

REVISIONS		
ECR	ECR NUMBER	DATE
	-----	xx/xx/xx

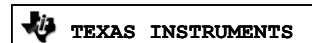
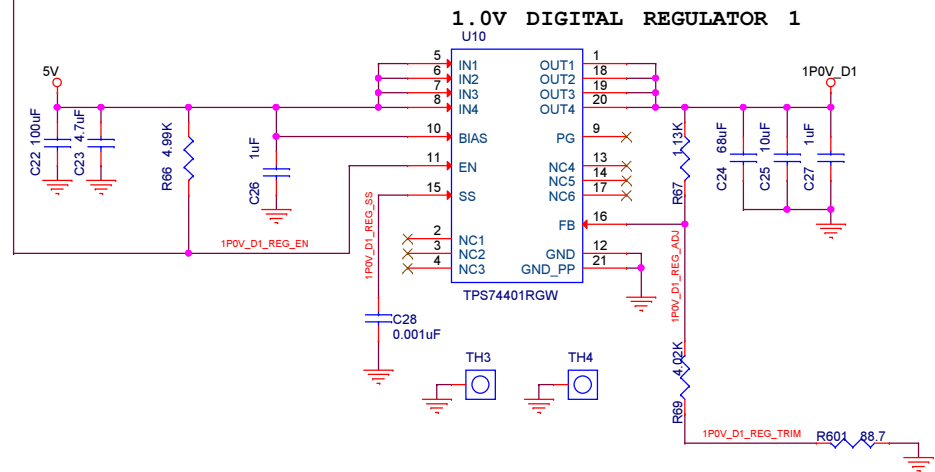
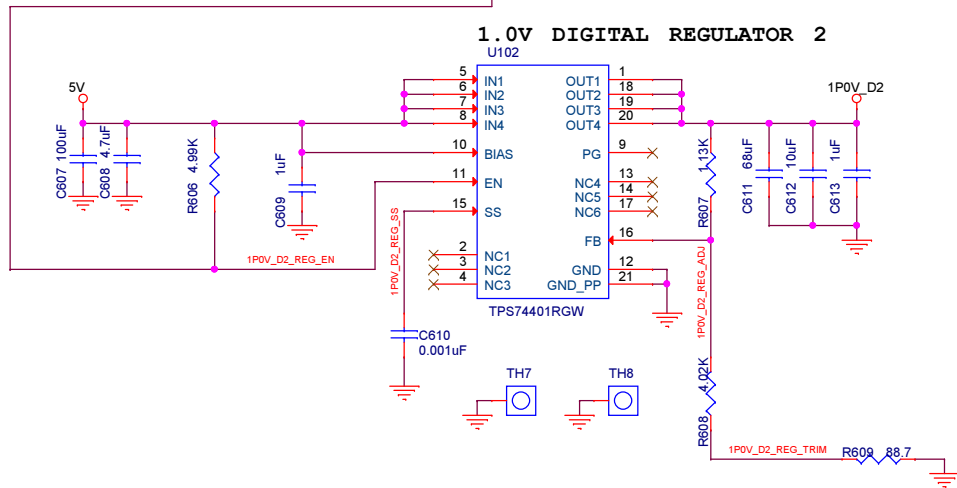
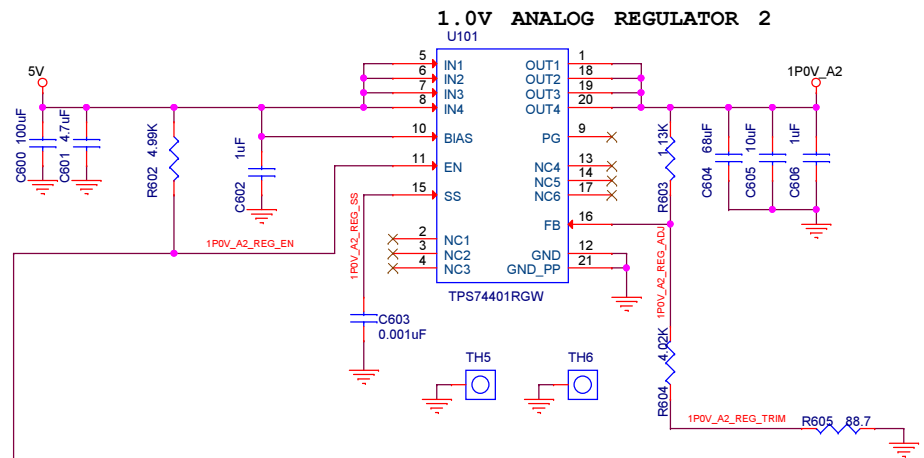
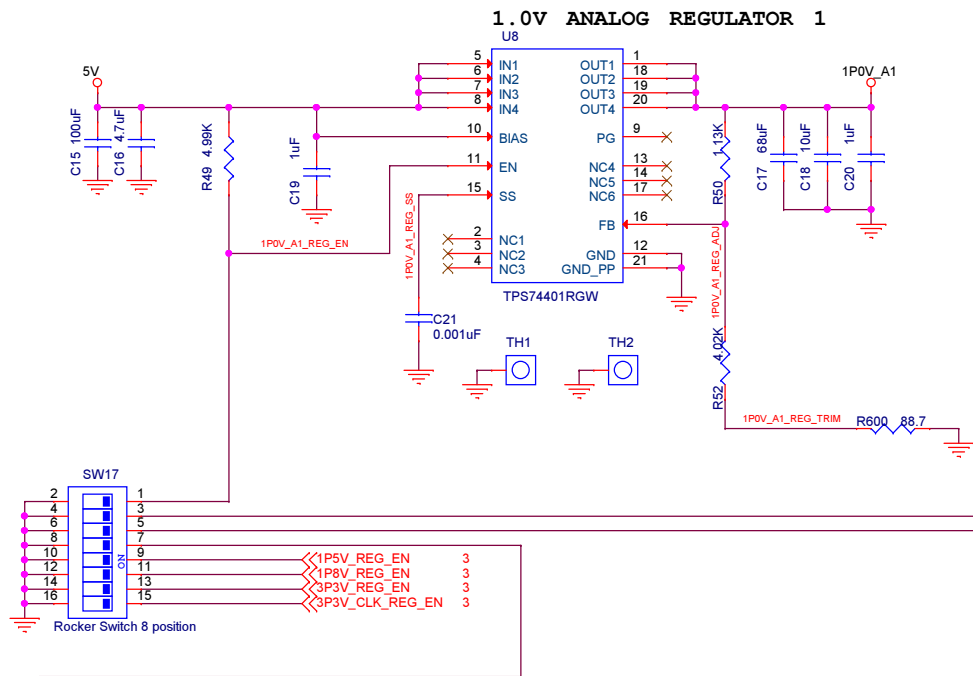
SCHEMATIC SHEET INDEX:

- SHEET 01: TLK10022 CHAR COVER SHEET AND NOTES
- SHEET 02: 1P0V REGULATORS
- SHEET 03: 1P5V, 1P8V, 2P5V, 3P3V REGULATORS
- SHEET 04: POWER DISTRIBUTION
- SHEET 05: VOLTAGE MONITORING
- SHEET 06: DEVICE POWER AND GROUND
- SHEET 07: GLOBAL SIGNALS
- SHEET 08: MDIO, JTAG, AND I2C INTERFACE
- SHEET 09: CLOCKS
- SHEET 10: CLOCK CONTROL
- SHEET 11: CRYSTAL OSCILLATORS
- SHEET 12: LOW SPEED DATA SIGNALS
- SHEET 13: HIGH SPEED DATA SIGNALS
- SHEET 14: DATA BOARD TO BOARD CONNECTOR
- SHEET 15: CLOCK BOARD TO BOARD CONNECTOR



