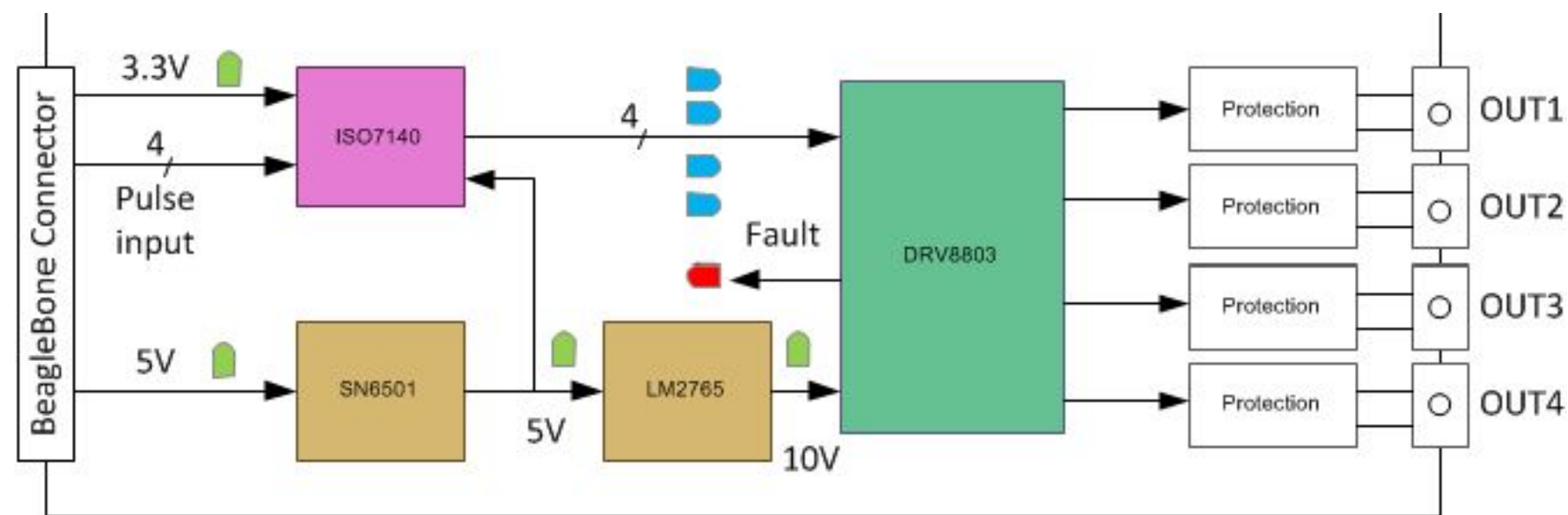
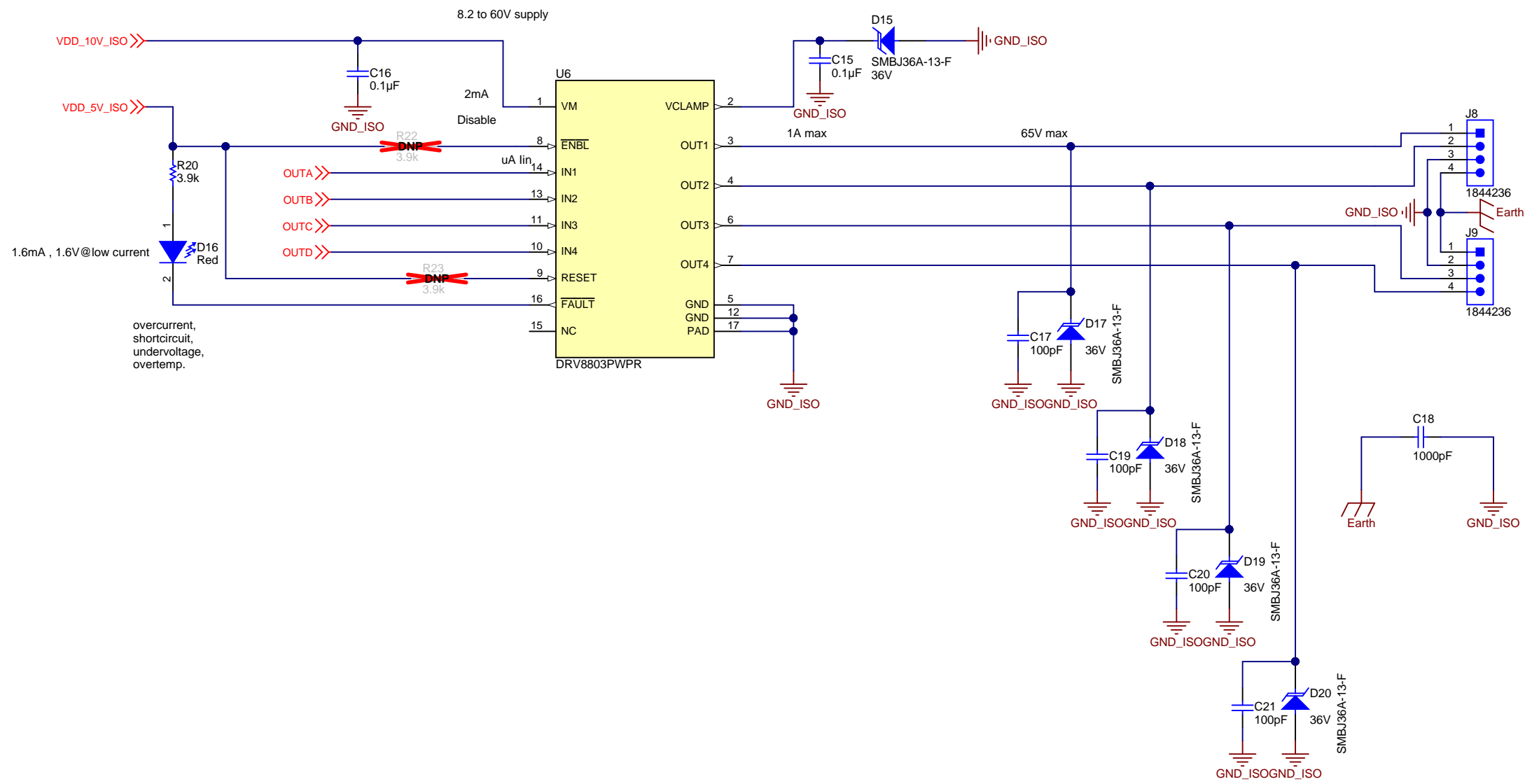


Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



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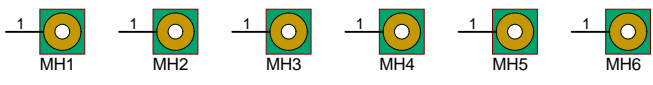
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TID #: TIDA-00319	Project Title: High Speed Digital Output Module for PLC		
Number: TIDA-00319	Rev: E1	Sheet: 1 of 3	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 1 of 3	
Drawn By: Ahmed Noeman	File: TIDA-00319_HSDO_module_CoverSheet.SchDoc	Size: B	
Engineer: Ahmed Noeman	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>		



overcurrent,  
shortcircuit,  
undervoltage,  
overtemp.

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TID #: TIDA-00319	Project Title: High Speed Digital Output Module for PLC	Sheet: 2 of 3	
Number: TIDA-00319	Rev: E1	Sheet Title:	<a href="http://www.ti.com">http://www.ti.com</a> © Texas Instruments 2016
SVN Rev: Version control disabled	Assembly Variant: 001	Size: B	
Drawn By: Ahmed Noeman	File: TIDA-00319_HSDO_module_singout.SchDoc	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	
Engineer: Ahmed Noeman			



H13  
MECH  
1841161

H14  
MECH  
1841161



PCB Number: TIDA-00319  
PCB Rev: E1

PCB  
LOGO  
Pb-Free Symbol

PCB  
LOGO

Variant/Label Table	
Variant	Label Text
001	Default

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.

