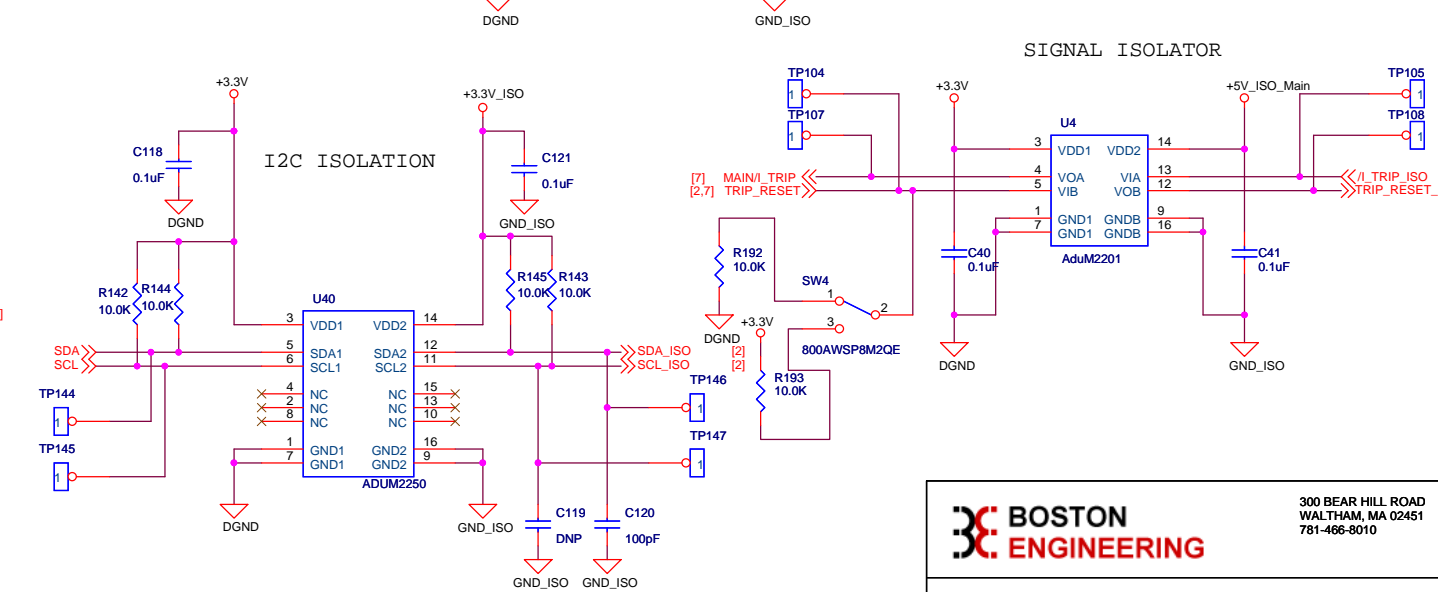
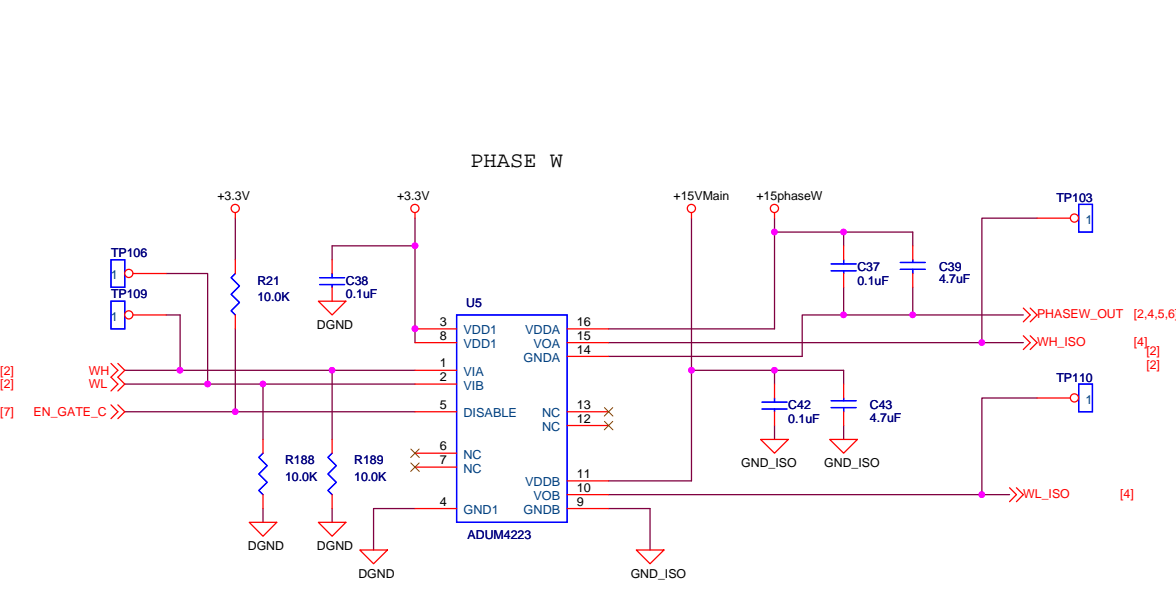
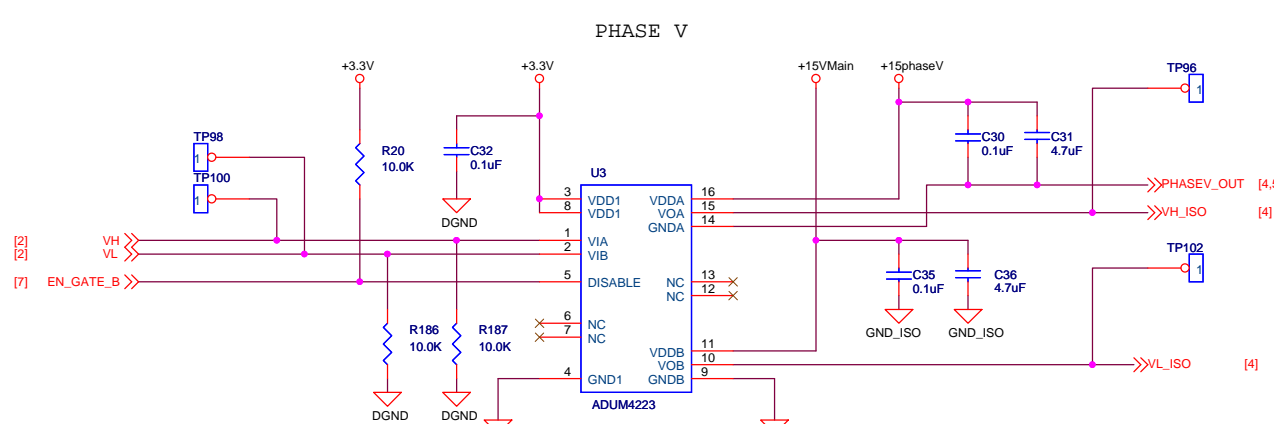
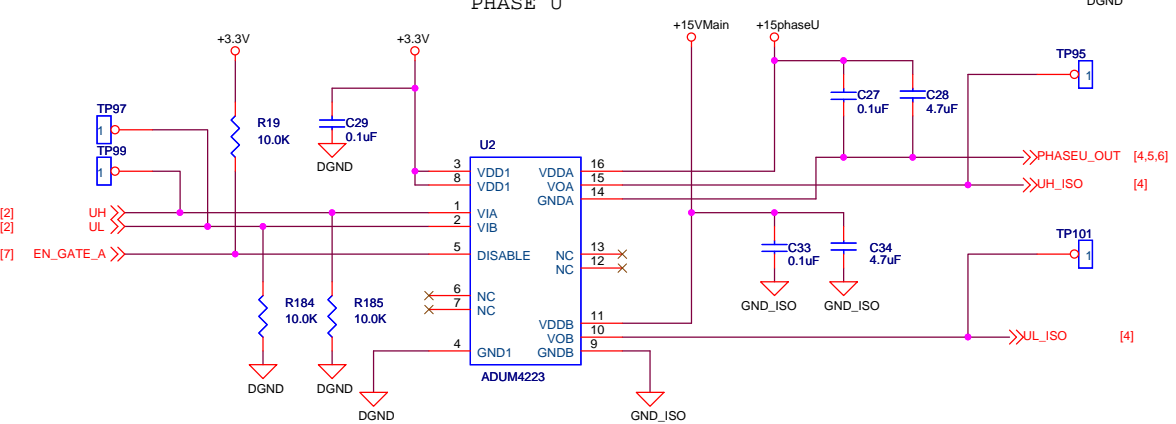
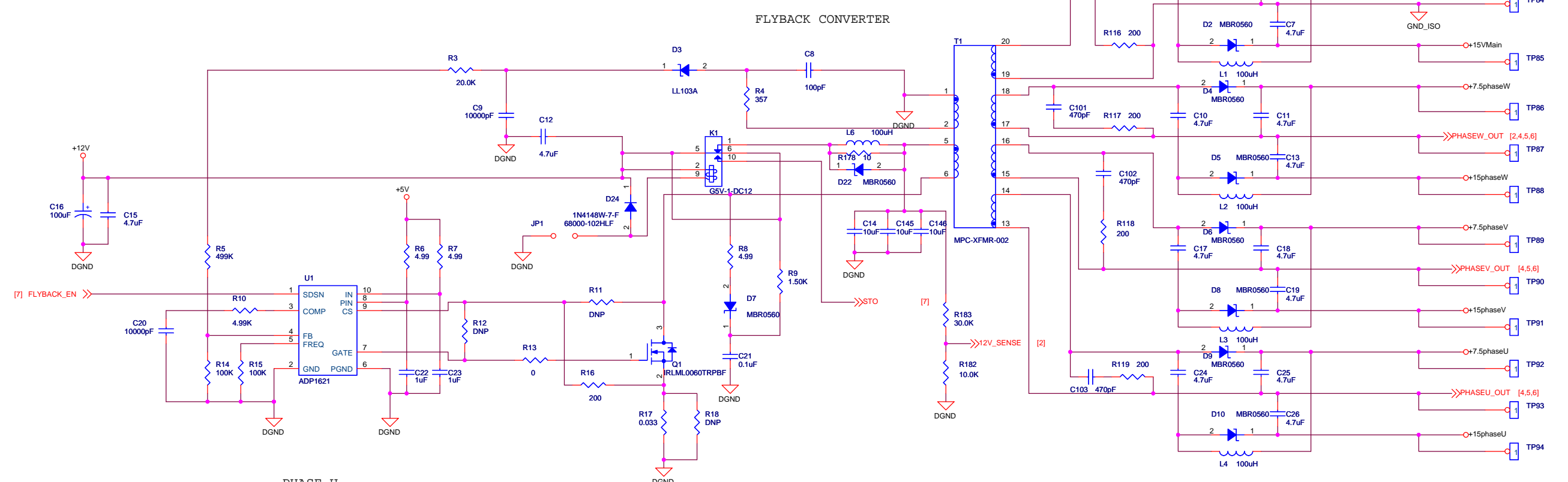
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|--|-------------|-----------|-----------------------------|---|
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| | IR DATE | | | |
| | LAST CHANGE | | | |
| | DRAWN BY | | | |
| | CHECKED BY | | | |
| APPROVED BY | | | | COVER |
| | SIZE | CAGE CODE | DWG NO | REV |
| | C | 1NST2 | 02-040114 | 3 |
| BARE PCB P/N | | | Wednesday, January 21, 2015 | SHEET 1 OF 7 |
| ASSY PCB P/N | | | | |