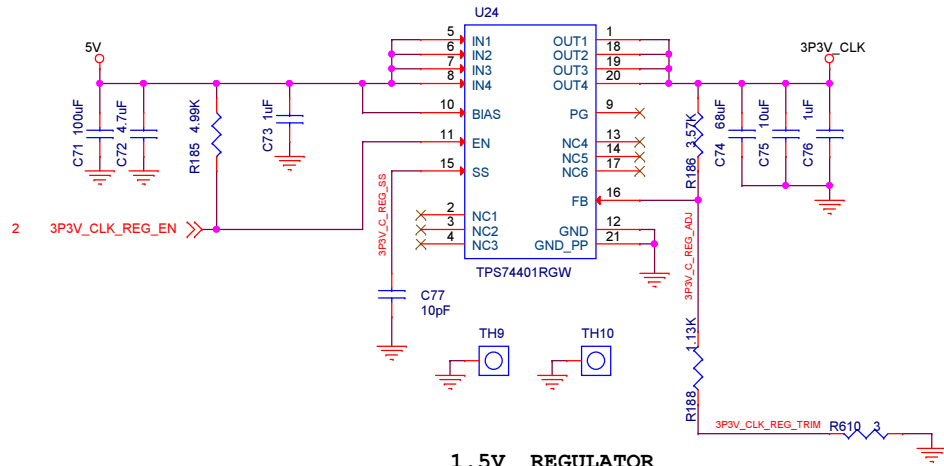
TEXAS INSTRUMENTS			
SCHEMATIC TITLE			
TIDA-00309 TLK10022 EVM MOTHER BOARD			
PAGE TITLE			
COVER PAGE AND NOTES			
SIZE	DOCUMENT NUMBER	REV	SHEET
B	6566789	B	1 of 15

ENGINEER	DATE
J. NERGER	05/23/13
LAYOUT	DATE
DFW TEST	05/23/13
RELEASED	DATE
J. NERGER	05/23/13

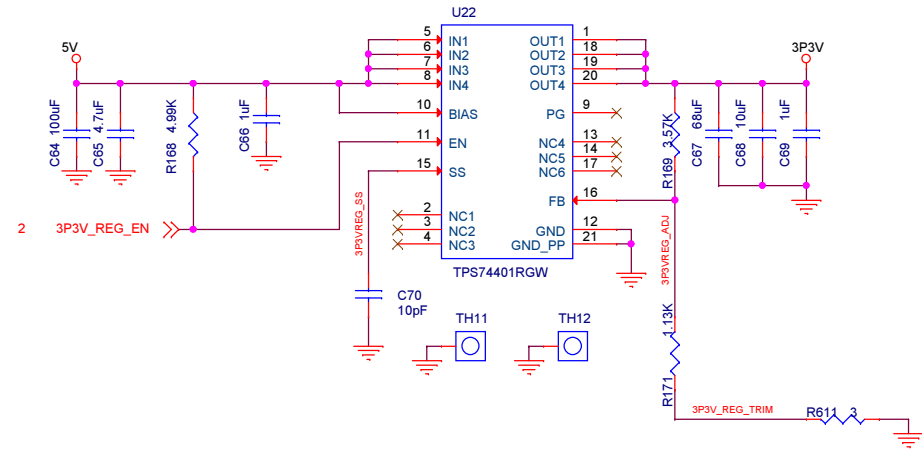


PAGE TITLE			
1P0V REGULATORS, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	2 of 15

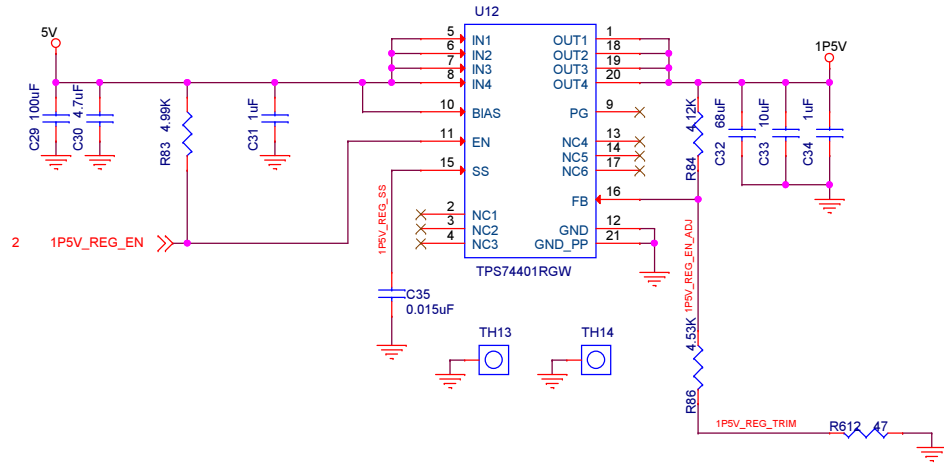
3.3V CLK REGULATOR



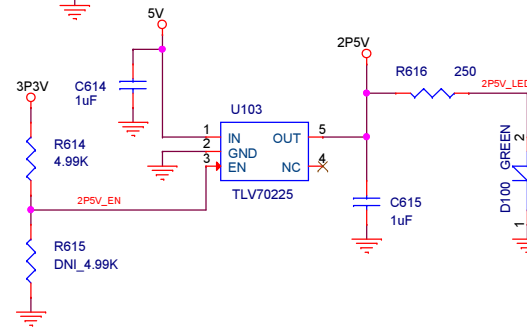
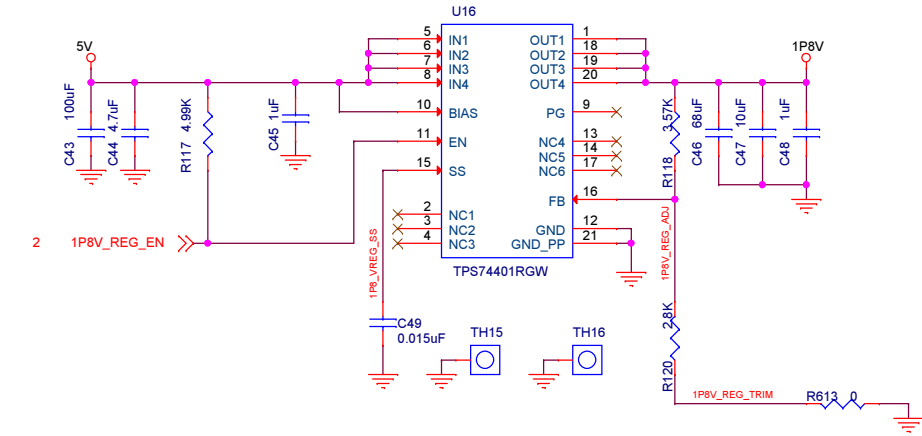
3.3V REGULATOR



