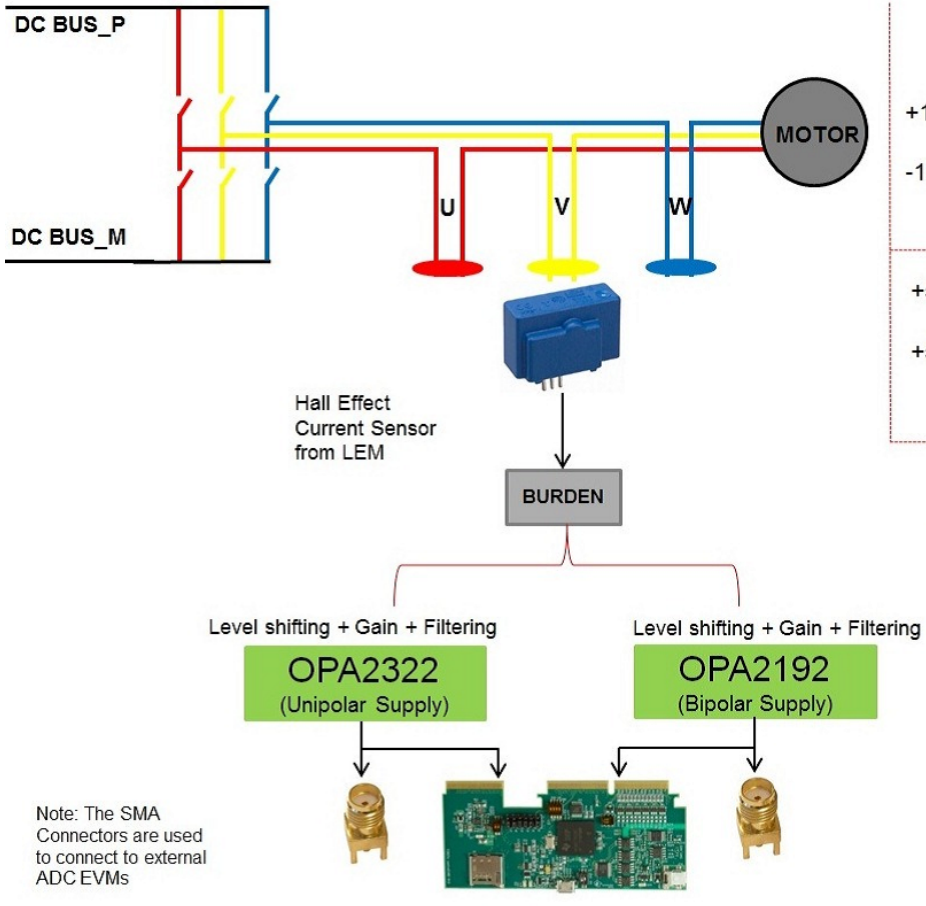
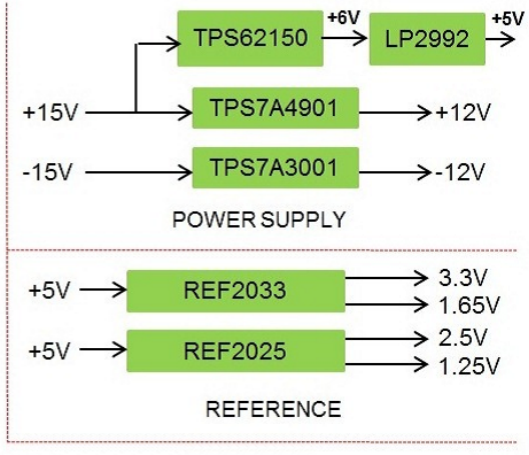
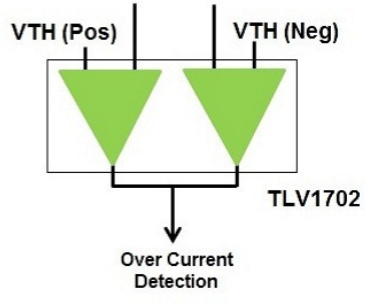
Revision History	
Revision	Notes





The voltage across Burden is also given as input to the comparators for OC detection.



