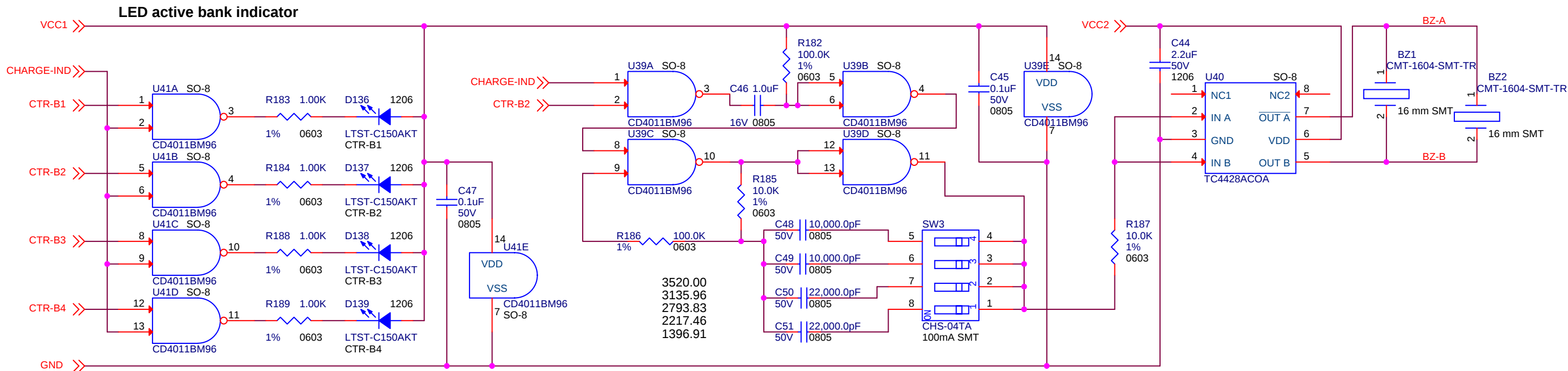
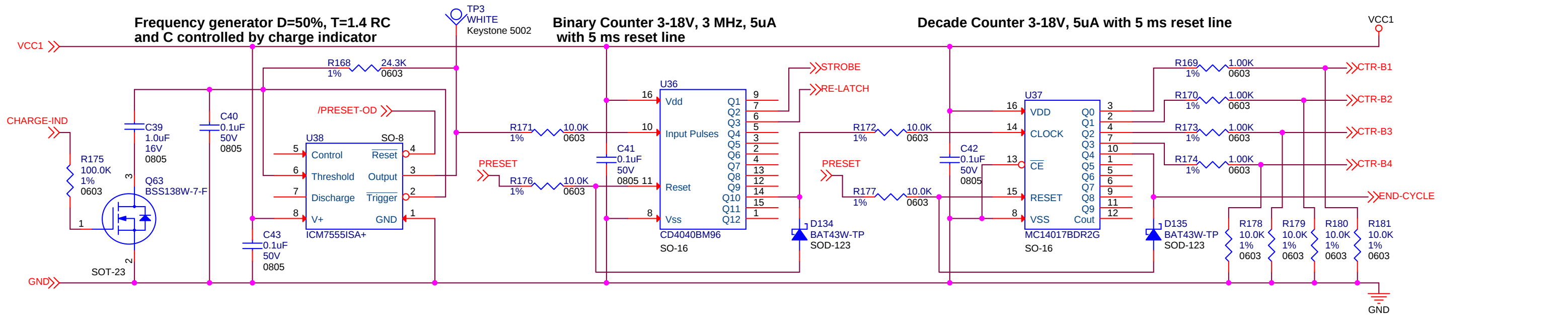
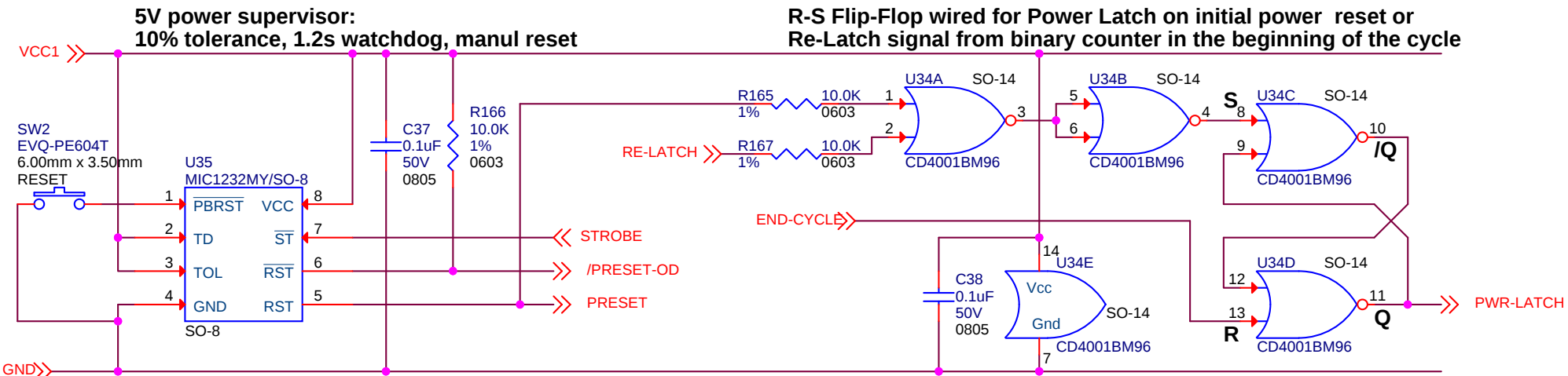