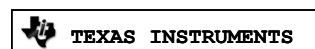
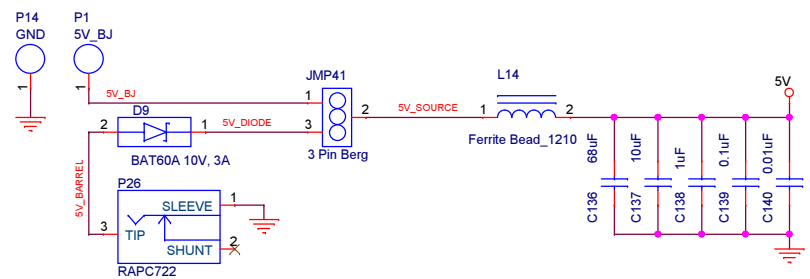
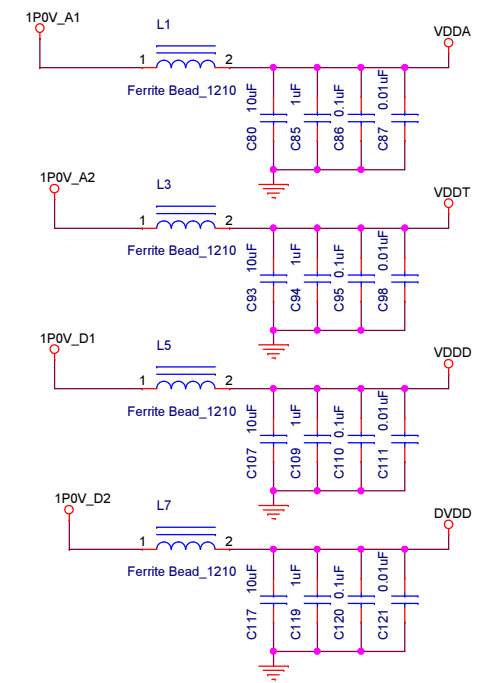
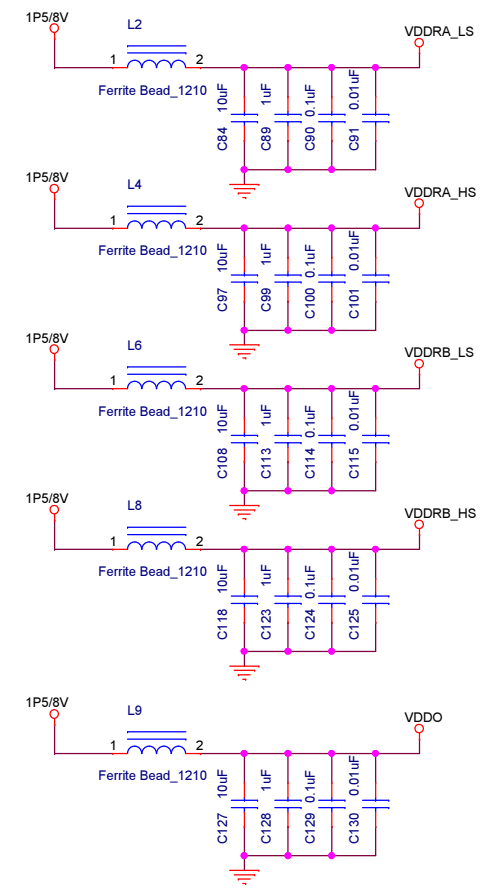
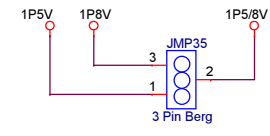
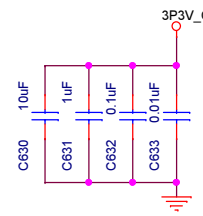
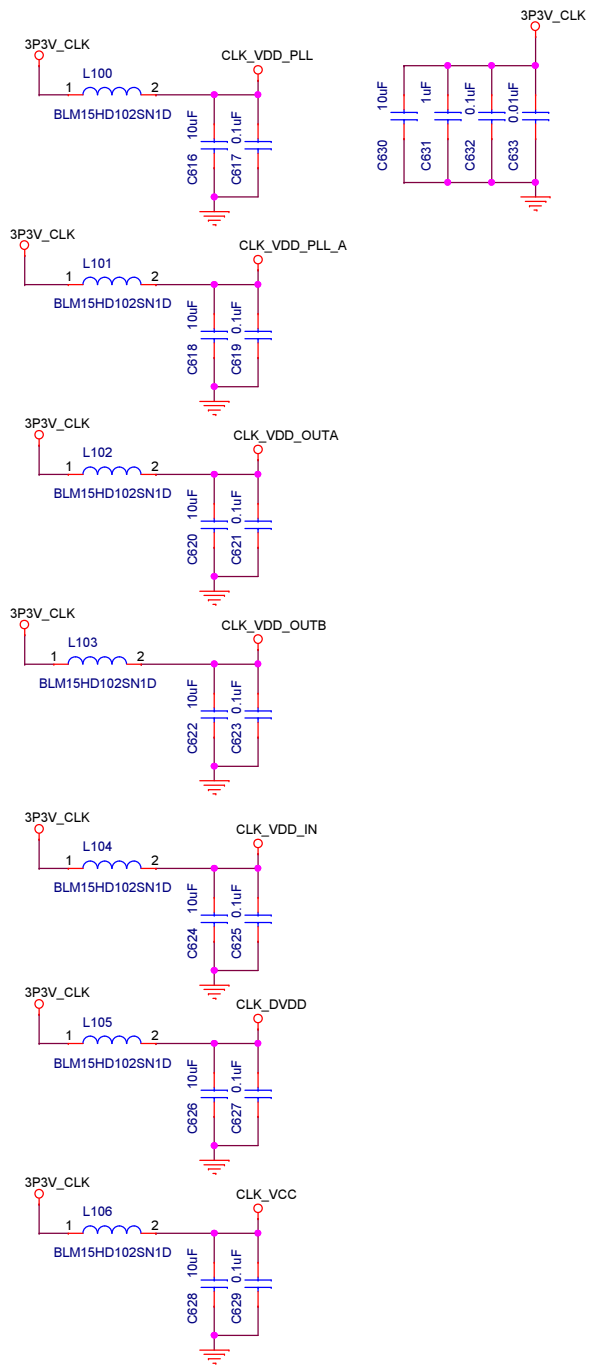
1.5V REGULATOR



