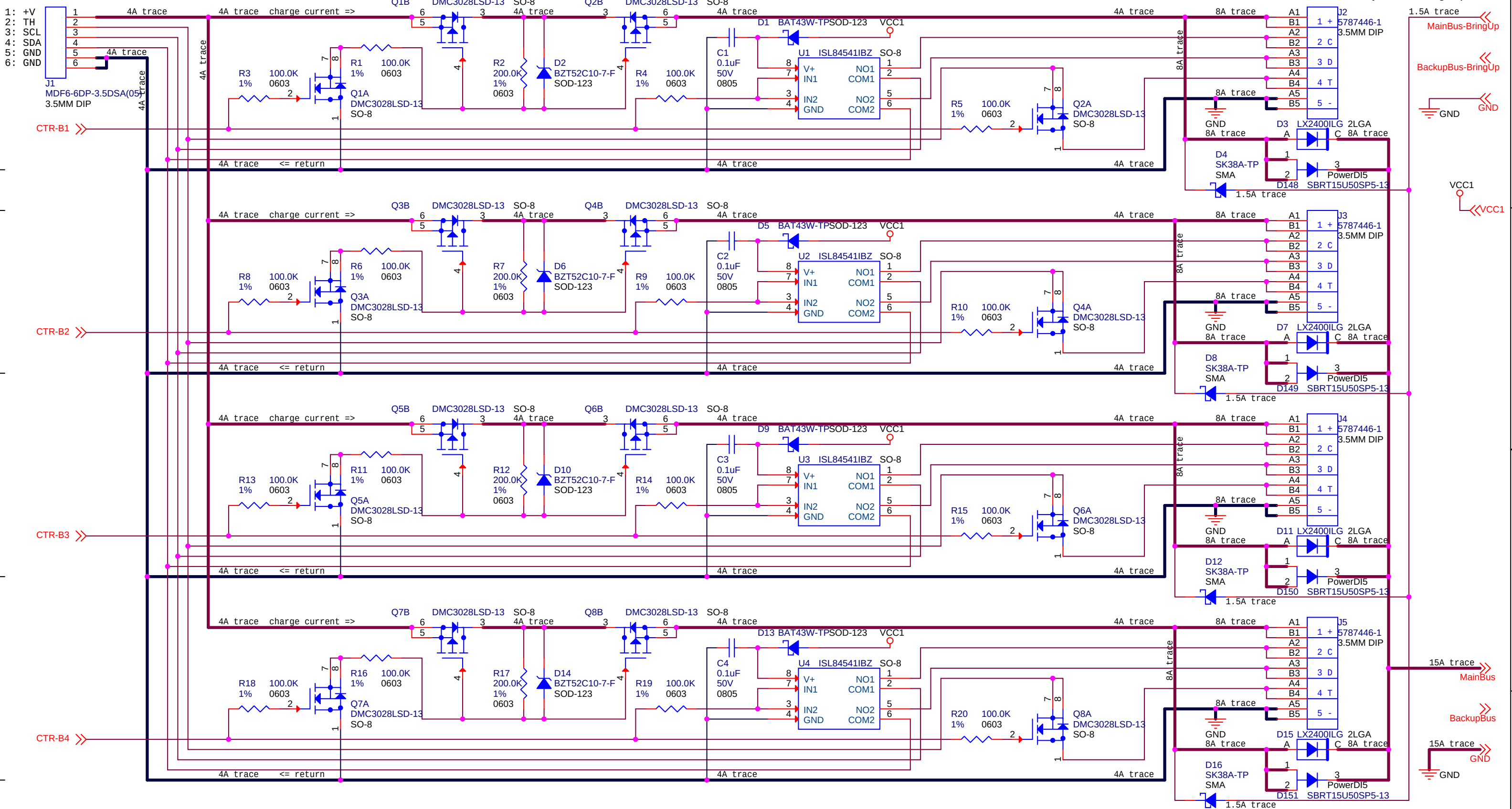


Charge Port  
Ocean Server XP-08SR



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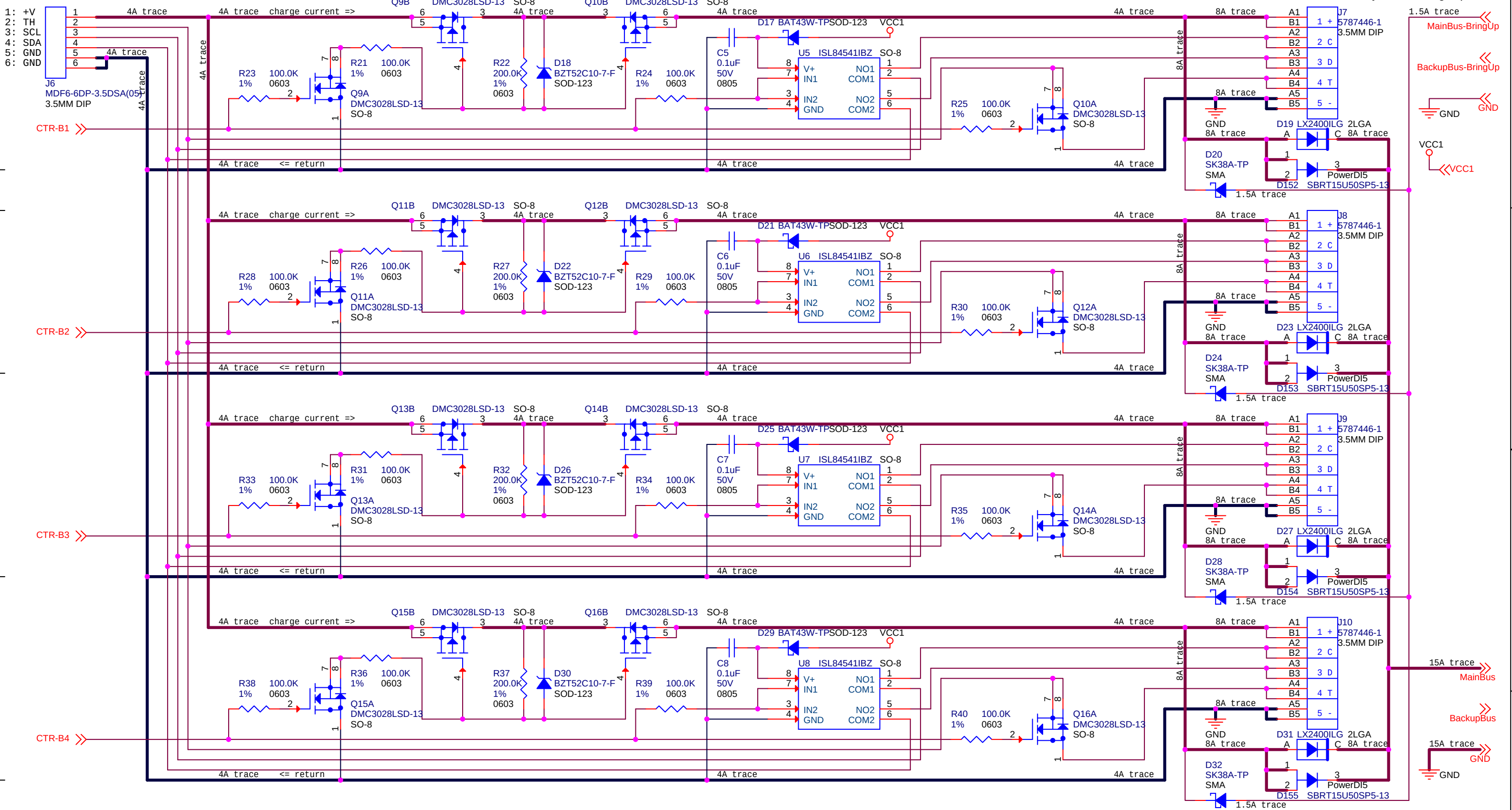
Rev0(xx/xx/xxxx): Initial Release

