

NOTES, UNLESS OTHERWISE SPECIFIED:

1. The netname "P1P2V" represents connection to the +1.2V power plane.
2. The netname "P1P9V" represents connection to the +1.9V power plane.
3. The netname "P3P3V" represents connection to the +3.3V power plane.
4. The netname "P2P5V" represents connection to the +2.5V power plane.
5. The netname "P5V" represents connection to the +5.0V power plane.
6. The netname "P12V" represents connection to the +12.0V power plane.
7. The netname "GND" represents connection to the ground plane.
8. A "Z" suffix on a signal name indicates an active low signal.
9. All components with designators "U*", "Q*", and "D*" are electrostatic discharge sensitive.
10. All components with designators above 500 are mounted solder side of the board.
11. All resistor values are in ohms.
12. All capacitor values in microfarads unless otherwise specified.



COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
A	ECO 2128668: Initial Release	12/06/2012	HPC
B	ECO 2134134: REV B	06/18/2013	HPC
C	ECO 2135374: REV C	08/15/2013	HPC
D		04/7/2016	
E		01/11/2017	

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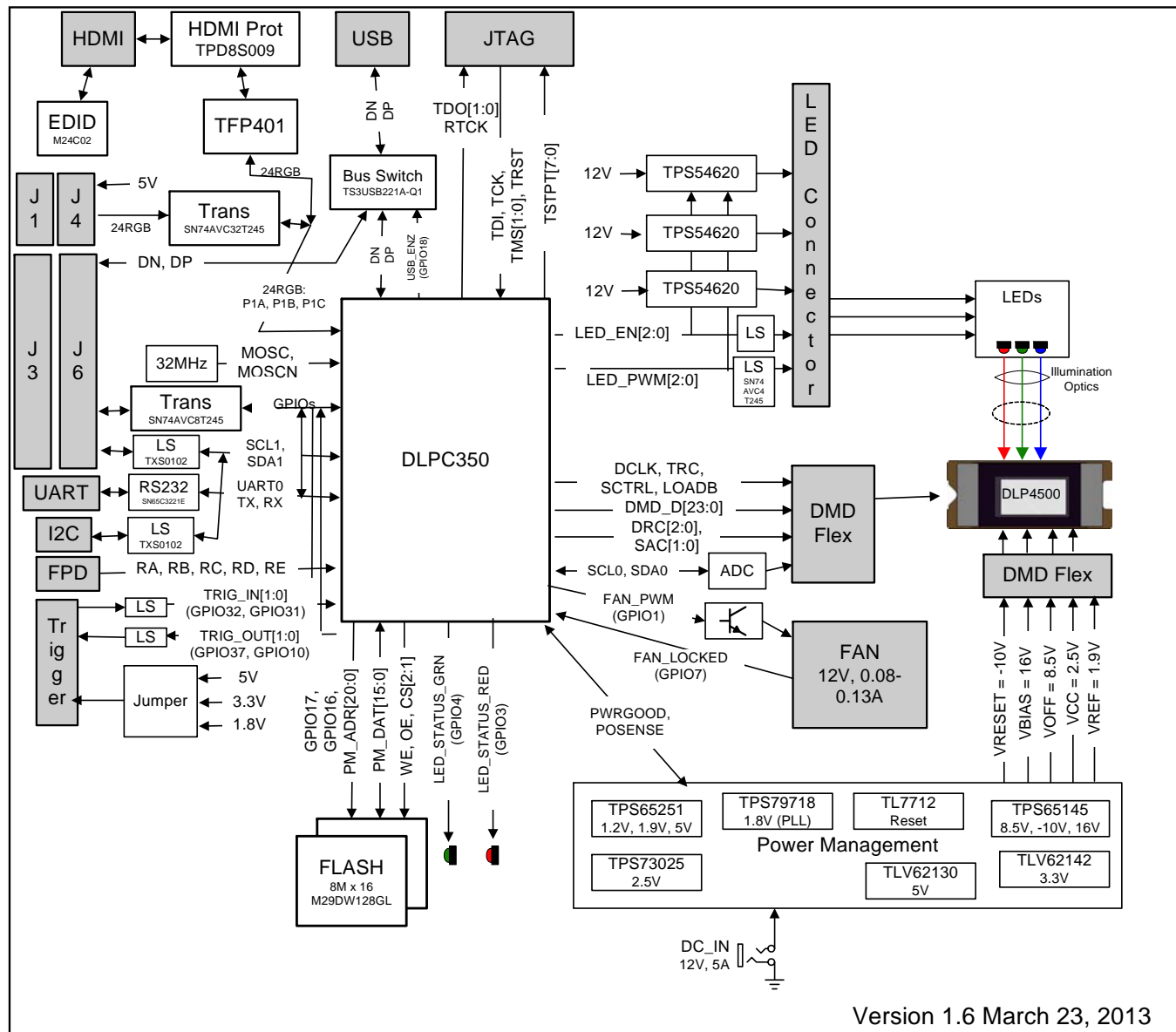
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		ENGR		08/15/2013					
		APVD		08/15/2013					
		MFG	TITLE ESD, LIGHTCRAFTER 4500						
N/A	0314PO	QA							
NEXT ASSY	USED ON				A3	DRAWING NO	2512909	REV	E
APPLICATION		SW	Allegro Design Entry 16.5			SCALE	SHEET 1 of 29		

BLOCK DIAGRAM



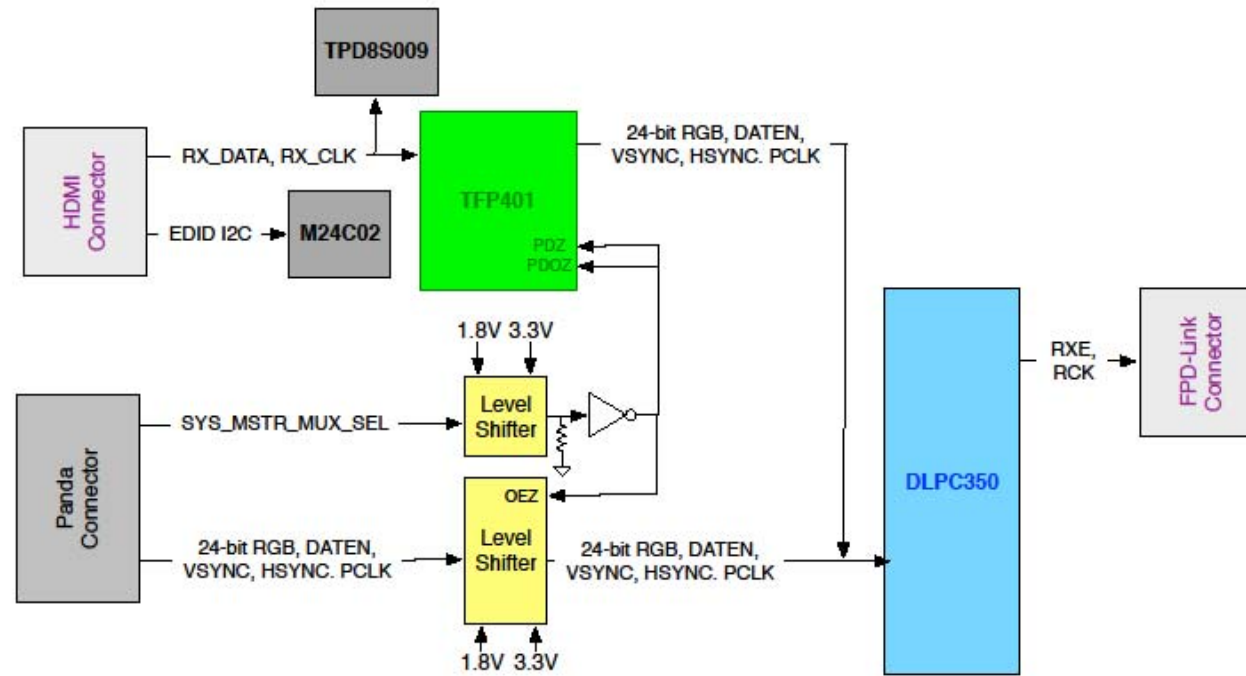
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TEXAS INSTRUMENTS

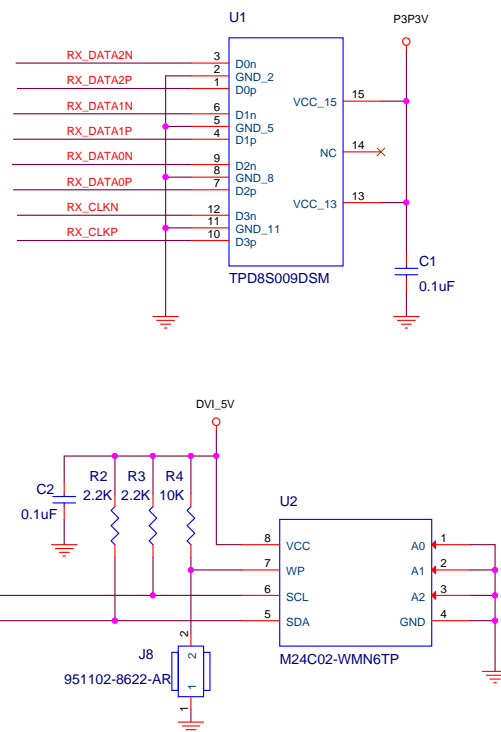
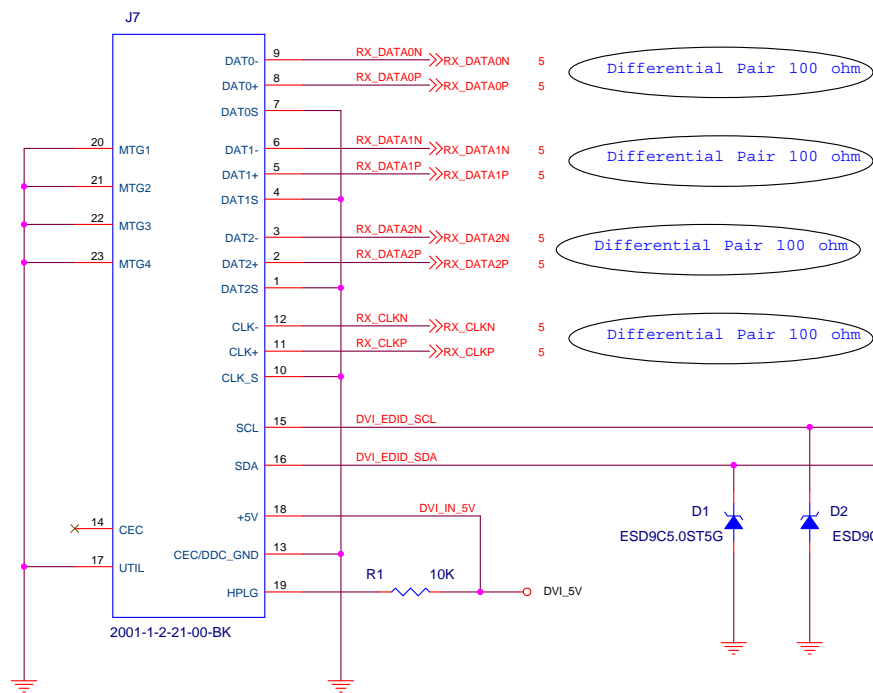
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ISSUE DATE		SCALE	SHEET 2 OF 29	