1.8V REGULATOR

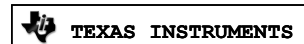
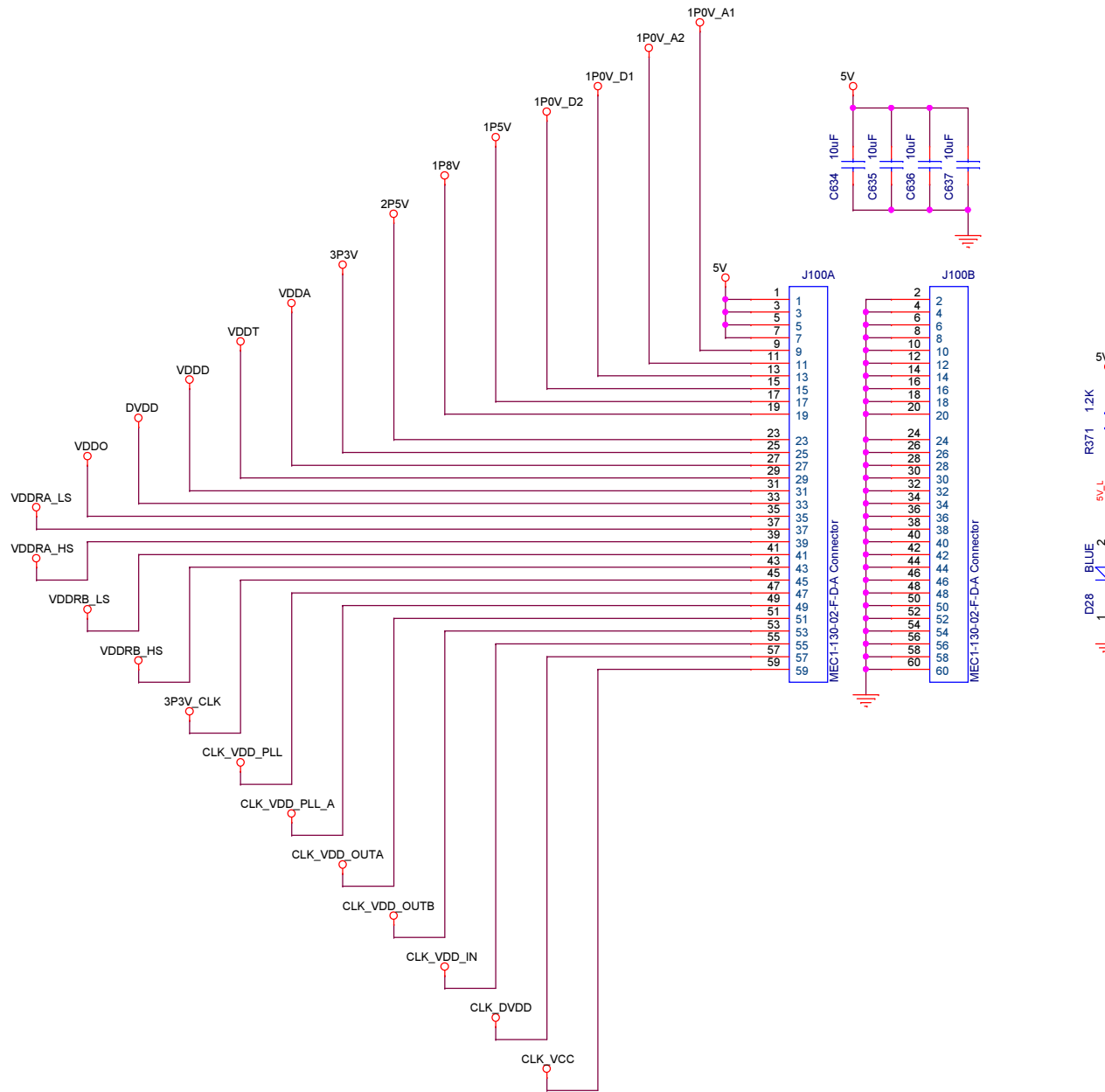


PLANE FILTERING / BULK DECOUPLING



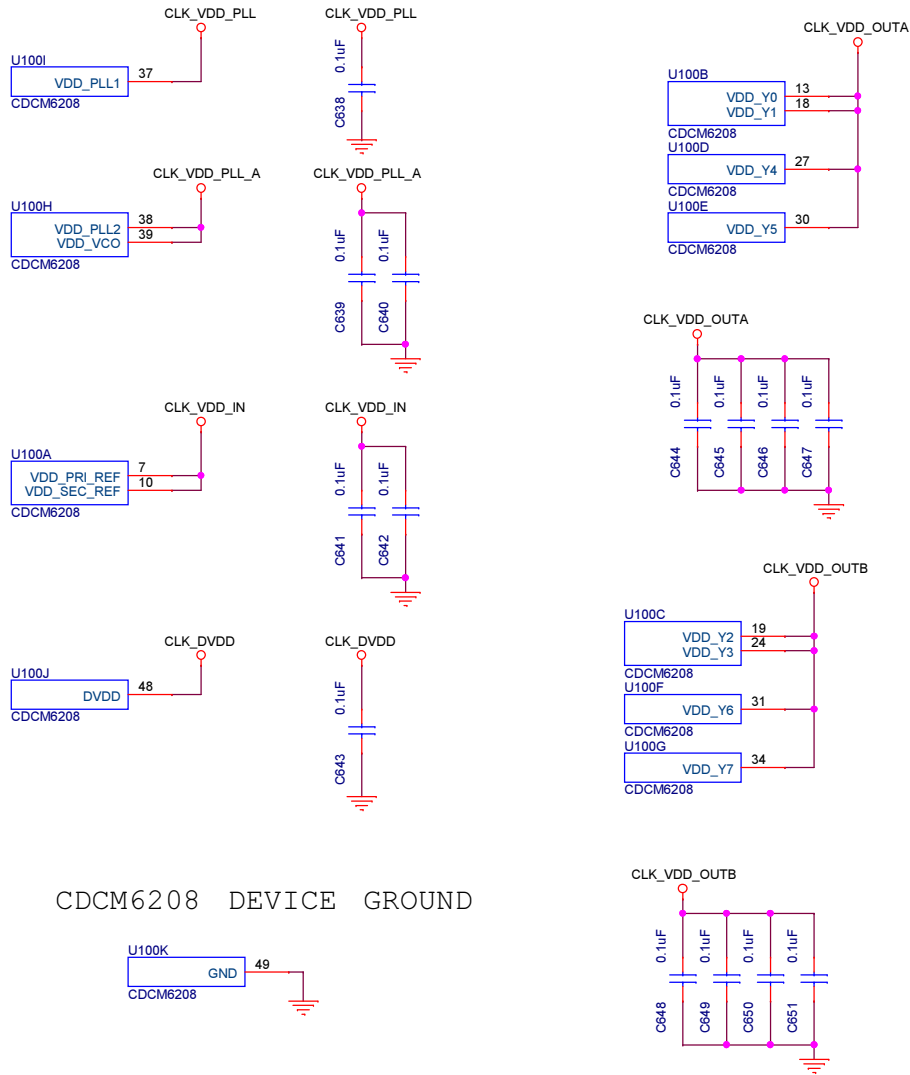
PAGE TITLE			
POWER DISTRIBUTION, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B 4	of 15

NOTE:

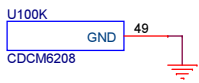


PAGE TITLE			
VOLTAGE MONITORING, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B 5	of 15

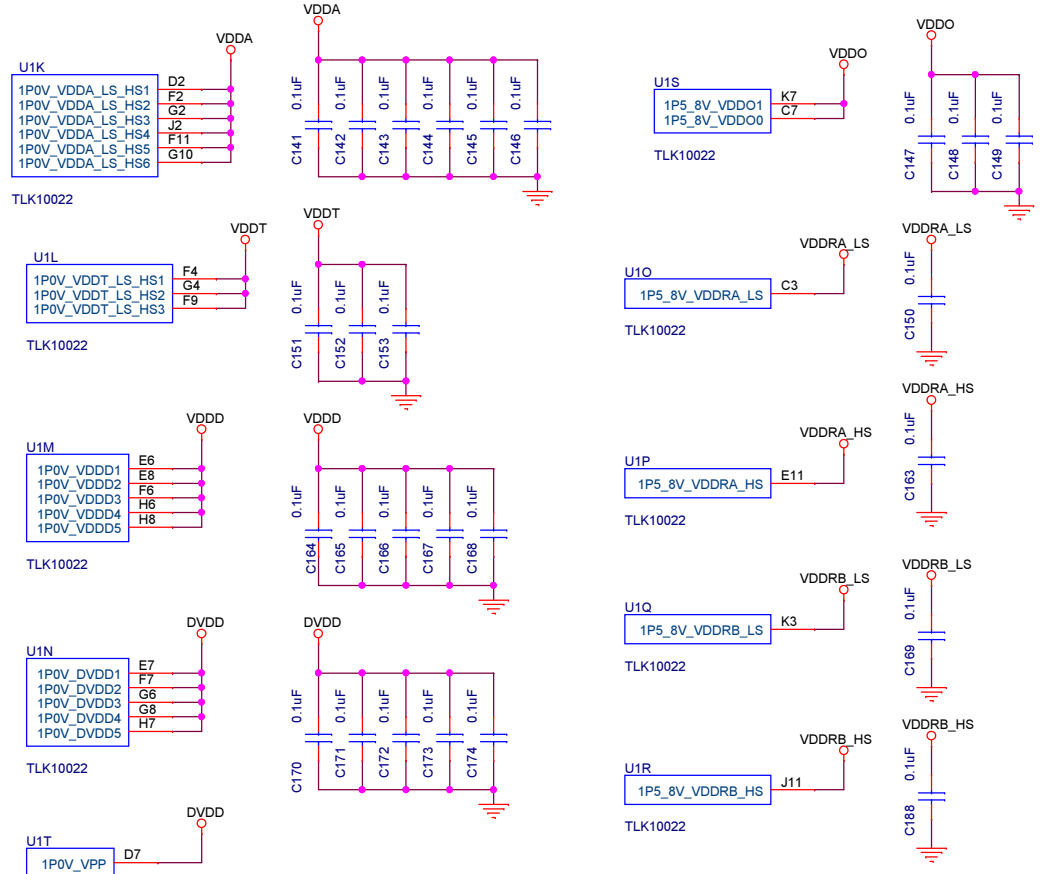
CDCM6208 DEVICE POWER / LOCAL DECOUPLING