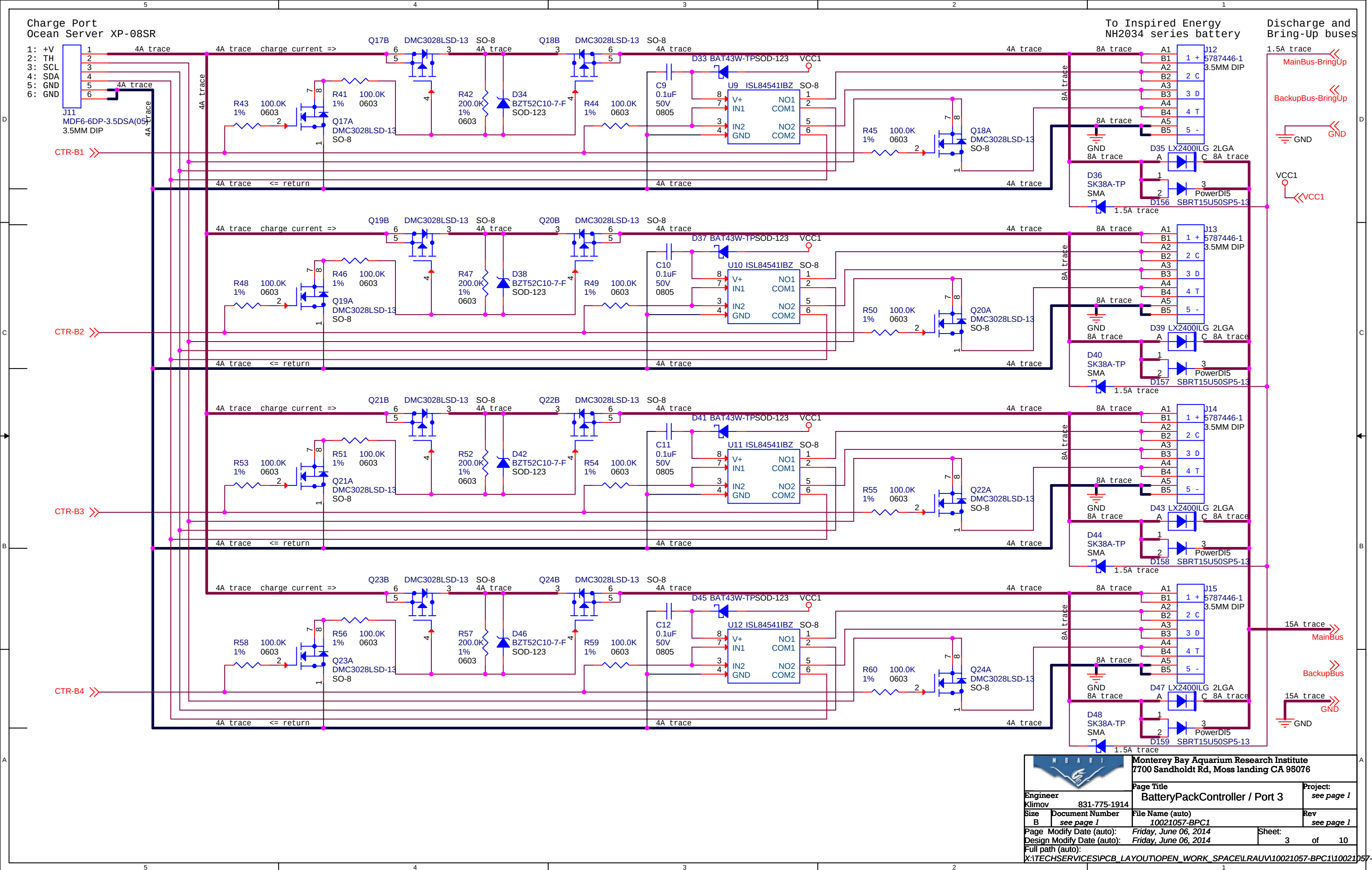


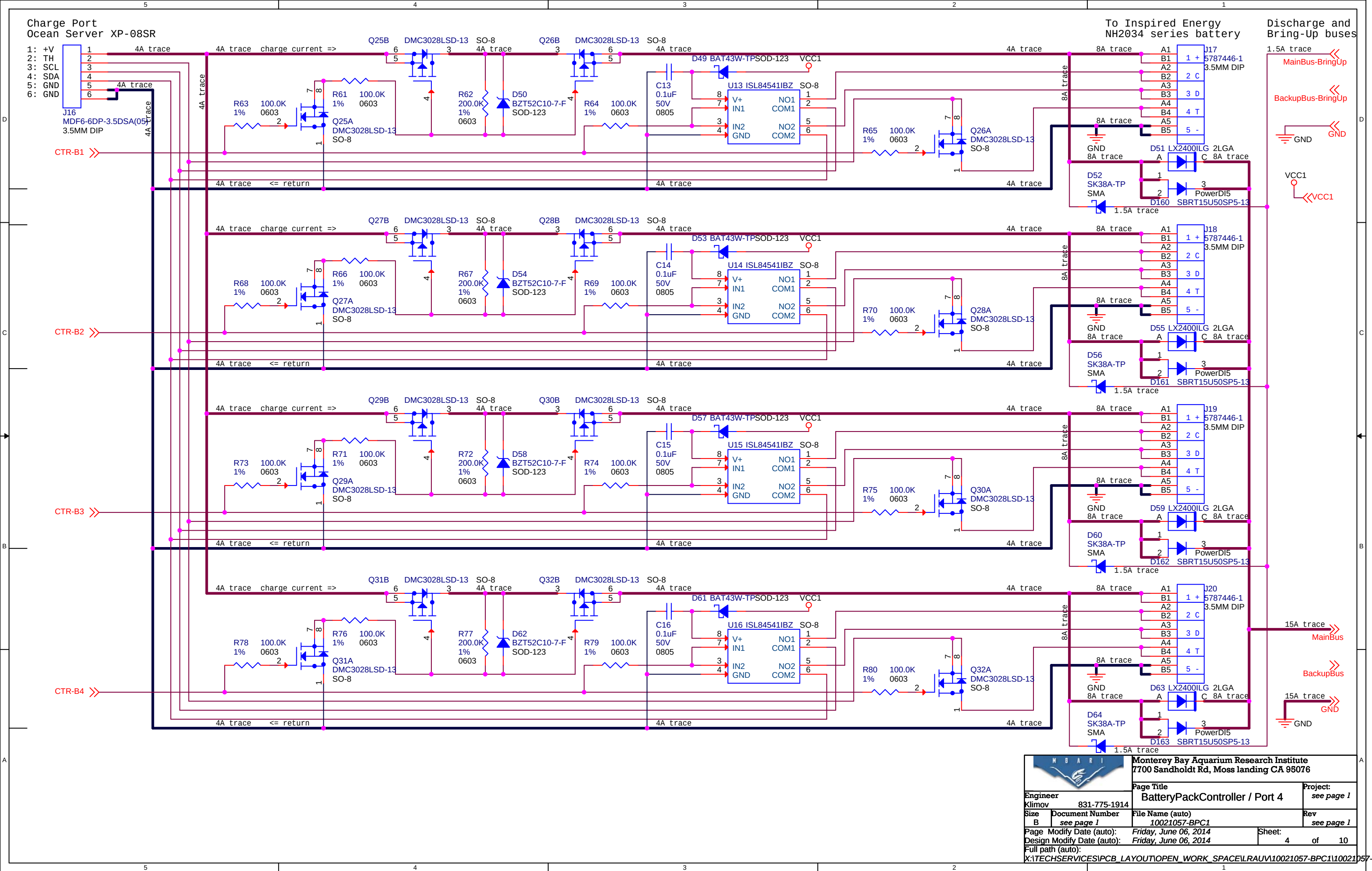
Monterey Bay Aquarium Research Institute  
7700 Sandholdt Rd, Moss landing CA 95076

|                                                                                                    |                              |                                   |  |
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| Page Title<br>BatteryPackController / Port 1                                                       |                              | Project:<br>901400                |  |
| Engineer<br>Klimov                                                                                 | 831-775-1914                 | Rev<br>*                          |  |
| Size<br>B                                                                                          | Doc. or Part Number<br><Doc> | File Name (auto)<br>10021057-BPC1 |  |
| Page Modify Date (auto):<br>Friday, June 06, 2014                                                  |                              | Sheet:<br>1 of 10                 |  |
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| Full path (auto):<br>X:\TECHSERVICES\PCB_LAYOUT\OPEN_WORK_SPACE\ELRAUV\10021057-BPC1\10021057-BPC1 |                              |                                   |  |