Orderable: N/A		Designed for: Public Release	Mod. Date: 6/15/2015
TID #: ChangeMe!		Project Title: Motor Current Measurement using Hall Sensors	
Number: TIDA-00316	Rev: E2	Sheet Title: Block Diagram	
SVN Rev: Not in version control		Assembly Variant: Variant name not interpreted	Sheet: 1 of 6
Drawn By: Sanjay Pithadia		File: SH01_CoverSheet.SchDoc	Size: B
Engineer: Sanjay Pithadia		Contact: http://www.ti.com/support	

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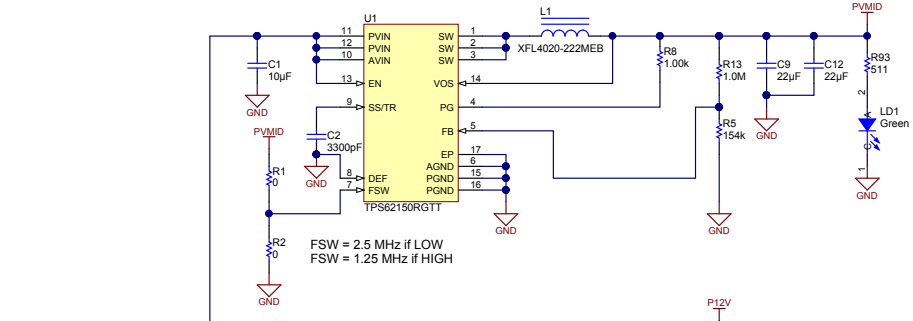
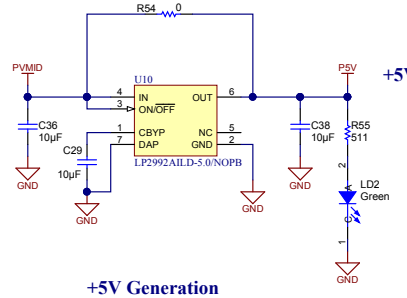
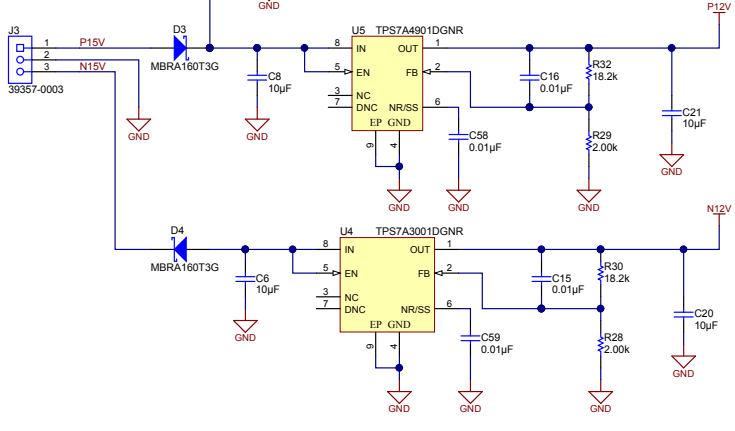
Currently PVMID is set to 6V and R54 is DNP.
When LP2992 is not used, Mount R54 and Set PVMID = 5V



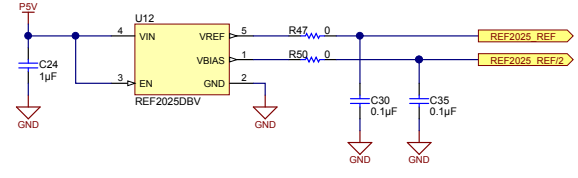


+5V OutPut

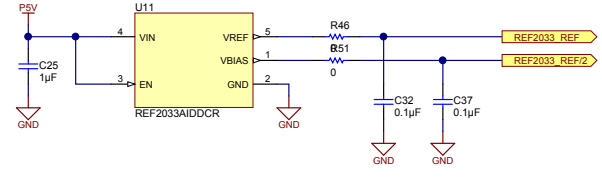
+5V Generation



+12V and -12V Generation



+2.5V Reference and +1.25V Bias supply



+3.3V Reference and +1.65V Bias supply

Orderable: N/A	Designed for: Public Release	Mod. Date: 6/15/2015
TID #: ChangeMe!	Project Title: Motor Current Measurement using Hall Sensors	
Number: TIDA-00316 Rev: E2	Sheet Title: Power Supply	
SVN Rev: Not in version control	Assembly Variant: Variant name not interpreted	Sheet: 2 of 6
Drawn By: Sanjay Pithadia	File: SH02_Power_supply.SchDoc	Size: B
Engineer: Sanjay Pithadia	Contact: http://www.ti.com/support	

