

NXP DEVKIT-S12ZVC

Table of Contents	
02	BLOCK DIAGRAM AND NOTES
03	I/O Headers
04	Power/MCU
05	Peripherals
06	USB/OSBDM

Revisions			
Rev	Description	Designer	Date
AX1	Initial Draft A070 Release	Jesus Sanchez	07/07/15
X	Changed MCU to S12ZVC	Jesus Sanchez	07/15/15

CAUTION :

This schematic is provided for reference purposes only. As such, Freescale does not make any warranty, implied or otherwise, as to the suitability of circuit design or component selection (type or value) used in these schematics for hardware design using the NXP S12 family of Microprocessors. Customers using any part of these schematics as a basis for hardware design, do so at their own risk and Freescale does not assume any liability for such a hardware design.

User notes are given throughout the schematics.

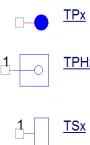
Specific PCB LAYOUT notes are detailed in ITALICS

3 Different test points used in design:

TPx - Test point pad

TPHx - Through Hole Pad Large (for standard 0.1" header). Also used on IO Matrix (IOMx)

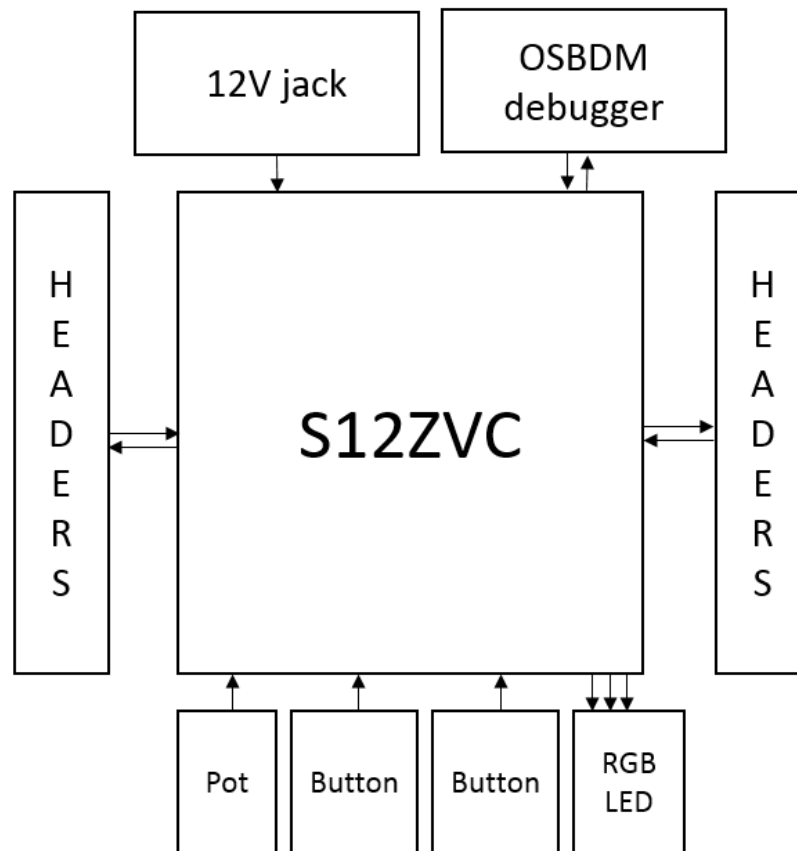
TSx - Surface Mount Wire Loop




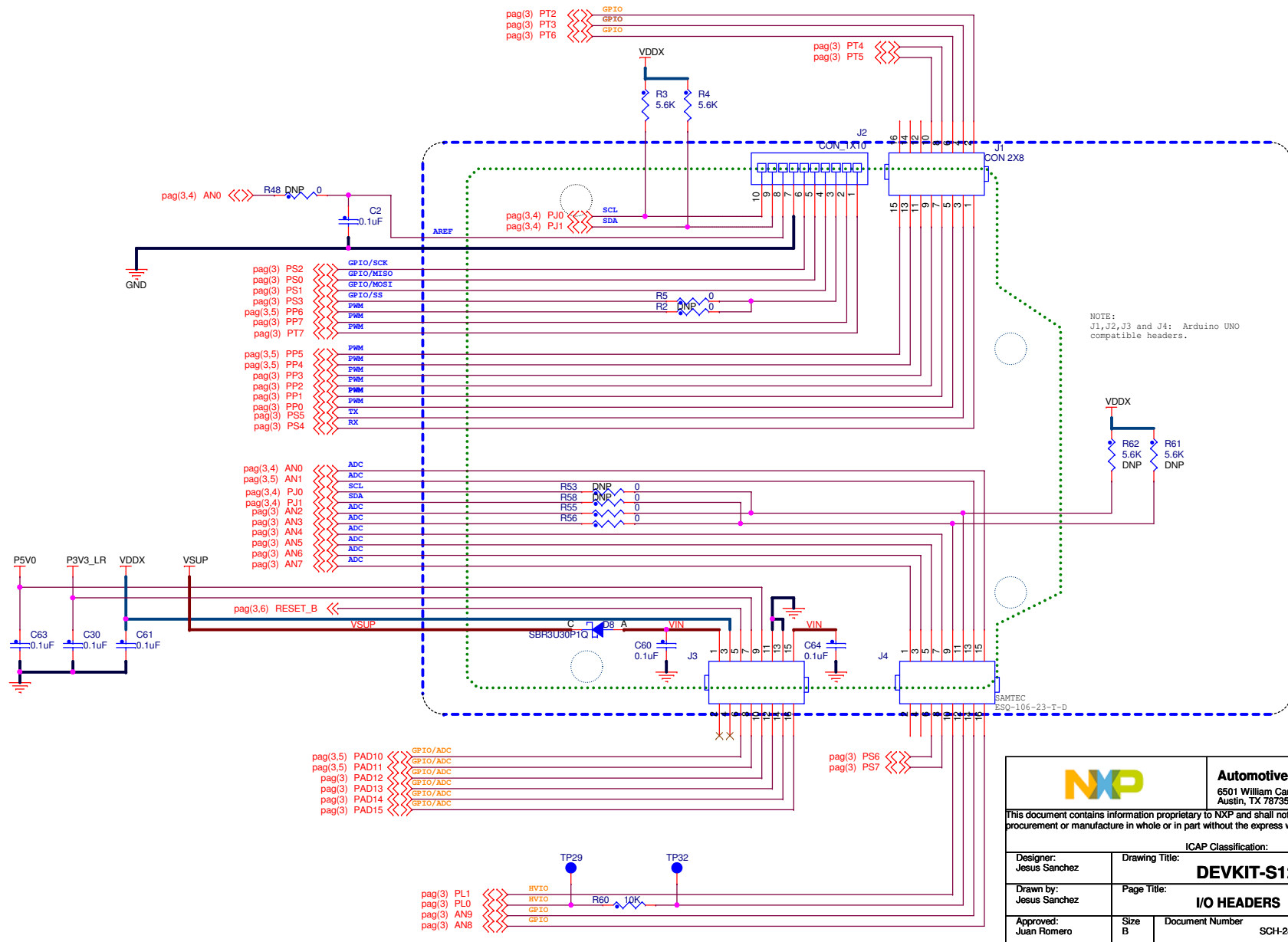
Notes:

- All components and board processes are to be ROHS compliant
- All connectors and headers are denoted Jx/Px and are 2.54mm pitch unless otherwise stated
- All jumpers are denoted Jx.
- Jumper default positions are shown in the schematics. For 3 way jumpers, default is always position 1-2.
- 2 Pin jumpers generally have the "source" on pin 1.
- All switches are denoted SWx
- All test points (SMT wire loop style) are denoted TPx
- Test point Vias (just through hole pads) are denoted TPVx

		Automotive Product Group 6501 William Cannon Drive West Austin, TX 78735-8598	
This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.			
ICAP Classification:		CP:	IUC: X PUBL:
Designer: Jesus Sanchez	Drawing Title: DEVKIT-S12ZVC		
Drawn by: Jesus Sanchez	Page Title: TITLE AND NOTES		
Approved: Juan Romero	Size B	Document Number SCH-28891 PDF: SPF-28891	Rev A
Date: Monday, January 25, 2016		Sheet 1 of 6	