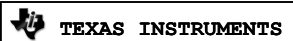
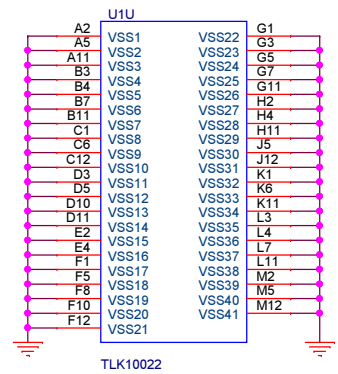
CDCM6208 DEVICE GROUND



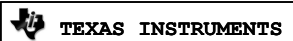
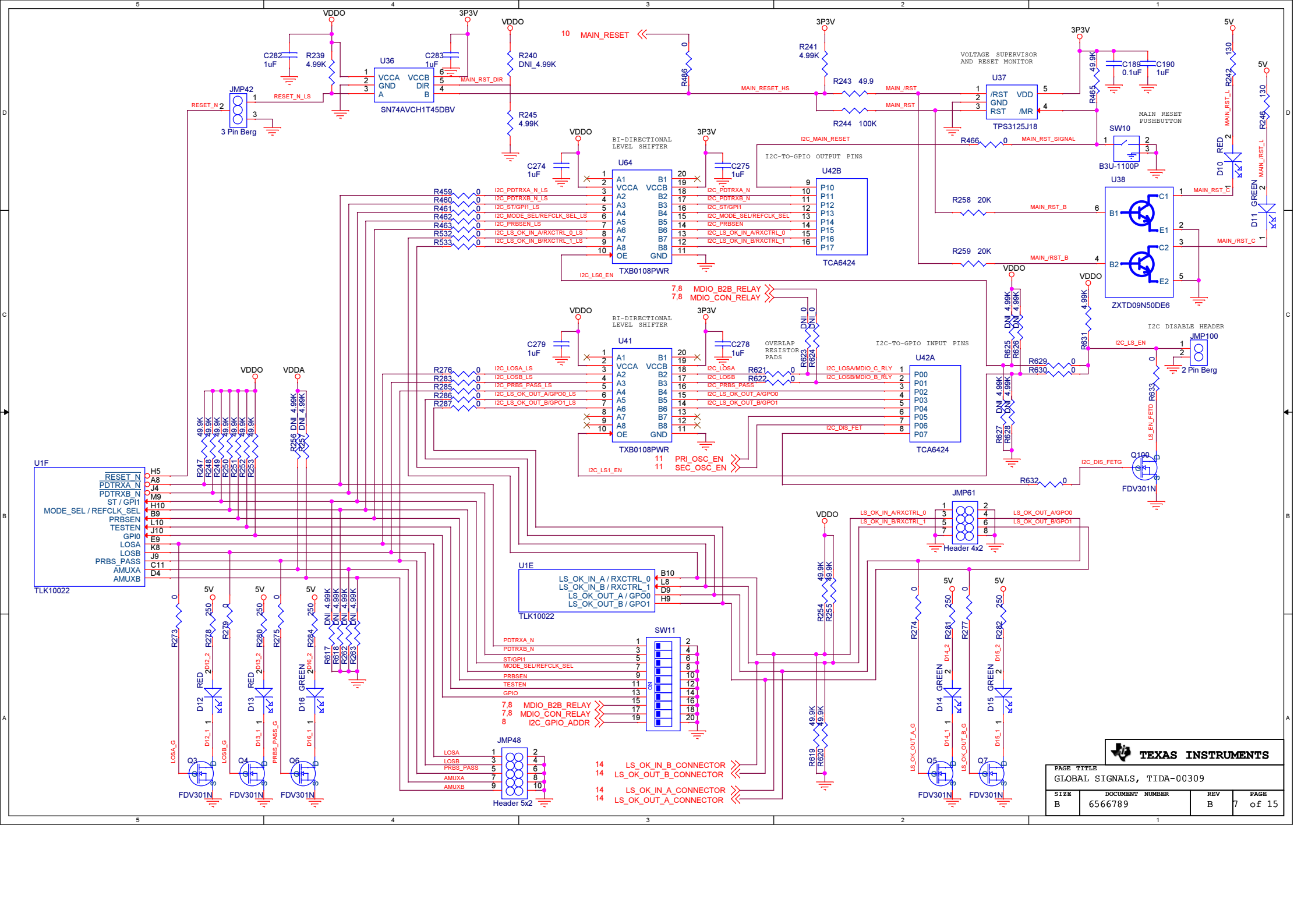
TLK10022 DEVICE POWER / LOCAL DECOUPLING



TLK10022 DEVICE GROUND



PAGE TITLE			
DEVICE POWER, GROUND, LOCAL DECOUPLING, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	6 of 15



PAGE TITLE		
GLOBAL SIGNALS, TIDA-00309		
SIZE	DOCUMENT NUMBER	REV
B	6566789	B 7
		PAGE
		of 15

U1F

RESET_N	H5
PDTRXA_N	A8
PDTRXB_N	J4
ST / GPI1	M9
MODE_SEL / REFCLK_SEL	H10
PRBSEN	B9
TESTEN	L10
GPI0	J10
LOSA	E9
LOSB	K8
PRBS_PASS	J9
AMUXA	C11
AMUXB	D4