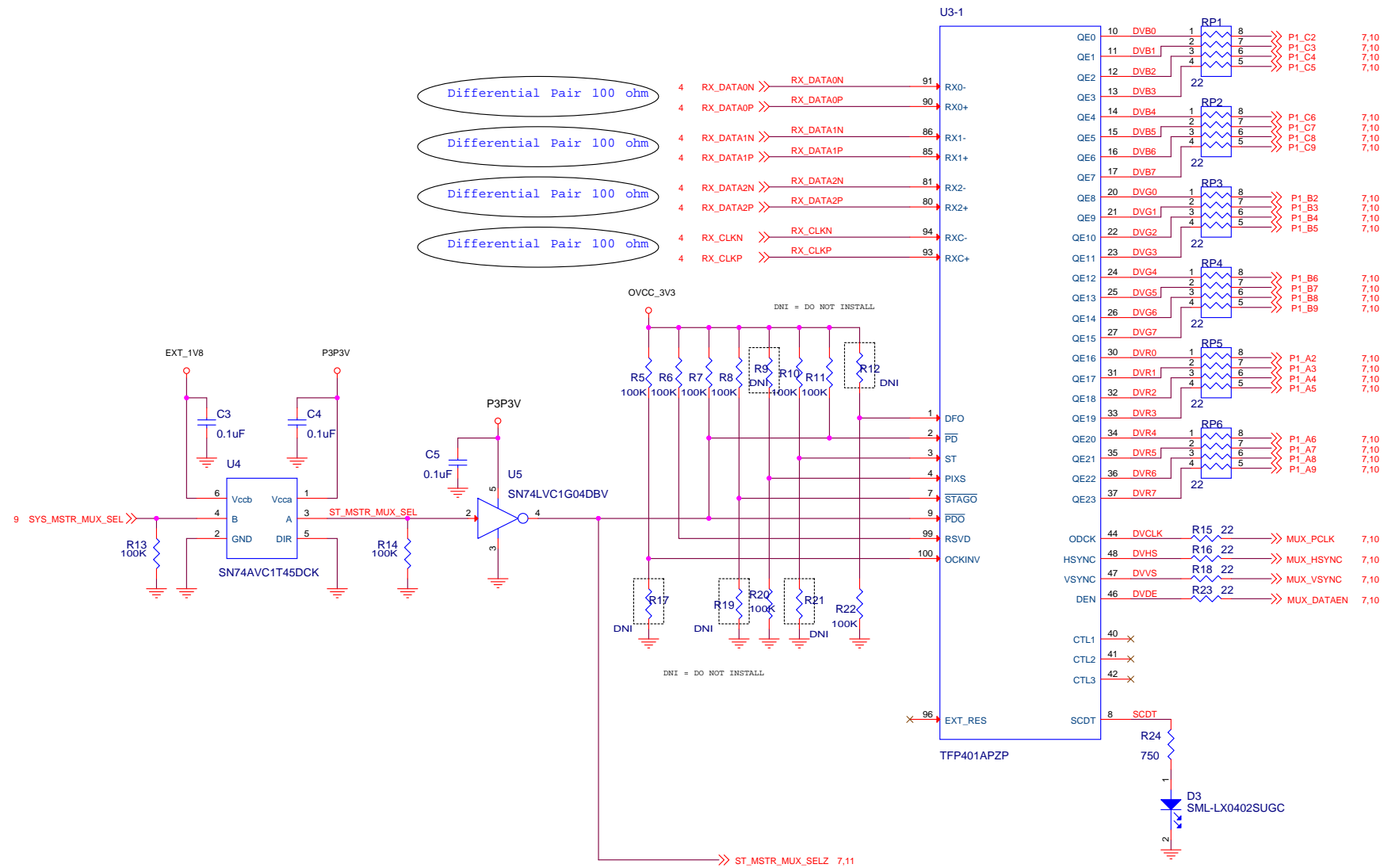
Video Input and Muxing



TEXAS INSTRUMENTS

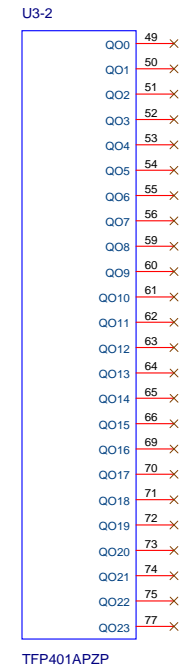
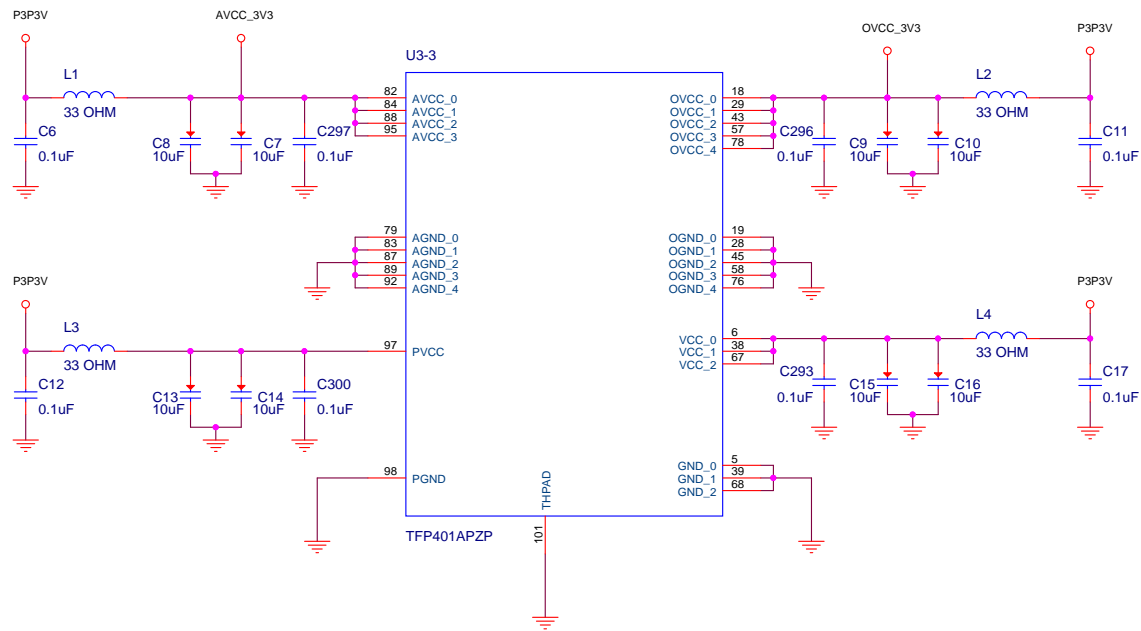
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ISSUE DATE		SCALE	SHEET 3 OF 29	



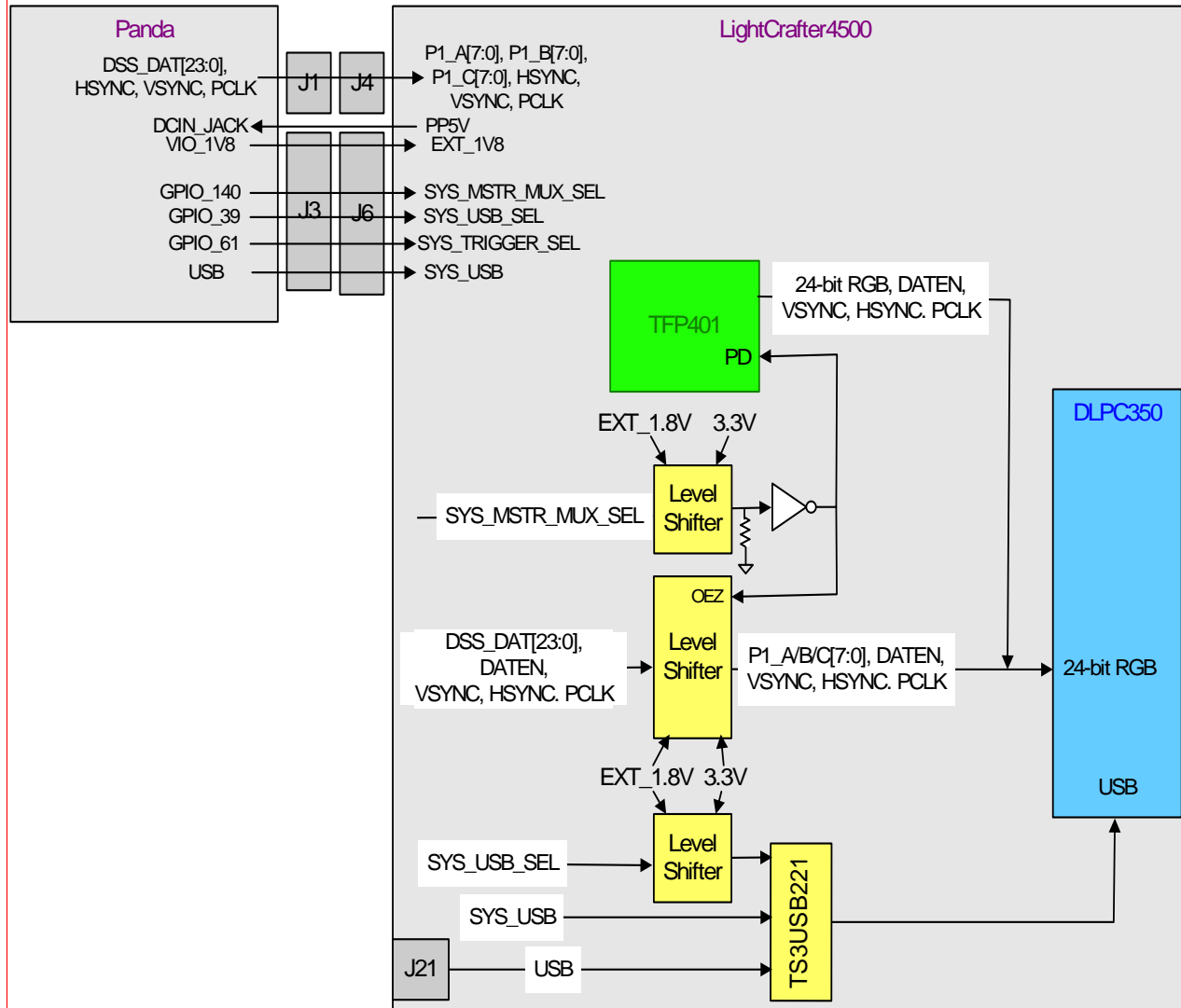


TEXAS INSTRUMENTS

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	08/15/2013		2512909	E
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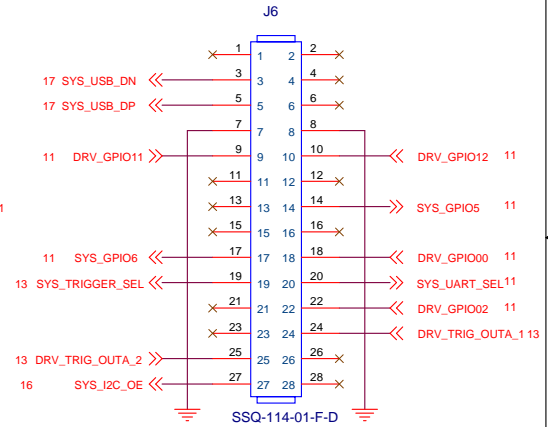
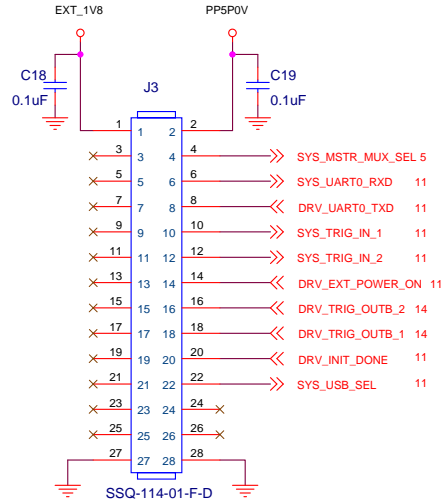
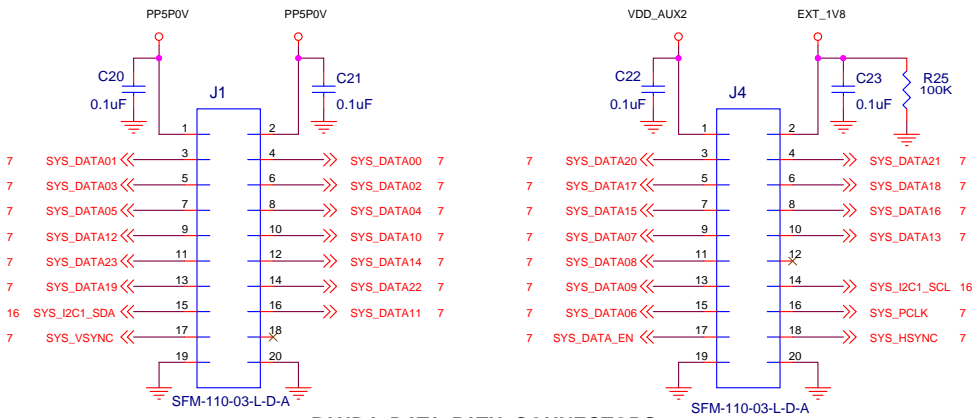