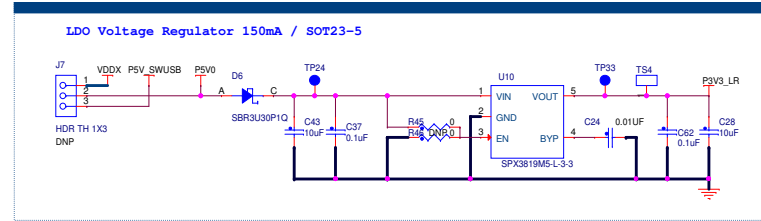
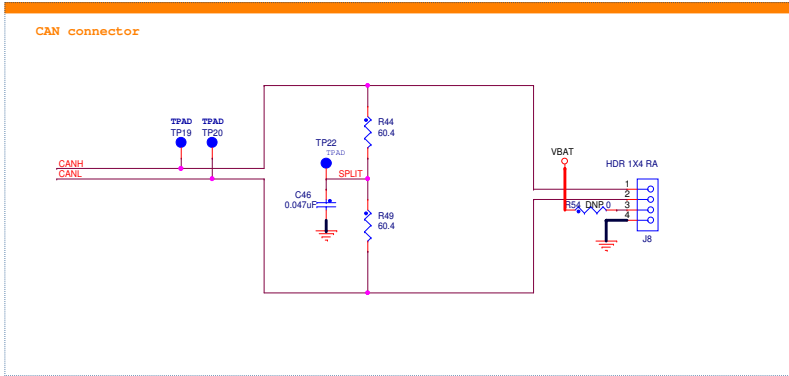
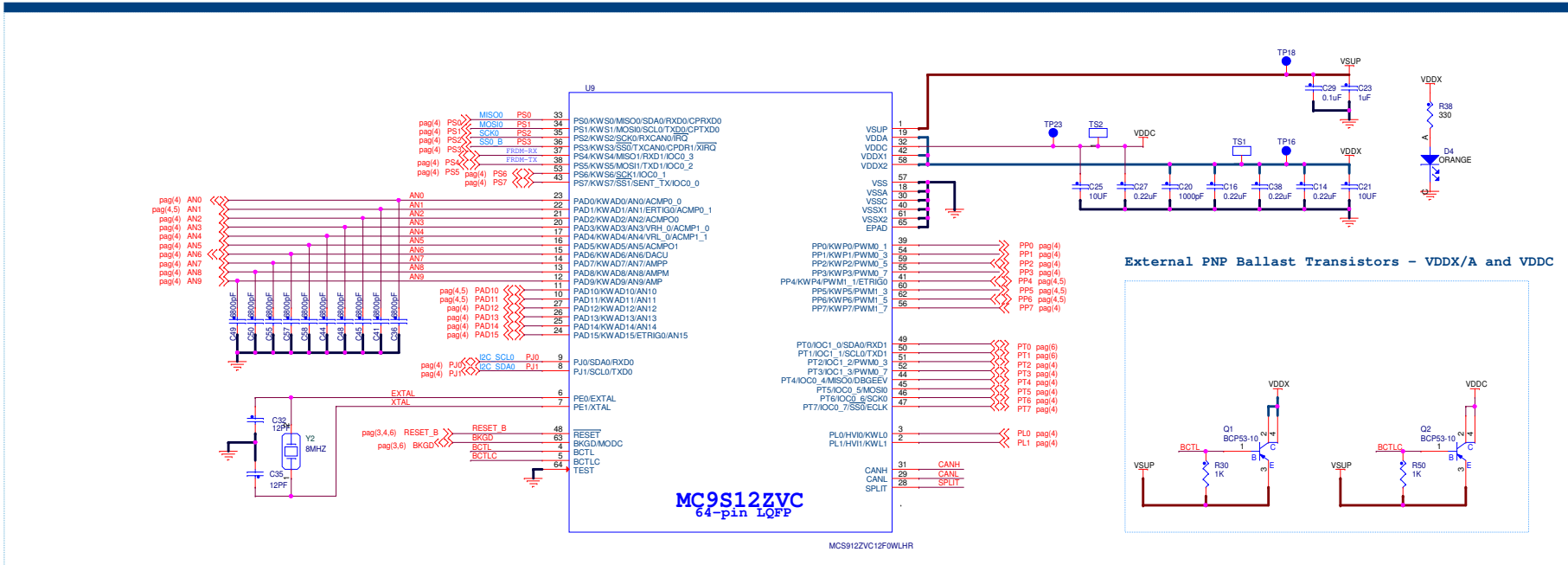
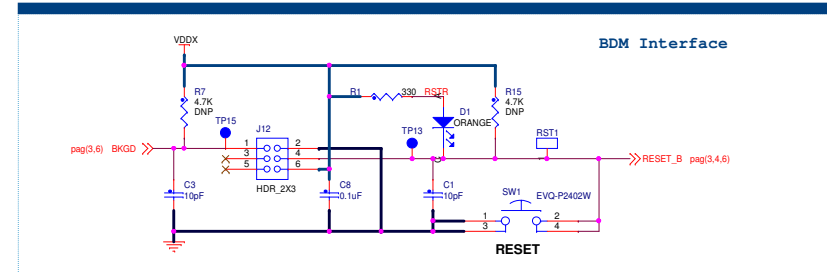
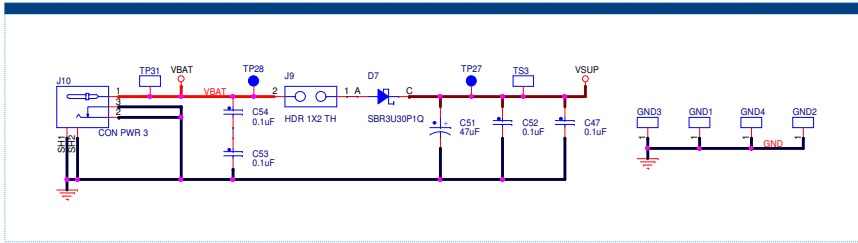