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CONNECTOR INTERFACE

| SIZE | CAGE CODE | DWG NO | REV |
|------|-----------|-----------------------------|--------------|
| C | 1NST2 | 02-040114 | 3 |
| | | Wednesday, January 21, 2015 | SHEET 2 OF 7 |

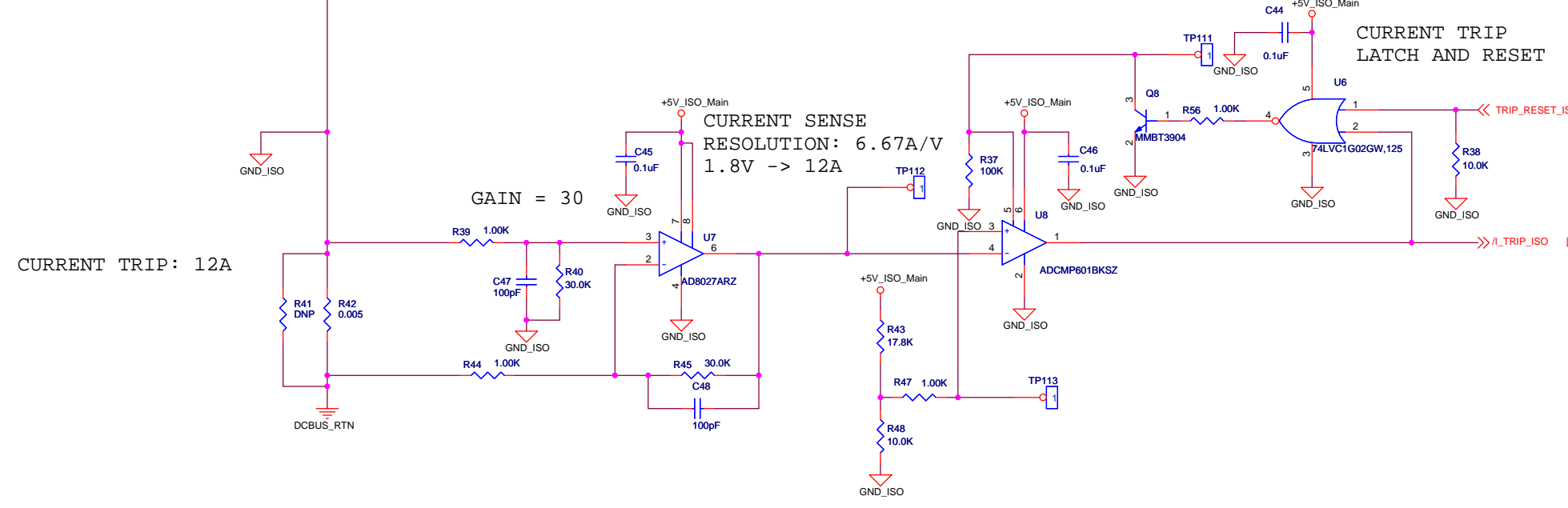
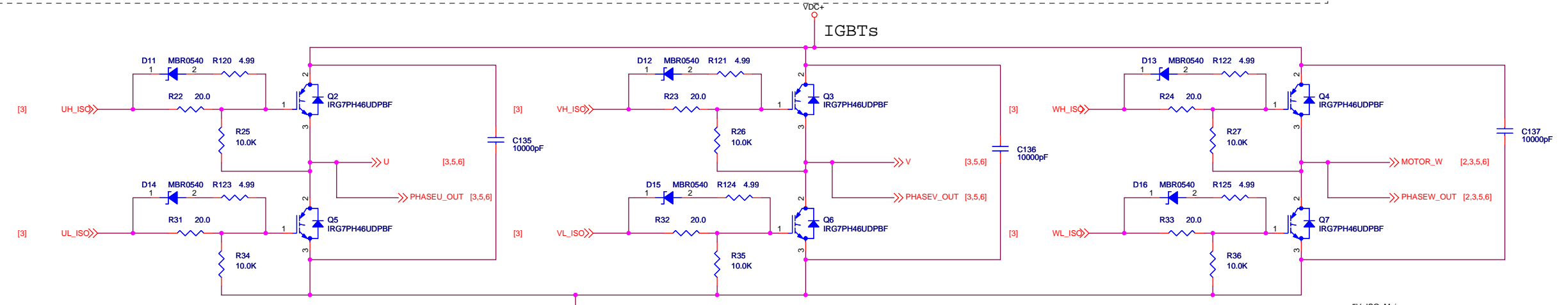
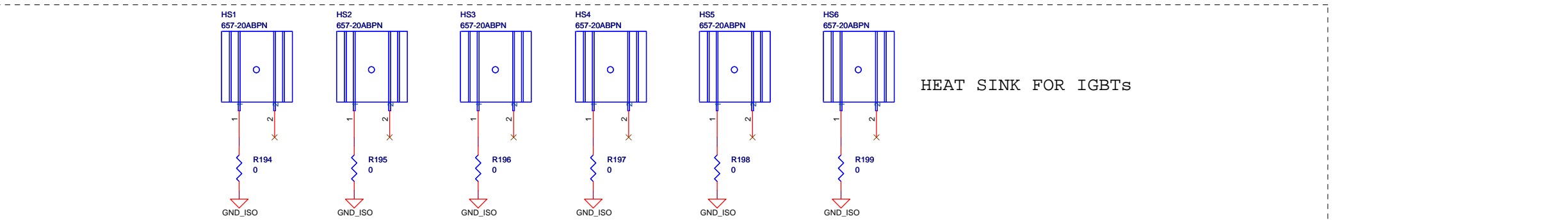