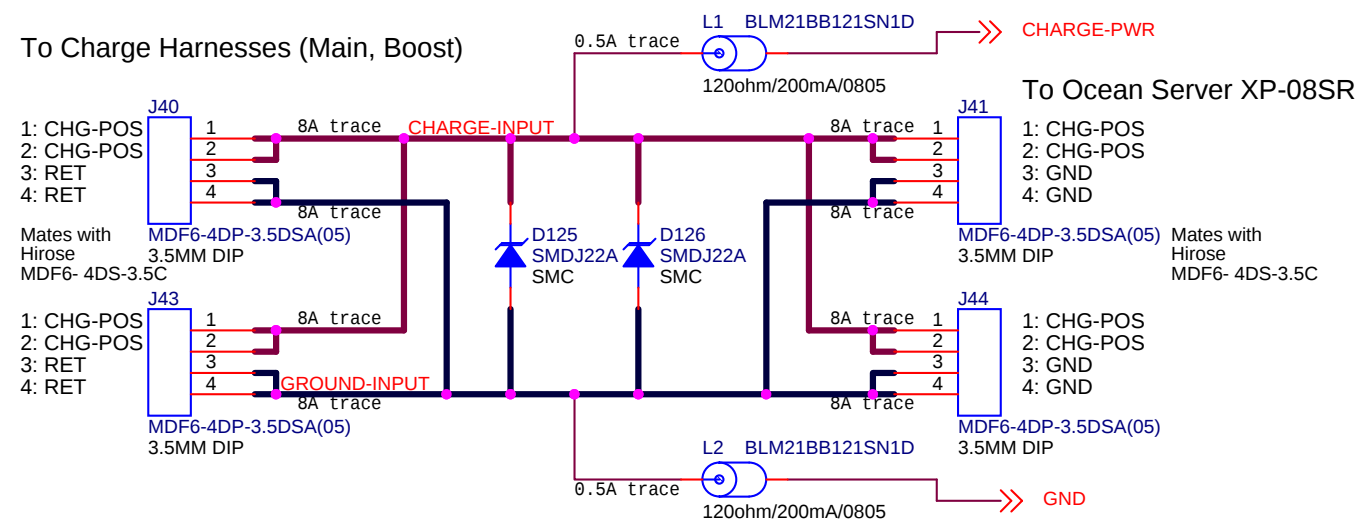
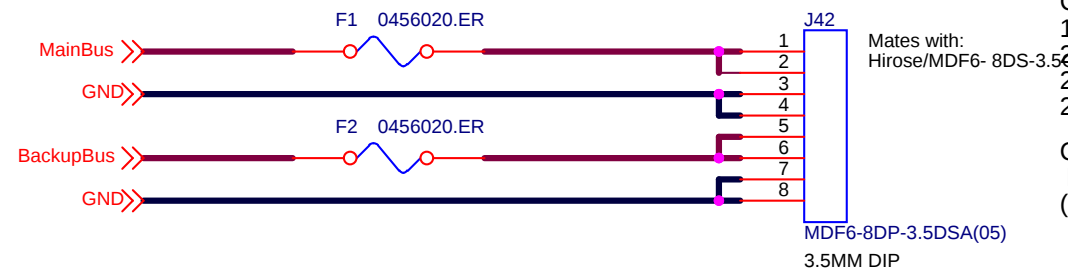