U1E

LS_OK_IN_A / RXCTRL_0	B10
LS_OK_IN_B / RXCTRL_1	L8
LS_OK_OUT_A / GPIO0	D9
LS_OK_OUT_B / GPIO1	H9

SW11

PDTRXA_N	1
PDTRXB_N	3
ST/GPI1	5
MODE_SEURFCLK_SEL	7
PRBSEN	9
TESTEN	11
GPI0	13
	15
	17
	19

JMP48

LOSA	1
LOSB	3
PRBS_PASS	5
AMUXA	7
AMUXB	9

7,8 MDIO_B2B_RELAY

7,8 MDIO_CON_RELAY

8 I2C_GPIO_ADDR

14 LS_OK_IN_B_CONNECTOR

14 LS_OK_OUT_B_CONNECTOR

14 LS_OK_IN_A_CONNECTOR

14 LS_OK_OUT_A_CONNECTOR

I2C DISABLE HEADER

FV301N

FV301N

FV301N

FV301N

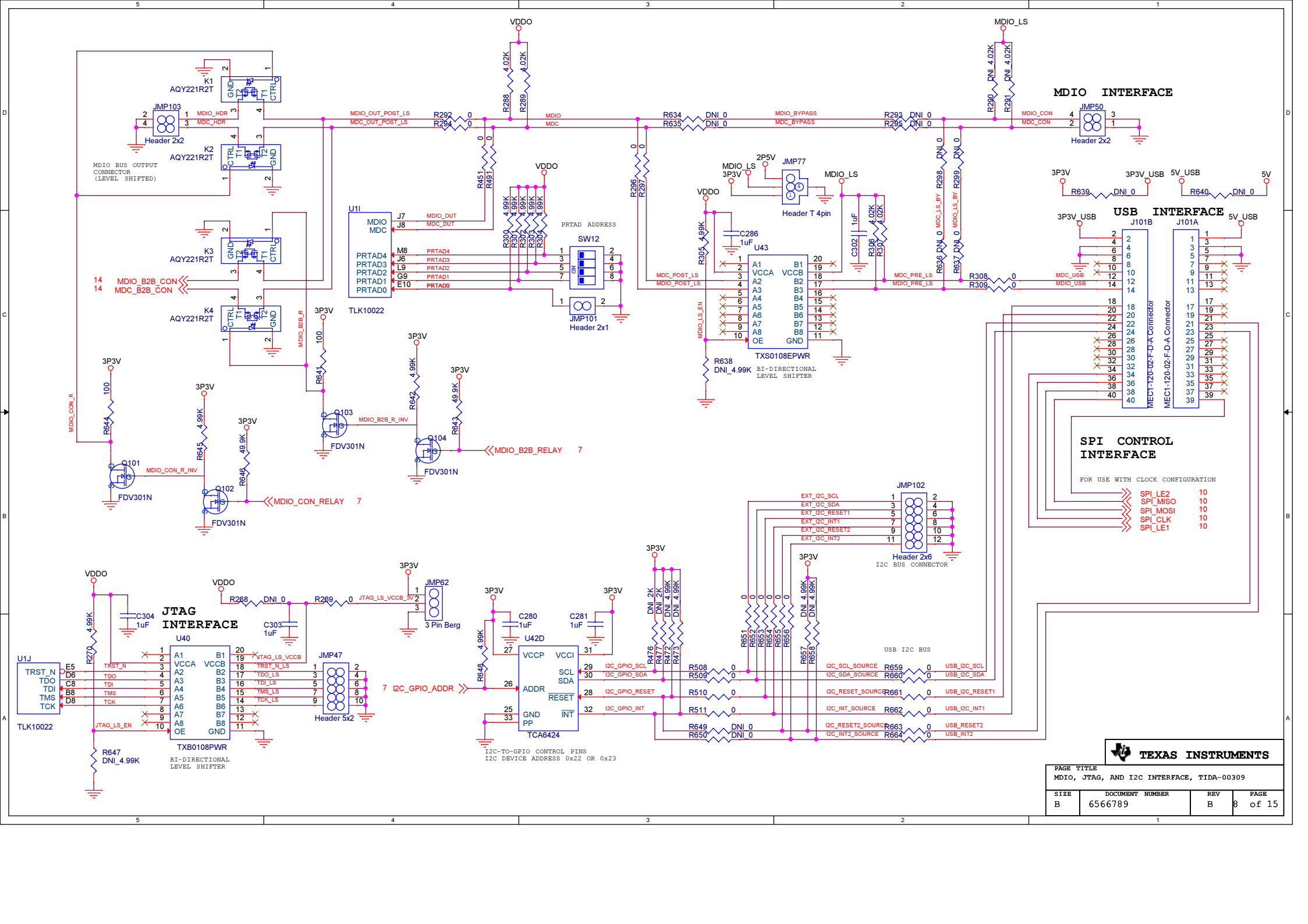
FV301N

FV301N

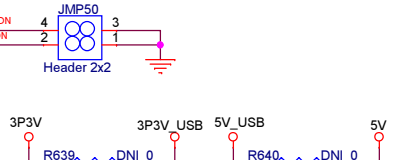
FV301N

FV301N

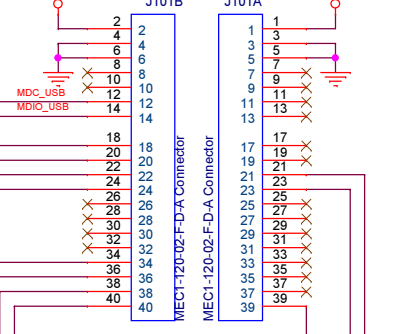
FV301N



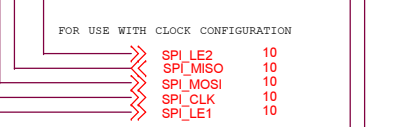
MDIO INTERFACE



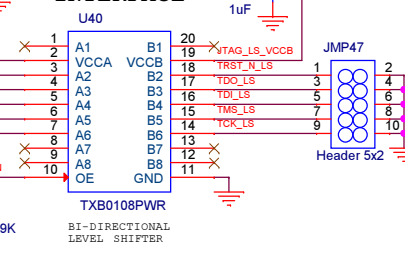
USB INTERFACE



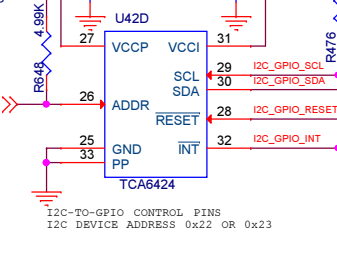
SPI CONTROL INTERFACE



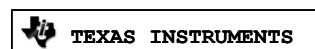
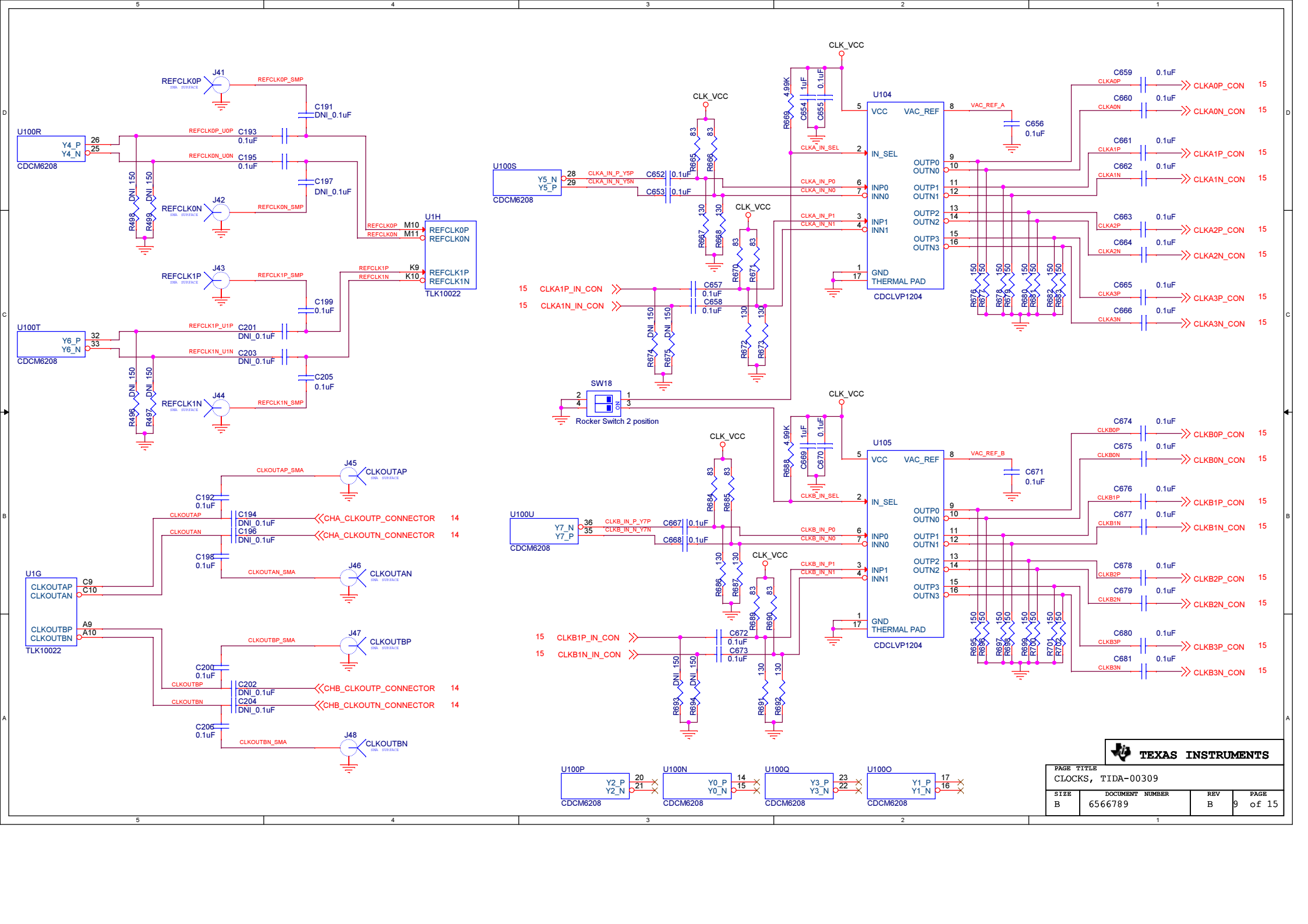
JTAG INTERFACE