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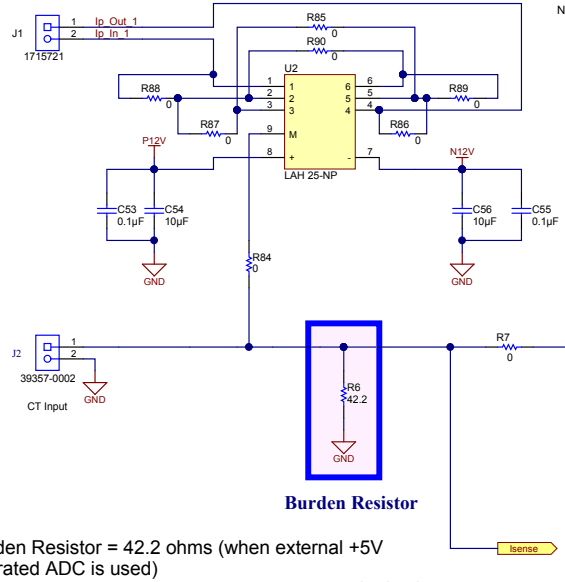
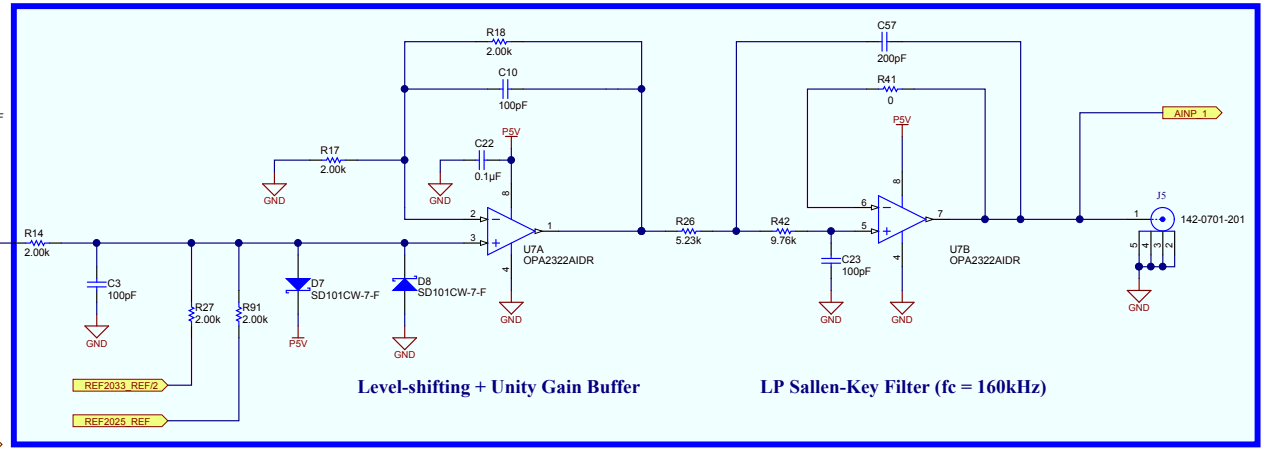