Panda Connections



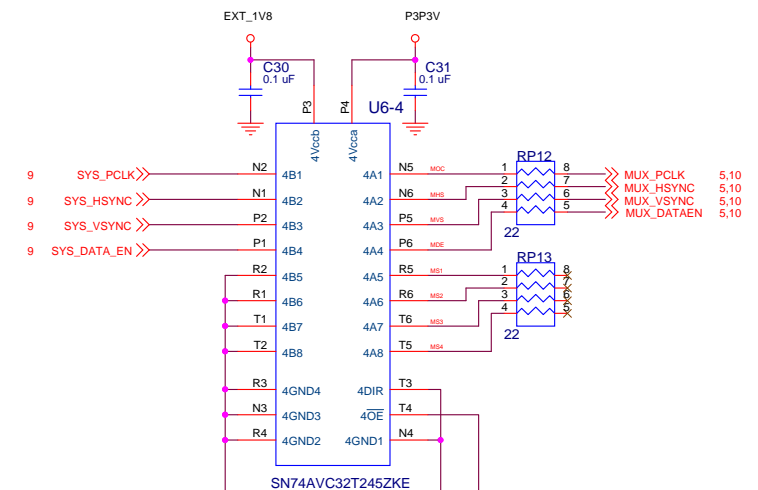
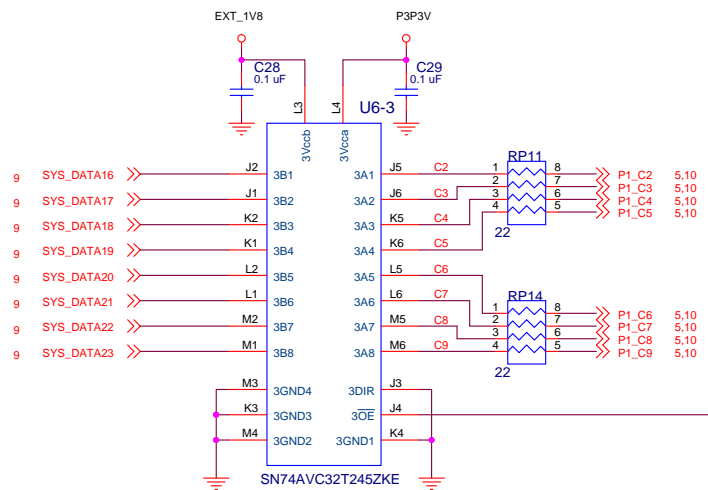
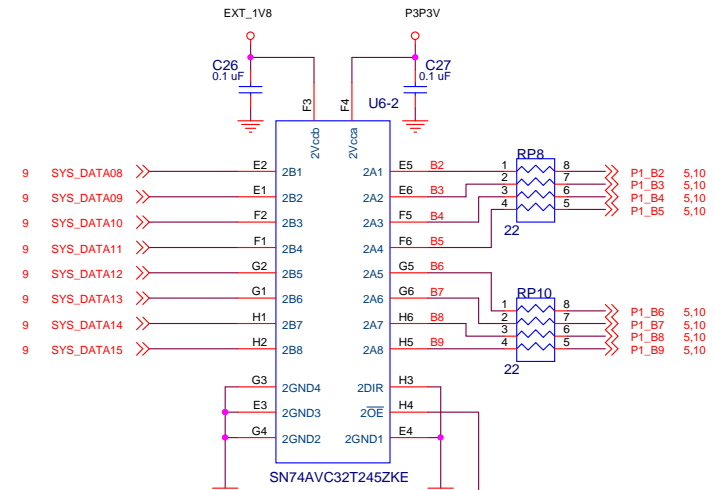
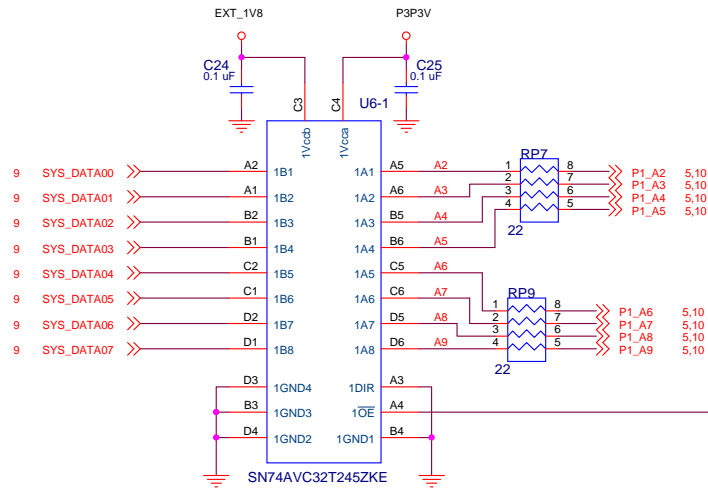
Panda to LightCrafter 4500 Connections

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		08/15/2013					
		ISSUE DATE		SCALE	SHEET 7 OF 29		



Processor Interface Connectors

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		08/15/2013					
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5.11 ST_MSTR_MUX_SELZ >>

TEXAS INSTRUMENTS

DWN DATE 08/15/2013
ISSUE DATE

A3 DRAWING NO 2512909

REV E

SCALE SHEET 9 OF 29

NOTE:

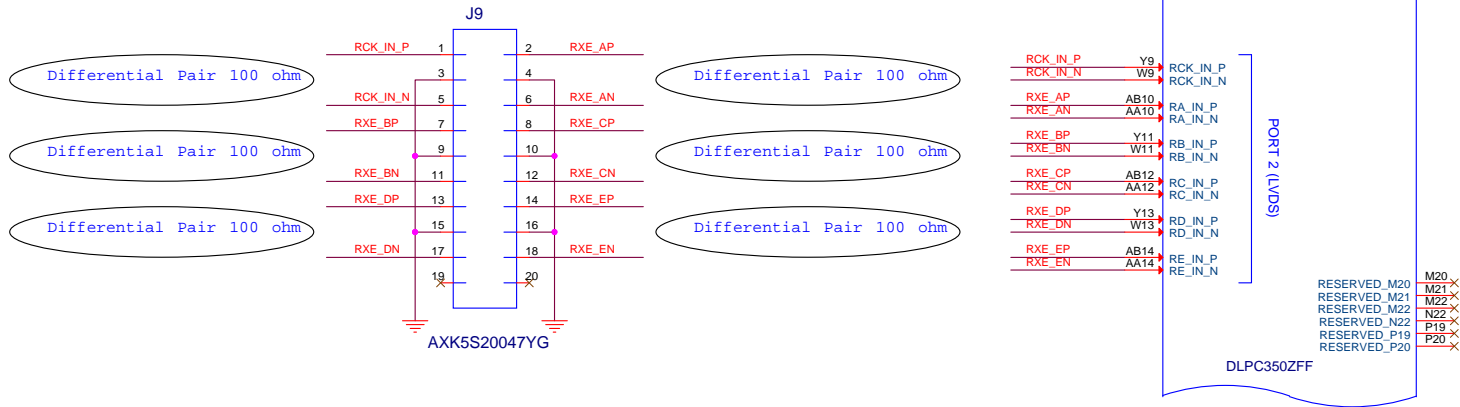
The input data channels can be configured to optimize board layout for each port.
Bitwise reordering is not supported.

For example, Y data could be connected to Port A, B, or C.
Port configuration is handled in the API Software.

NOTE:

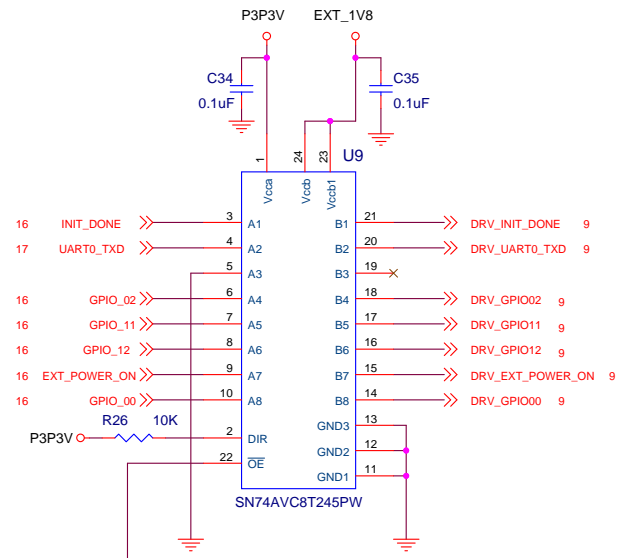
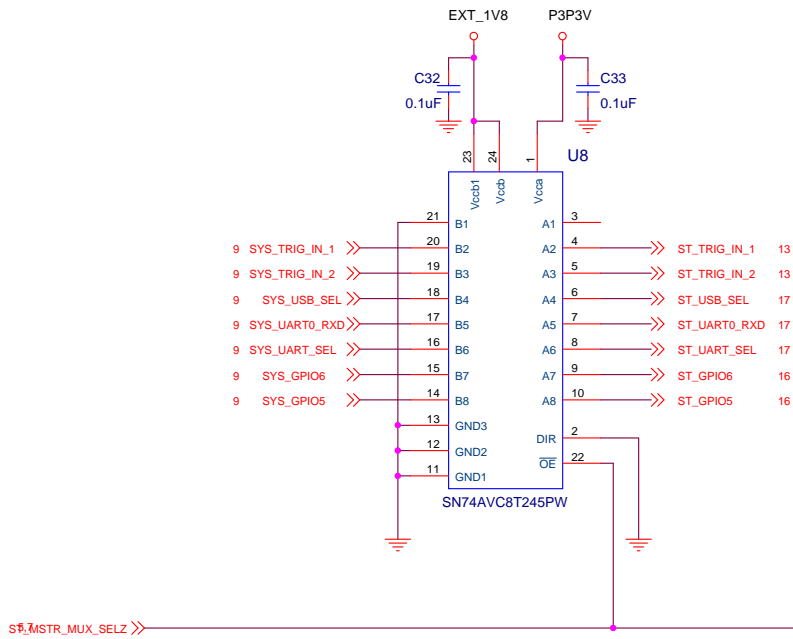
If only one input clock is used, then P1A_CLK should be connected, and P1B_CLK and P1C_CLK should not be connected.

Front End Clocks	
P1A_CLK	P1_CLK
P1B_CLK	P2_CLK
P1C_CLK	P3_CLK
RCK_IN_P	LVDS+ CLK
RCK_IN_N	LVDS- CLK



Front End Interface

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	08/15/2013						
	ISSUE DATE		SCALE		SHEET 10 OF 29		



