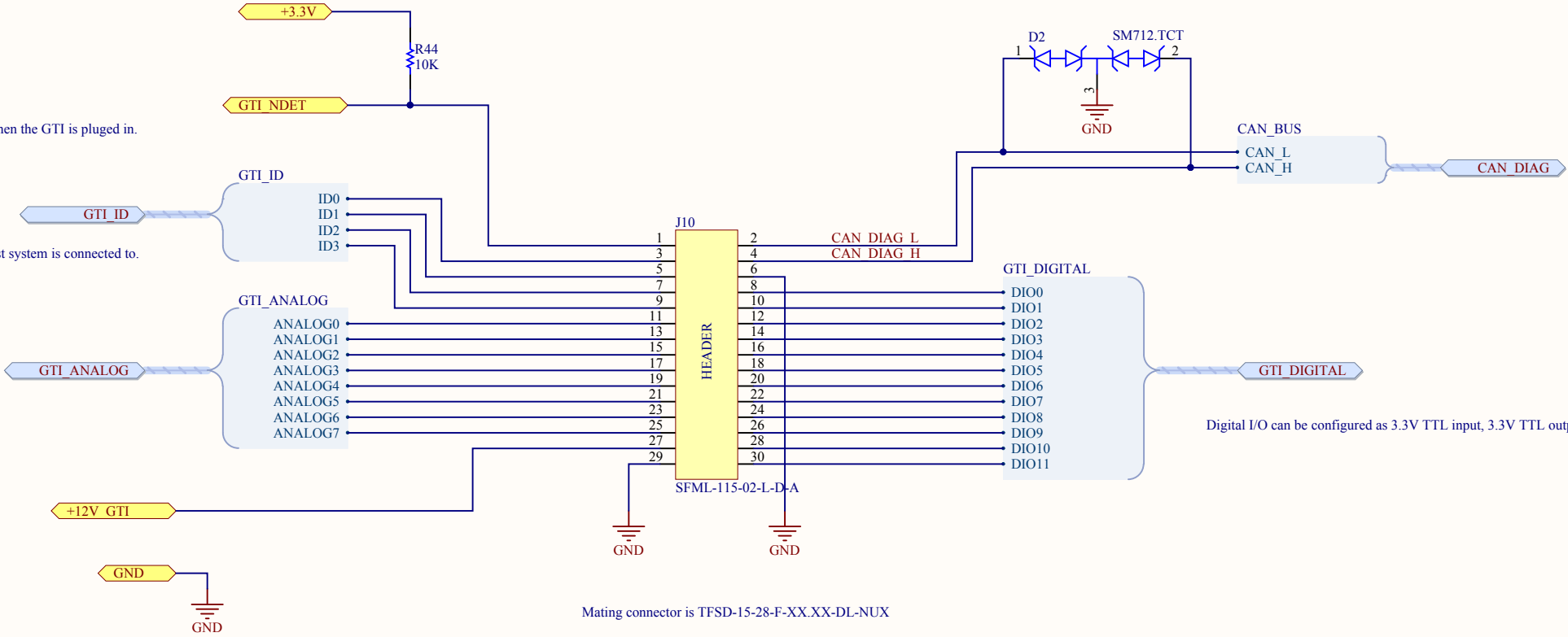


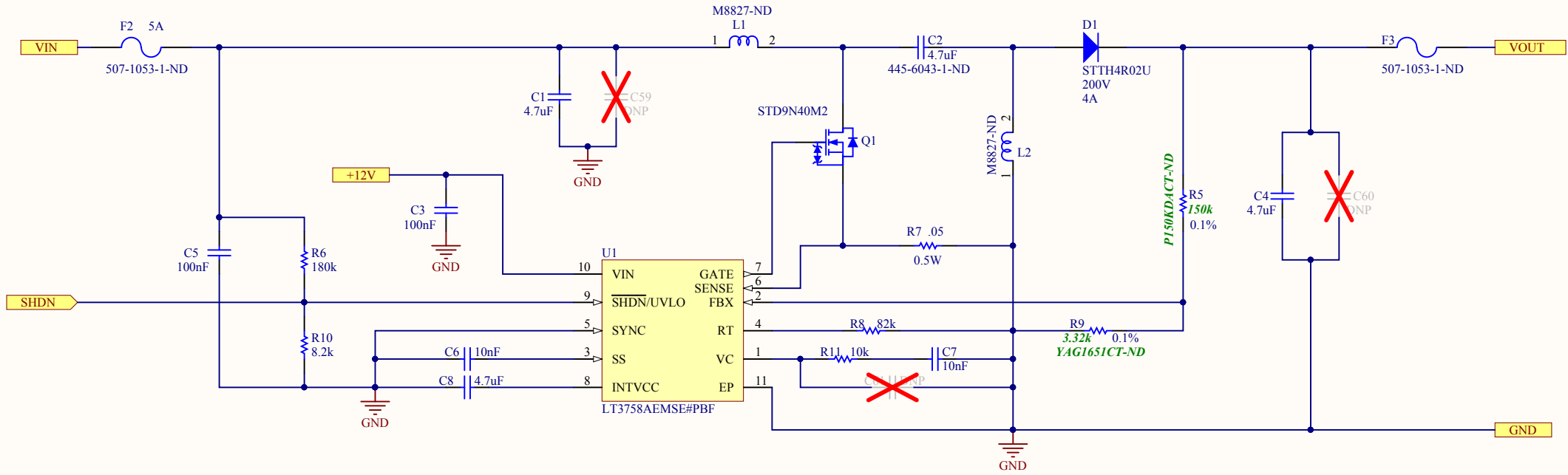
GTI\_nDET will be tied to GND by the GTI system.  
This signal can be used by the TMS570 to detect when the GTI is plugged in.