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POWER SUPPLIES, ISOLATION

| SIZE | CAGE CODE | DWG NO | REV |
|------|-----------|-----------------------------|--------------|
| C | 1NST2 | 02-040114 | 3 |
| | | Wednesday, January 21, 2015 | SHEET 3 OF 7 |

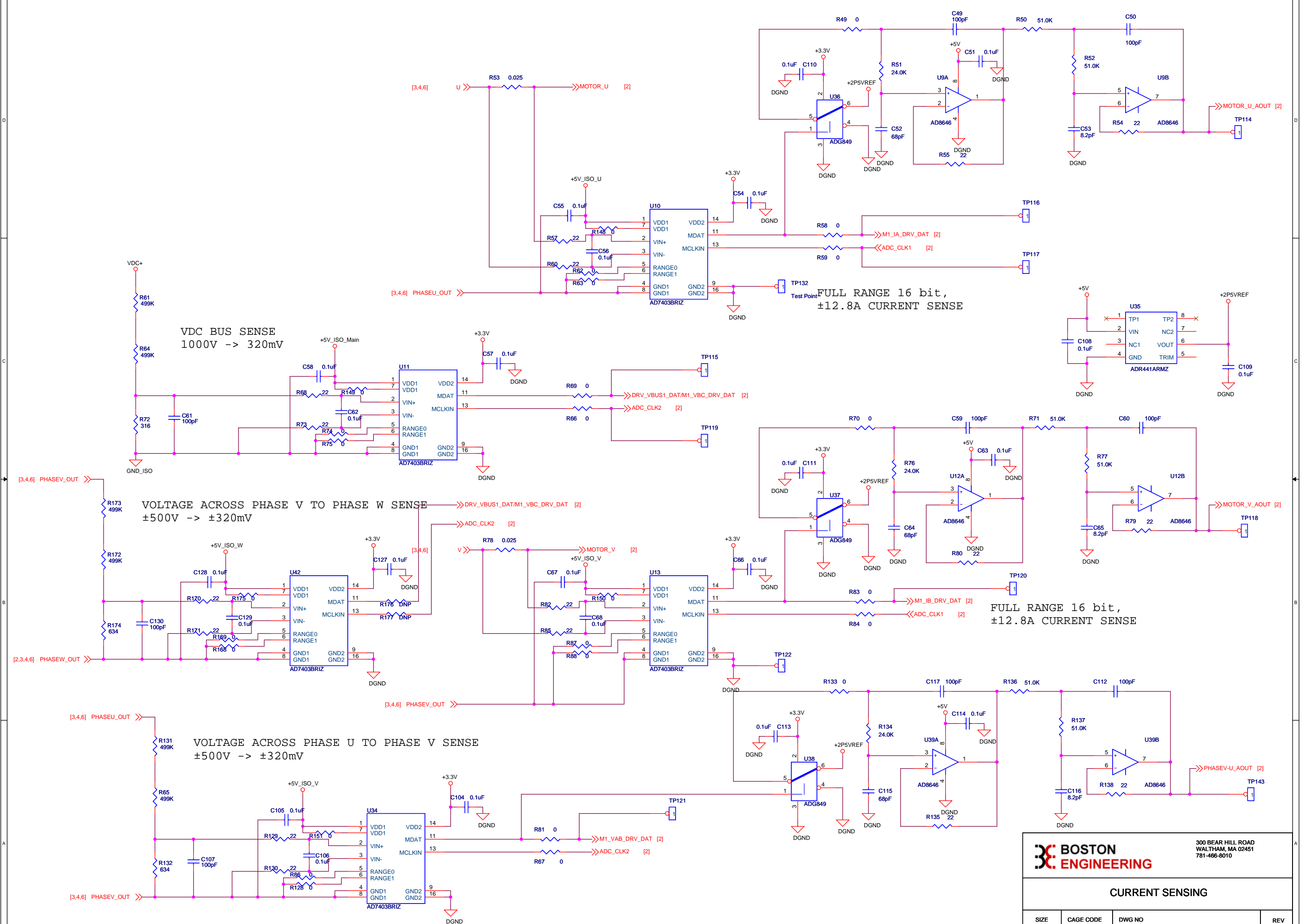


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IGBT MOTOR DRIVER

| | | | |
|-----------------------------|-----------|--------------|-----|
| SIZE | CAGE CODE | DWG NO | REV |
| C | 1NST2 | 02-040114 | 3 |
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VDC BUS SENSE
1000V -> 320mV