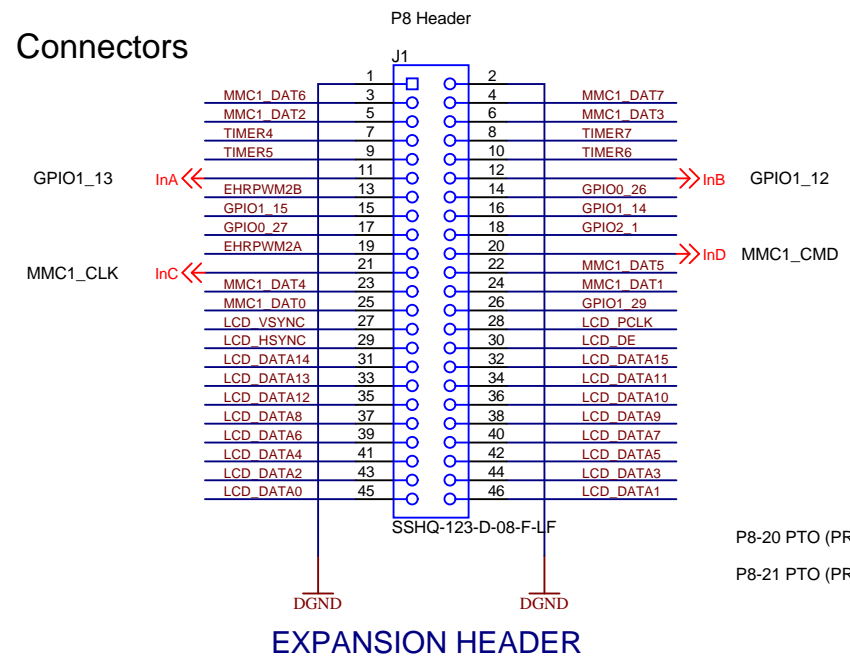
ZZ4  
Assembly Note  
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: N/A	Designed for: Public Release	Mod. Date: 8/5/2016
TID #: TIDA-00319	Project Title: High Speed Digital Output Module for PLC	
Number: TIDA-00319	Rev: E1	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 2 of 3
Drawn By: Ahmed Noeman	File: TIDA-00319_HSDO_module_Hardware.SchDoc	Size: B
Engineer: Ahmed Noeman	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

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# Connectors



Outputs available from P8 header pins:

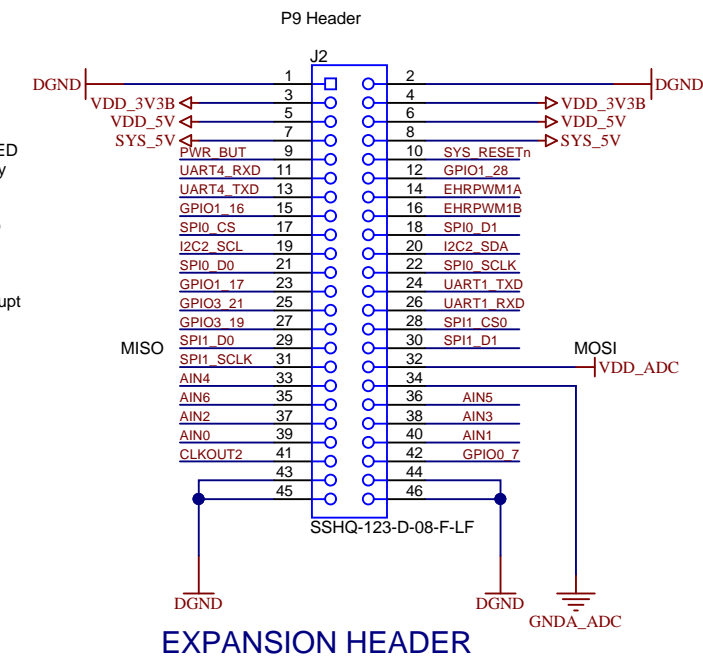
- P8-11 PTO
- P8-12 PTO
- P8-15 PRU0\_in
- P8-16 PRU0\_in
- P8-7 Timer - DigO ser cape subaddress
- P8-8 Timer - DigO - TIDA-00320
- P8-9 Timer - DigO - TIDA-00320
- P8-10 Timer - DigO - TIDA-00320
- P8-13 EHRPWM2B DigO
- P8-14 DigO - TIDA-00320
- P8-17 DigO - TIDA-00320
- P8-18 DigI - TIDA-00320
- P8-19 EHRPWM2A
- P8-26 DigI - TIDA-00320

- P8-20 PTO (PRU1)
- P8-21 PTO (PRU1)