GTI\_ID determines the type of board the ground test system is connected to.  
Pins should be GND (0) or Floating (1).  
No board connected = 1111

Analog input range is 0 to 15 V.  
Rin = TBD (~100 to 500 kOhms)

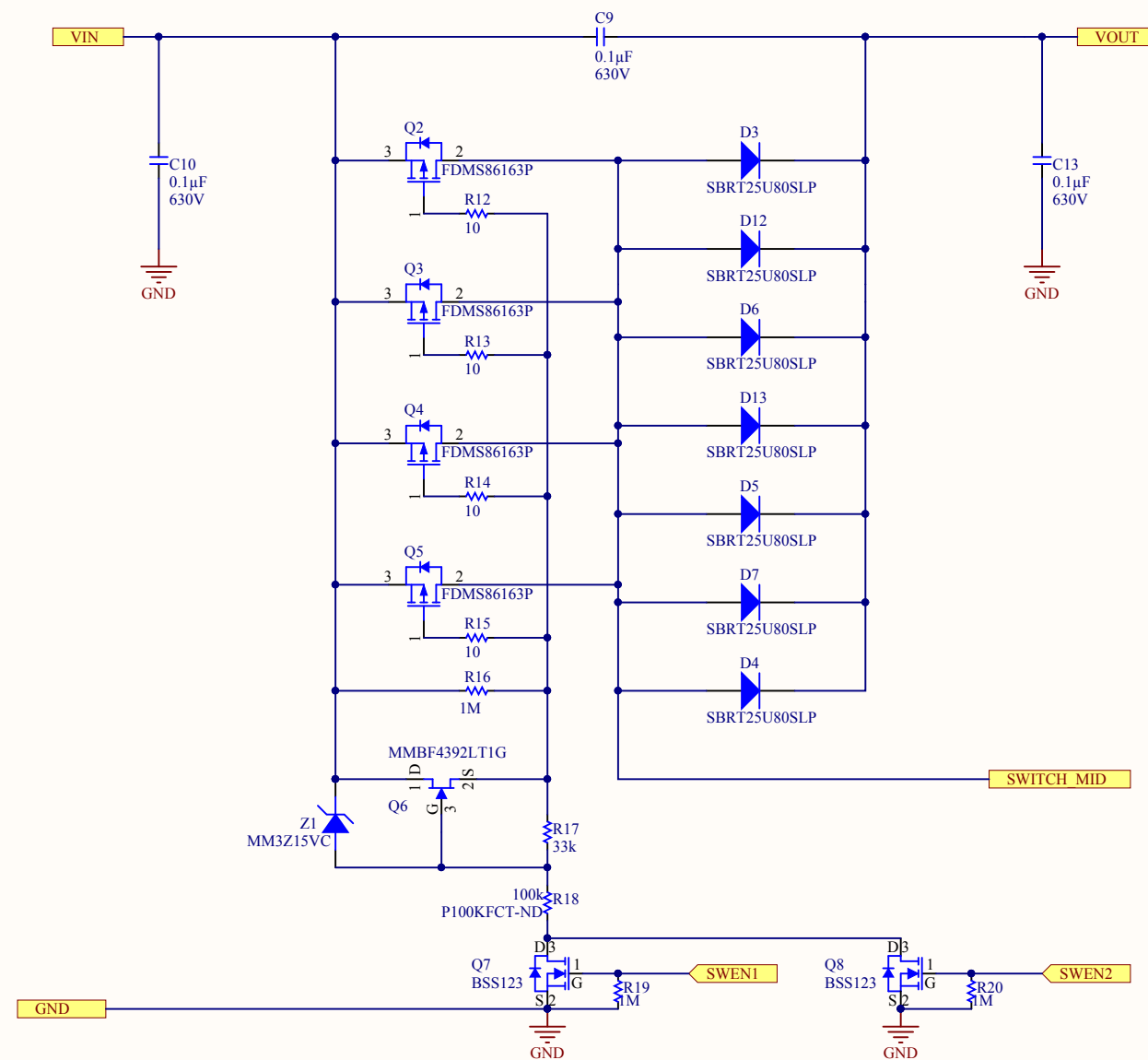







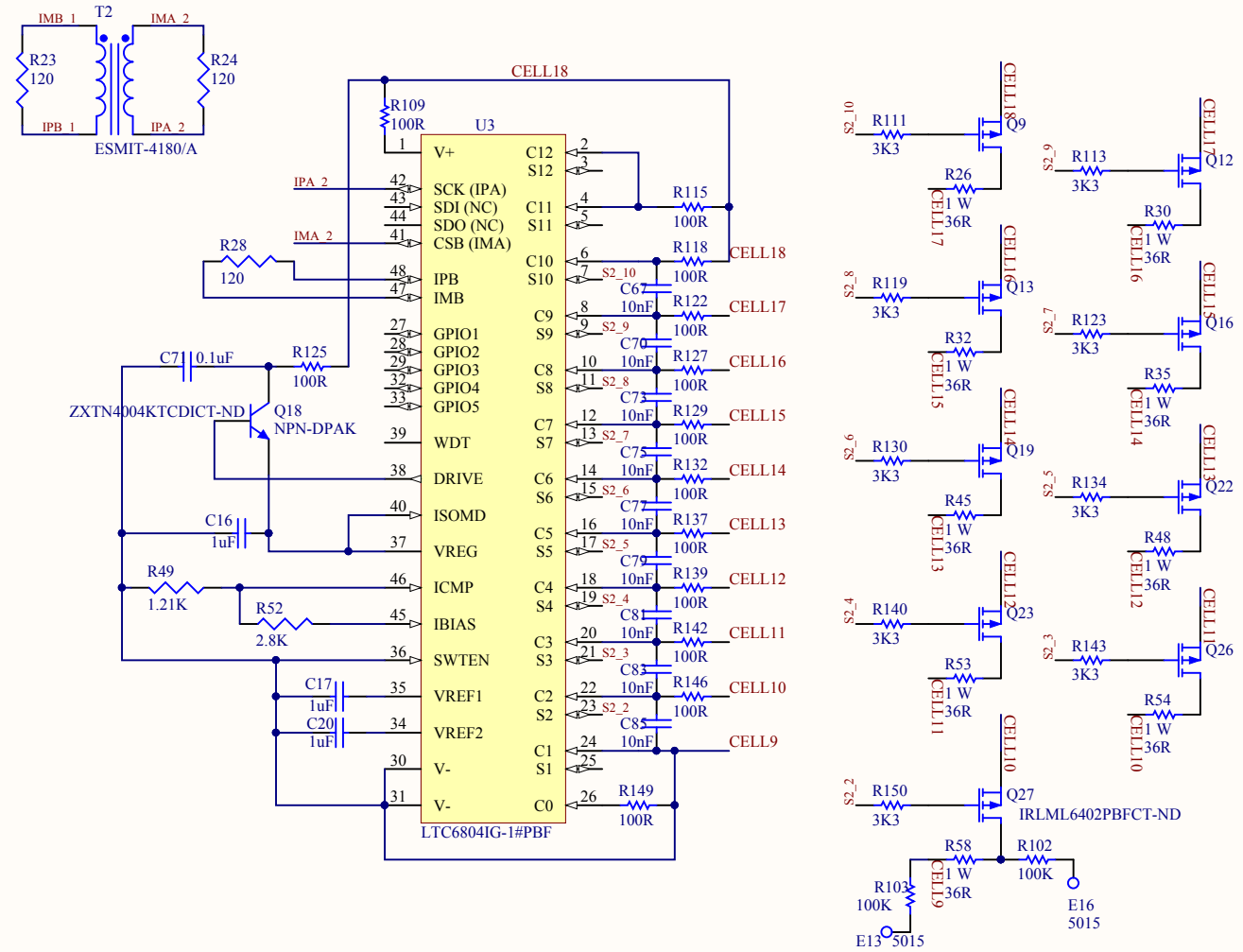
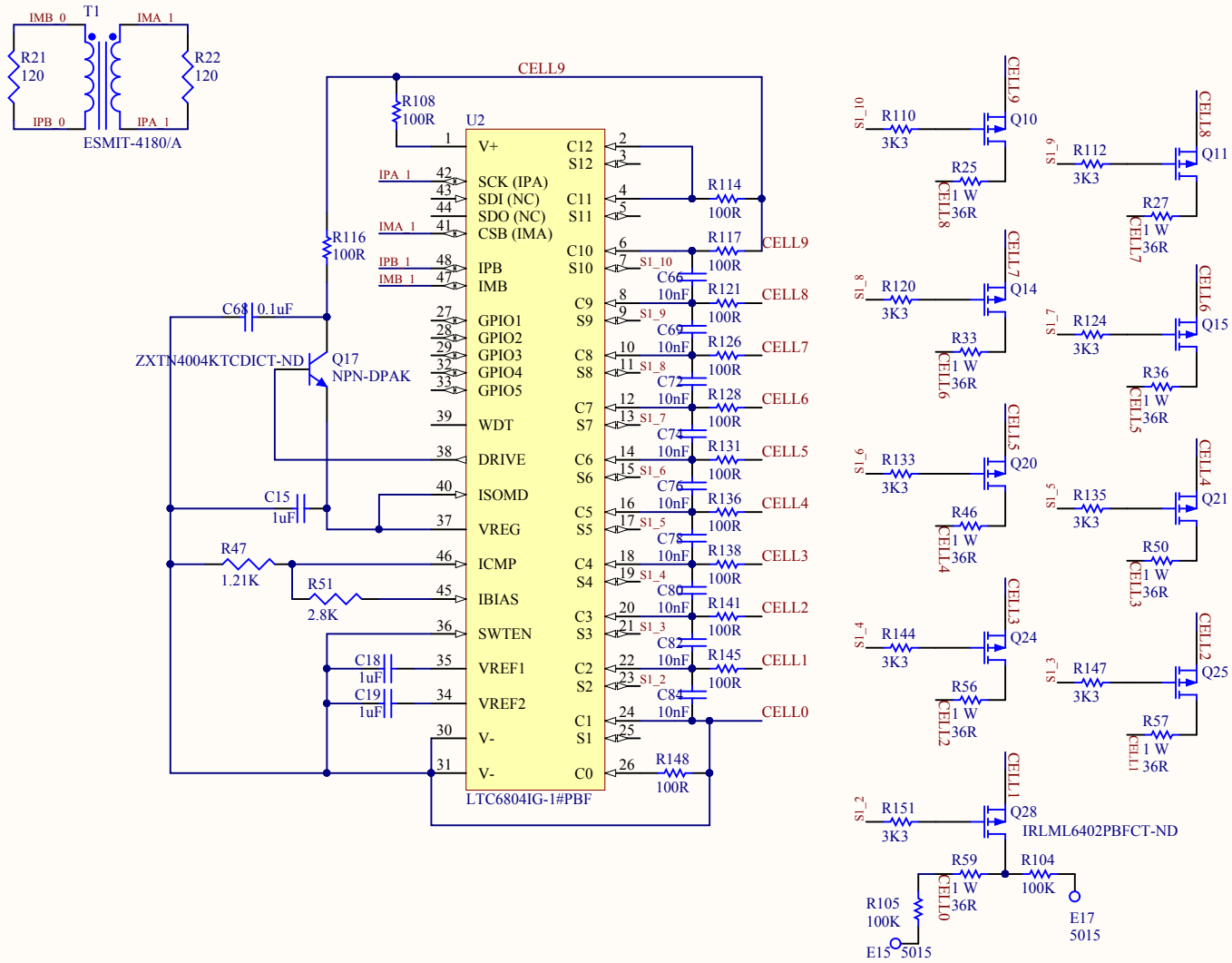
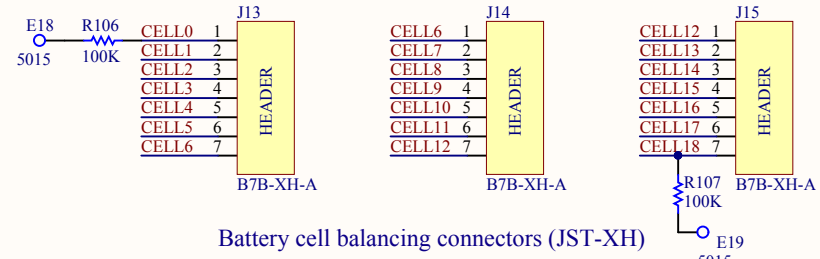
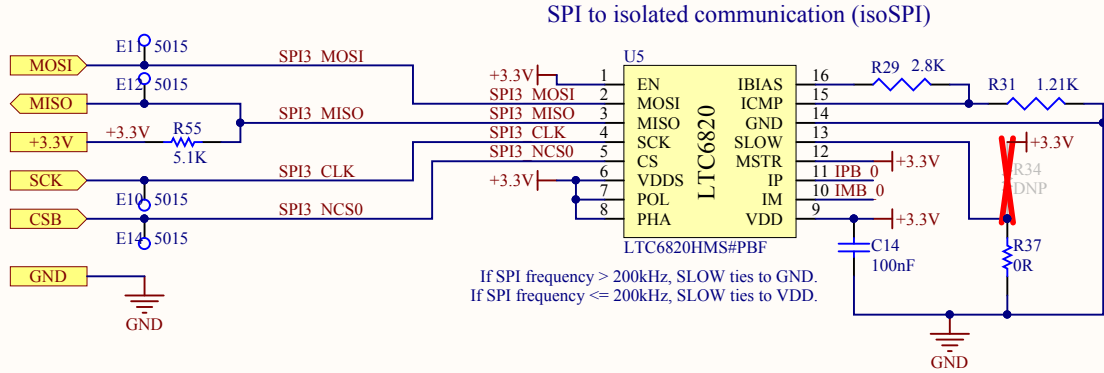
Battery Charge Circuitry  
(SEPIC)