Charge Port  
Ocean Server XP-08SR

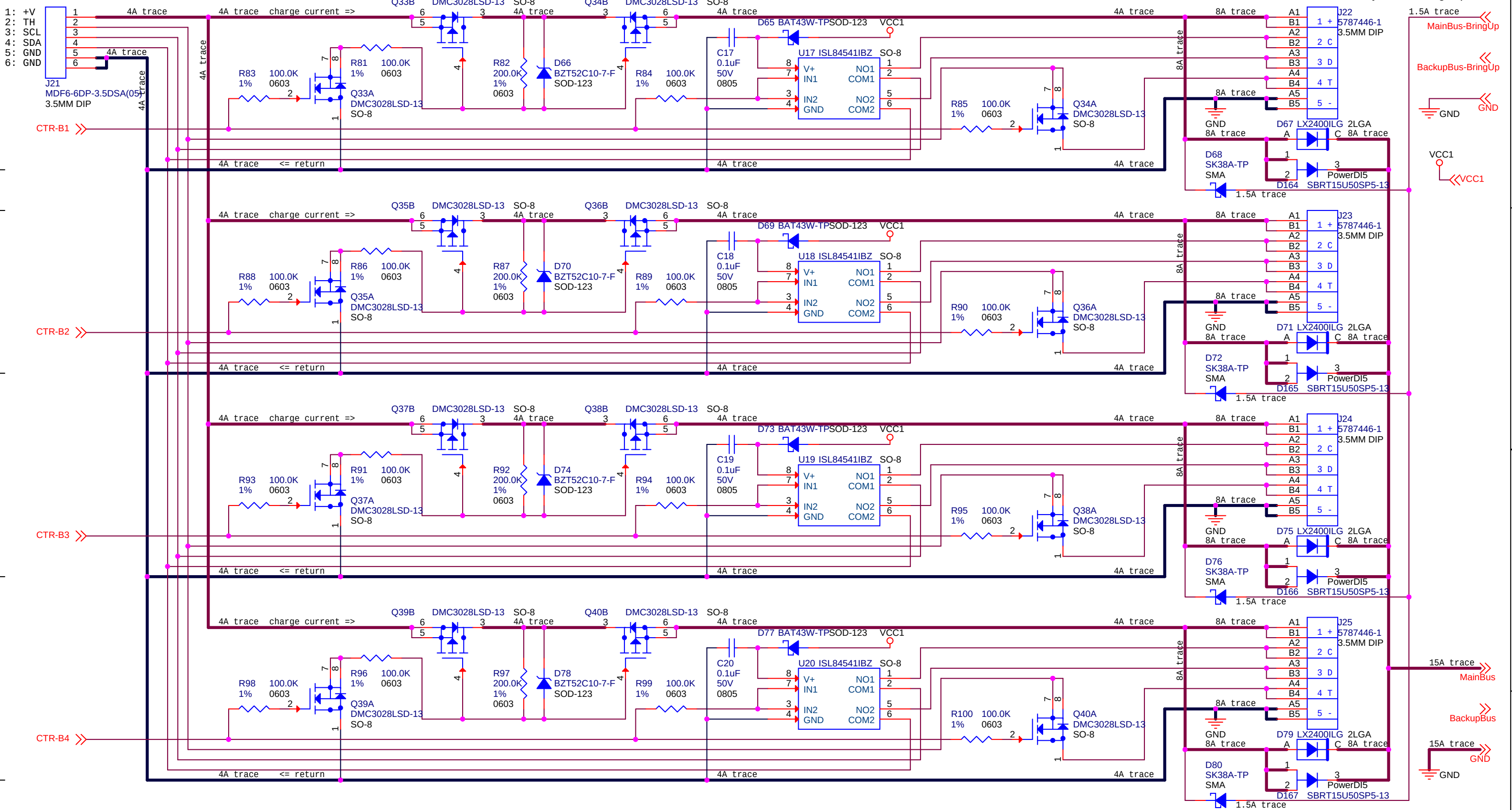




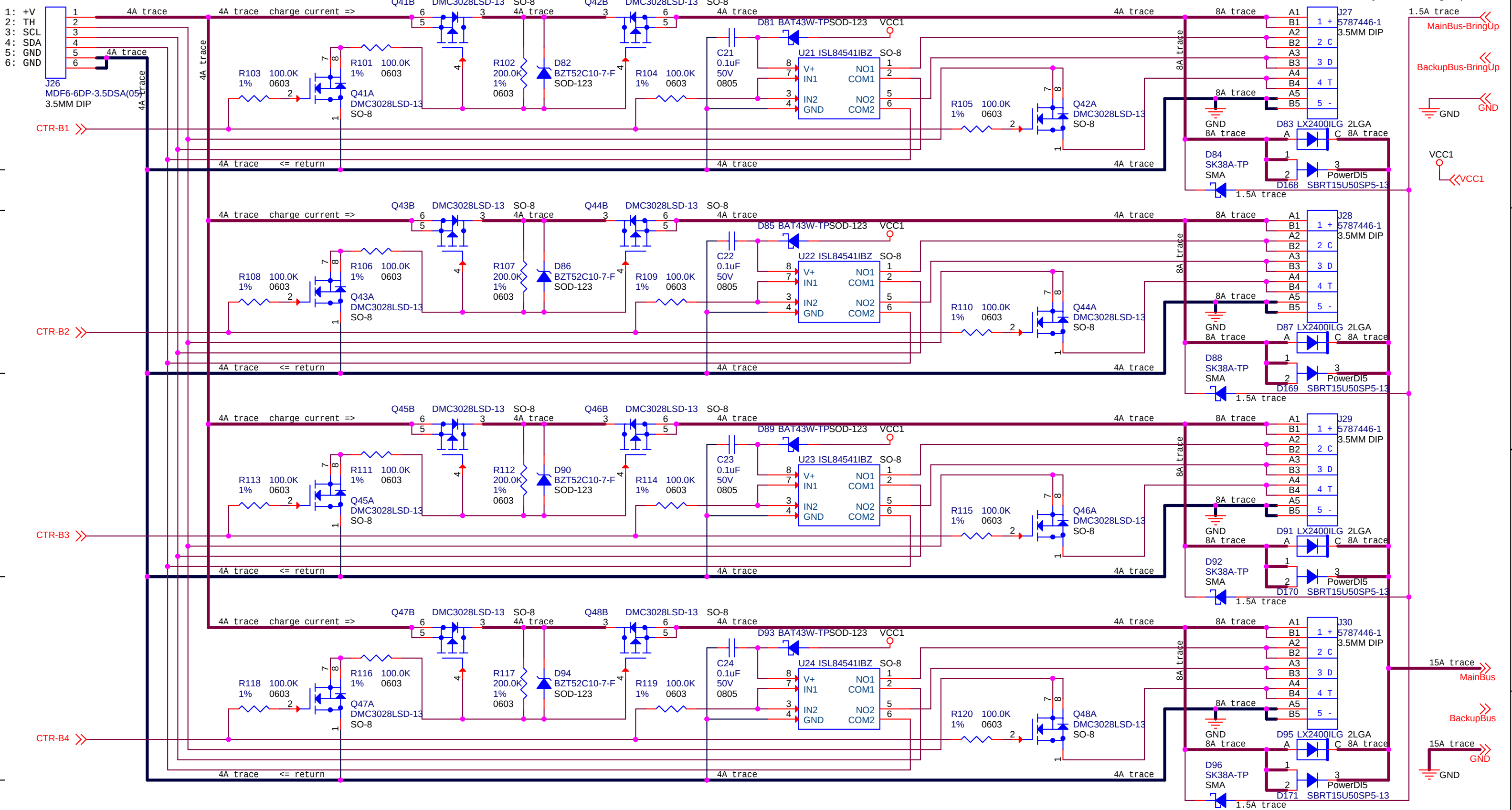




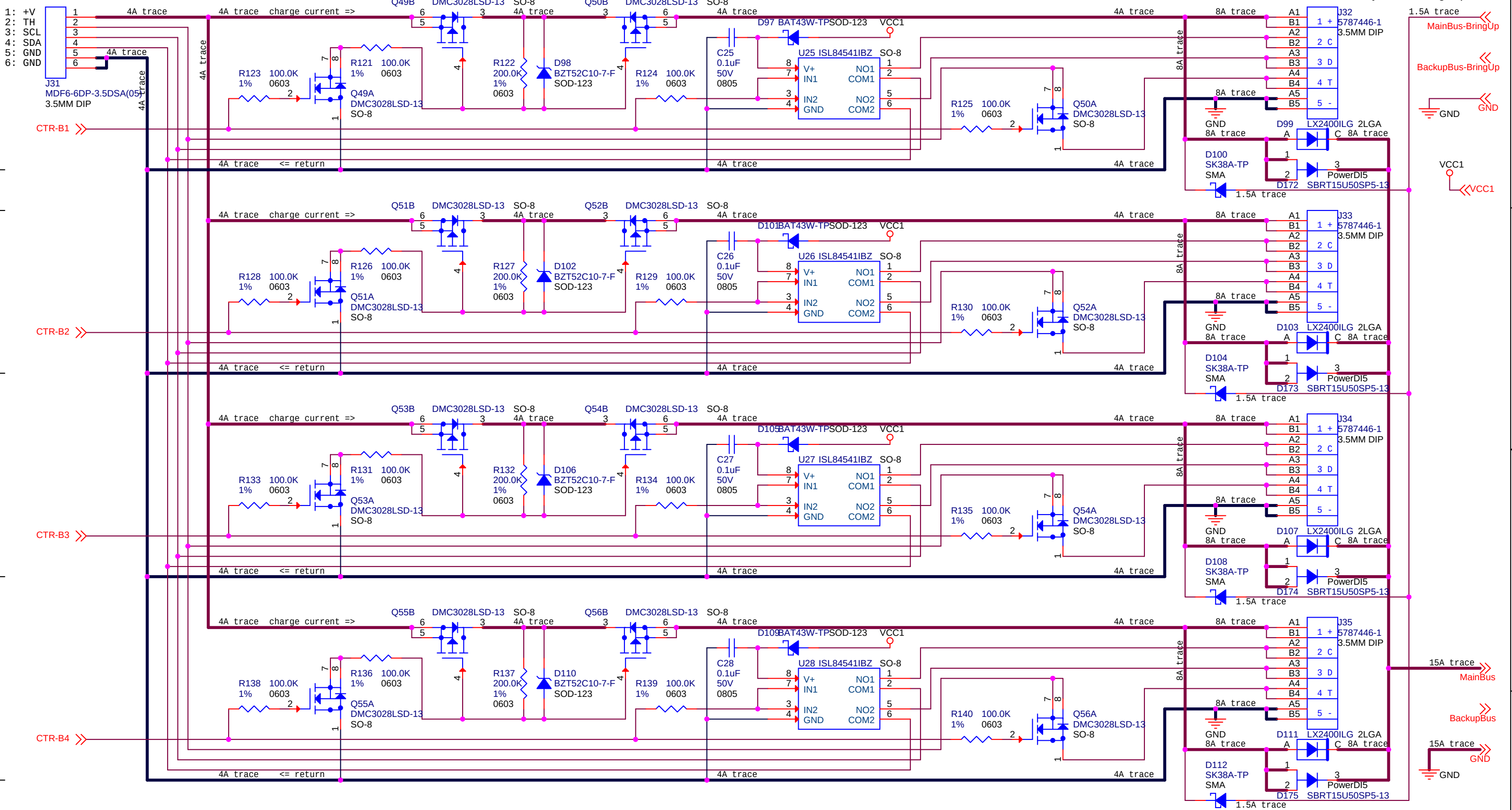
Charge Port  
Ocean Server XP-08SR

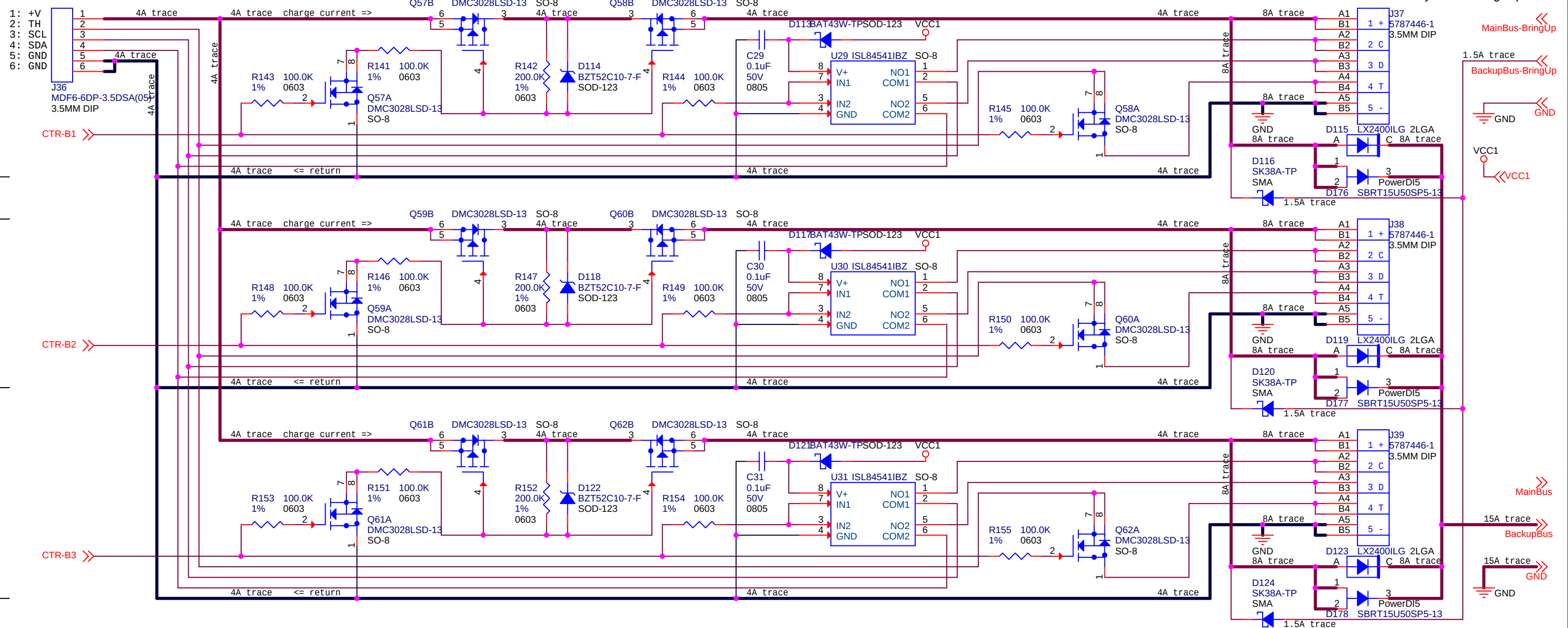


Charge Port  
Ocean Server XP-08SR



Charge Port  
Ocean Server XP-08SR



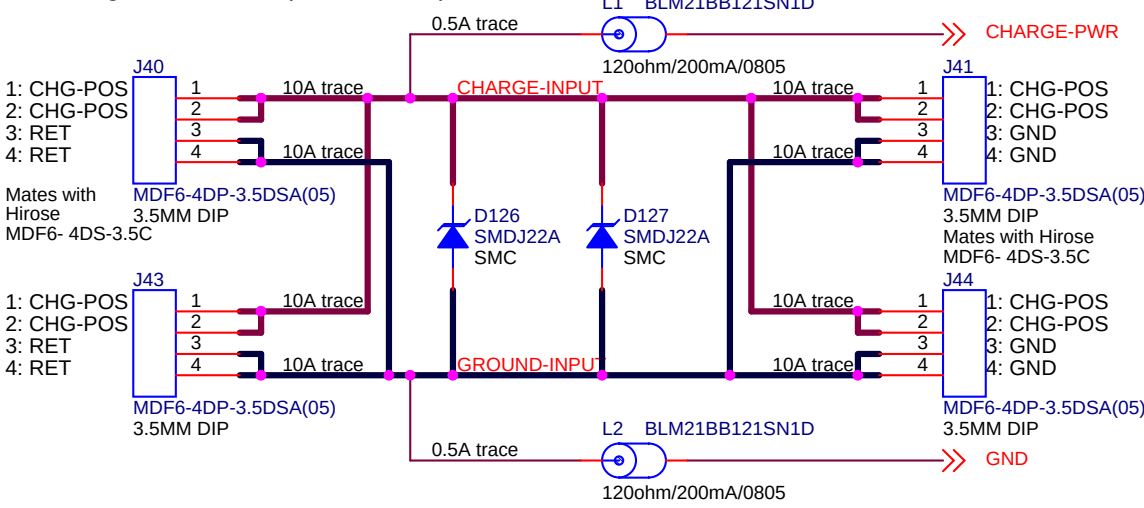


|                                                                                                     |                                             |                                                                                             |                                 |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------|
|                |                                             | <b>Monterey Bay Aquarium Research Institute</b><br>7700 Sandholdt Rd, Moss landing CA 95076 |                                 |
| <b>Engineer</b><br>Klimov 831-775-1914                                                              |                                             | <b>Page Title</b><br>BatteryPackController / Port 8                                         |                                 |
| <b>Project:</b><br><i>see page 1</i>                                                                |                                             |                                                                                             |                                 |
| <b>Size</b><br>B                                                                                    | <b>Document Number</b><br><i>see page 1</i> | <b>File Name (auto)</b><br>10021057-BPC1                                                    | <b>Rev</b><br><i>see page 1</i> |
| <b>Page Modify Date (auto):</b><br>Friday, June 06, 2014                                            |                                             | <b>Sheet:</b><br>8 of 10                                                                    |                                 |
| <b>Design Modify Date (auto):</b><br>Friday, June 06, 2014                                          |                                             |                                                                                             |                                 |
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Charge inputs, power distribution to XP-08SR, charge power to charge flag section