VOLTAGE ACROSS PHASE V TO PHASE W SENSE
±500V -> ±320mV

VOLTAGE ACROSS PHASE U TO PHASE V SENSE
±500V -> ±320mV

FULL RANGE 16 bit,
±12.8A CURRENT SENSE

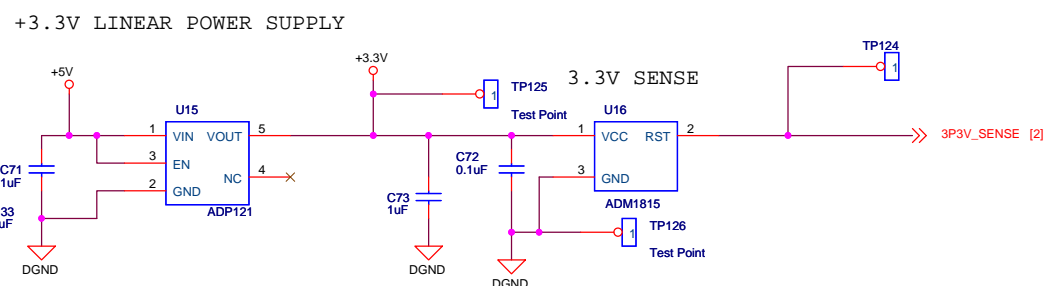
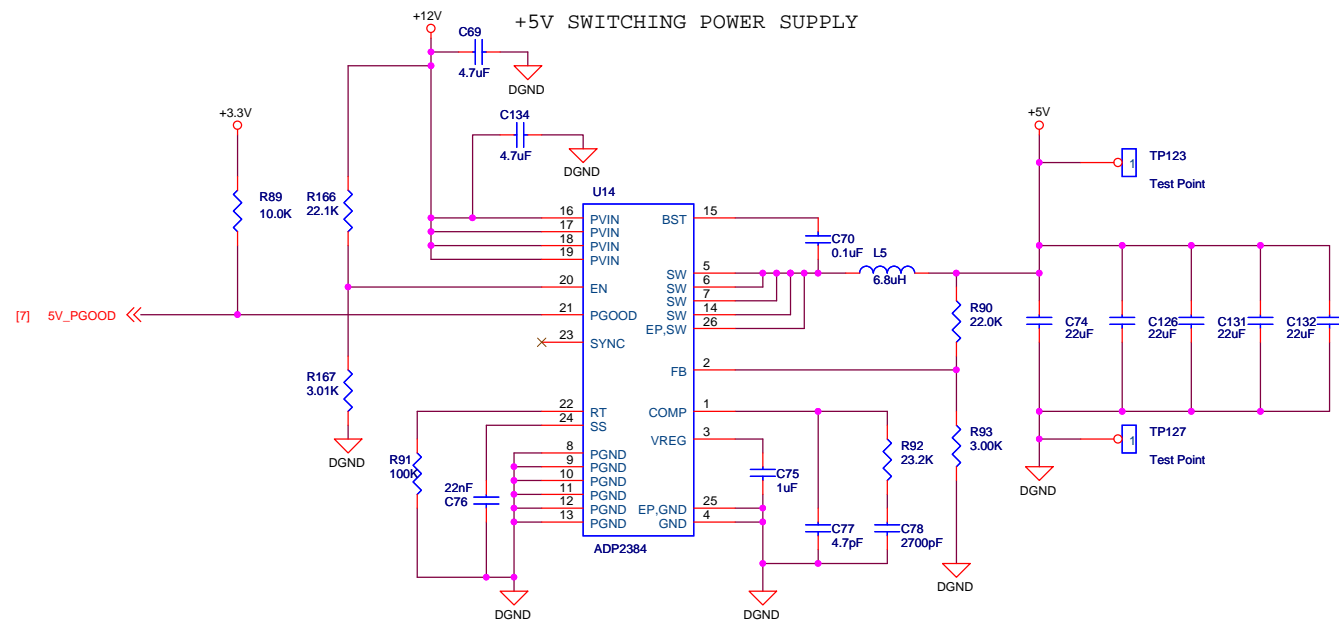
FULL RANGE 16 bit,
±12.8A CURRENT SENSE