## Battery Connection Switch

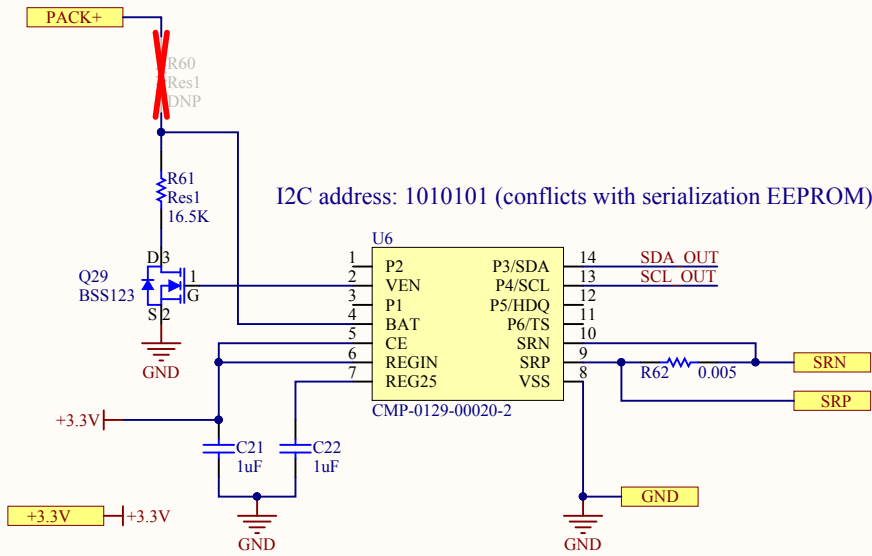


Sheet Title: <b>Battery-Connection-Switch</b>			<b>Makani Project</b> Google Inc. 2175 Monarch St. Alameda CA, 94501 USA	
Project Title: <b>BMB-AIO-Carrier.PrjPCB</b>				
Size: <b>Tabloid</b>	Number:	Revision:		
Date: <b>3/2/2016</b>	Time: <b>9:39:32 PM</b>	Sheet <b>* of 16</b>		
Author: <b>*</b>	File: <b>Battery-Connection-Switch_SchDoc</b>			

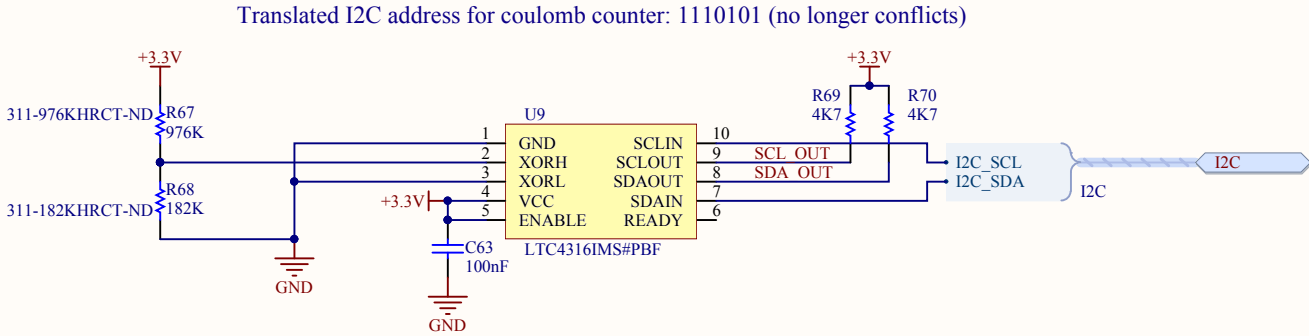
# Cell Balancing

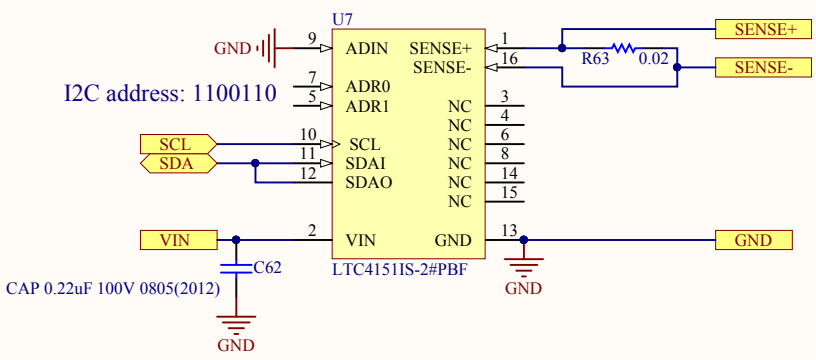


Sheet Title: <b>Cell-Balancing</b>			<b>Makani Project</b> Google Inc. 2175 Monarch St. Alameda CA, 94501 USA	
Project Title: <b>BMB-AIO-Carrier.PrjPCB</b>				
Size: <b>Tabloid</b>	Number:	Revision:		
Date: <b>3/2/2016</b>	Time: <b>9:39:32 PM</b>	Sheet <b>*</b> of <b>16</b>		
Author: <b>*</b>	File: <b>Cell-Balancing SchDoc</b>			