To Charge Harnesses (Main, Boost)

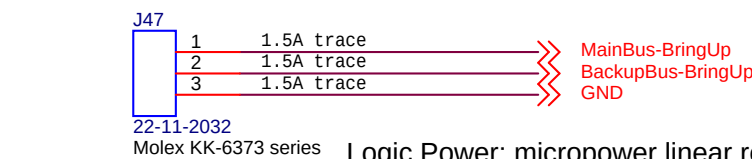


RS-232 pass-thru from discharge harness to Ocean Server XP-08SR

RS-232 port to MB

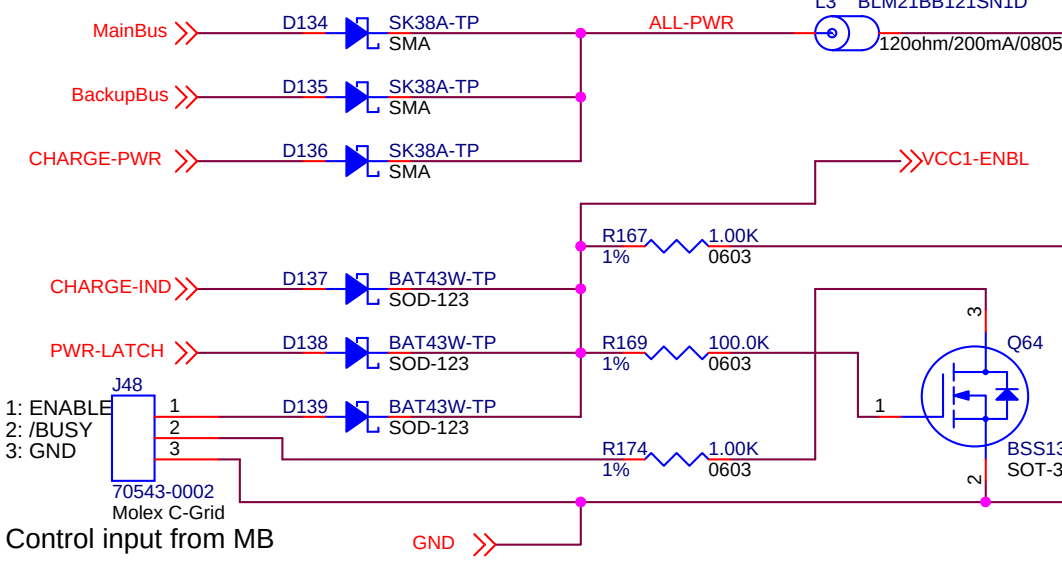


Battery bring-up interface



Logic Power: micropower linear regulator 5.5 to 80V in, 5V 50mA out.