TEXAS INSTRUMENTS

DWN DATE
08/15/2013

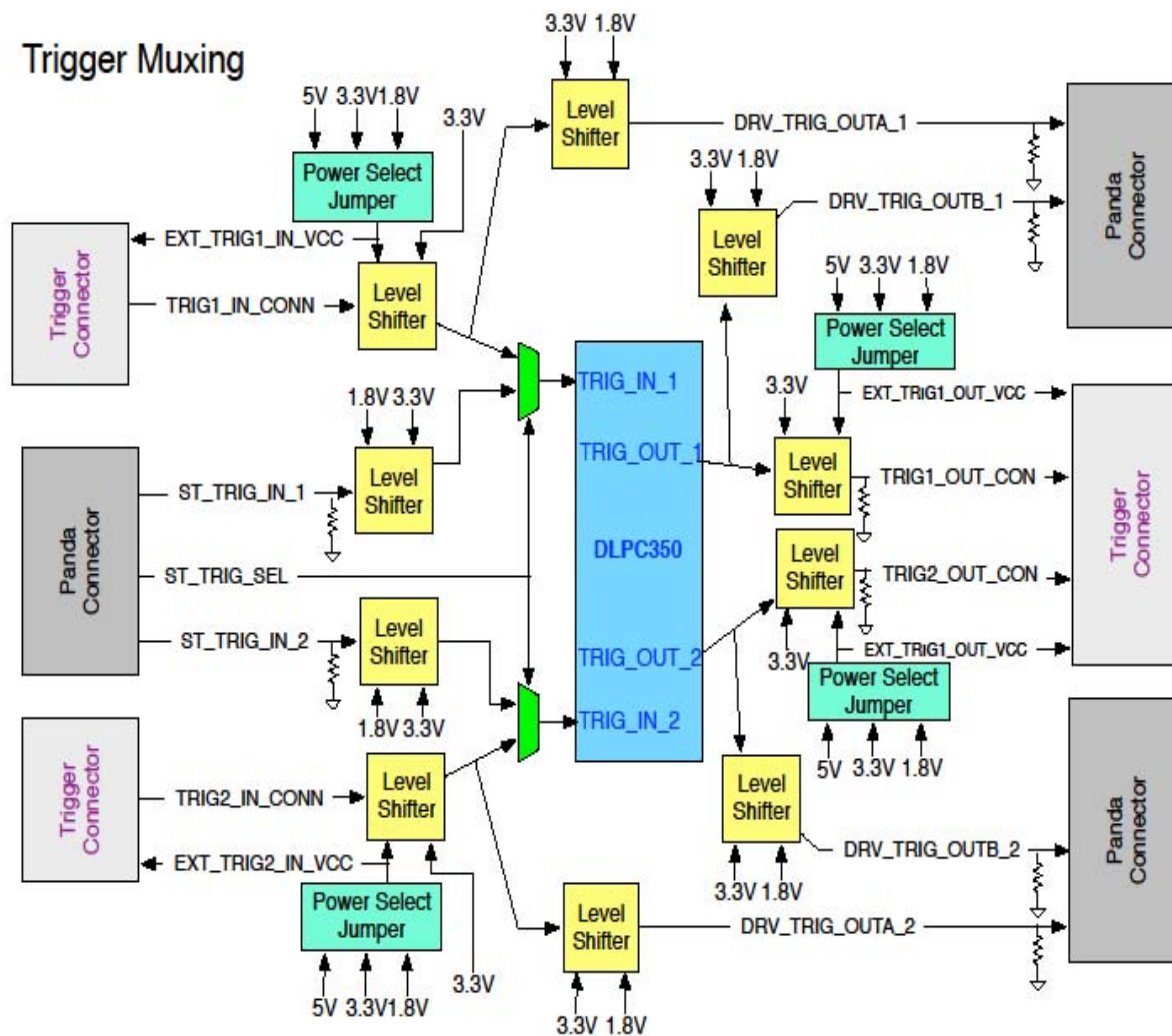
ISSUE DATE

A3 DRAWING NO
2512909

REV
E

SCALE SHEET 11 OF 29

Trigger Muxing



TEXAS INSTRUMENTS

DWN DATE
08/15/2013

ISSUE DATE

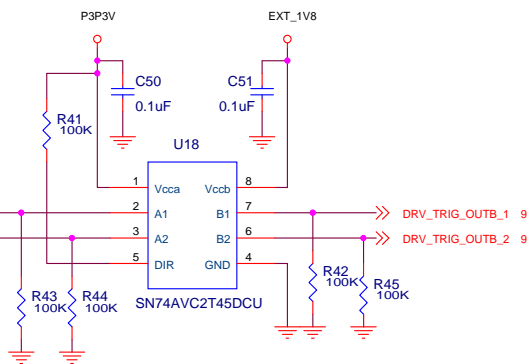
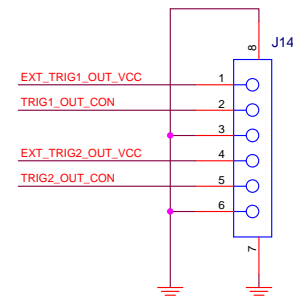
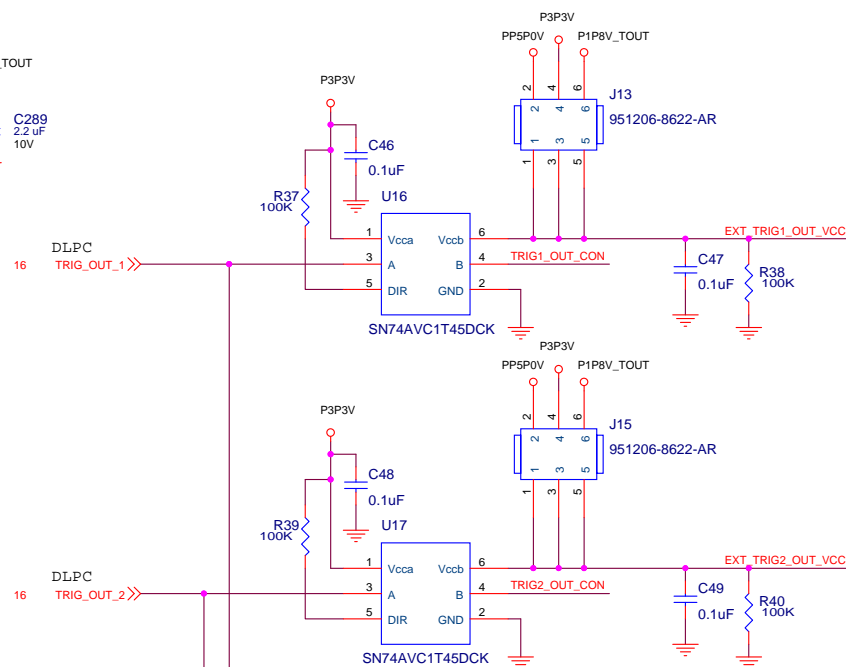
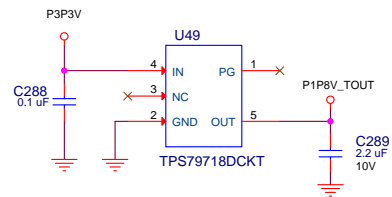
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DRAWING NO
2512909

REV
E

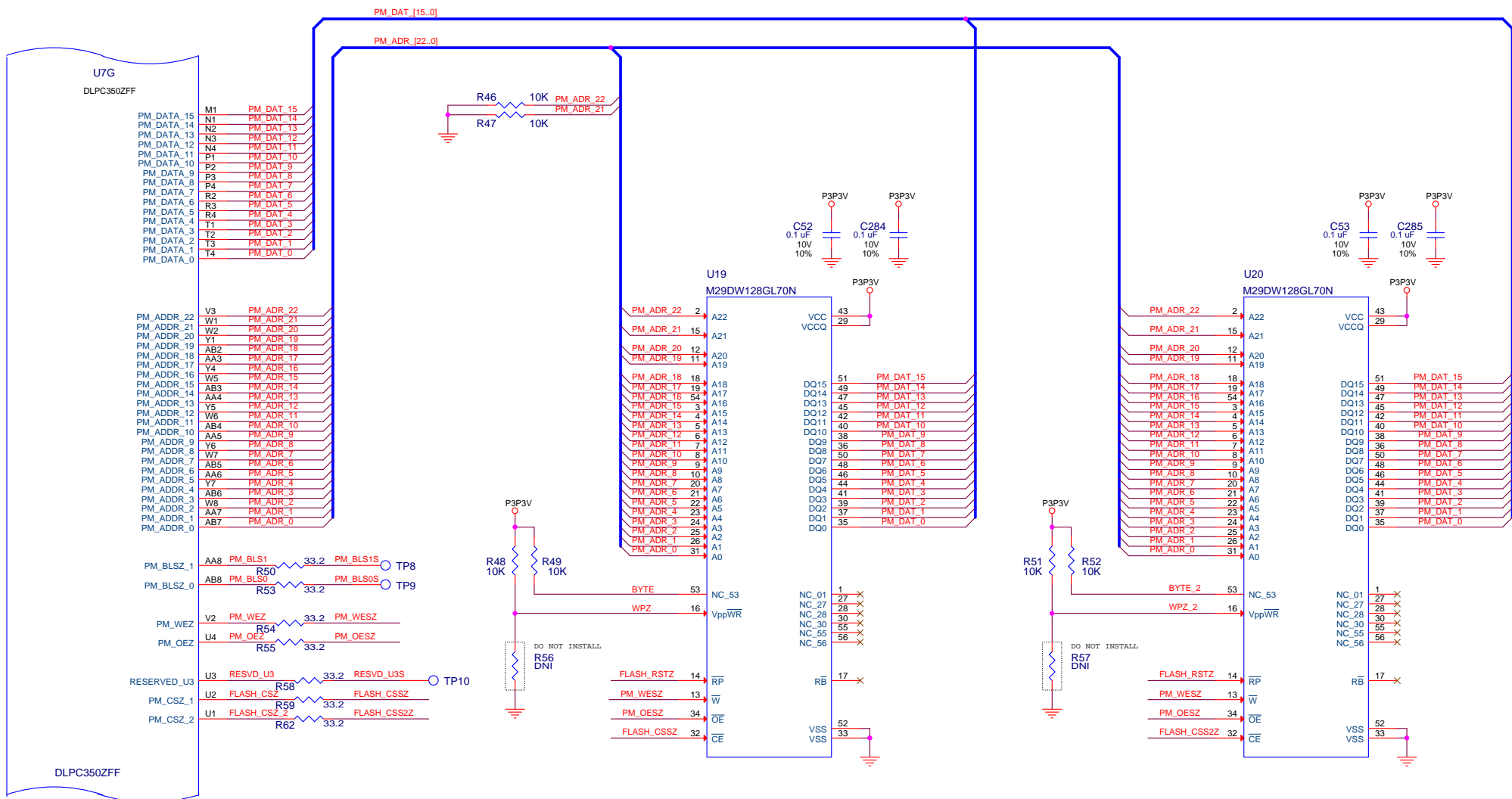
SCALE

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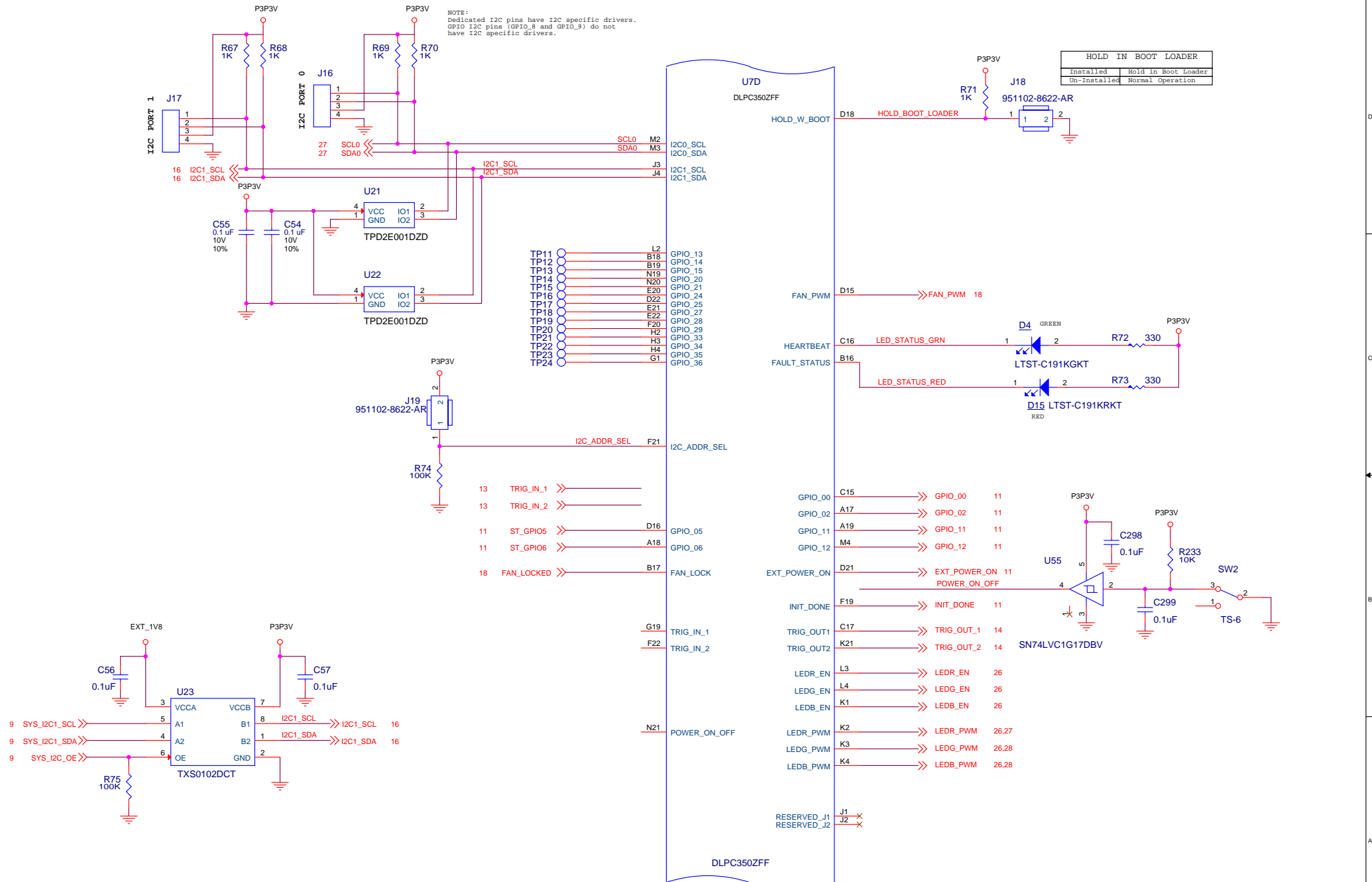
Trigger Output

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		08/15/2013					
		ISSUE DATE		SCALE		SHEET 14 OF 29	



Flash Memory Interface

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		08/15/2013					
	ISSUE DATE			SCALE	SHEET 15 OF 29		