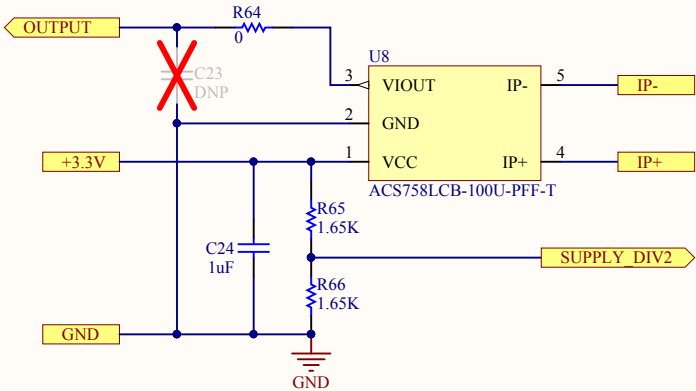
Coulomb Counter





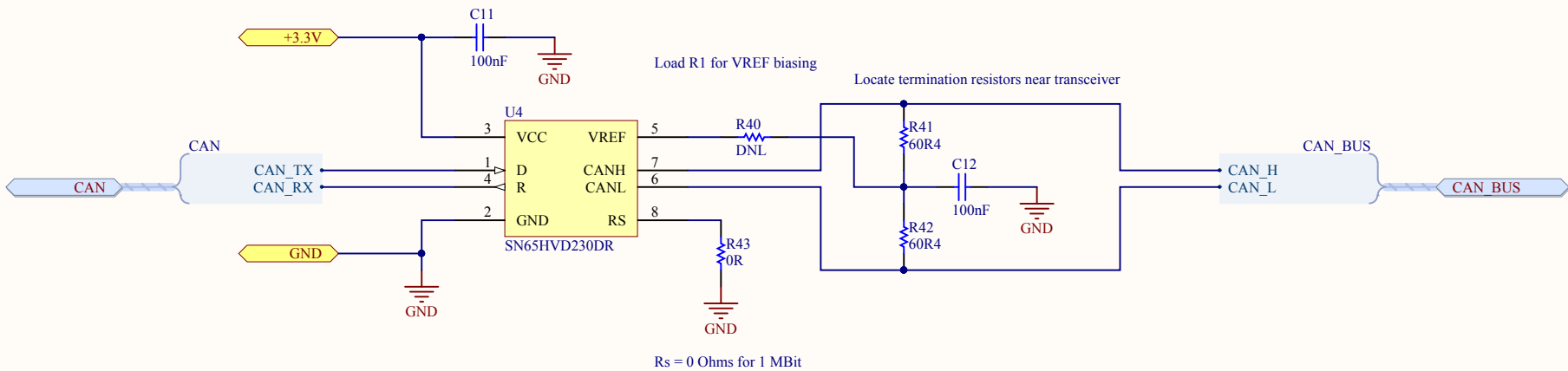
Charge Current and Voltage Sensor

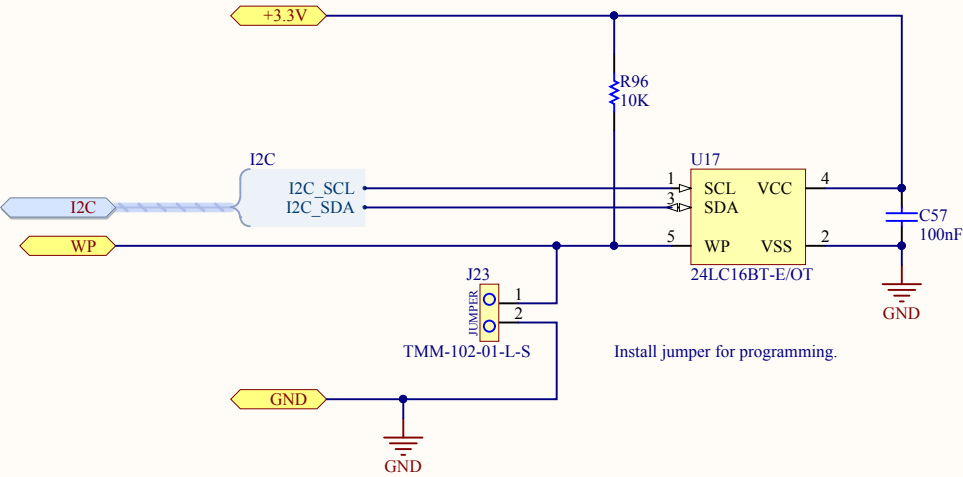


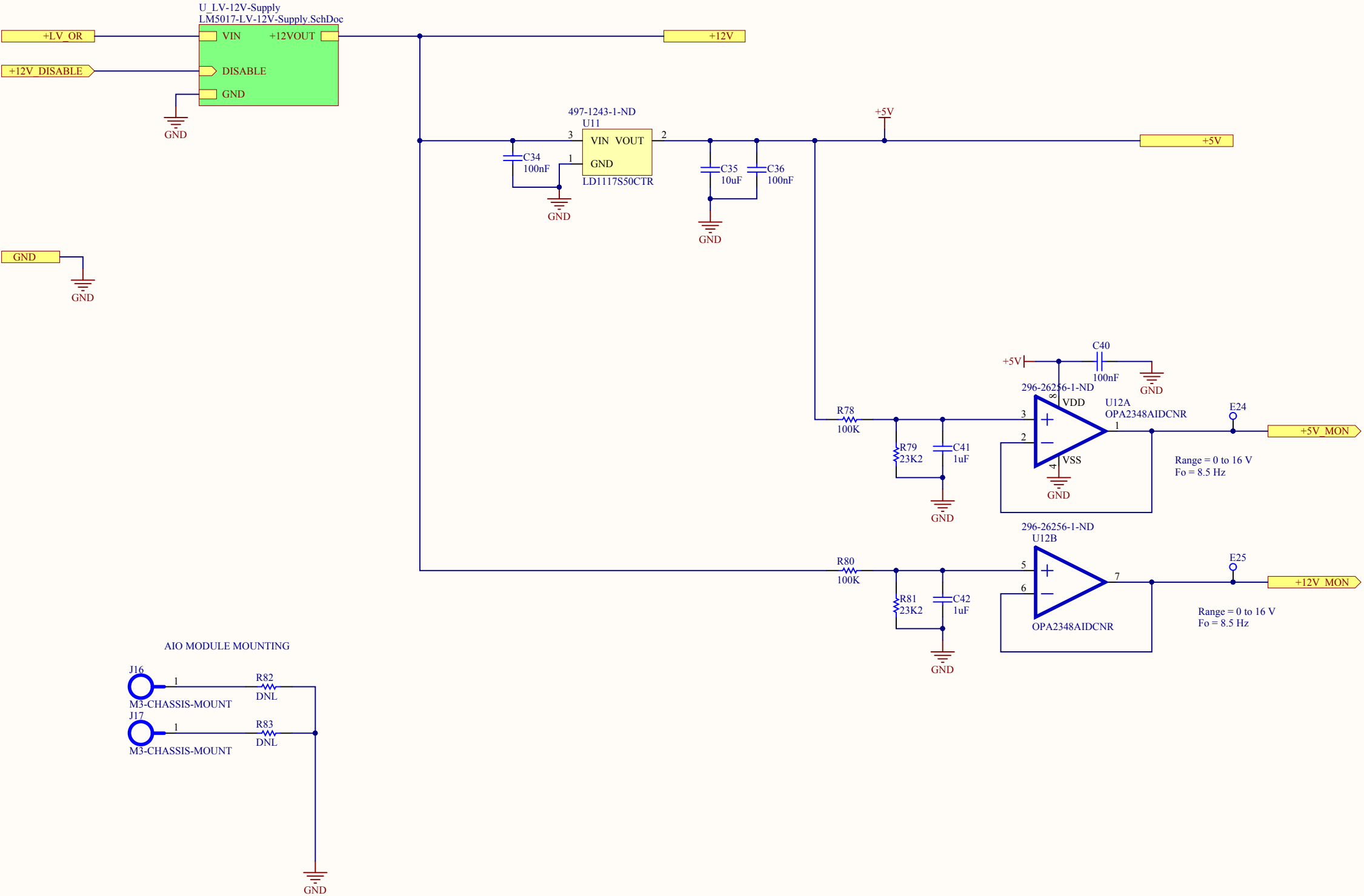


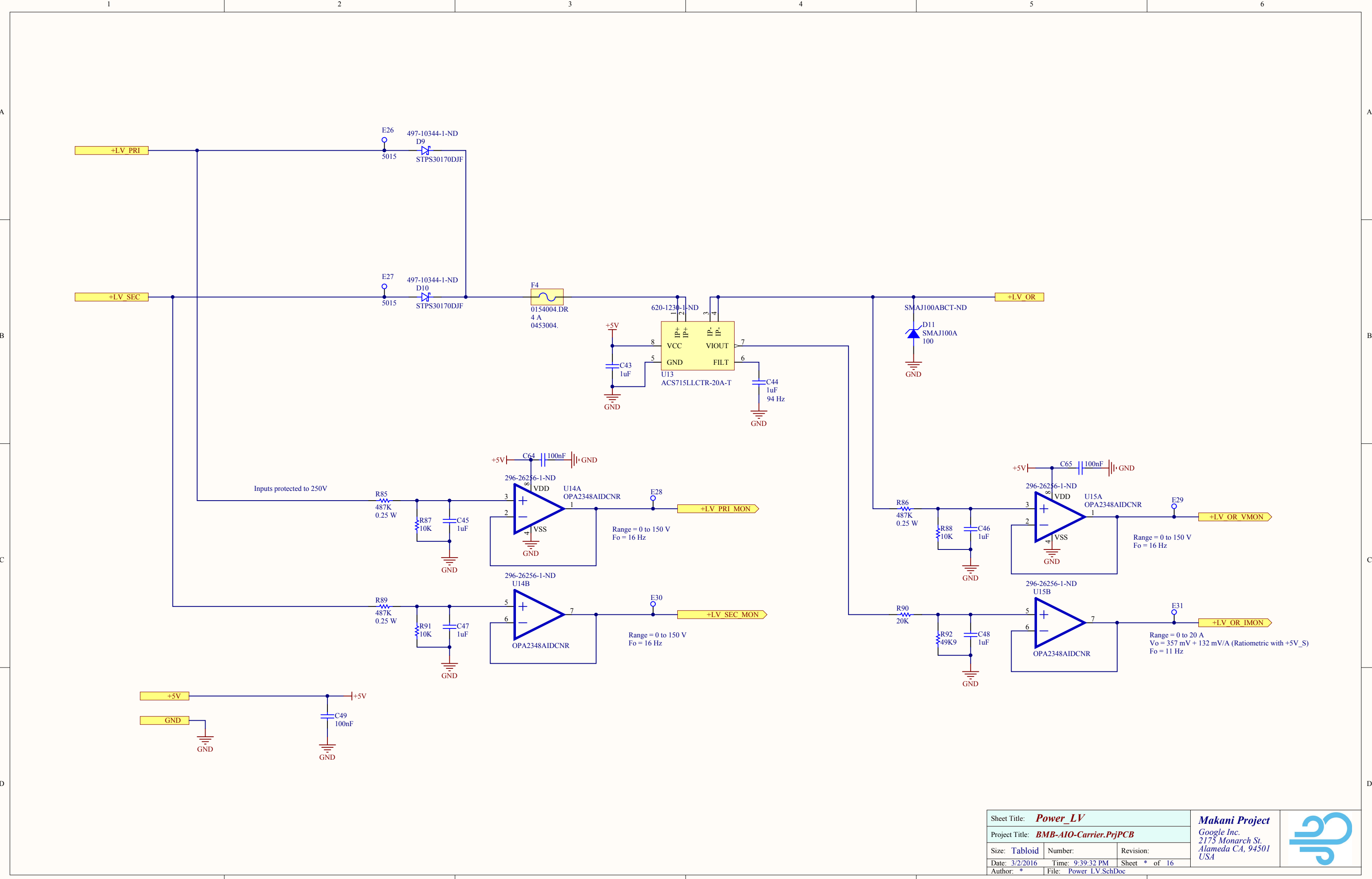
Hall Effect Sensor



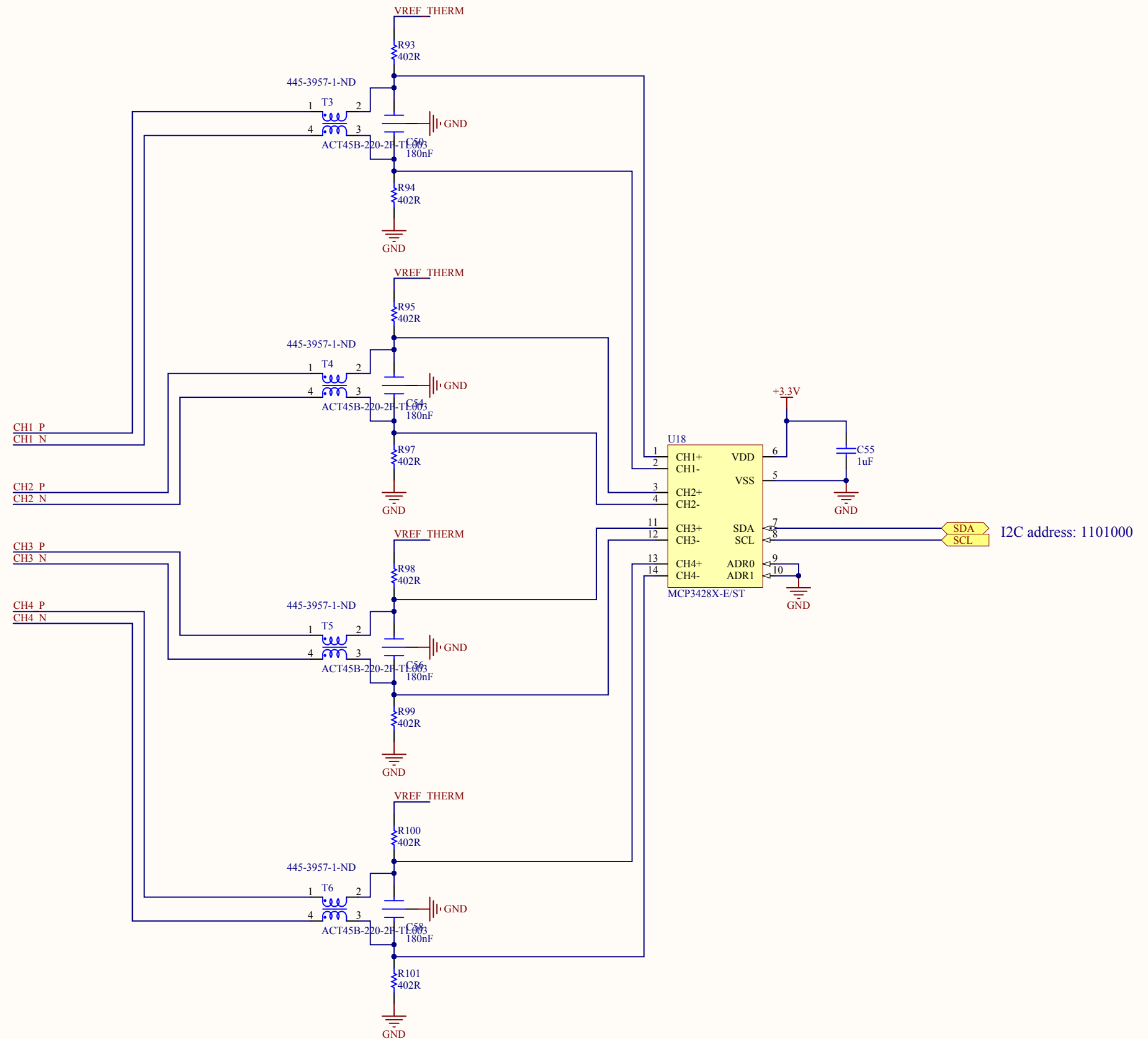
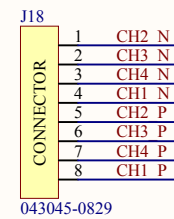