## Charge inputs and power distribution to XP-08SR



## Outputs to MB by Discharge Harness



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

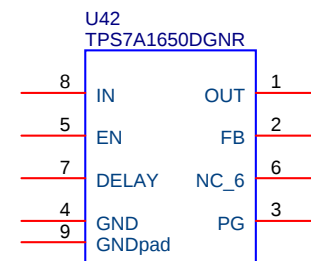
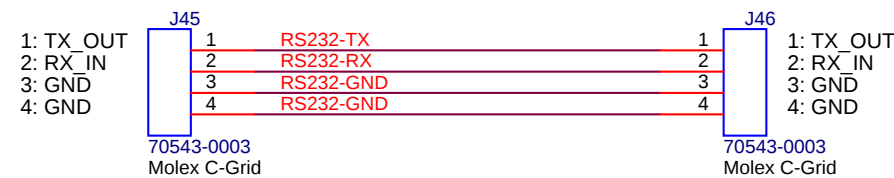
Charging time at 24V and full current with cycling loss and top-off:

$$(6.2 \text{ AH} \times 4 \times 2) / 3A \times 1.12 \times 1.04 = 19.3 \text{ hours}$$

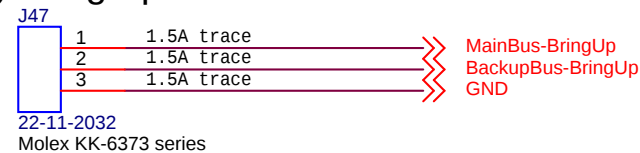
## RS-232 pass-thru from discharge harness to Ocean Server XP-08SR