		Automotive Product Group 6501 William Cannon Drive West Austin, TX 78735-8598	
This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.			
		ICAP Classification: CP: _____ IUC: X PUBL: _____	
Designer: Jesus Sanchez	Drawing Title: DEVKIT-S12ZVC		
Drawn by: Jesus Sanchez	Page Title: BLOCK DIAGRAM		
Approved: Juan Romero	Size B	Document Number SCH-28891 PDF: SPF-28891	Rev A
Date: Monday, January 25, 2016		Sheet 2 of 6	

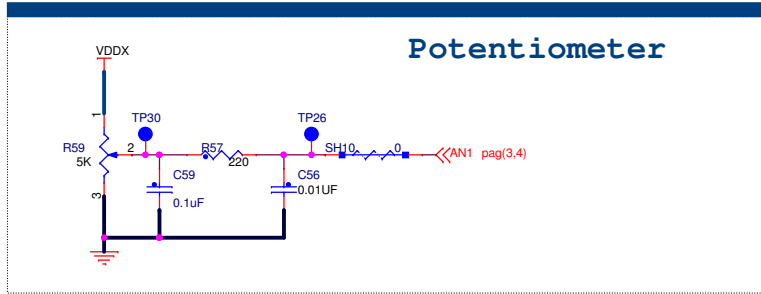
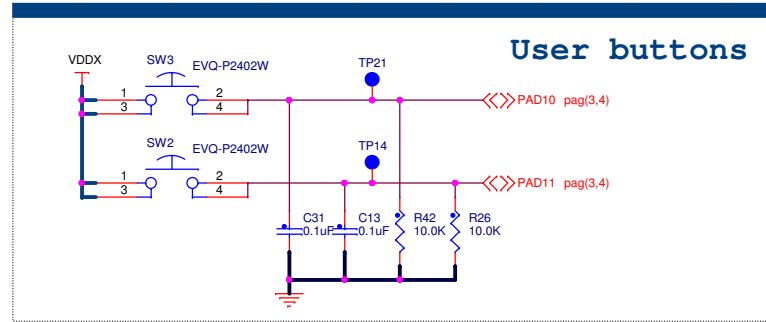
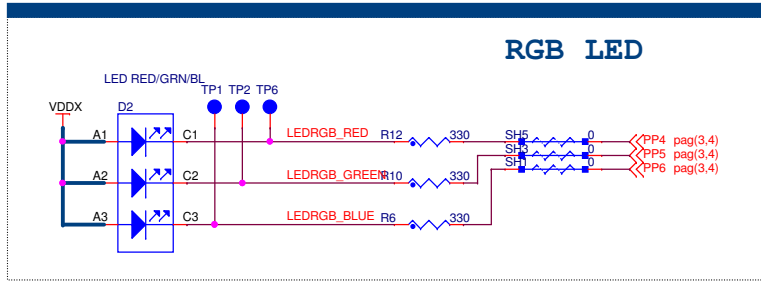