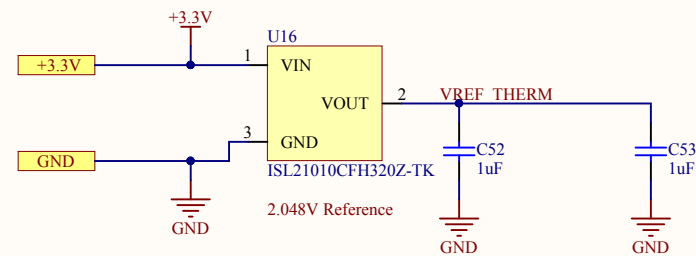







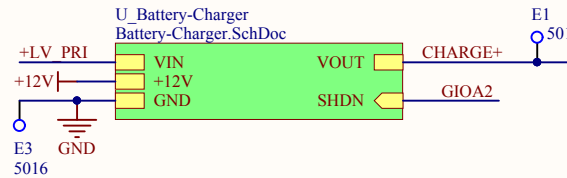


## Thermistor Circuitry



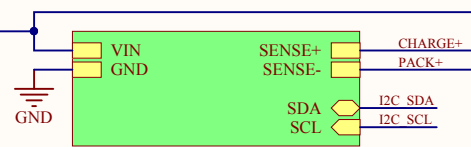
Sheet Title: <b><i>Thermistor-Circuitry</i></b>			<b><i>Makani Project</i></b> Google Inc. 2175 Monarch St. Alameda CA, 94501 USA	
Project Title: <b><i>BMB-AIO-Carrier.PrjPCB</i></b>				
Size: <b>Tabloid</b>	Number:	Revision:		
Date: <b>3/2/2016</b>	Time: <b>9:39:32 PM</b>	Sheet <b>* of 16</b>		
Author: <b>*</b>	File: <b>Thermistor-Circuitry.SchDoc</b>			

## Battery Charge Circuitry

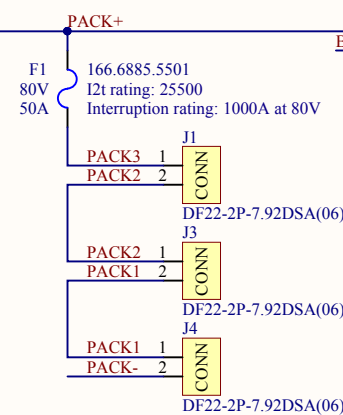


## Charge Current and Voltage Sensor

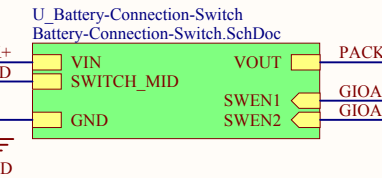
I2C address: 1100110  
U\_Current-Shunt-and-Bus-Sensor  
Current-Shunt-and-Bus-Sensor.SchDoc