RS-232 port to MB

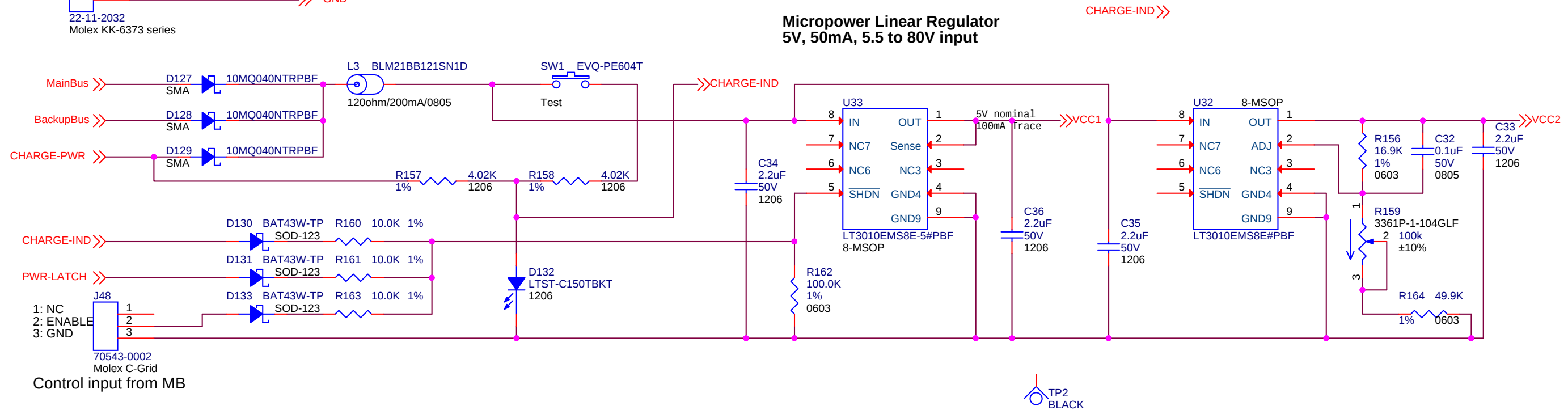
## RS-232 to Ocean Server



## Battery bring-up interface



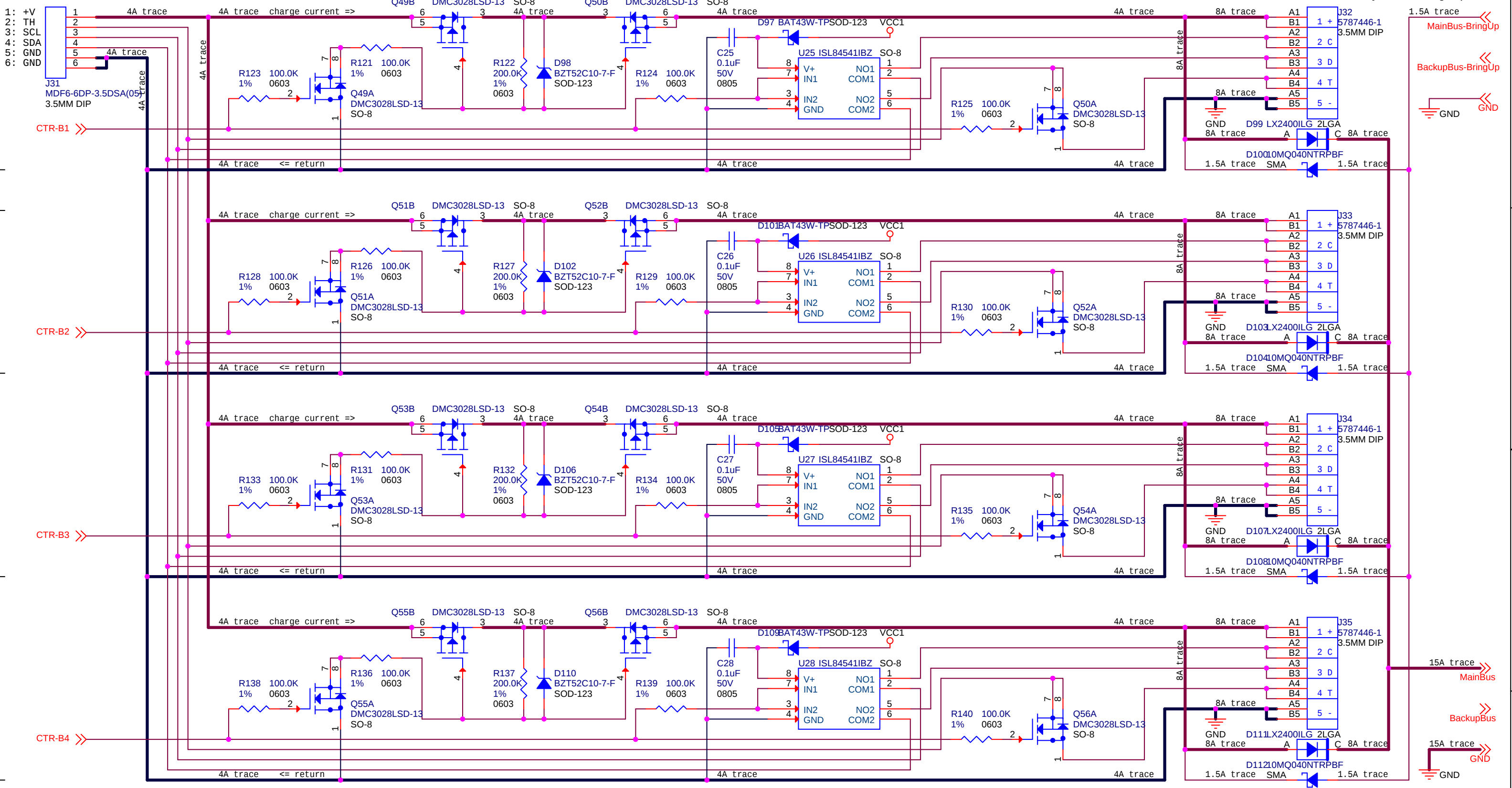
**Micropower Linear Regulator**  
**5V, 50mA, 5.5 to 80V input**