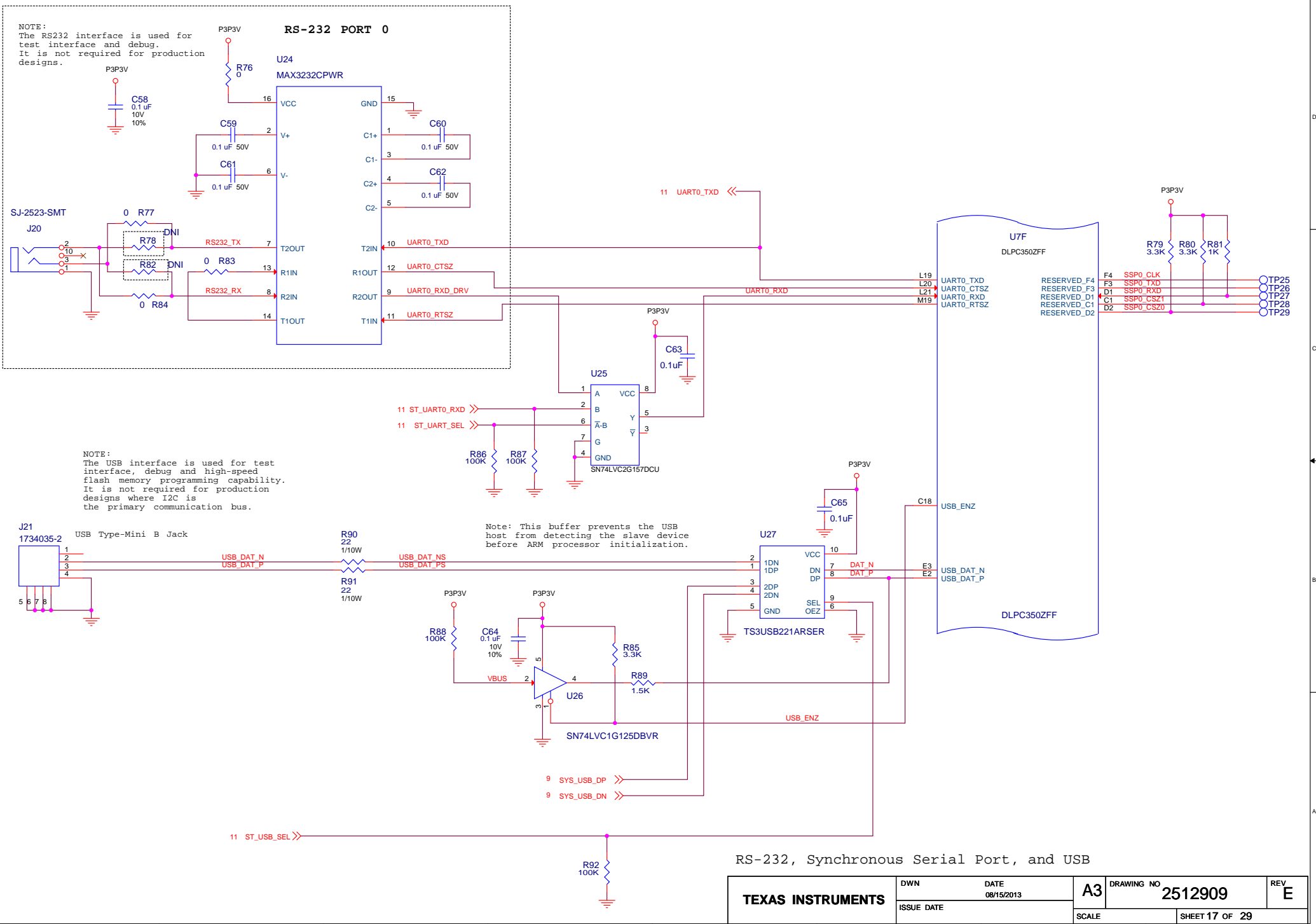


NOTE:
Dedicated I2C pins have I2C specific drivers.
GPIO I2C pins (GPIO_9 and GPIO_9) do not
have I2C specific drivers.

HOLD IN BOOT LOADER	
Installed	Hold in Boot Loader
Un-Installed	Normal Operation

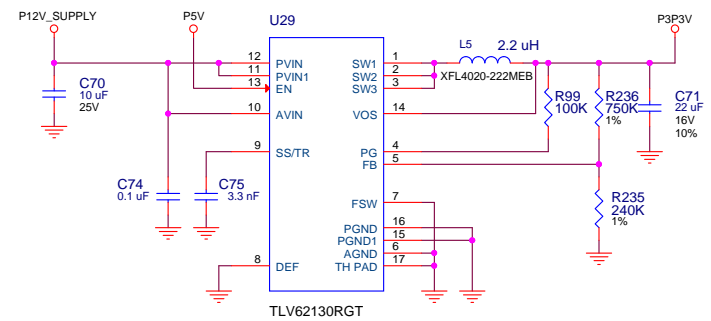
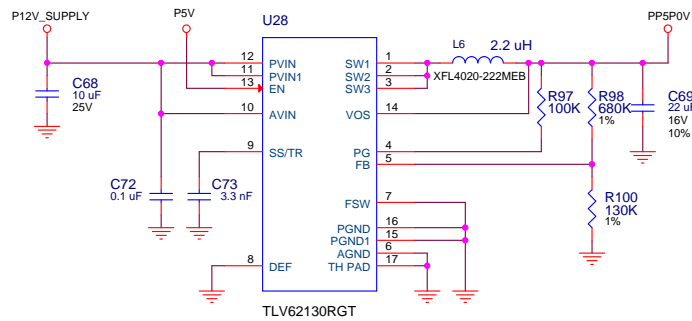
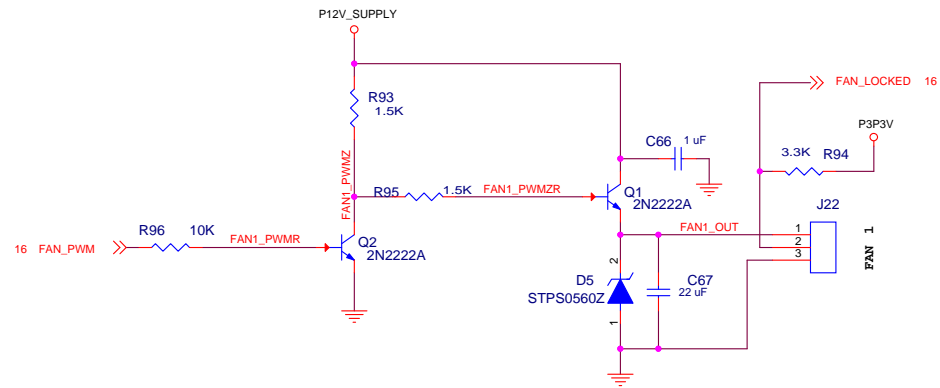
GPIO, I2C, and LED Control

NOTE:
The RS232 interface is used for test interface and debug.
It is not required for production designs.



RS-232, Synchronous Serial Port, and USB

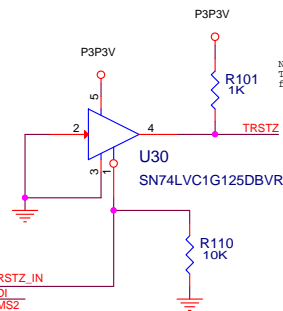
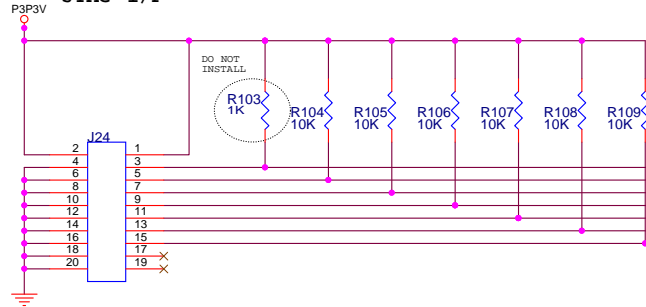
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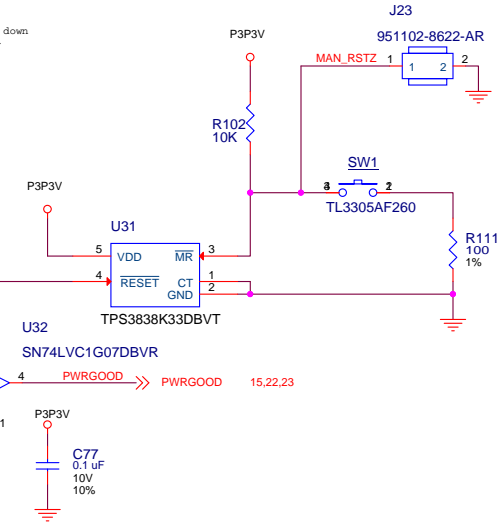
Fan, 3.3V & Panda 5.0V Power Supplies

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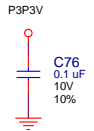
MULTI-ICE JTAG I/F



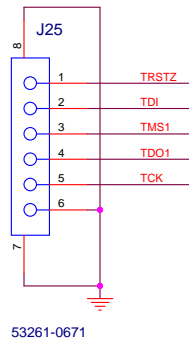
NOTE:
TRSTZ should be pulled down
for production designs.



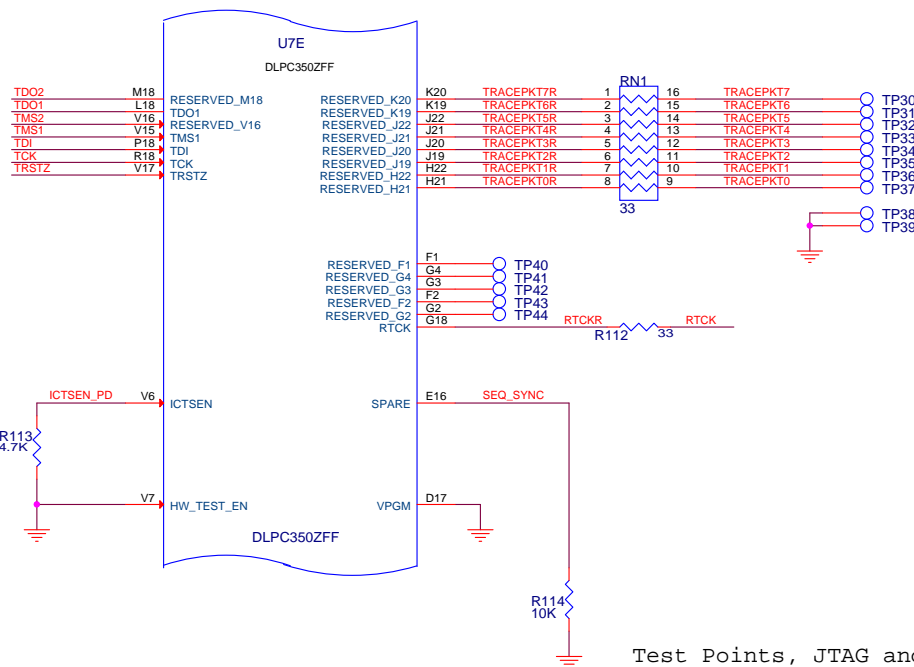
MANUAL RESET JUMPER	
INSTALLED	HOLD IN RESET
NOT INSTALLED	NORMAL OPERATION (DEFAULT)



