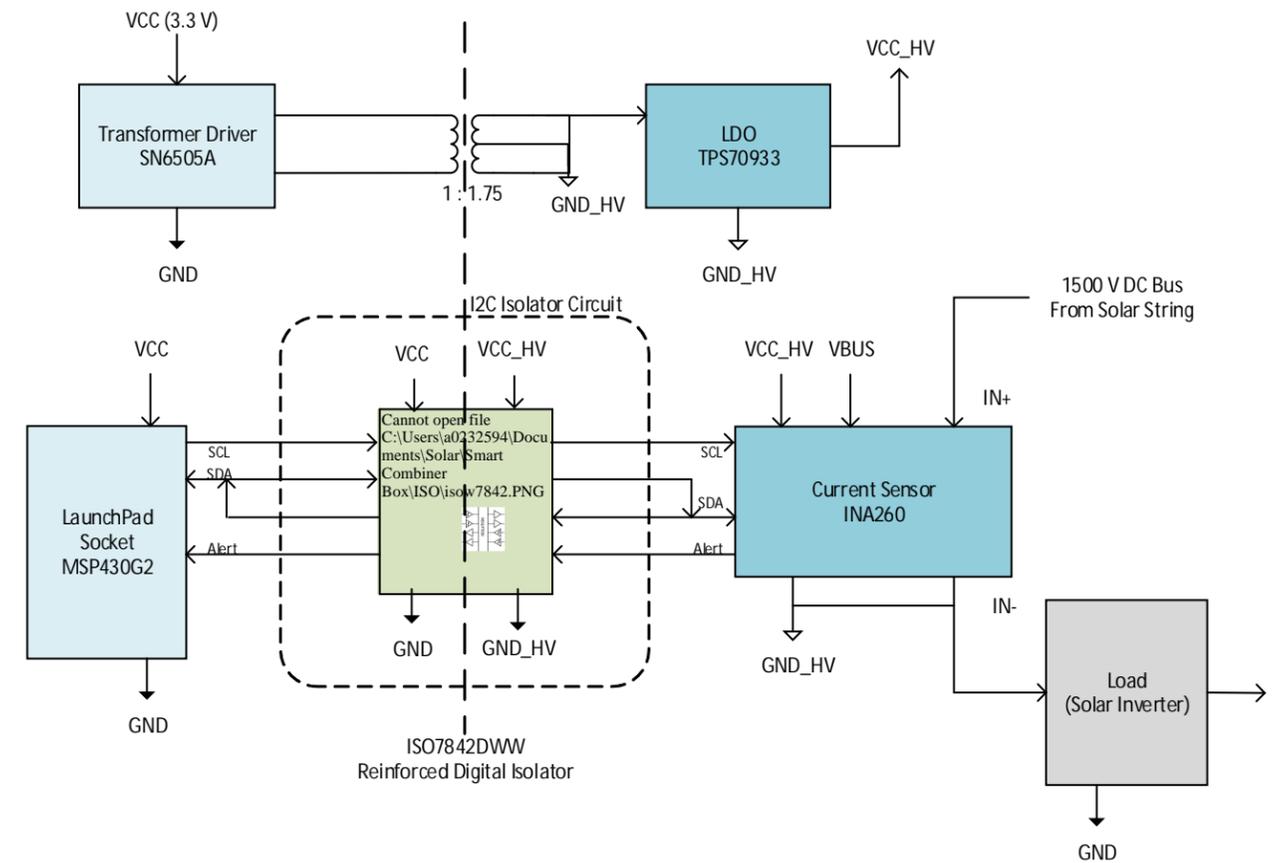
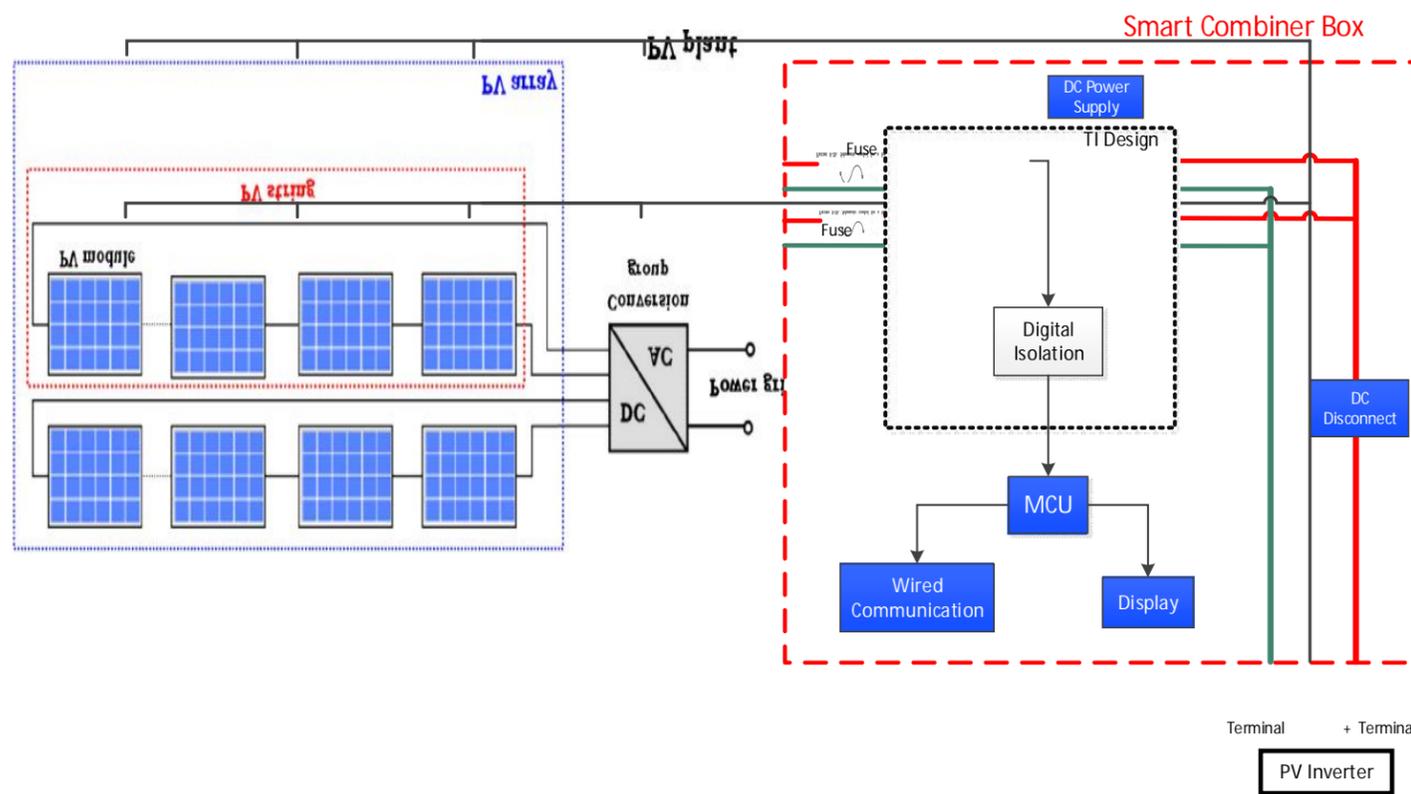