|                                                                                       |                                             |                                                                                             |                                 |
|---------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------|
|  |                                             | <b>Monterey Bay Aquarium Research Institute</b><br>7700 Sandholdt Rd, Moss landing CA 95076 |                                 |
| <b>Engineer</b><br>Klimov                                                             |                                             | <b>Page Title</b><br>BatteryPackController / Power                                          |                                 |
| 831-775-1914                                                                          |                                             | <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>                                                       |                                             | Tuesday, April 15, 2014                                                                     |                                 |
| <b>Design Modify Date (auto):</b>                                                     |                                             | Tuesday, April 15, 2014                                                                     |                                 |
| <b>Full path (auto):</b>                                                              |                                             | <b>Sheet:</b><br>1 of 10                                                                    |                                 |
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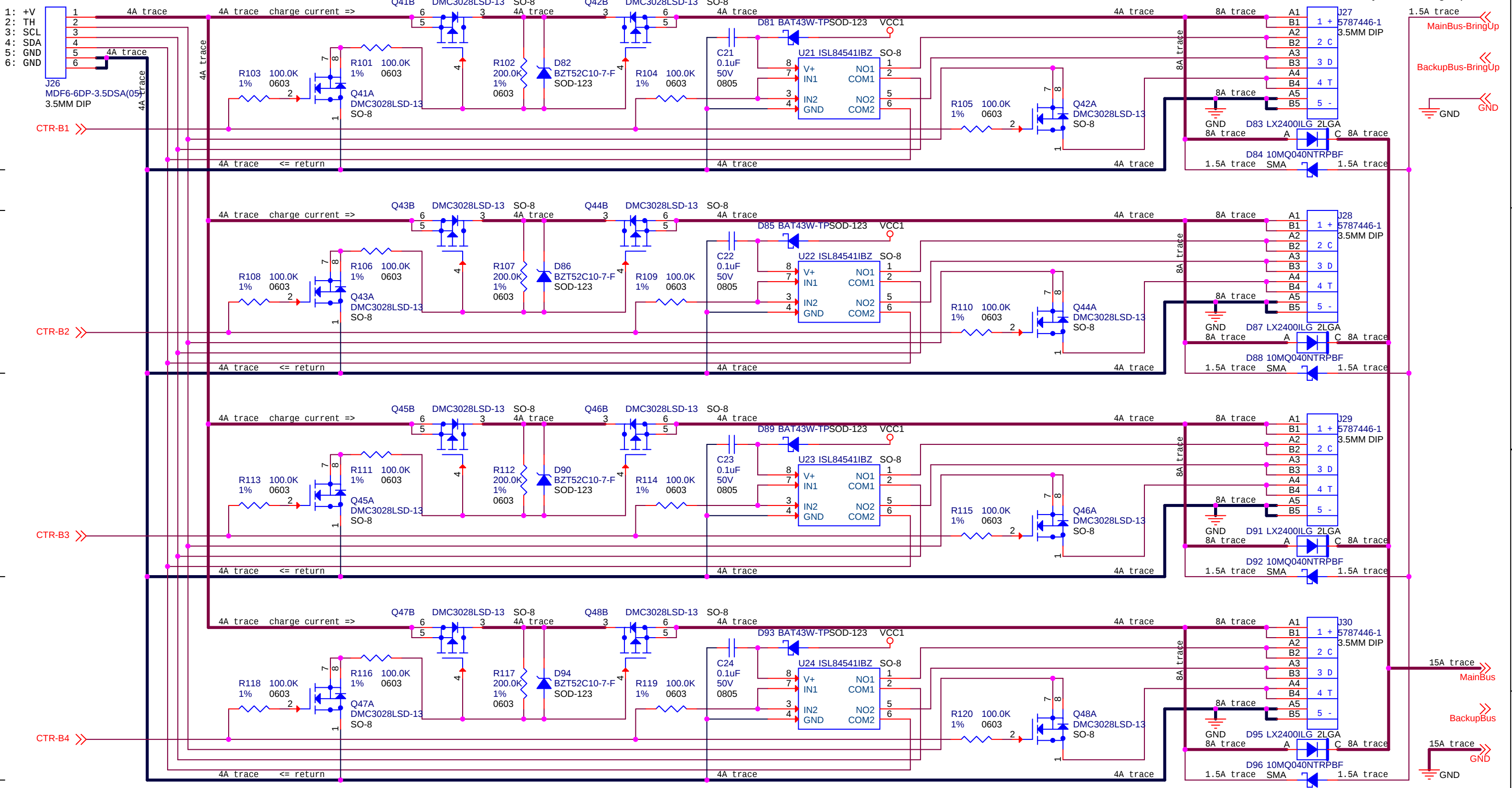