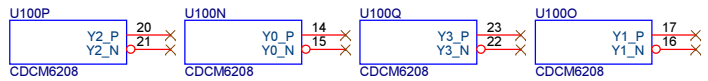
I2C TO GPIO CONTROL PINS

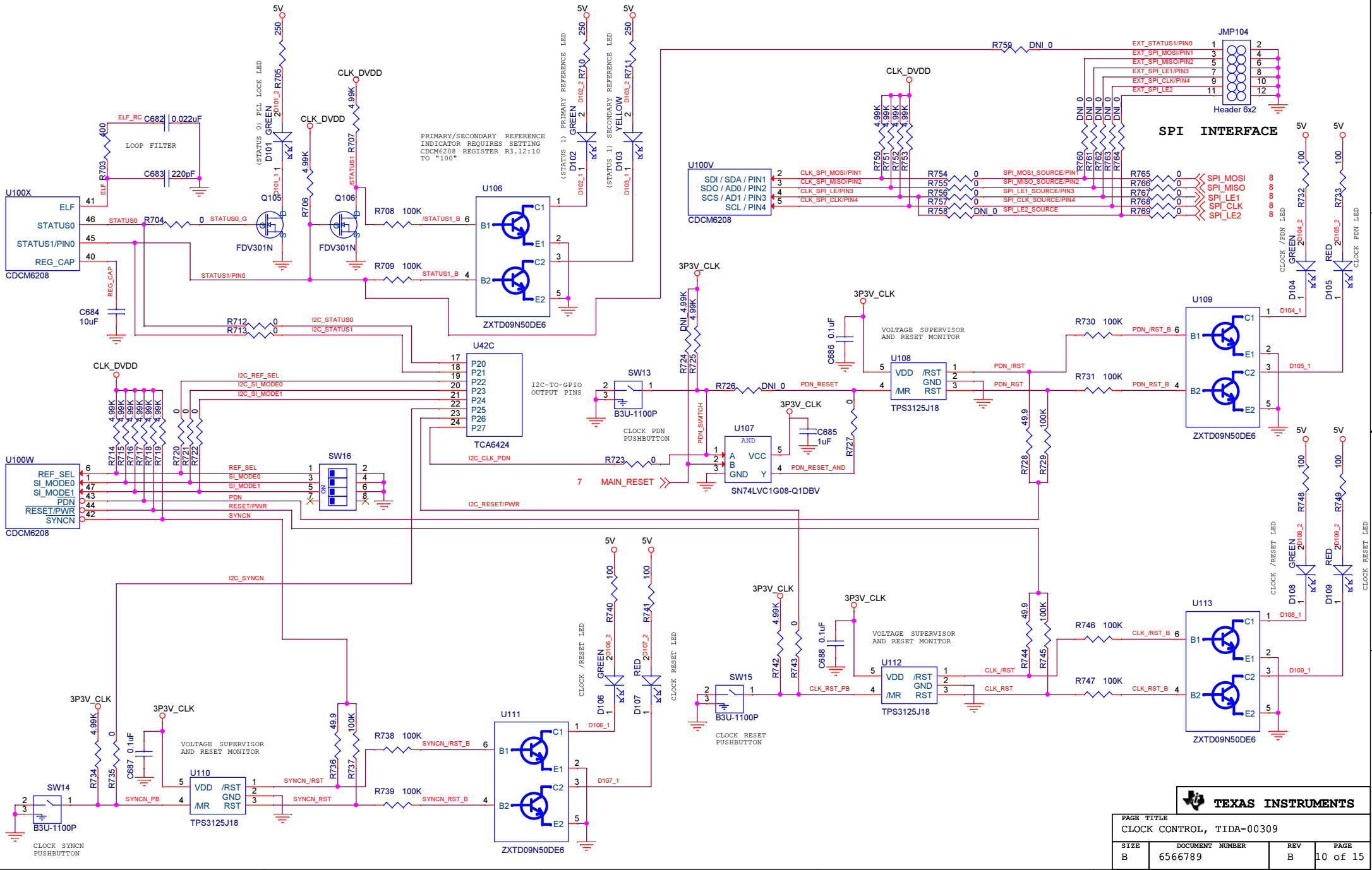


PAGE TITLE			
MDIO, JTAG, AND I2C INTERFACE, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B 8	of 15