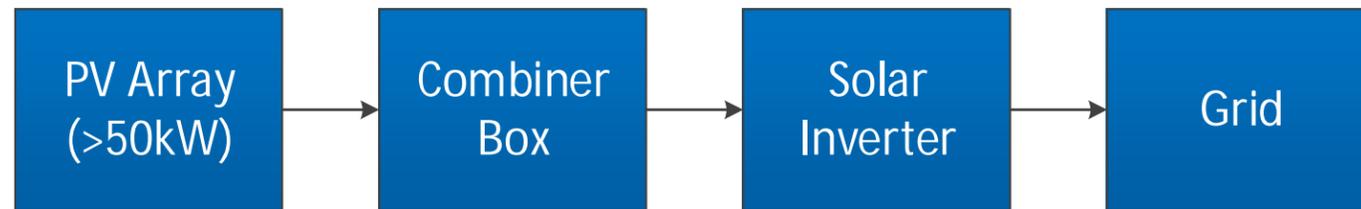
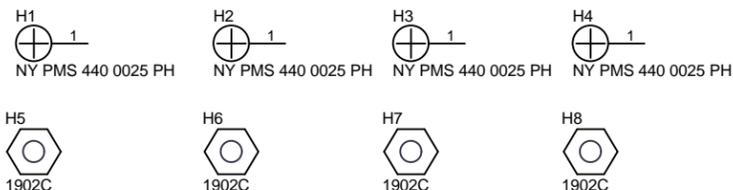


Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



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Orderable: EVM_orderable	Designed for: Public Release	Mod. Date: 7/25/2017	 http://www.ti.com © Texas Instruments 2017
TID #: TIDA-01590	Project Title: Reference Design for 1200V Isolated I2C High Side		
Number: TIDA-01590	Rev: R1	Sheet Title:	
SVN Rev: Version control disabled	Assembly Variant: [No Variations]		
Drawn By:	File: CoverSheet.SchDoc	Sheet: 1 of 3	
Engineer: Benjamin Genereaux	Contact: http://www.ti.com/support	Size: B	



PCB Number: TIDA-01590
PCB Rev: R1

PCB LOGO
Texas Instruments

PCB LOGO
Pb-Free Symbol

PCB LOGO
FCC disclaimer

A You should delete the nylon screws/standoffs and/or the bumpons as needed for your design (or substitute other parts from Hardware.IntLib). Bumpons are cheaper, but provide less clearance.

Deleting anything else from this page may result in your EVM submission being rejected (until you add them back).

Update the Label Text in the Label Table as needed for each Assembly Variant.

You should delete this note too.

Variant/Label Table	
Variant	Label Text
001	ChangeMe!
002	ChangeMe!



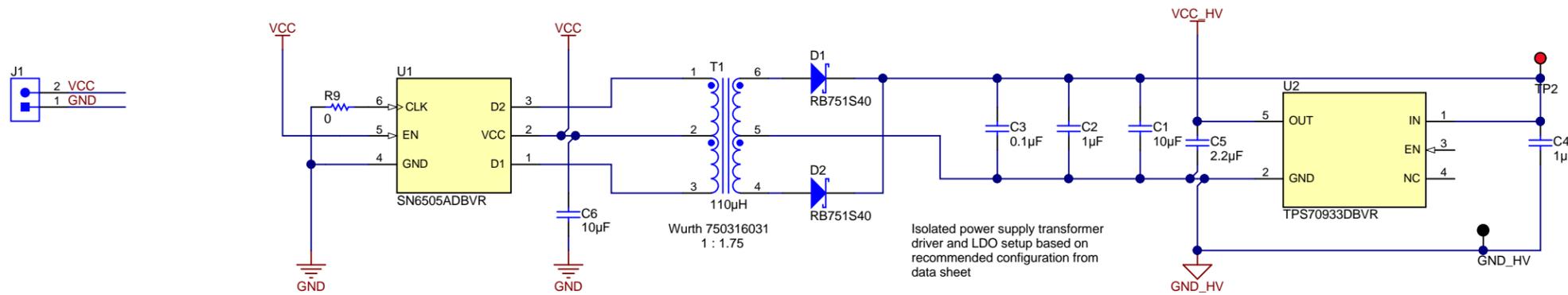
LBL1
PCB Label
Size: 0.65" x 0.20"