BOSTON ENGINEERING

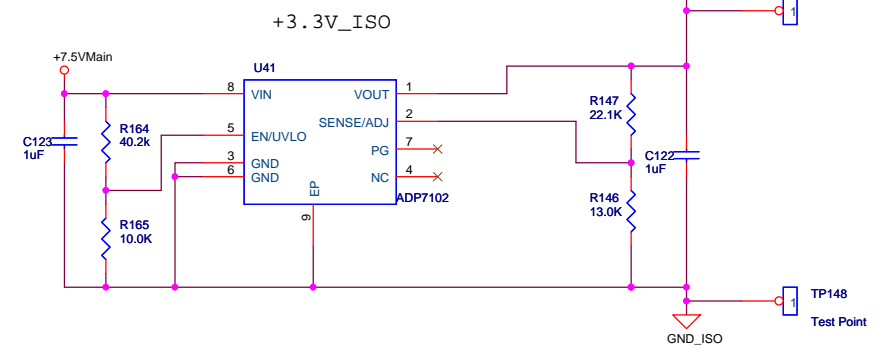
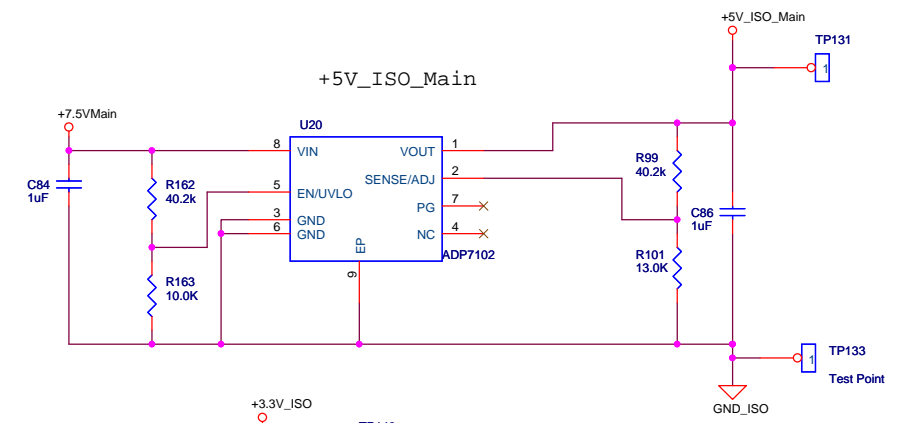
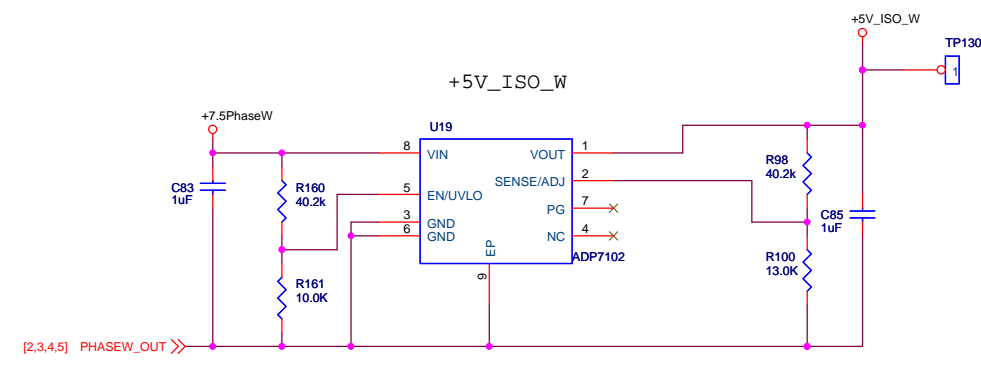
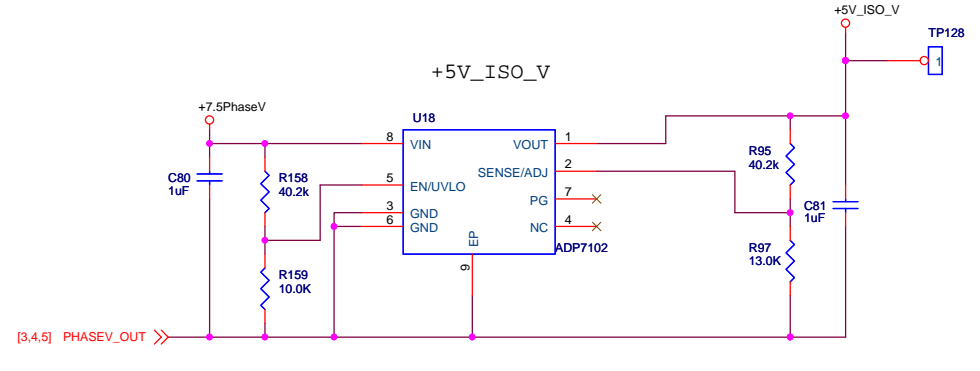
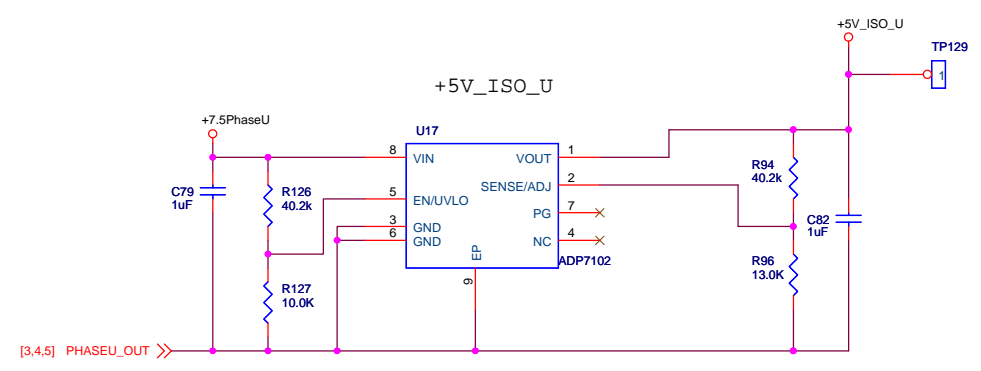
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CURRENT SENSING

| SIZE | CAGE CODE | DWG NO | REV |
|------|-----------|-----------------------------|--------------|
| C | 1NST2 | 02-040114 | 3 |
| | | Wednesday, January 21, 2015 | SHEET 5 OF 7 |