Cape addressing:

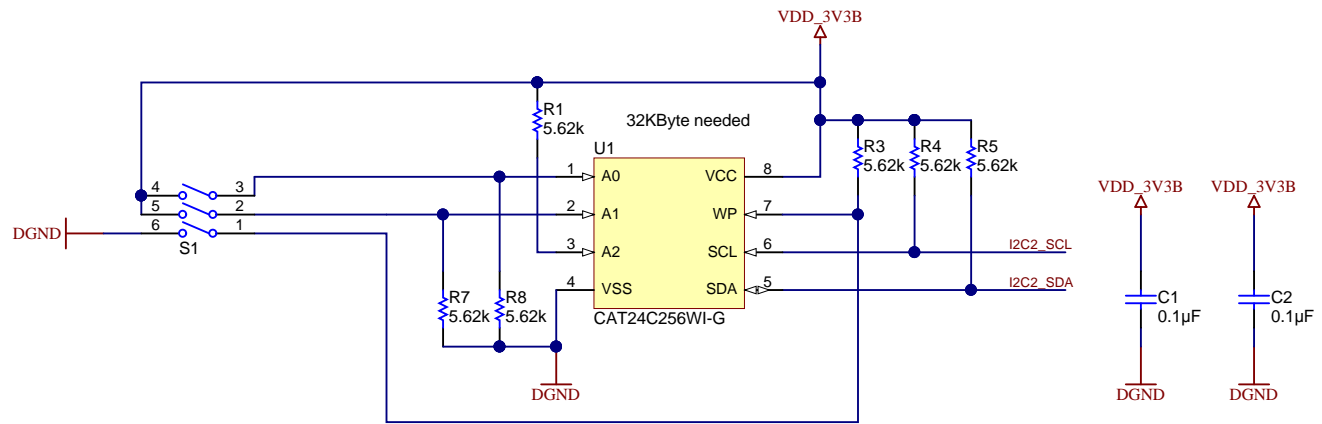
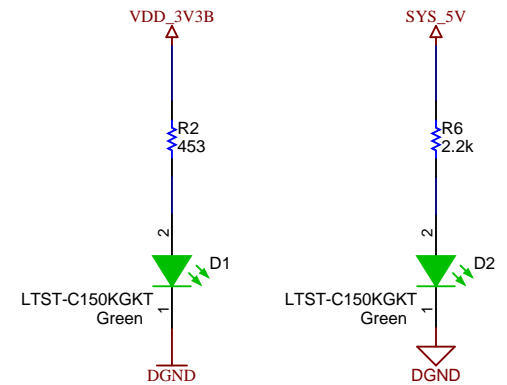
Data transfer is done via SPI0. D0 is used as a signal from BBB to MSP430 and LED (MOSI). D1 is used as a signal from MSP and LED to BBB (MISO). P9-11 and P9-13 are the cape address lines. If they match the I2C address setting from switch S1 then the SPI access goes to this cape. P8-7 is a sub address which determines the onboard resource to access. If it is low then the SPI access goes to the output drivers, if high then to the 16 LEDs.

P9-23 is the interrupt (IRQ) line. An IRQ pulls it low via open drain from U26. The host (BBB) needs to poll all capes which have interrupt capability configured to identify the issuer of the IRQ.



Outputs available from P9 header pins:

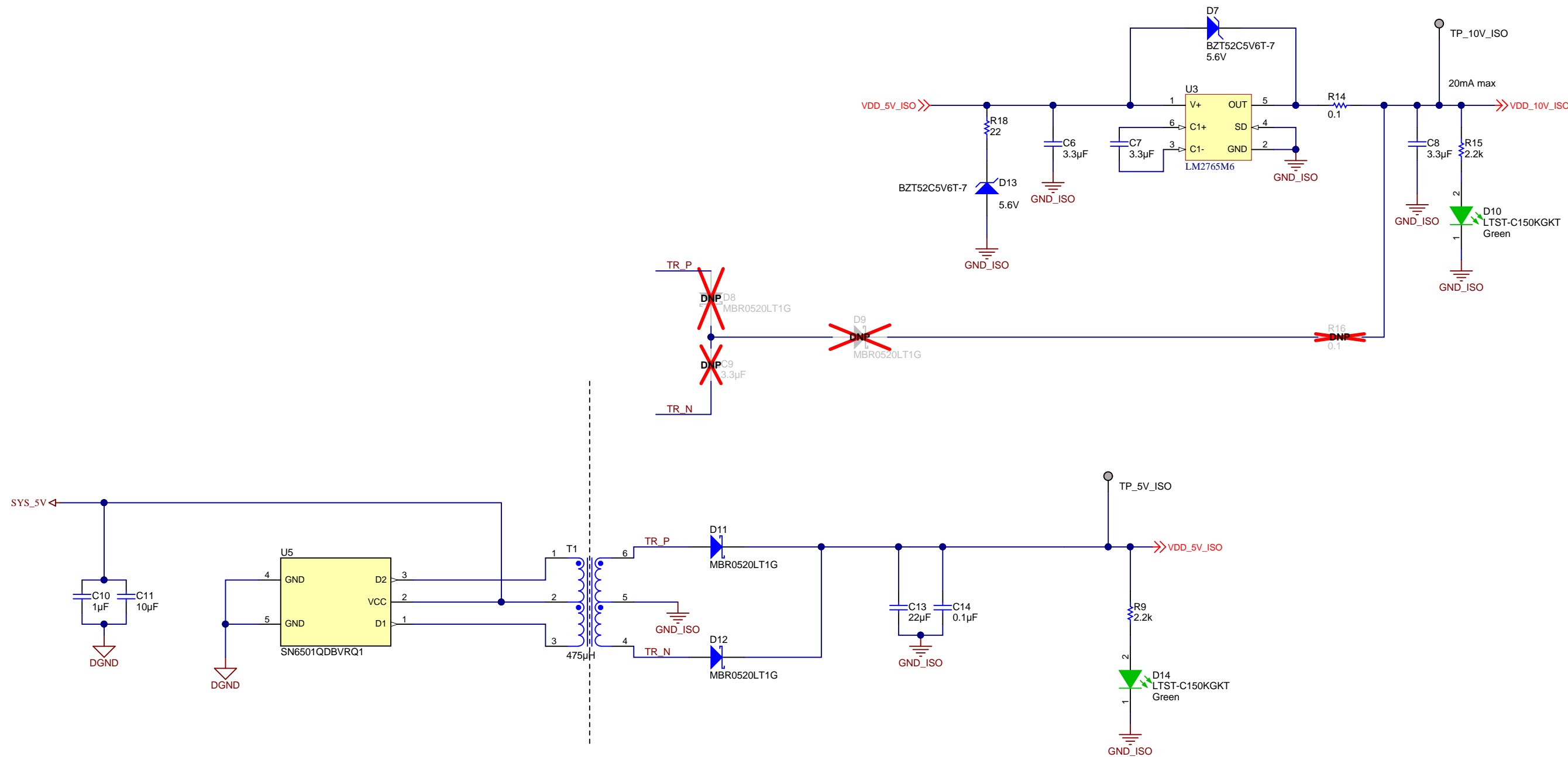
- P9-11 ser cape A0
- P9-12 DigO - TIDA-00320
- P9-13 ser cape A1
- P9-14 PWM option
- P9-15 DigO - TIDA-00320
- P9-16 PWM option
- P9-17 I2C1 SCL
- P9-18 I2C1 SDA
- P9-21 DigO - TIDA-00320
- P9-22 DigO - TIDA-00320
- P9-23 DigO - TIDA-00320
- P9-24 UART1 TXD
- P9-26 UART1 RXD
- P9-27 PTO



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TID #: TIDA-00319	Project Title: High Speed Digital Output Module for PLC	
Number: TIDA-00319	Rev: E1	Sheet: 3 of 3
SVN Rev: Version control disabled	Assembly Variant: 001	File: TIDA-00319_HSDO_module_BBB_connector.SchDoc
Drawn By:	Engineer: Ahmed Noeman	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>