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

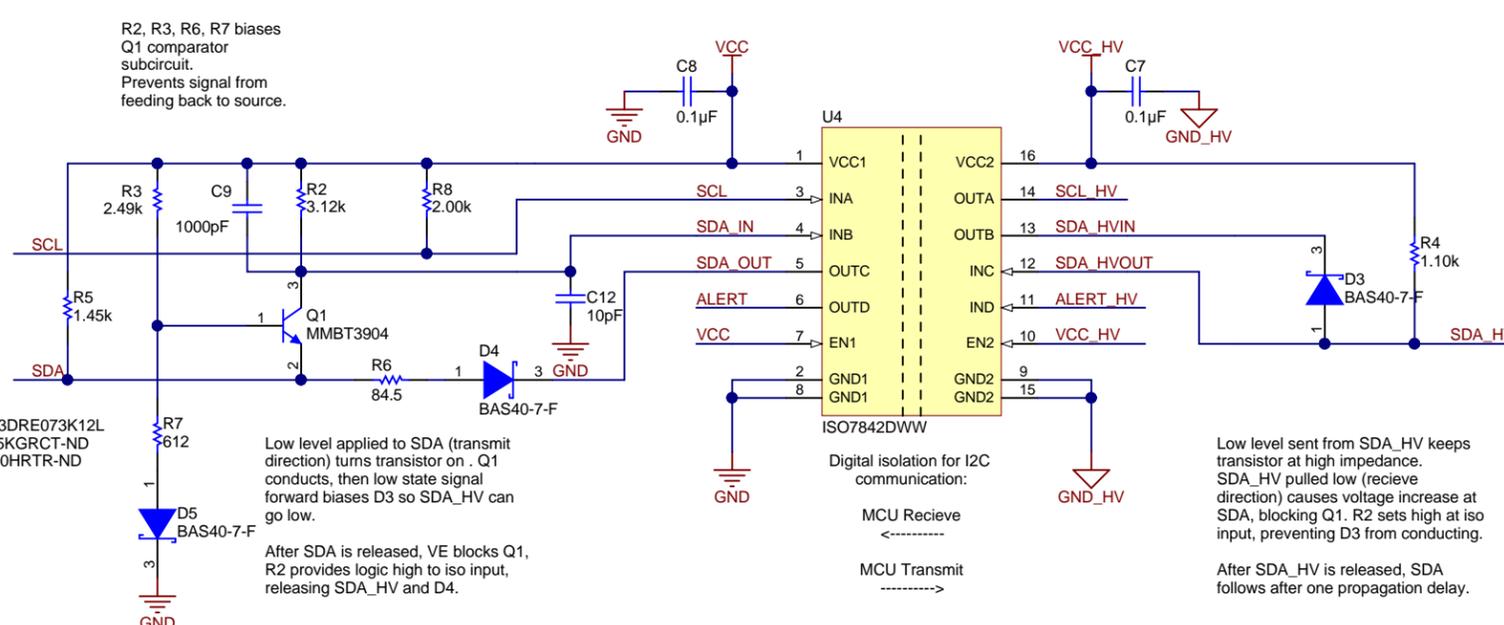
ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.



Isolated power supply transformer driver and LDO setup based on recommended configuration from data sheet



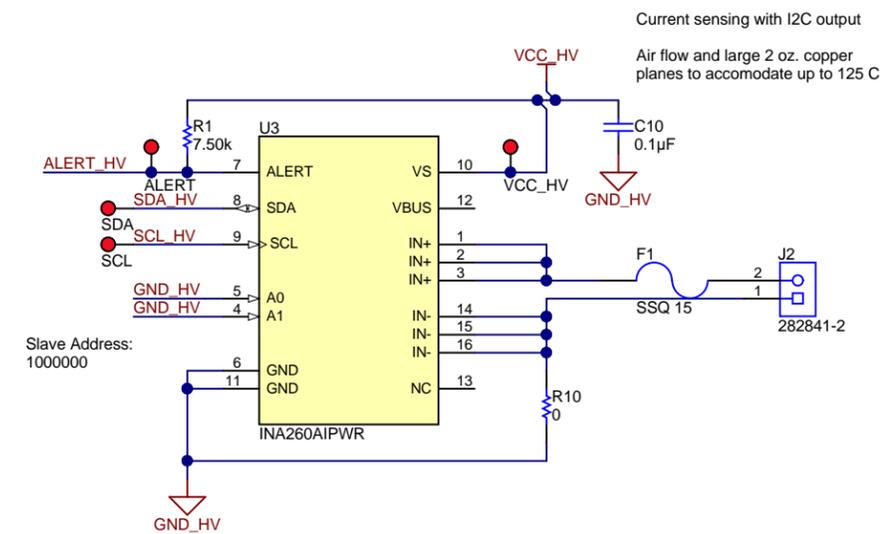
R2, R3, R6, R7 biases Q1 comparator subcircuit. Prevents signal from feeding back to source.