Any available power generates Logic Power

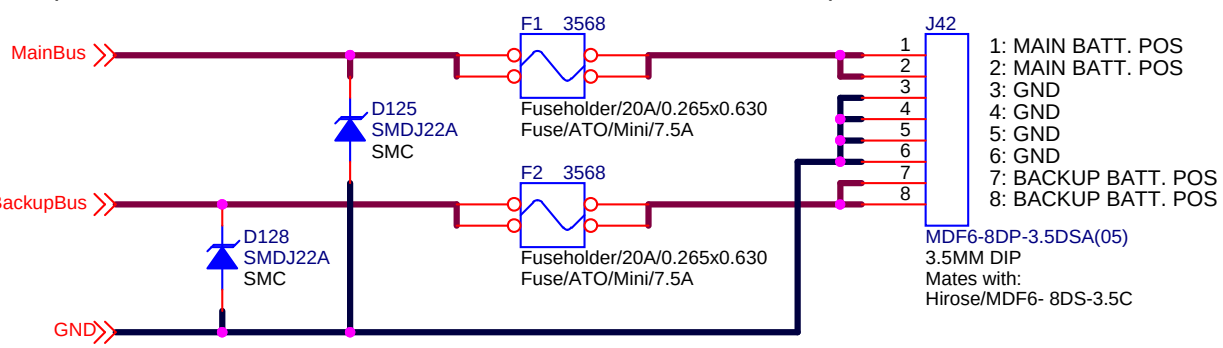


Control input from MB

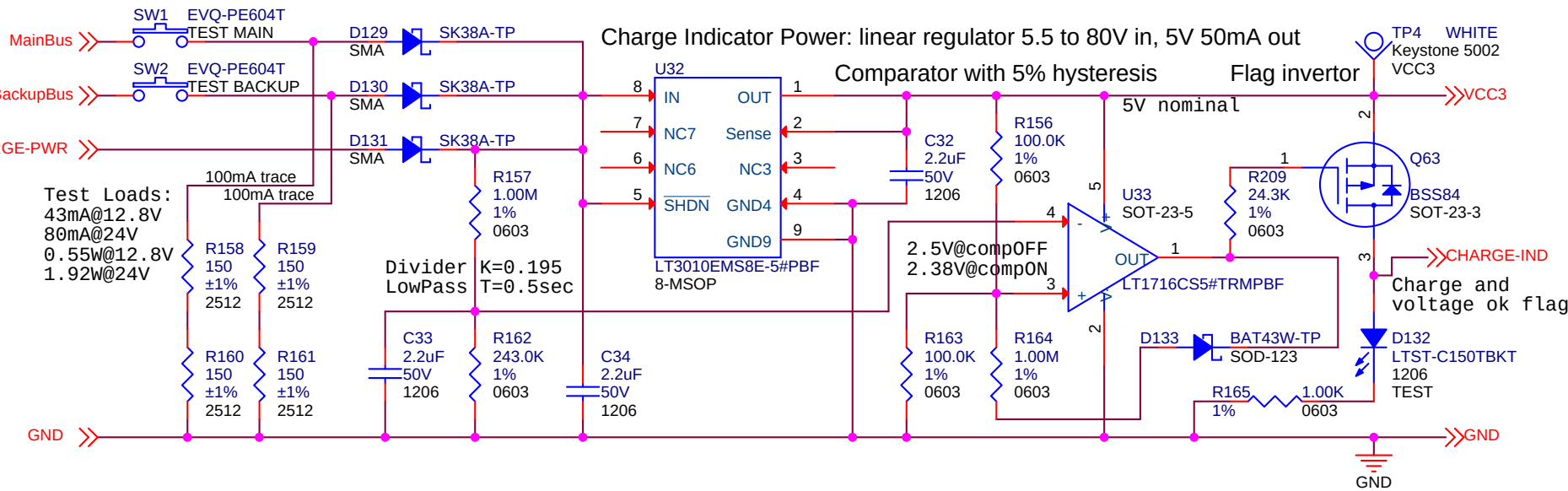
Charging currents required per Half-Pack:  
18V: 8A initial, 12A final  
20V: 7.9A initial, 11.2A final  
22V: 7.2A initial, 10.2A final  
24V: 6.6A initial, 9.4A final

Charging time at 24V and full current with cycling loss and top-off:  
 $(6.2 \text{ AH} \times 4 \times 2) / 3\text{A} \times 1.12 \times 1.04 = 19.3 \text{ hours}$

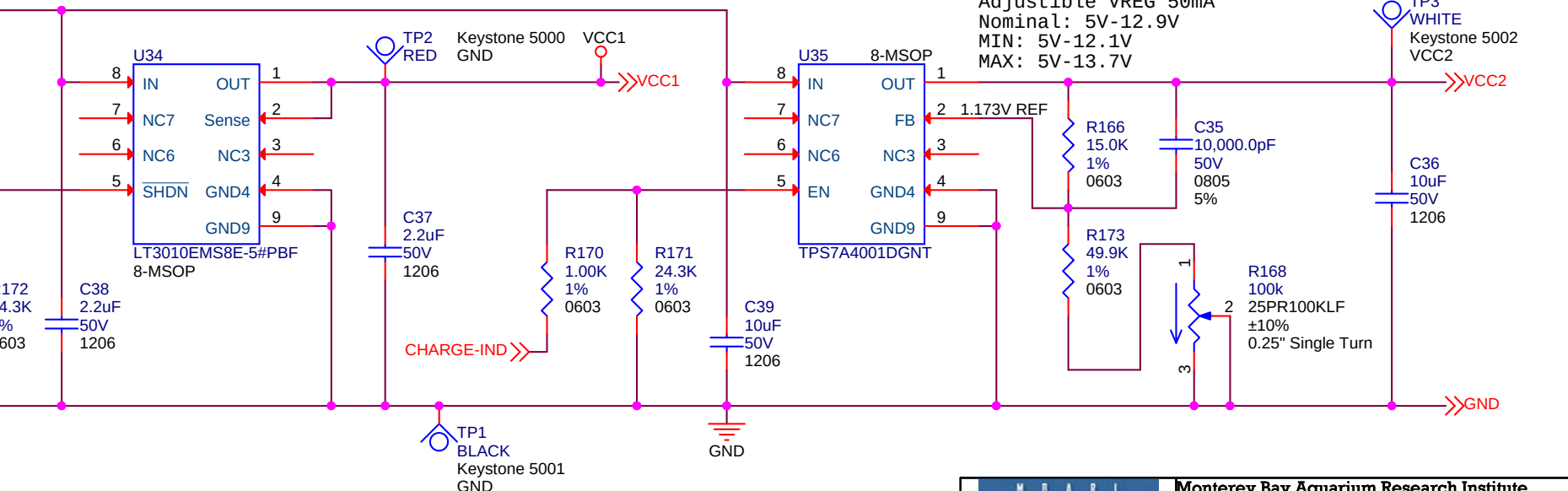
Outputs to mother board with ATO Mini fuse holders and 24V TVS protection



If batt. voltage > 12.8V @ 45mA for 0.5sec, OR charge voltage > 12.8V for 0.5sec, LED lights up and scan cycle starts



Logic Power: micropower linear regulator 5.5 to 80V in, 5V 50mA out.



|                                                  |                               |                                                                                             |                        |
|--------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------|------------------------|
|                                                  |                               | Monterey Bay Aquarium Research Institute<br>7700 Sandholdt Rd, Moss landing CA 95076        |                        |
| Engineer<br>Klimov                               | 831-775-1914                  | Page Title<br>BatteryPackController / Power                                                 | Project:<br>see page 1 |
| Size<br>B                                        | Document Number<br>see page 1 | File Name (auto)<br>10021057-BPC1                                                           | Rev<br>see page 1      |
| Page Modify Date (auto): Friday, June 06, 2014   |                               | Sheet: 9 of 10                                                                              |                        |
| Design Modify Date (auto): Friday, June 06, 2014 |                               | Full path (auto): X:\TECHSERVICES\PCB_LAYOUT\OPEN_WORK_SPACE\ILRAU\10021057-BPC1\10021057-E |                        |