JTAG BOUNDARY SCAN

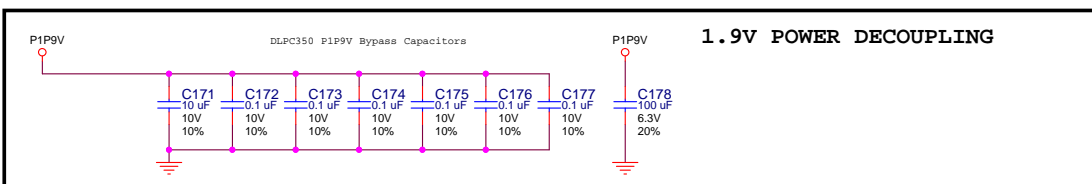
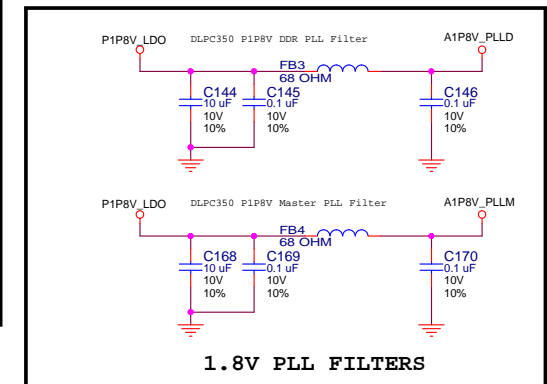
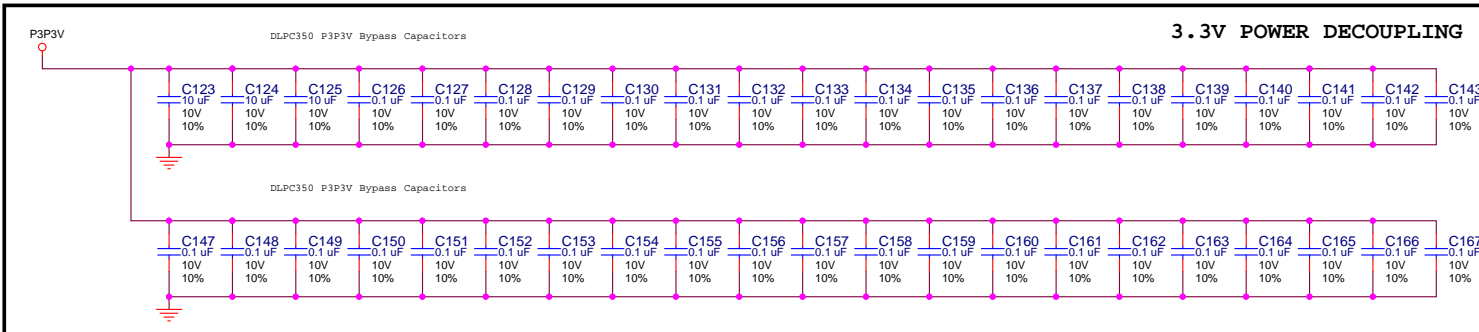
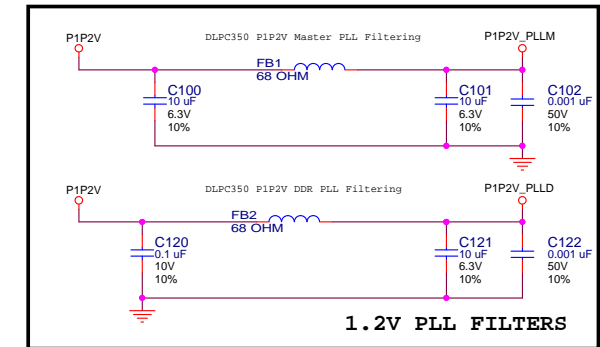
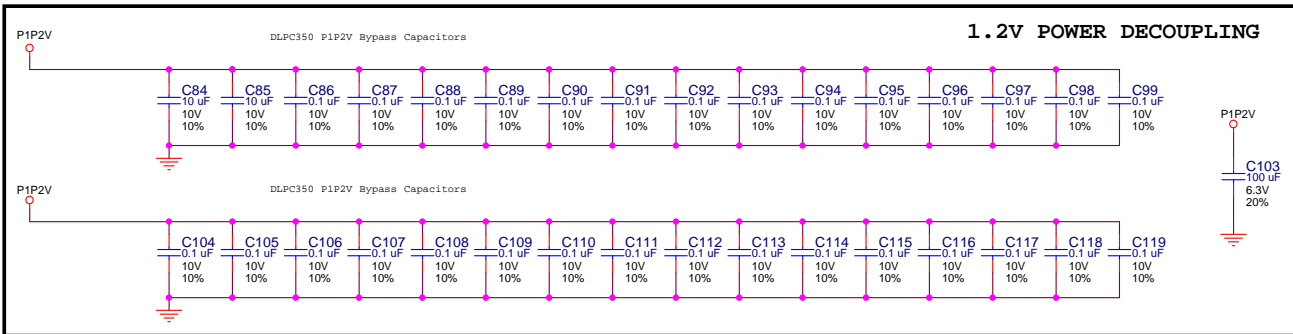
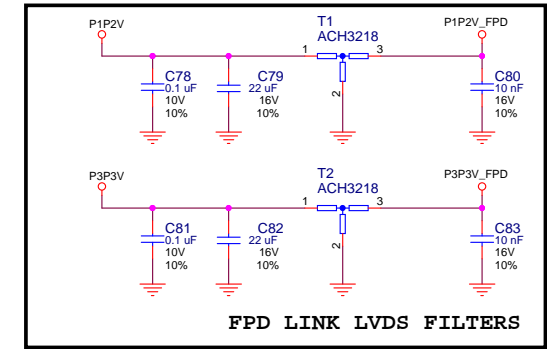
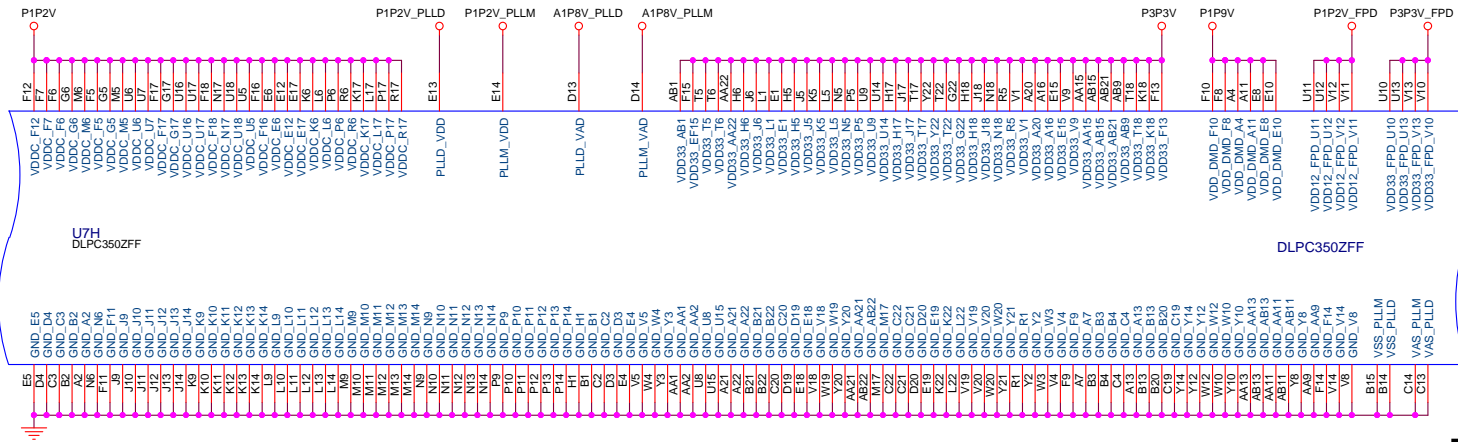


NOTE:
JTAG I/F, ARM Trace and Testpoint connectors and
signals are for board debug and test. They are not
required for production designs.



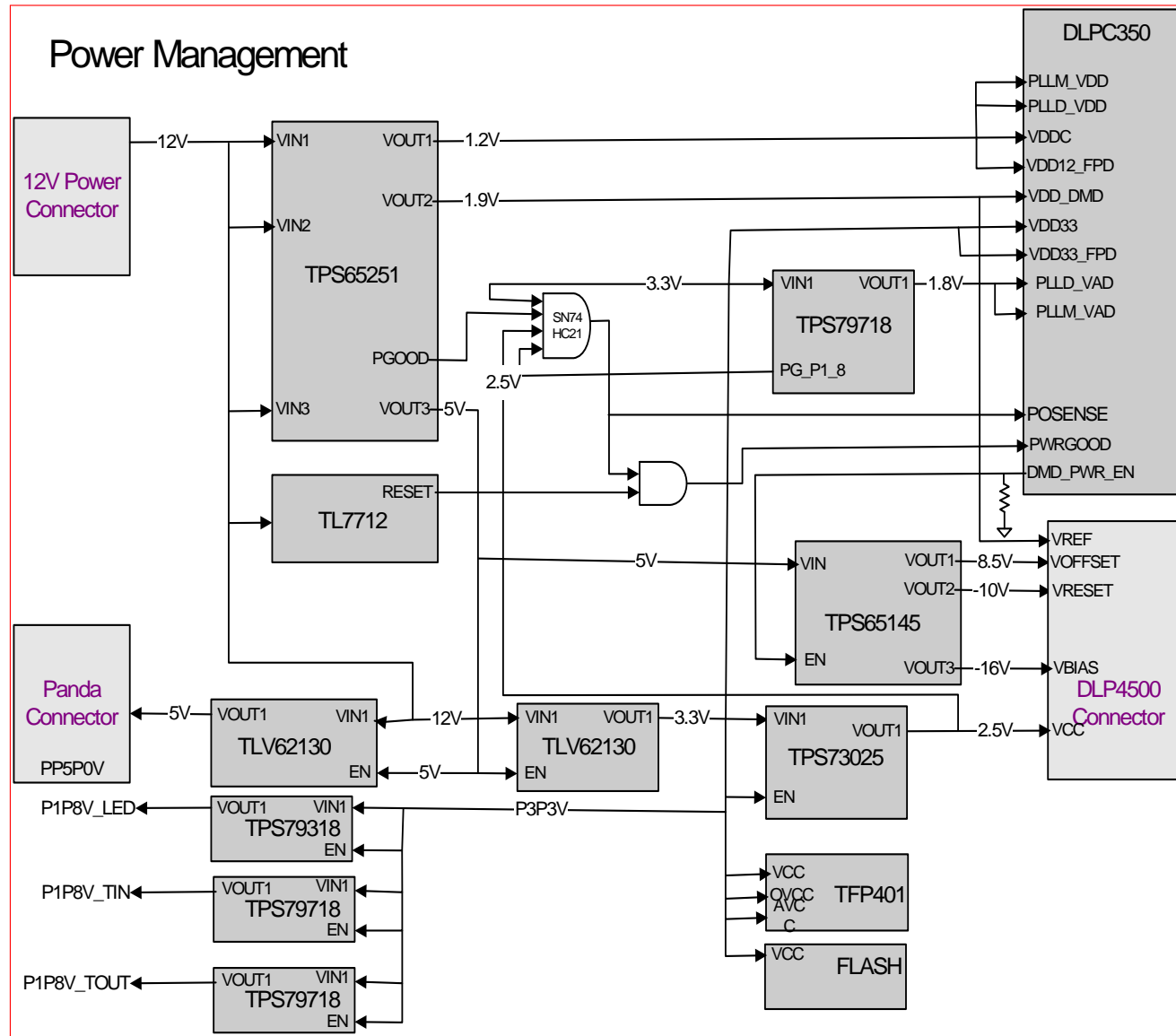
Test Points, JTAG and Reset

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		08/15/2013					
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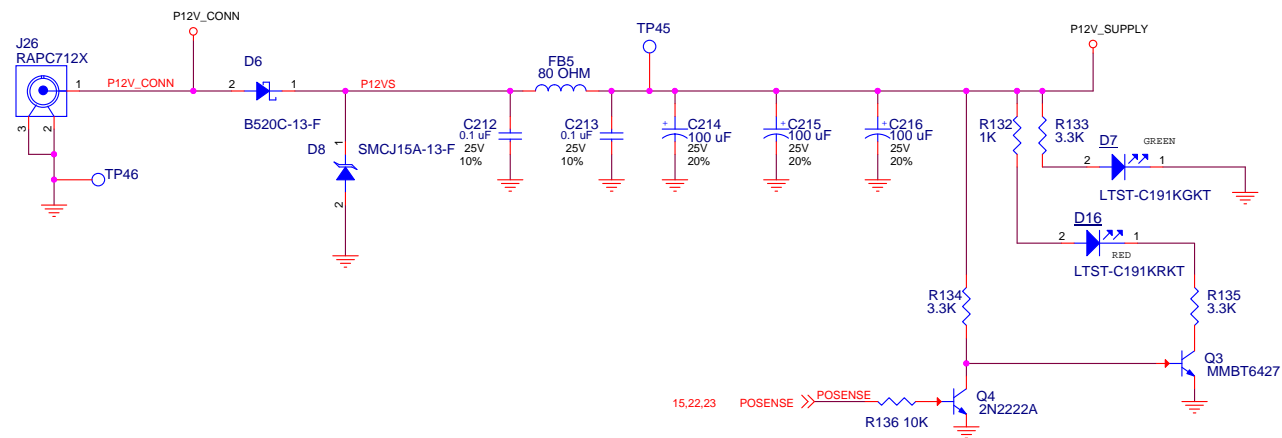
DLPC350 Power and Bypass Capacitors

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		08/15/2013					
		ISSUE DATE		SCALE		SHEET 20 OF 29	