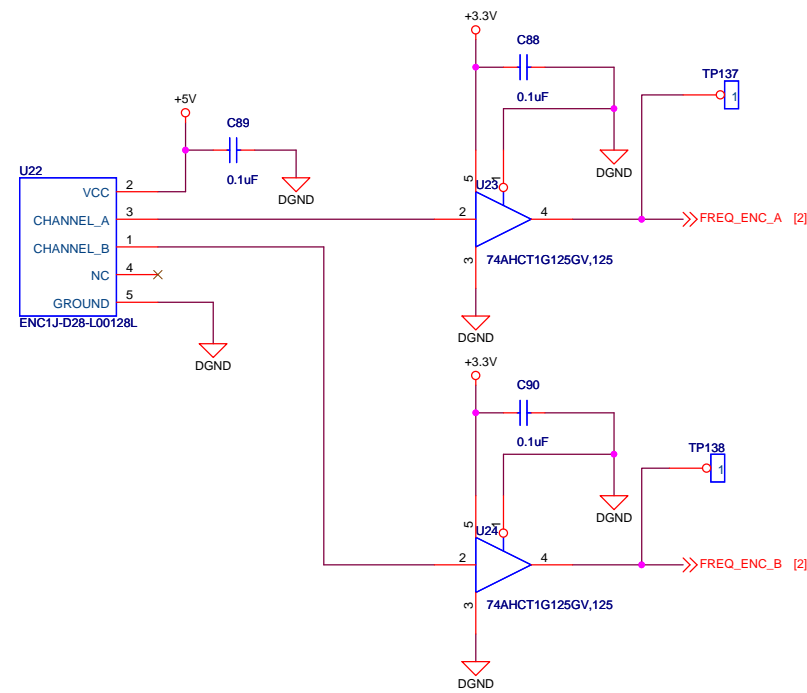


+5V ISO LINEAR POWER SUPPLIES

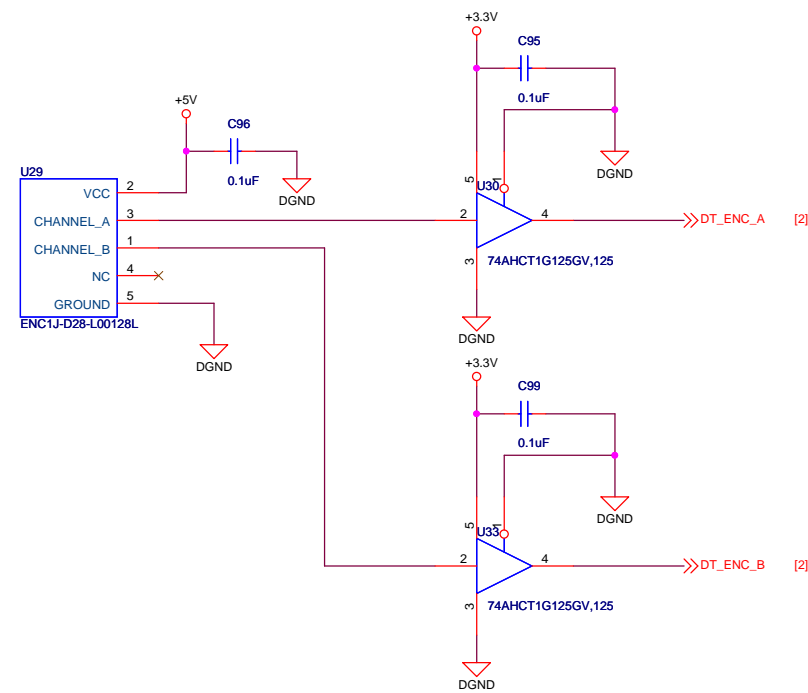


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| | | POWER SUPPLIES | |
| SIZE | CAGE CODE | DWG NO | REV |
| C | 1NST2 | 02-040114 | 3 |
| | | Wednesday, January 21, 2015 | SHEET 6 OF 7 |