NOTE:
J1, J2, J3 and J4: Arduino UNO compatible headers.

		Automotive Product Group 6501 William Cannon Drive West Austin, TX 78735-8598	
		This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.	
Designer: Jesus Sanchez		Drawing Title: DEVKIT-S12VC	
Drawn by: Jesus Sanchez		Page Title: I/O HEADERS	
Approved: Juan Romero		Size B	Document Number SCH-28891 PDF: SPF-28891
Date: Monday, January 25, 2016		Sheet 3	of 6
		Rev A	



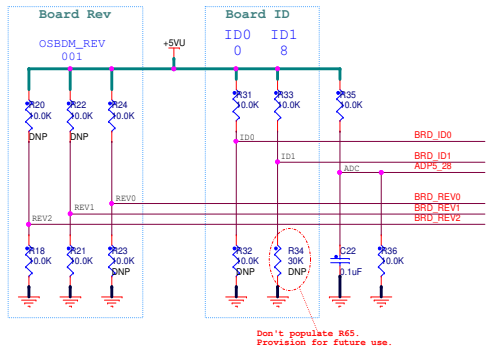
		Automotive Product Group 6501 William Cannon Drive West Austin, TX 78735-8598	
		<small>This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.</small>	
Designer: Jesus Sanchez		Drawing Title: DEVKIT-S12ZVC	
Drawn by: Jesus Sanchez		Page Title: PWR AND MCU	
Approved: Juan Romero		Size C	Document Number SCH-28891 PDF: SPF-28891
Date: Monday, January 25, 2016		Sheet 4	of 6



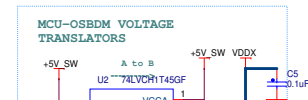
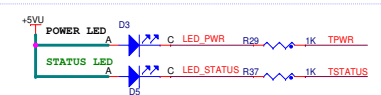
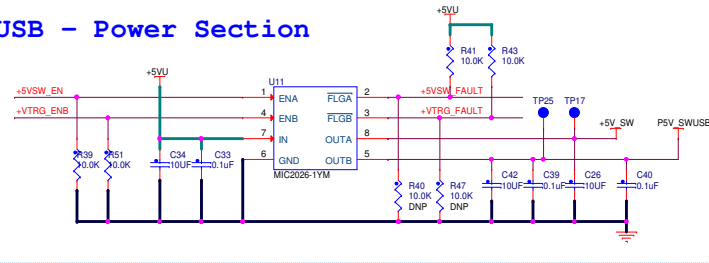
		Automotive Product Group 6501 William Cannon Drive West Austin, TX 78735-8598	
<small>This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.</small>			
ICAP Classification:		CP:	IUC: X PUBL:
Designer: Jesus Sanchez	Drawing Title: DEVKIT-S12ZVC		
Drawn by: Jesus Sanchez	Page Title: USER PERIPHERALS		
Approved: Juan Romero	Size B	Document Number SCH-28891 PDF: SPF-28891	Rev A
Date:	Monday, January 25, 2016	Sheet	5 of 6