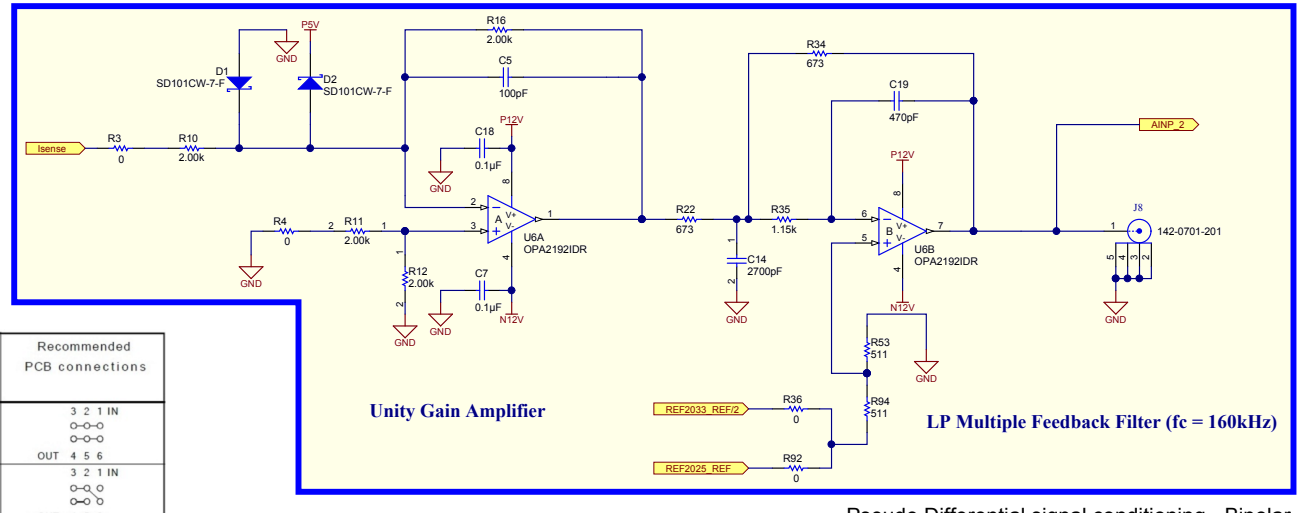
Burden Resistor

Nominal Primary Current (in A)	Populate these resistors only
8	R85, R90
12	R86, R90
25	R88, R87, R86, R89

Pseudo Differential signal conditioning - Unipolar



Burden Resistor = 42.2 ohms (when external +5V operated ADC is used)
Burden Resistor = 27 ohms (when internal ADC of MCU is used)



Pseudo Differential signal conditioning - Bipolar

Number of primary turns	Primary current nominal I_{PN} [A]	Primary current maximum I_P [A]	Nominal output current I_{SN} [mA]	Turns ratio K_N	Primary resistance R_P [mΩ]	Primary insertion inductance L_P [µH]	Recommended PCB connections
1	25	55	25	1 : 1000	0.18	0.012	3 2 1 IN OUT 4 5 6
2	12	27	24	2 : 1000	0.81	0.054	3 2 1 IN OUT 4 5 6
3	8	18	24	3 : 1000	1.62	0.110	3 2 1 IN OUT 4 5 6

Orderable: N/A	Designed for: Public Release	Mod. Date: 6/15/2015
TID #: ChangeMe!	Project Title: Motor Current Measurement using Hall Sensors	
Number: TIDA-00316 Rev: E2	Sheet Title: Signal Chain - Pseudo Differential	
SVN Rev: Not in version control	Assembly Variant: Variant name not interpreted	Sheet: 3 of 6
Drawn By: Sanjay Pithadia	File: SH03_Single_ended_SC_to_ADC.SchDoc	Size: B
Engineer: Sanjay Pithadia	Contact: http://www.ti.com/support	