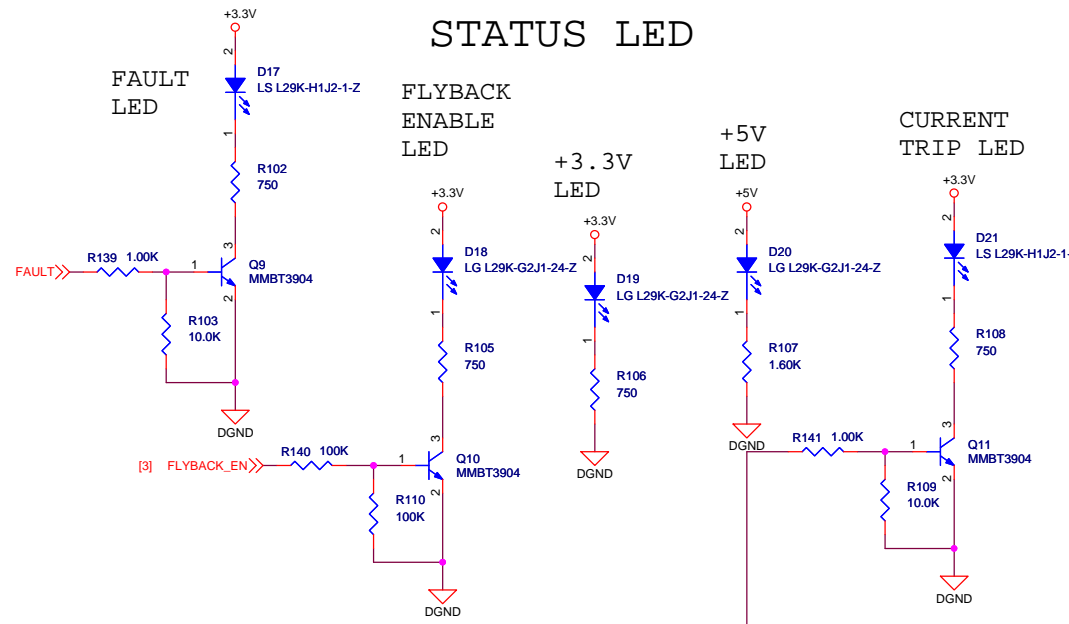
FREQUENCY ENCODER



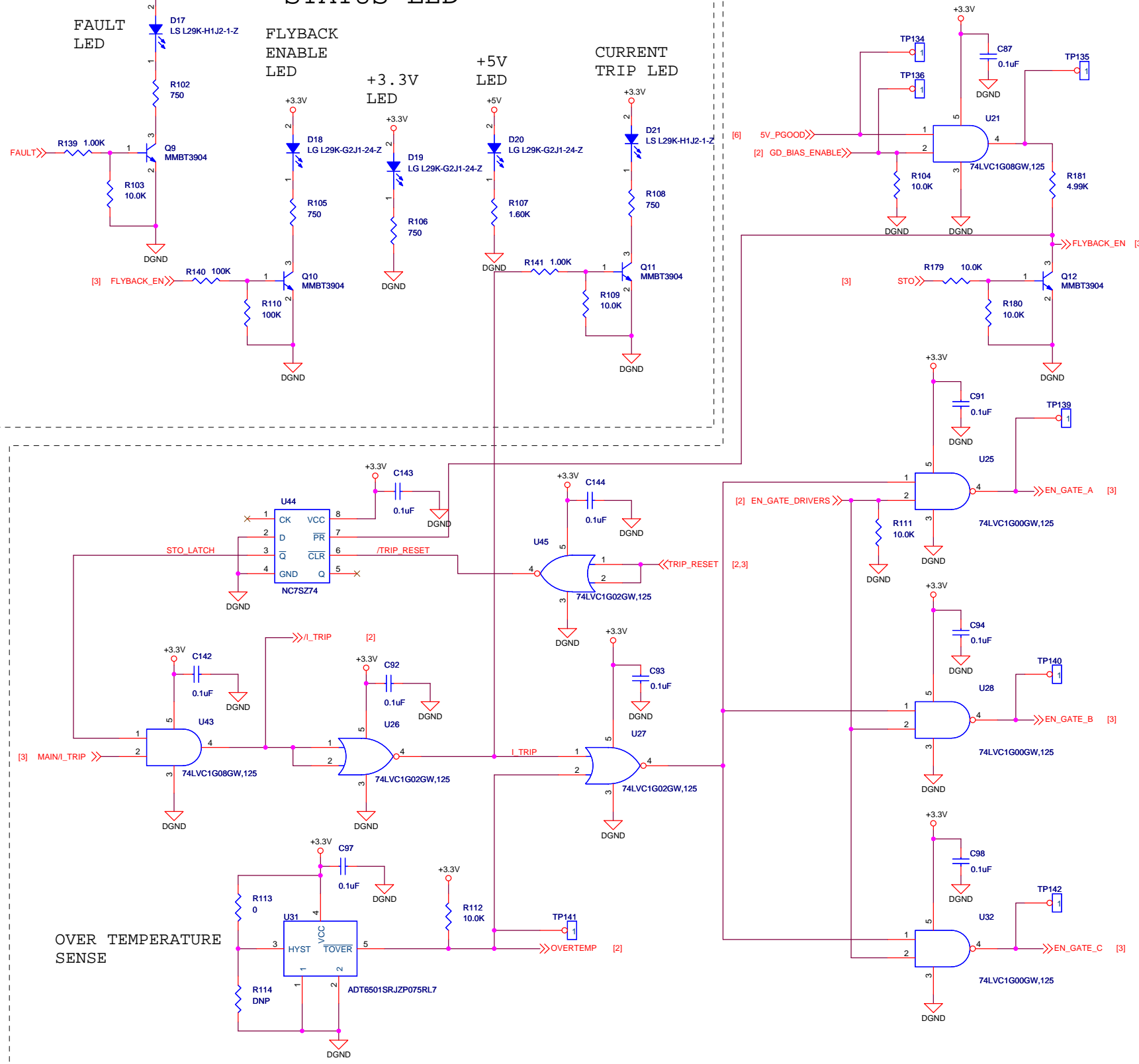
DEAD TIME ENCODER



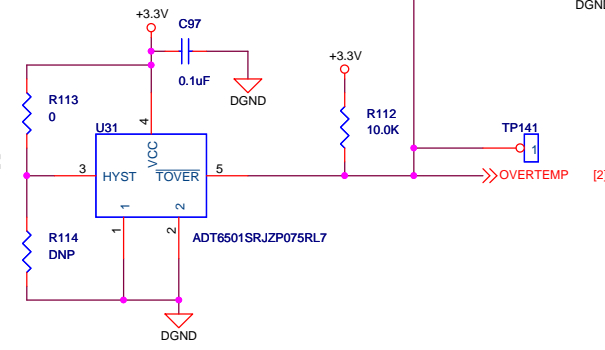
STATUS LED



LOGIC



OVER TEMPERATURE SENSE



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| BUFFER / LOGIC | | | |
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| C | 1NST2 | 02-040114 | 3 |
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