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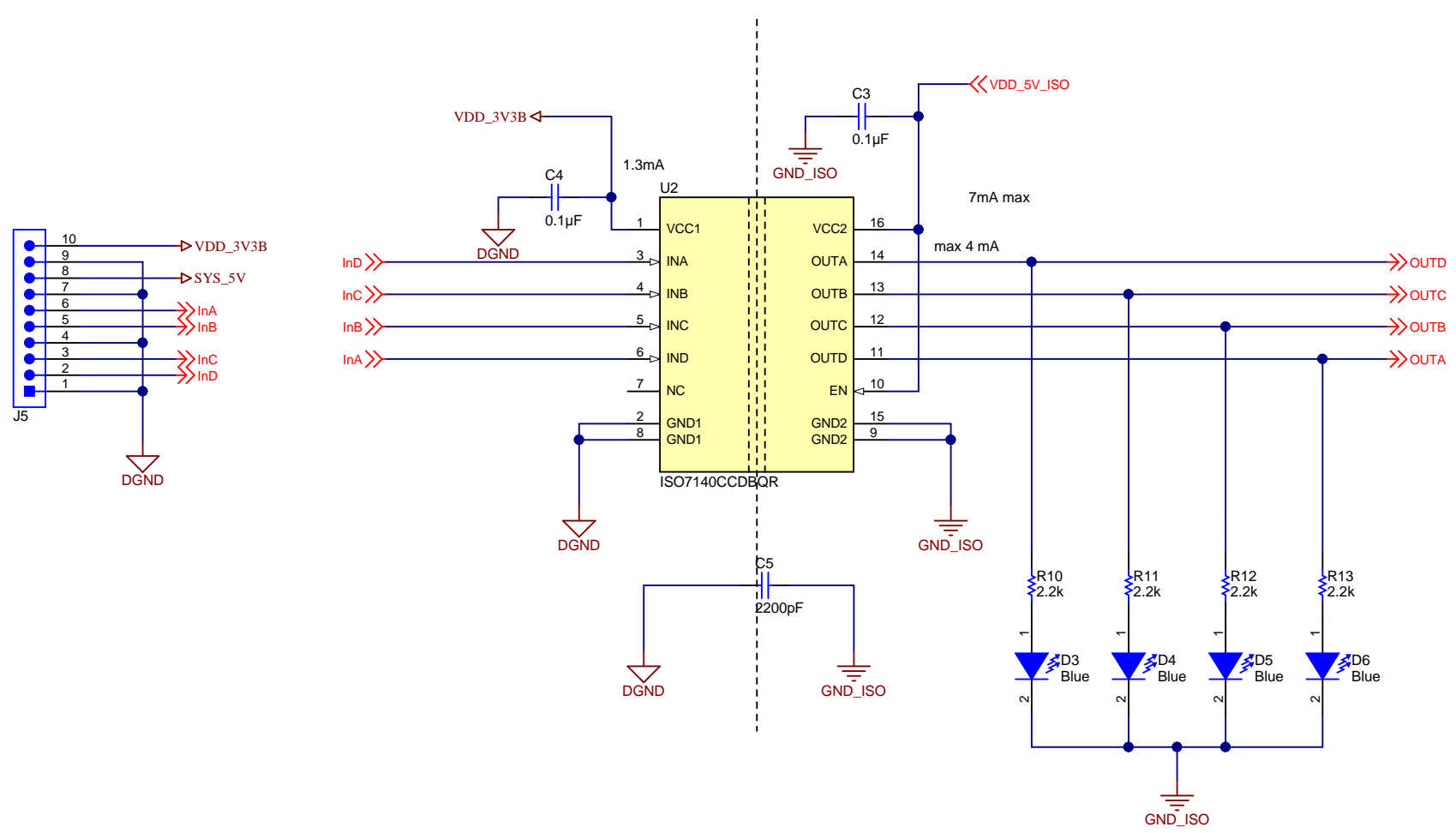


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TID #: TIDA-00319	Project Title: High Speed Digital Output Module for PLC	
Number: TIDA-00319	Rev: E1	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 4 of 3
Drawn By: Ahmed Noeman	File: TIDA-00319_HSDO_module_power.SchDoc	Size: B
Engineer: Ahmed Noeman	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	



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TID #: TIDA-00319	Project Title: High Speed Digital Output Module for PLC	
Number: TIDA-00319	Rev: E1	Sheet Title:
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 5 of 3
Drawn By: Ahmed Noeman	File: TIDA-00319_HSDO_module_isolation.SchDoc	Size: B
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