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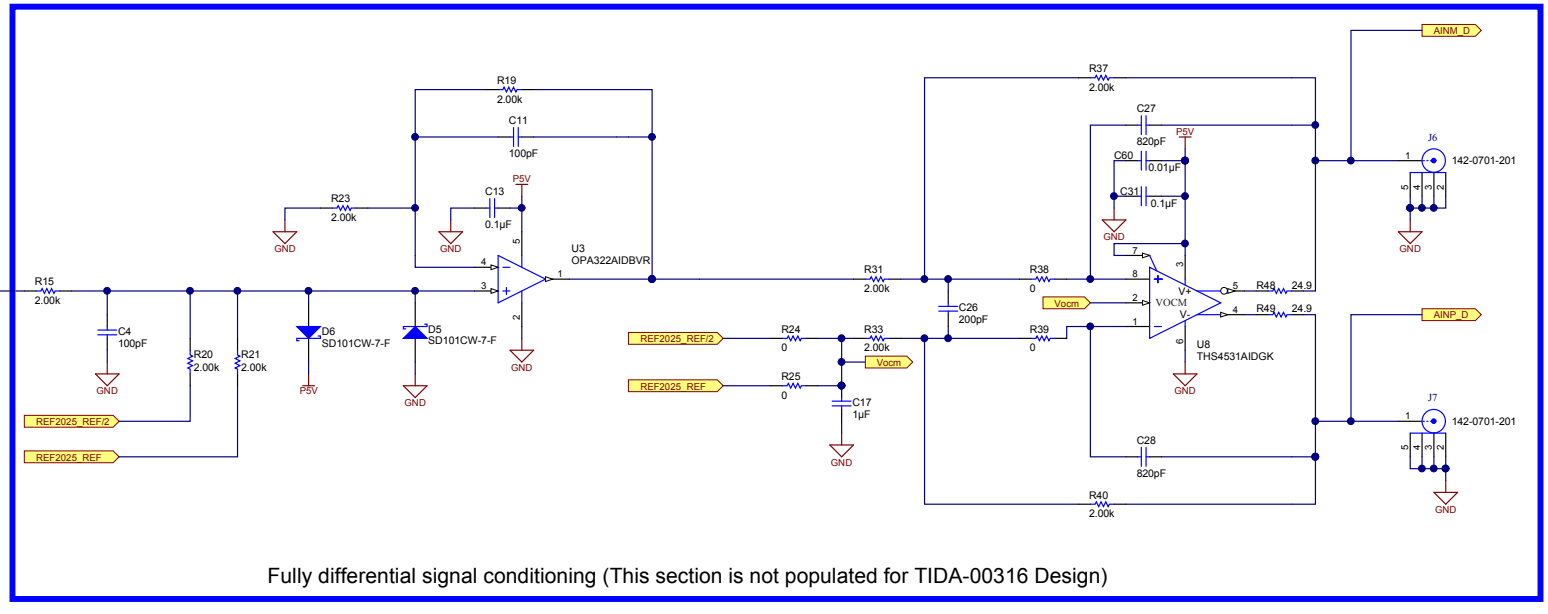
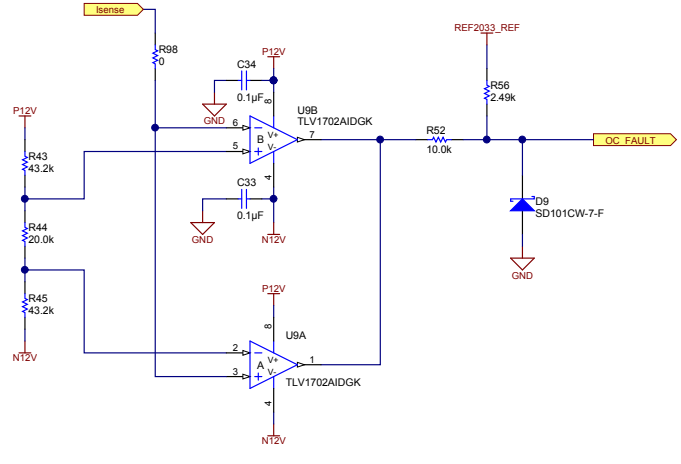
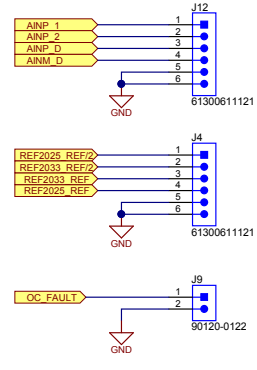


Fully differential signal conditioning (This section is not populated for TIDA-00316 Design)





Overcurrent Protection

Orderable: N/A	Designed for: Public Release	Mod. Date: 6/15/2015
TID #: ChangeMe!	Project Title: Motor Current Measurement using Hall Sensors	
Number: TIDA-00316 Rev: E2	Sheet Title: Signal Chain - Fully Differential + ADS7854	
SVN Rev: Not in version control	Assembly Variant: Variant name not interpreted	Sheet: 4 of 6
Drawn By: Sanjay Pithadia	File: SH04_Fully_differential_ended_SC_to_ADC.SchDoc	Size: B
Engineer: Sanjay Pithadia	Contact: http://www.ti.com/support	