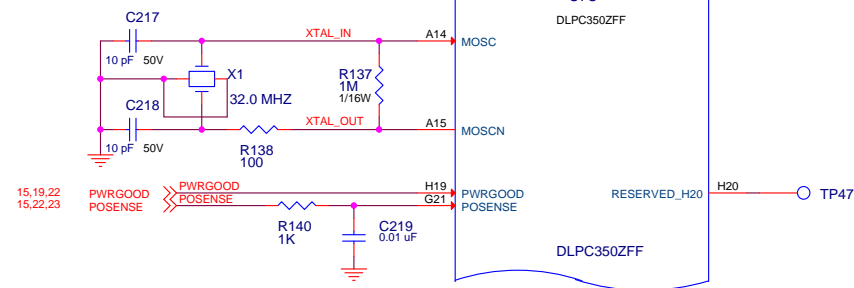


Power Management Block Diagram

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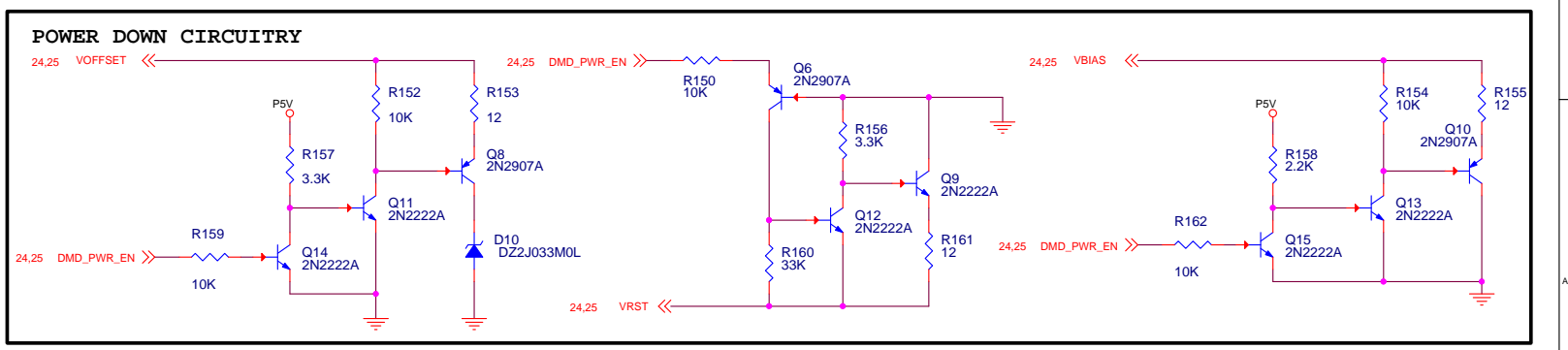
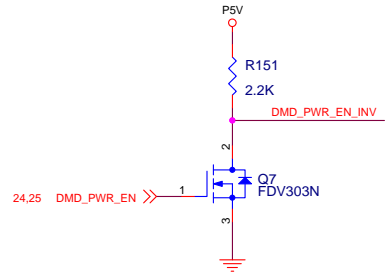
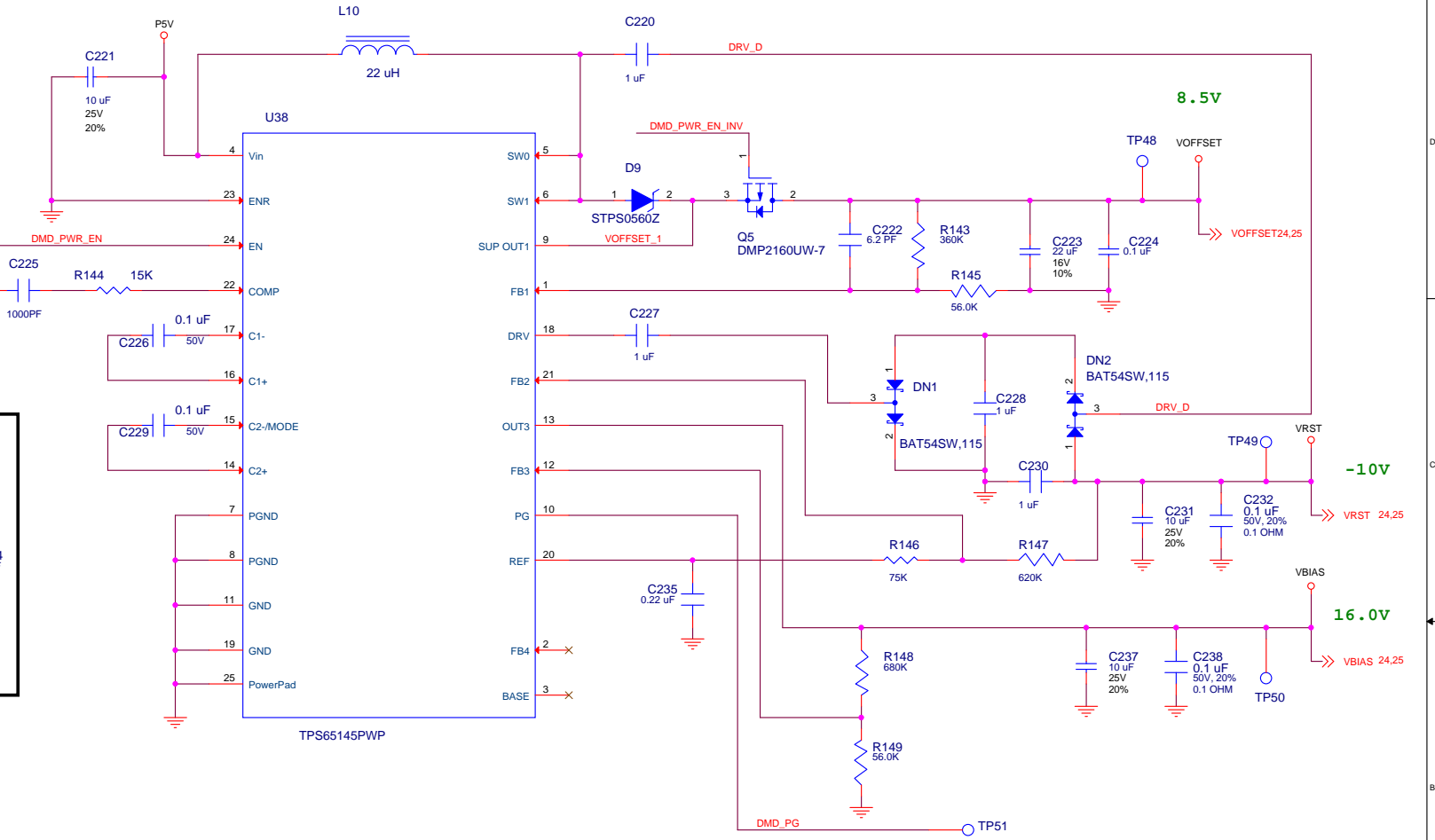
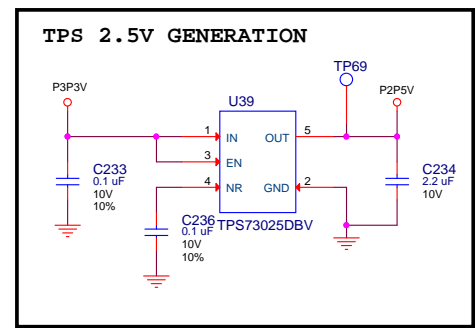
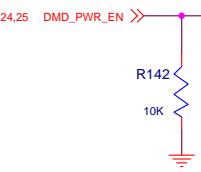
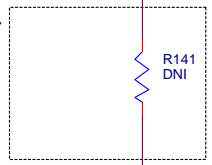
NOTE:
Place crystal circuit and associated
components near ASIC.

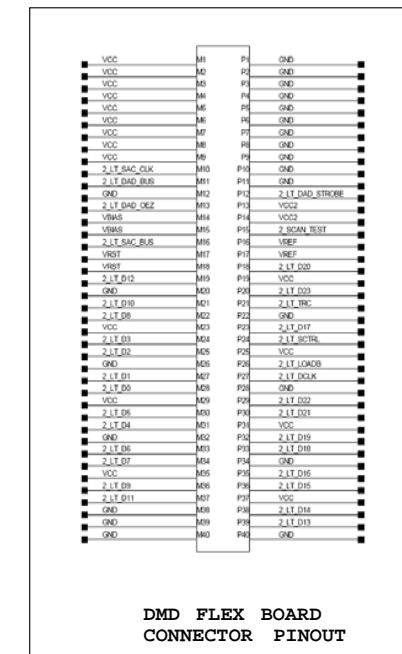
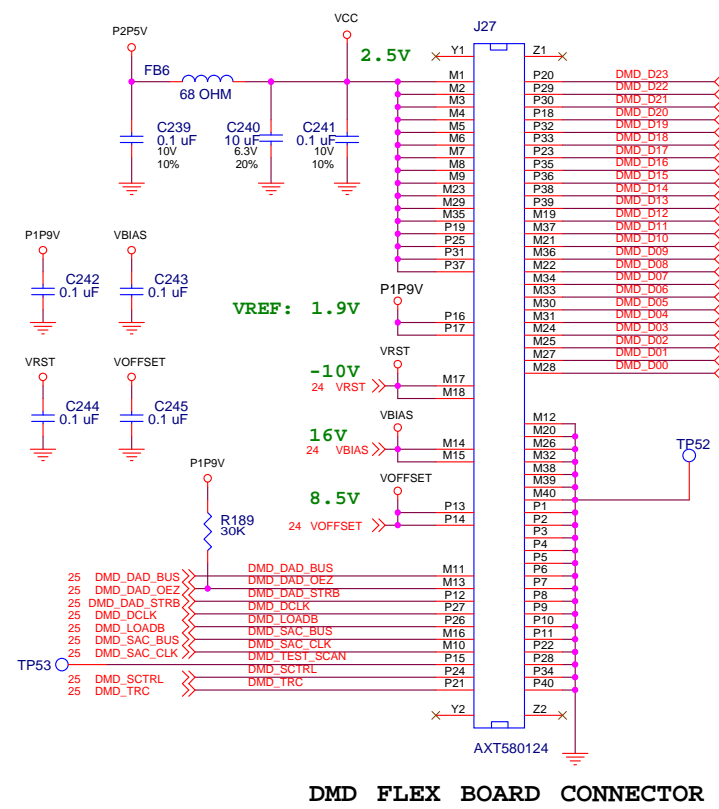
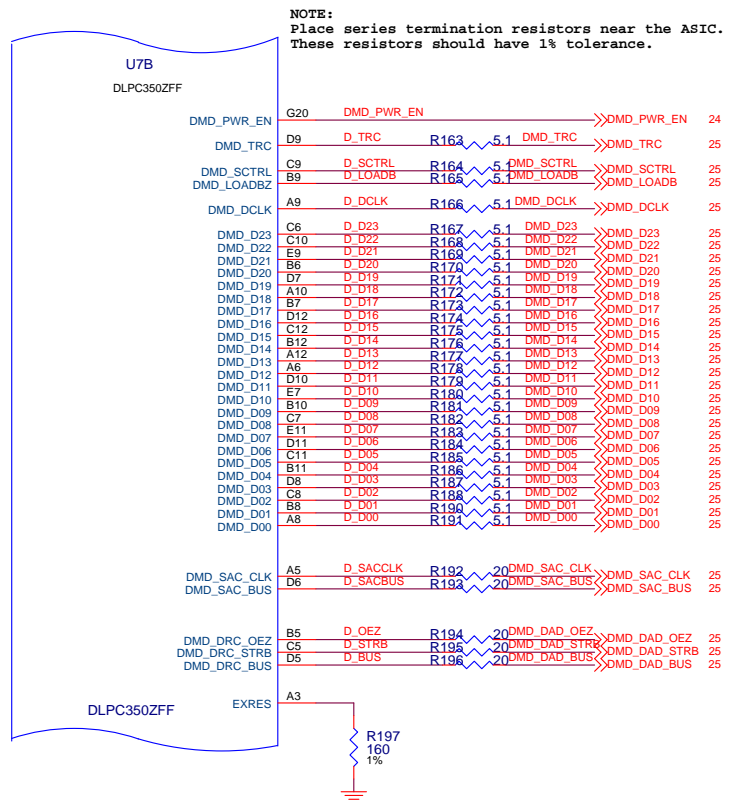


Input Power and Oscillator Input

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		ISSUE DATE		SCALE		SHEET 23 OF 29	