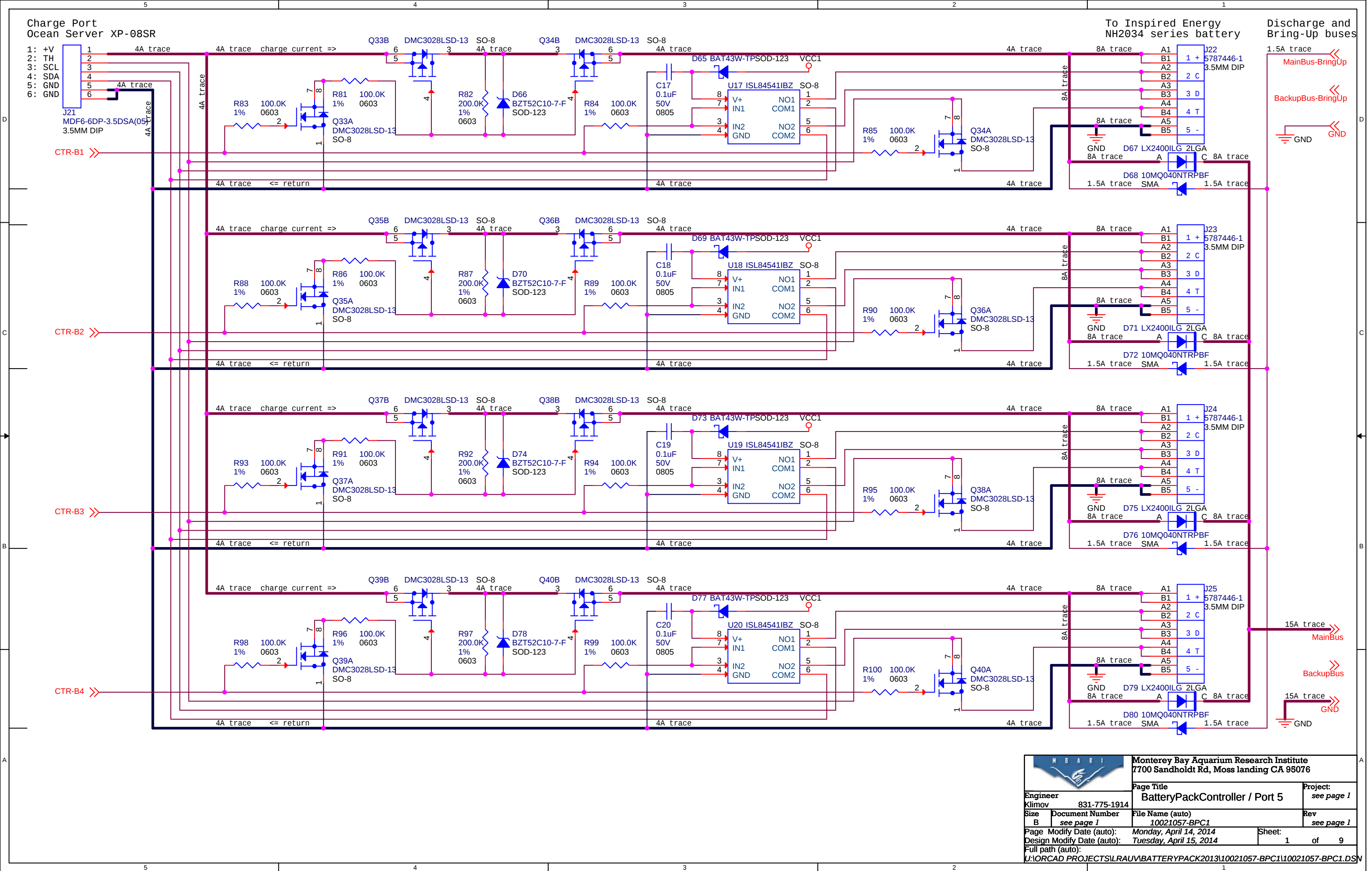
Charge Port  
Ocean Server XP-08SR

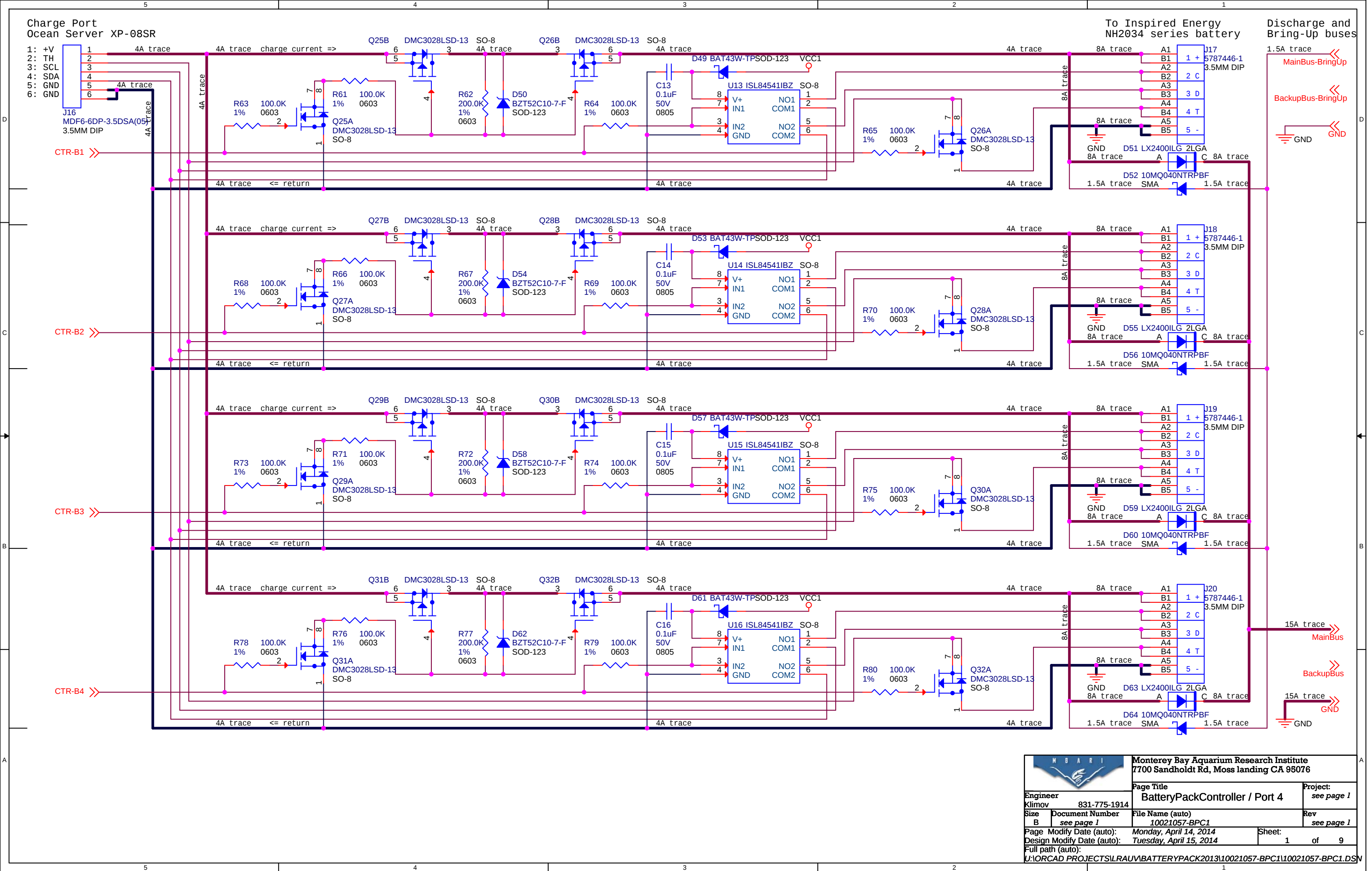


|                                                                                              |                               |                                                   |
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| Monterey Bay Aquarium Research Institute<br>7700 Sandholdt Rd, Moss landing CA 95076         |                               |                                                   |
| Page Title<br>BatteryPackController / Port 8                                                 |                               | Project:<br>see page 1                            |
| Engineer<br>Klimov                                                                           | 831-775-1914                  | Rev<br>see page 1                                 |
| Size<br>B                                                                                    | Document Number<br>see page 1 | File Name (auto)<br>10021057-BPC1                 |
| Page Modify Date (auto):<br>Design Modify Date (auto):                                       |                               | Monday, April 14, 2014<br>Tuesday, April 15, 2014 |
| Full path (auto):<br>U:\ORCAD PROJECTS\ILRAU\BATTERYPACK2013\10021057-BPC1\10021057-BPC1.DSN |                               | Sheet:<br>1 of 9                                  |