Low level applied to SDA (transmit direction) turns transistor on. Q1 conducts, then low state signal forward biases D3 so SDA_HV can go low.
After SDA is released, VE blocks Q1, R2 provides logic high to iso input, releasing SDA_HV and D4.

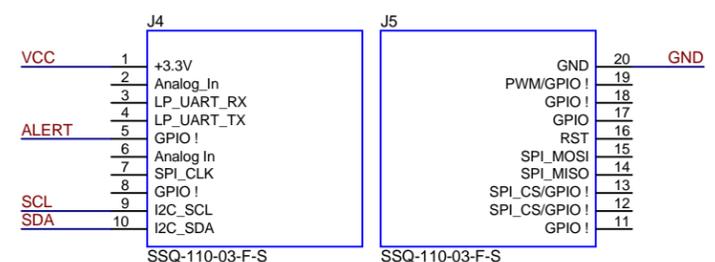
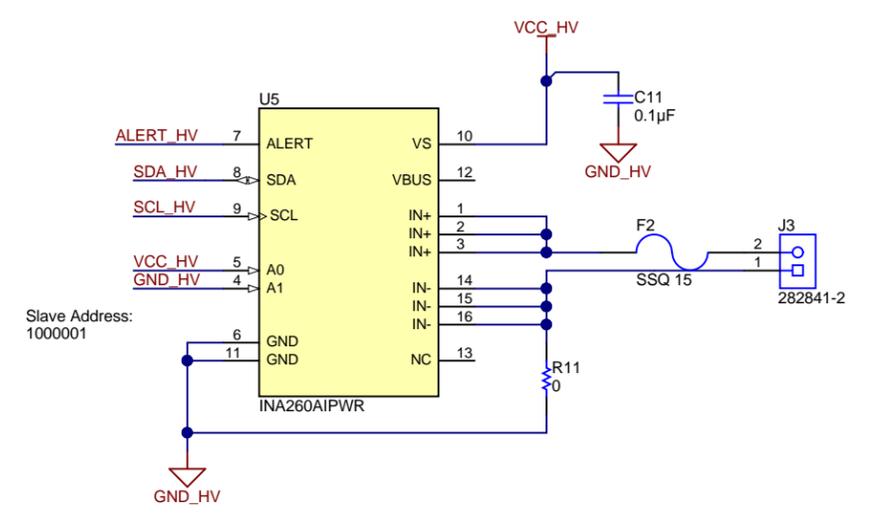
Digital isolation for I2C communication:
MCU Recieve <----->
MCU Transmit ----->

Low level sent from SDA_HV keeps transistor at high impedance. SDA_HV pulled low (recieve direction) causes voltage increase at SDA, blocking Q1. R2 sets high at iso input, preventing D3 from conducting.
After SDA_HV is released, SDA follows after one propagation delay.

7/19 Edits:
R2 -> RT0603DRE073K12L
R5 -> 311-1.5KGRCT-ND
R7 -> 311-620HRTR-ND



Current sensing with I2C output
Air flow and large 2 oz. copper planes to accomodate up to 125 C



Orderable: EVM_orderable	Designed for: Public Release	Mod. Date: 10/2/2017
TID #: TIDA-01590	Project Title: Reference Design for 1200V Isolated I2C High Side	
Number: TIDA-01590	Rev: R1	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: [No Variations]	Sheet: 2 of 3
Drawn By:	File: Current_Sense.SchDoc	Size: B
Engineer: Benjamin Genereaux	Contact: http://www.ti.com/support	

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