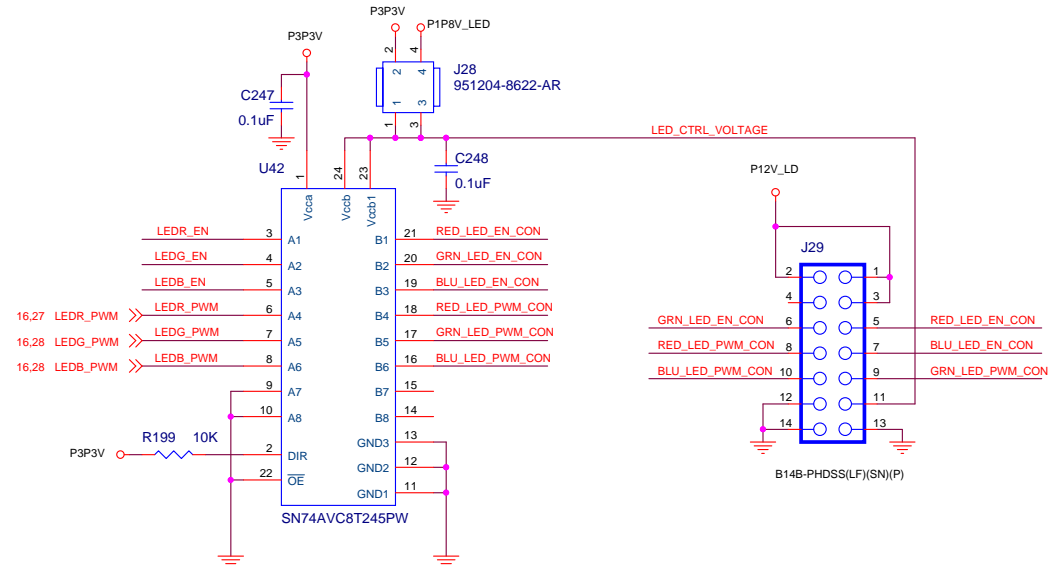
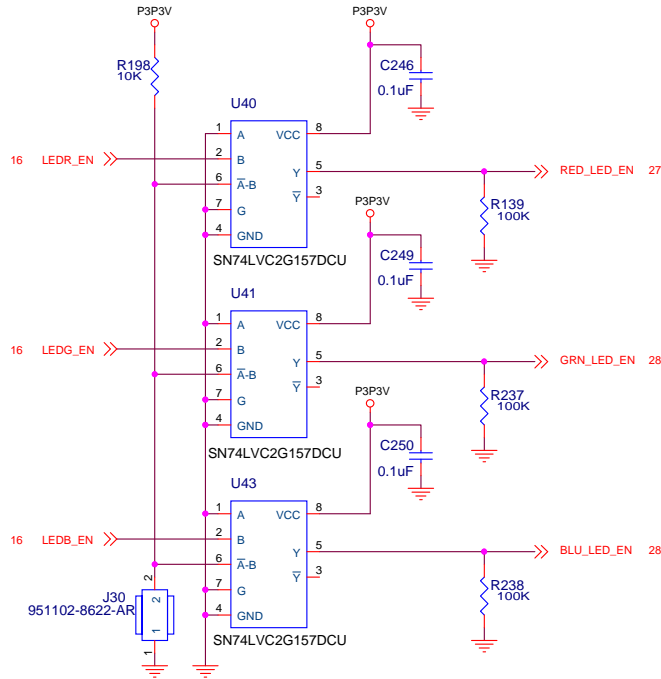
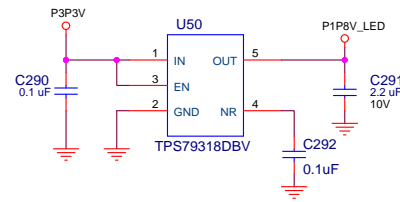
Do Not Install Resistor
if DMD is mounted





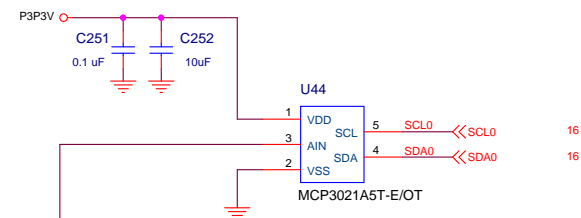
DMD Flex Interface

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		08/15/2013			
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TEXAS INSTRUMENTS

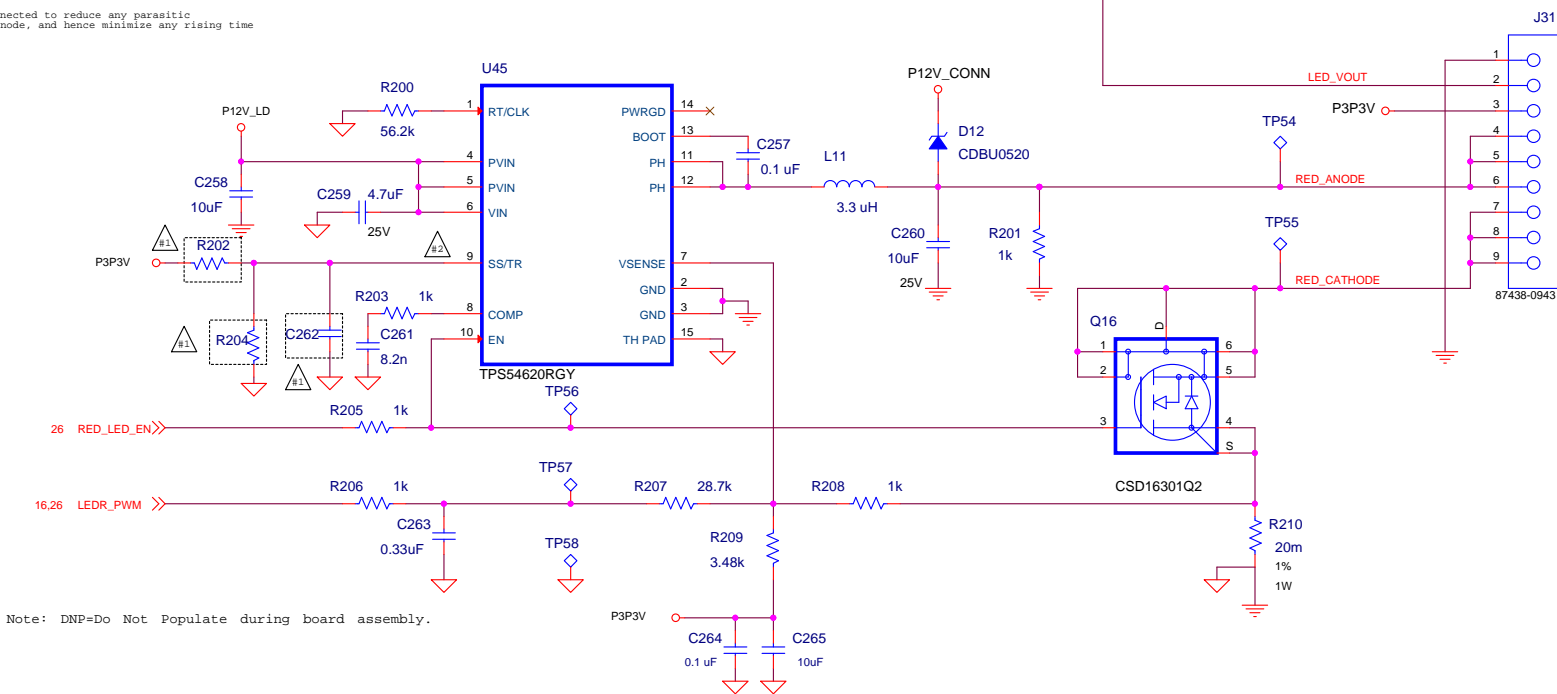
DWN	DATE 08/15/2013	A3	DRAWING NO 2512909	REV E
ISSUE DATE		SCALE	SHEET 26 OF 29	



RED LED DRIVER

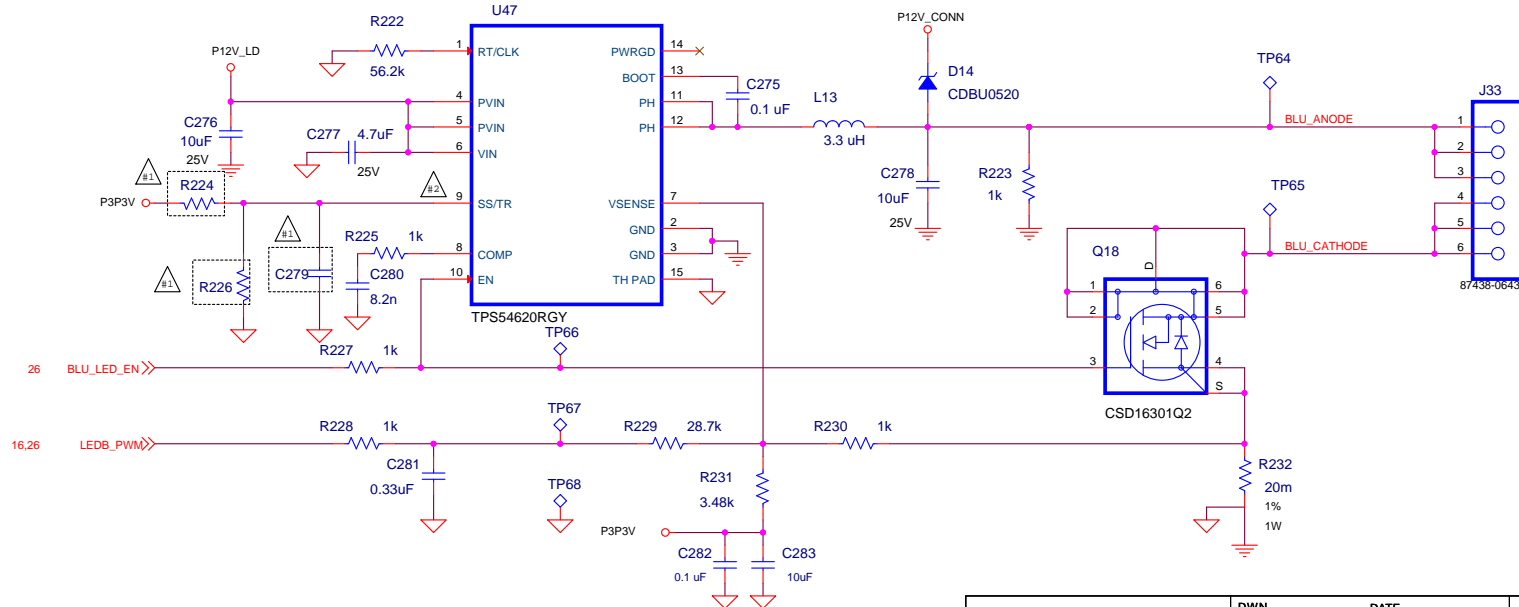
 DNI = DO NOT INSTALL

 Leave SS/TR pin unconnected to reduce any parasitic capacitance on this node, and hence minimize any rising time for the LED current



Note: DNP=Do Not Populate during board assembly.

BLUE LED DRIVER



DWN	DATE 08/15/2013	A3	DRAWING NO 2512909	REV E
ISSUE DATE	SCALE			

Revision History

Rev. A: Initial Release ~ 12/6/2012

Rev. B: Relelase ~ 06/18/2013

Rev. C: Relelase ~ 08/15/2013

All Sheets:

- 1) Cosmetic changes to reference designators, part values, and fonts
- 2) Remove unused Off Sheet Connectors
- 3) Add inter-sheet references
- 4) Replace obsolete parts in BOM

Sheet 7

- 1) Add Panda interface connection block diagram

Sheet 15

- 1) Correct SW2 part number

Sheet 18

- 1) Correct SW1 part number

Sheet 21

- 1) Up-date power management block diagram

Rev. D: Update ~ 04/7/2016

- 1) Changing C262, R202,R204, C279, R226, R224, C271, R215, R213, R78, R82, R19, R21, R9, R12, R17 to DNI (Do Not Install) MR 4/11/2016 .
- 2) Changing SW1 symbol type to push button and part# to TL3305AF260QG page 19. MR 4/11/2016.

Rev. E: Update ~ 01/11/2017

- 3) Original components used for D4 and D7 have been discontinued by manufacturer. A single diode solution is now in place for D4 and D7.
New reference designators have been added D15, and D16. changes on page 16 and 23. MR 1/11/2017.
- 4) Original D10 part discontinued, Changed D10 from MAZ80330HL to DZ2J033M0L page 23. MR 1/11/2017.
- 5) Original J7 part discontinued, Changed J7 from MHDMI-19-02-H-TH-L-TR to 2001-1-2-21-00-BK page 4. MR 1/11/2017.

Schematic Revision History

TEXAS INSTRUMENTS	DWN	DATE	A3	DRAWING NO	2512909	REV	E
		08/15/2013					
	ISSUE DATE			SCALE		SHEET 29 OF 29	