BOARD ID RESISTANCE SELECTION TABLE

#	Pull-Up	Pull-Down
0	10K	0
1	10K	1.3K
2	10K	3.3K
3	10K	5.6K
4	10K	10K
5	10K	18K
6	10K	30K
7	10K	62K
8	10K	(NC)



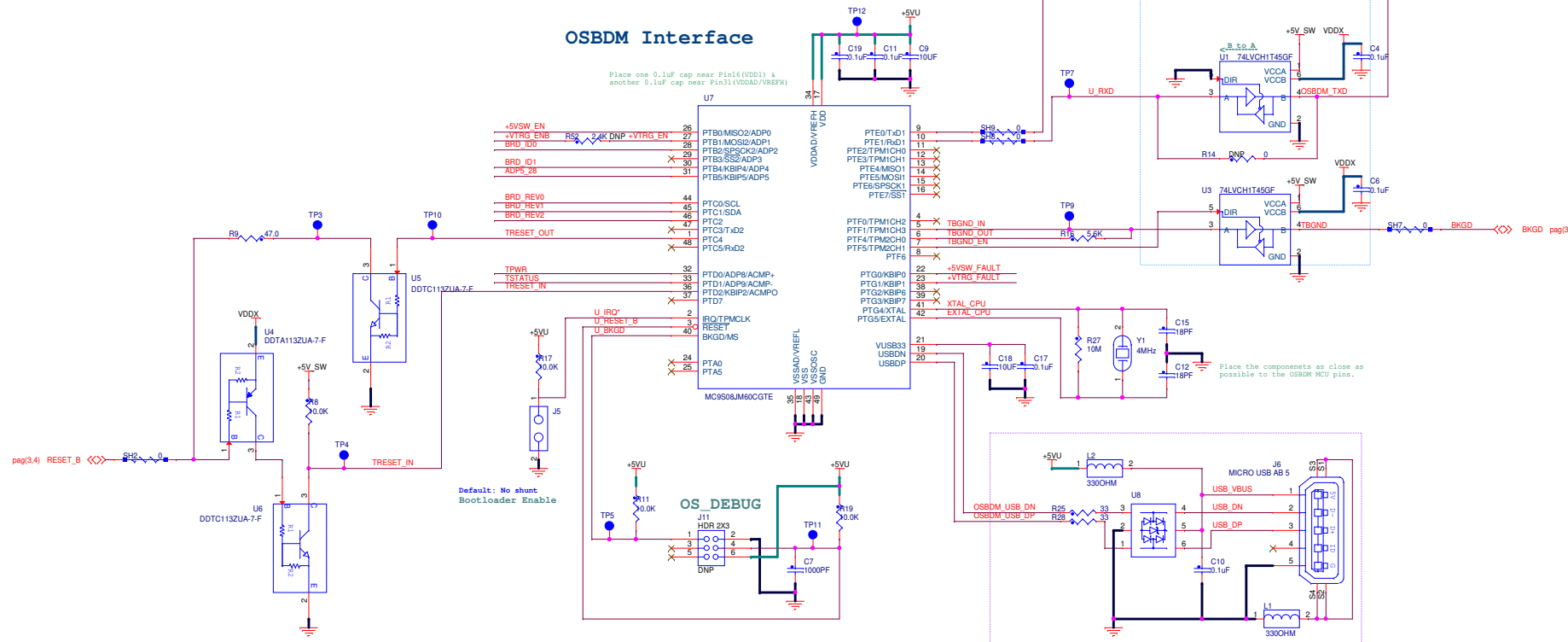
USB - Power Section



TX / RX (R456 and R457)
 POKA-YOKE: Place both jumpers with the same orientation and provide same airgap between their terminals in a square fashion.

OSBDM Interface

Place one 0.1uF cap near Pin16 (VDD1) & another 0.1uF cap near Pin31 (VDDAD/VREFR6).



		Automotive Product Group 6501 William Cannon Drive West Austin, TX 78735-8586	
		This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.	
Designer: Jesus Sanchez		ICAP Classification: CP IUD: X PUB:	
Drawn by: Jesus Sanchez		Drawing Title: DEVKIT-S12ZVC	
Approved: Juan Romero		Page Title: USB/OSBDM	
Size C	Document Number SCH-28891 PDF: SPF-28891	Rev A	Date: Monday, January 25, 2016
Sheet 6 of 6		Page 1 of 6	