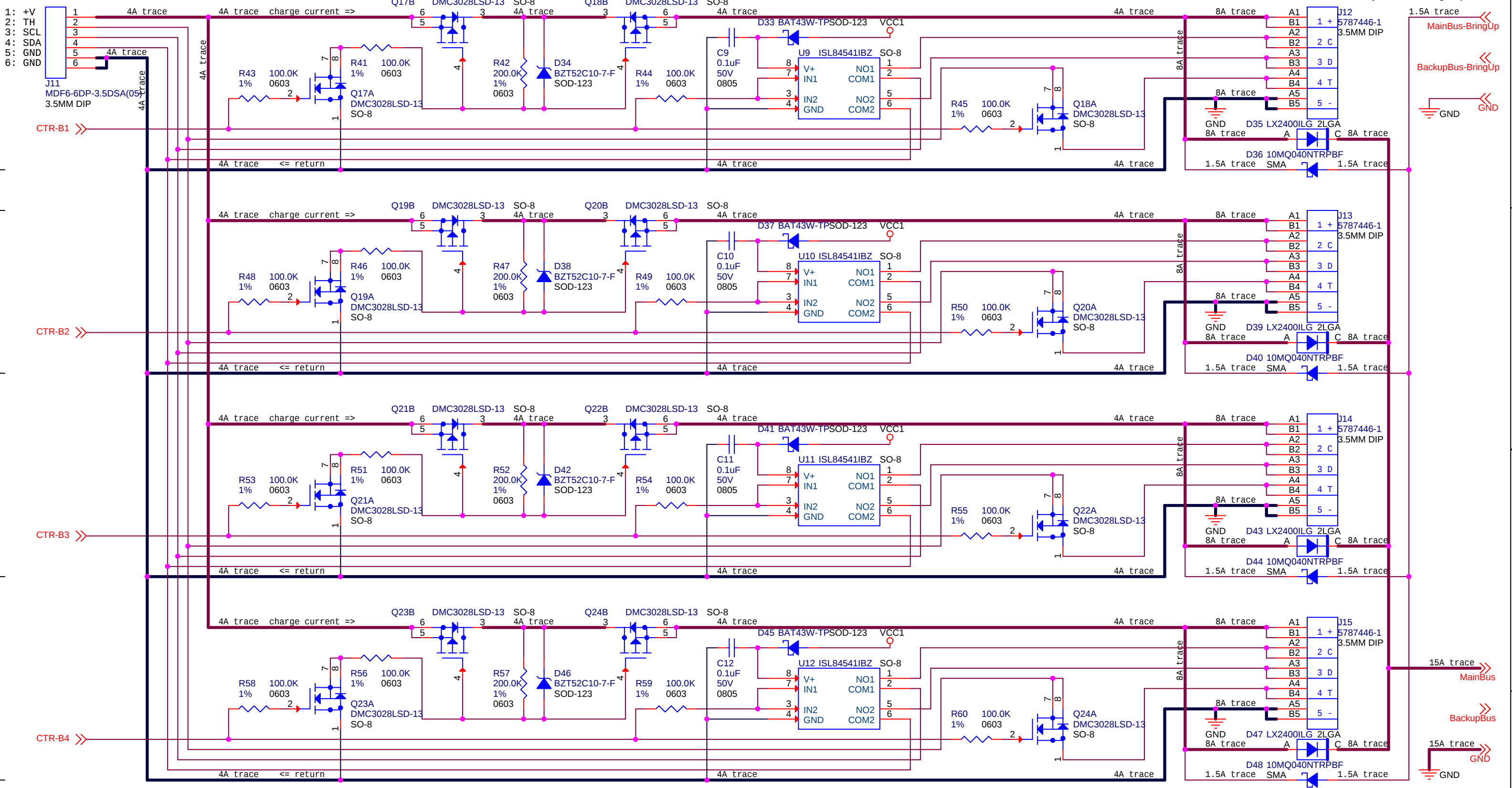
Charge Port  
Ocean Server XP-08SR







Charge Port  
Ocean Server XP-08SR



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|                                                                                            |                                               |                                   |        |                   |  |
|--------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------|--------|-------------------|--|
|       |                                               | Page Title                        |        | Project:          |  |
| Engineer<br>Klimov                                                                         |                                               | BatteryPackController / Port 3    |        | see page 1        |  |
| Size<br>B                                                                                  | Document Number<br>831-775-1914<br>see page 1 | File Name (auto)<br>10021057-BPC1 |        | Rev<br>see page 1 |  |
| Page Modify Date (auto):<br>Monday, April 14, 2014                                         |                                               |                                   | Sheet: |                   |  |
| Design Modify Date (auto):<br>Tuesday, April 15, 2014                                      |                                               |                                   | 1 of 9 |                   |  |
| Full path (auto):<br>U:\ORCAD PROJECTS\RAU\VBATTERYPACK2013\10021057-BPC1\10021057-BPC1.DS |                                               |                                   |        |                   |  |

Charge Port  
Ocean Server XP-08SR