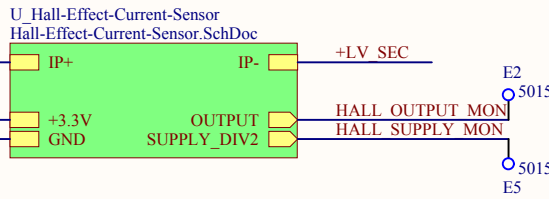
## Battery Power Connectors



## Battery Connection Switch

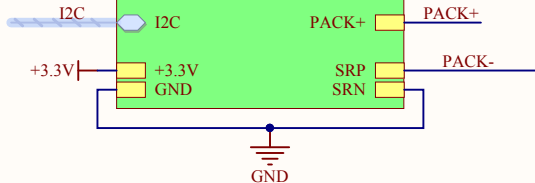


## Hall Effect Sensor

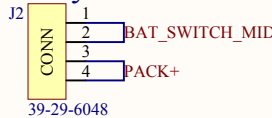


## Coulomb Counter

I2C address: 1010101  
U\_Coulomb-Counter  
Coulomb-Counter.SchDoc

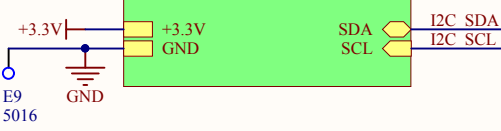


## Relay Connection Point



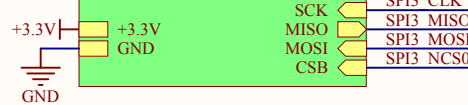
## Thermistor Circuitry

I2C address: 1101000  
U\_Thermistor-Circuitry  
Thermistor-Circuitry.SchDoc



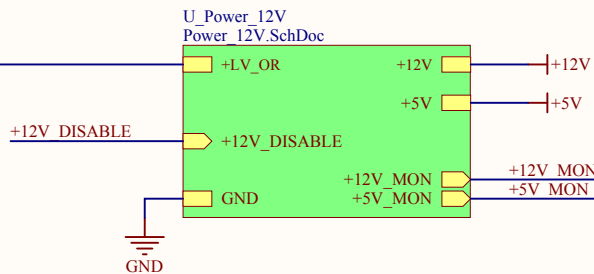
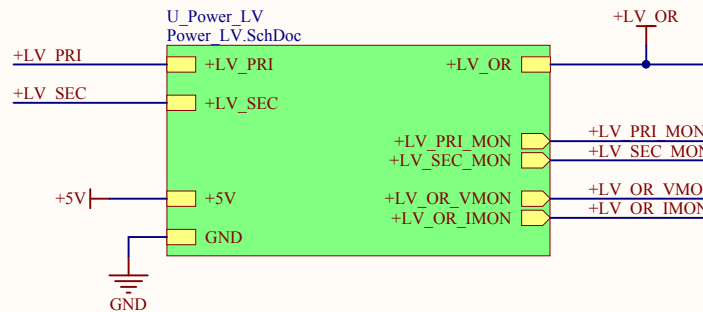
## Cell Balancing

U\_Cell-Balancing  
Cell-Balancing.SchDoc



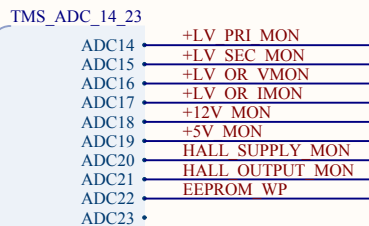
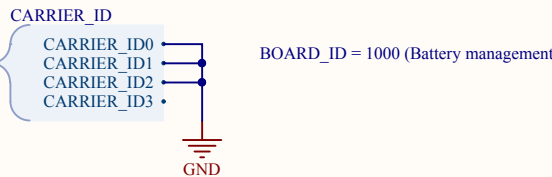
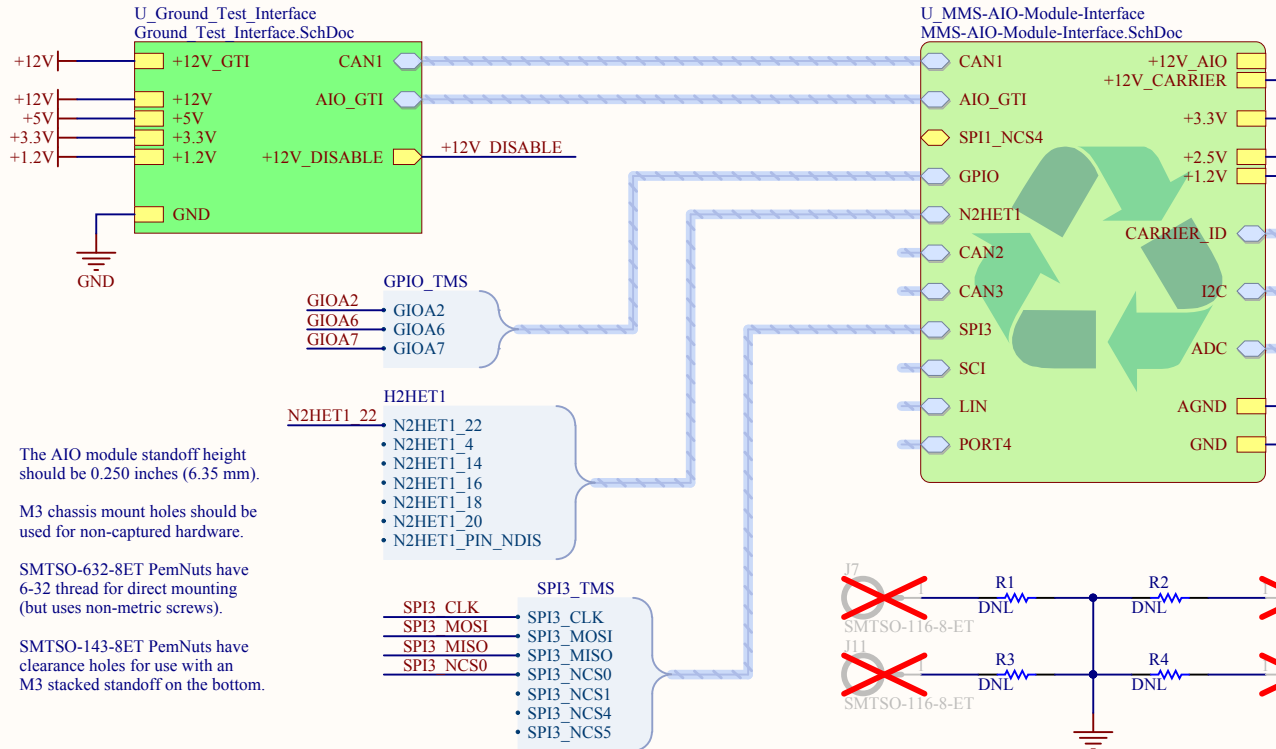
## Serialization EEPROM

I2C address: 1010XXX (gets entire address space)  
U\_MMS-I2C-EEPROM  
MMS-I2C-EEPROM.SchDoc

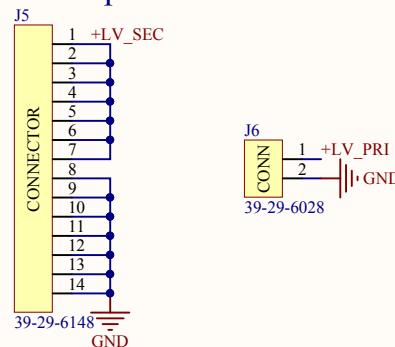



## AIO Node Interface

U\_MMS-AIO-Module-Interface  
MMS-AIO-Module-Interface.SchDoc



## Amphenol Connections



Sheet Title: <b>Top-Level</b>			<b>Makani Project</b> <i>Google Inc.</i> <i>2175 Monarch St.</i> <i>Alameda CA, 94501</i> <i>USA</i>	
Project Title: <b>BMB-AIO-Carrier.PrjPCB</b>				
Size: <b>Tabloid</b>	Number:	Revision:		
Date: <b>3/2/2016</b>	Time: <b>9:39:32 PM</b>	Sheet <b>*</b> of <b>16</b>		
Author: <b>*</b>	File: <b>Top-Level.SchDoc</b>			