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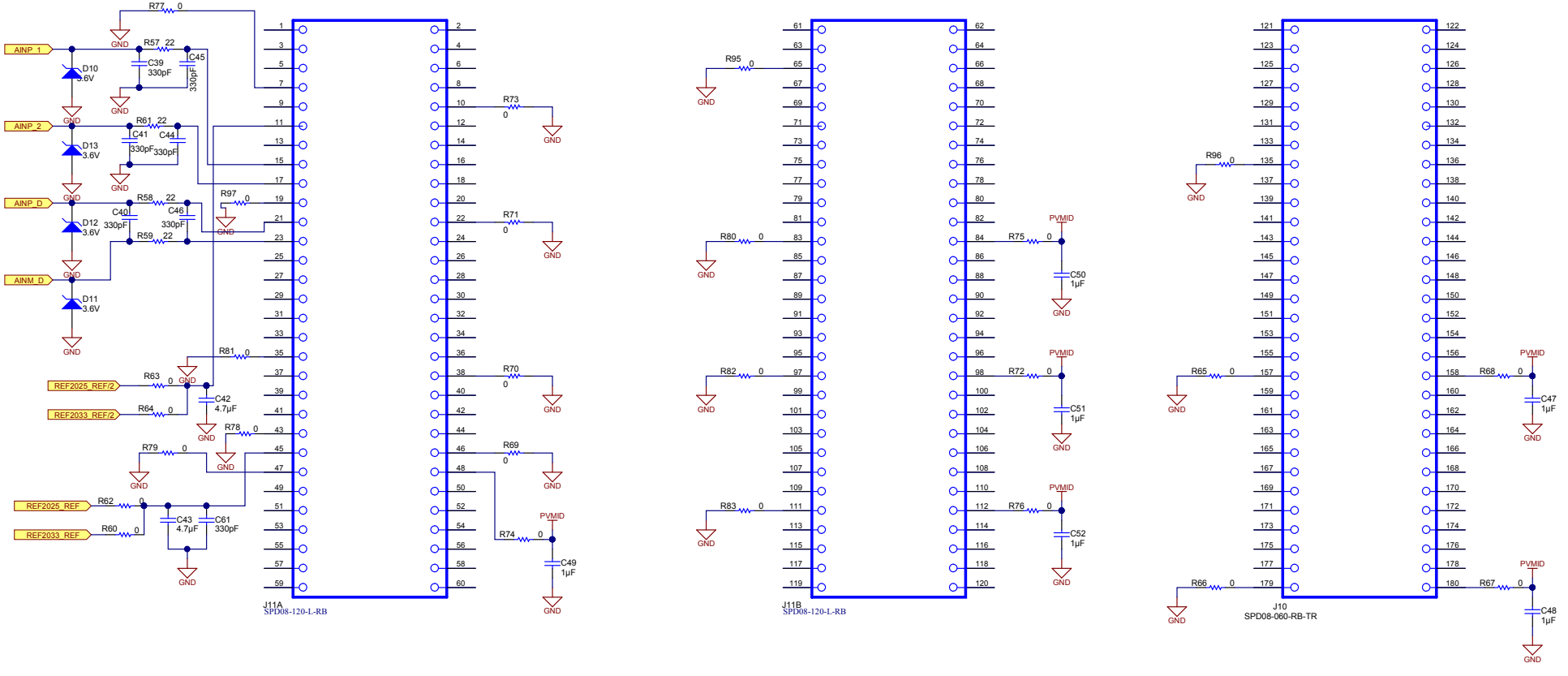

Connection to Delfino Control Card

Number: TIDA-00316	Rev: E2	Designed for: Public Release	Mod. Date: 6/15/2015
SVN Rev: Not in version control		Project Title: Motor Current Measurement using Hall Sensors	
Drawn By: Sanjay Pithadia		Sheet Title: Delfino Controller Interface	
Engineer: Sanjay Pithadia		Assembly Variant: Variant name not interpreted	Sheet: 5 of 6
		File: SH05_180_pin_connector_interface.SchDoc	Size: B
		Contact: http://www.ti.com/support	

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H2
NY PMS 440 0025 PH

H1
NY PMS 440 0025 PH

H3
NY PMS 440 0025 PH

H4
NY PMS 440 0025 PH

H12
1902C

H11
1902C

H9
1902C

H10
1902C

FID2 FID1 FID3 FID6 FID5 FID4

PCB Number: TIDA-00316
PCB Rev: E2

PCB
LOGO
Texas Instruments

PCB
LOGO
Pb-Free Symbol

Label Table	
Variant	Label Text
001	ChangeMe!
002	ChangeMe!

ZZ1
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ2
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ3
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: N/A	Designed for: Public Release	Mod. Date: 6/15/2015
TID #: ChangeMe!	Project Title: Motor Current Measurement using Hall Sensors	
Number: TIDA-00316 Rev: E2	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: Variant name not interpreted	Sheet: 6 of 6
Drawn By:	File: SH06_Hardware.SchDoc	Size: B
Engineer: Sanjay Pithadia	Contact: http://www.ti.com/support	

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