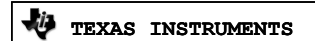
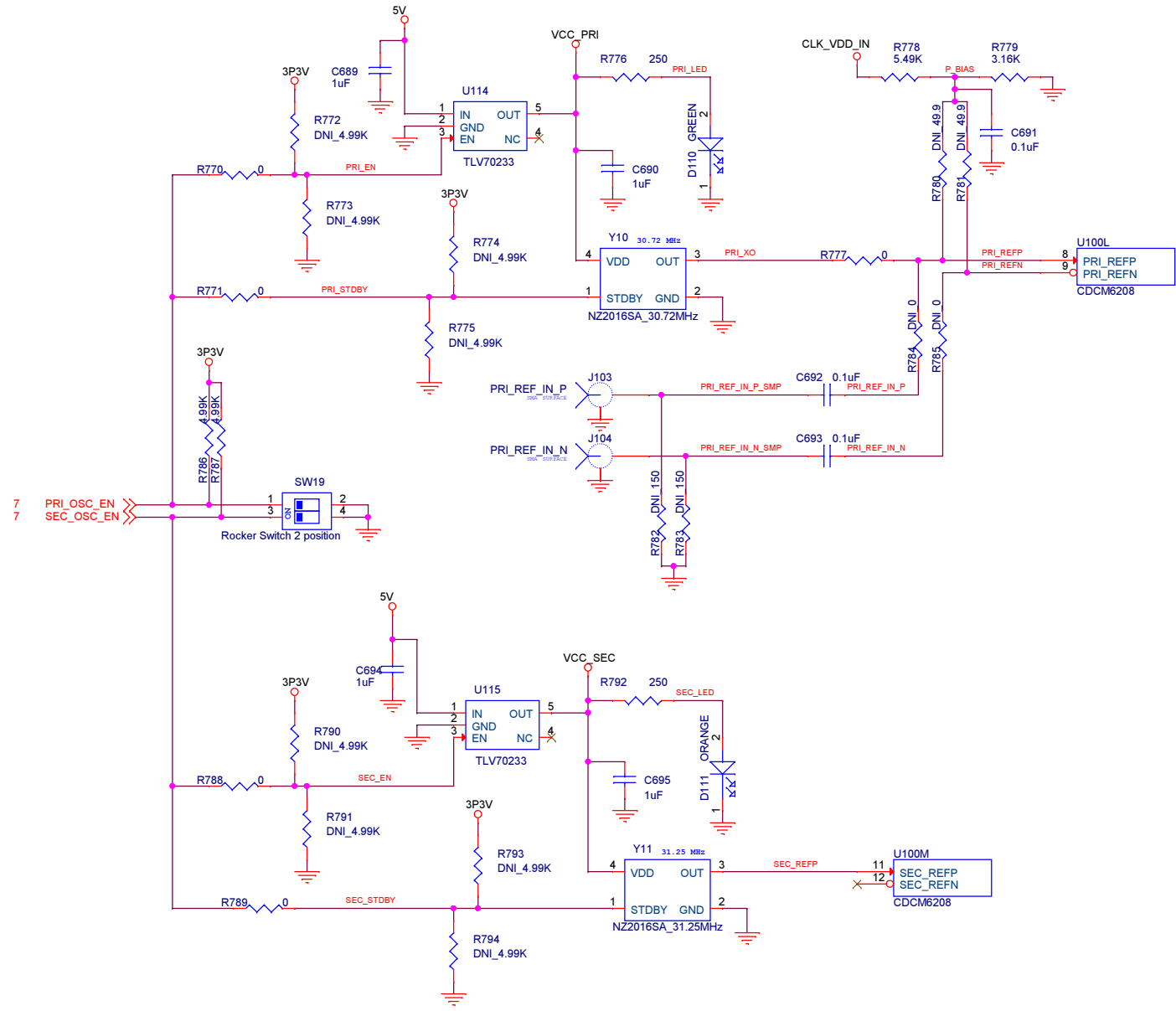
PAGE TITLE			
CLOCKS, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	9 of 15



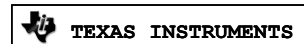


PAGE TITLE		
CLOCK CONTROL, TIDA-00309		
SIZE	DOCUMENT NUMBER	REV PAGE
B	6566789	B 10 of 15

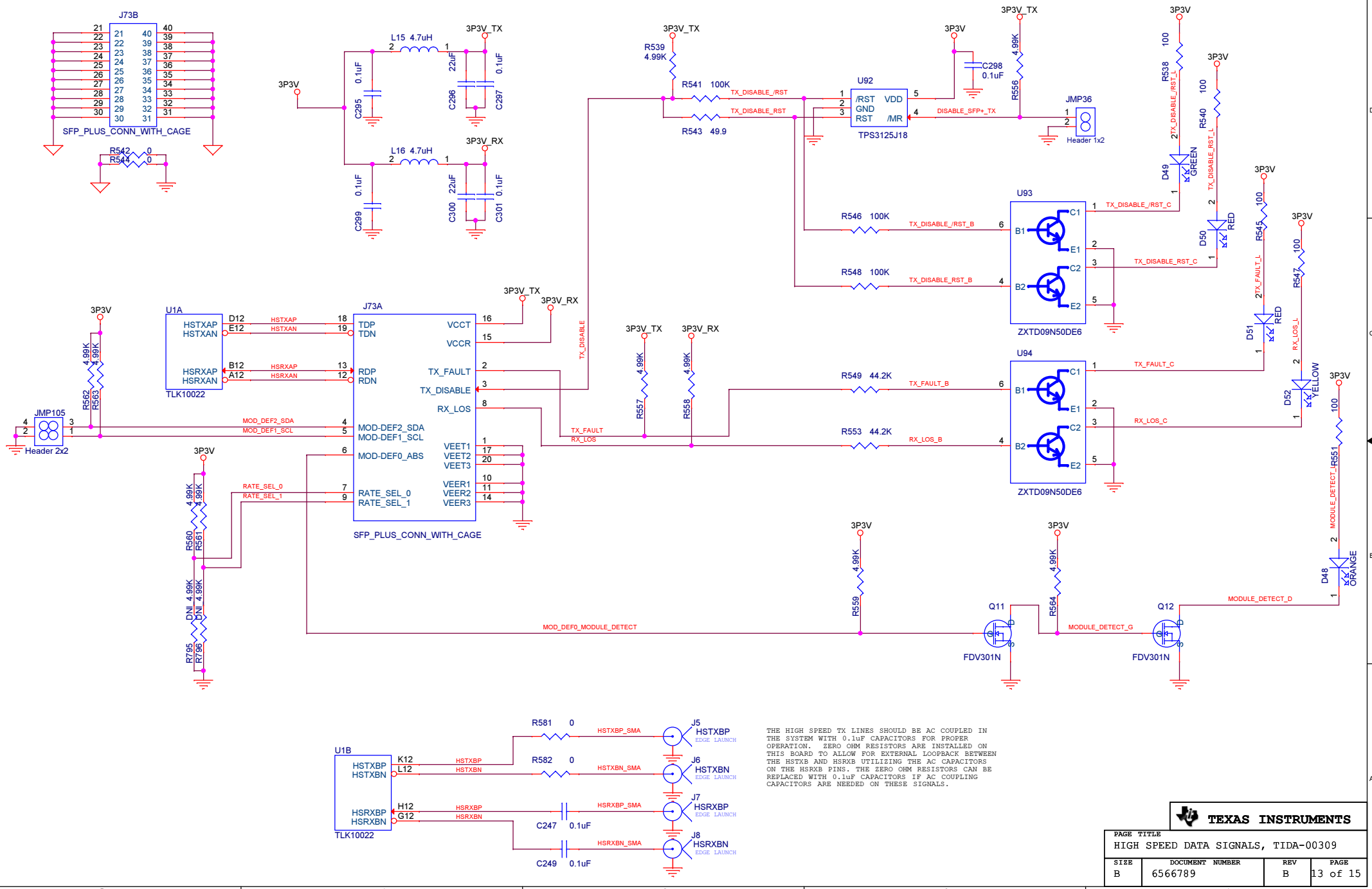
NOTE:



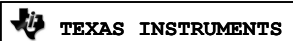
PAGE TITLE			
CRYSTAL OSCILLATORS, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	11 of 15



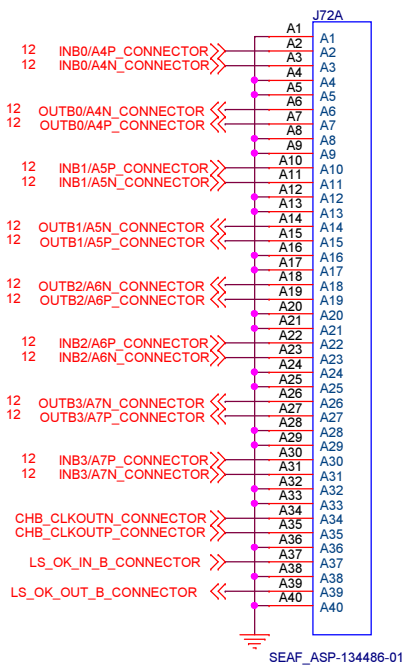
PAGE TITLE			
LOW SPEED DATA SIGNALS, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	12 of 15



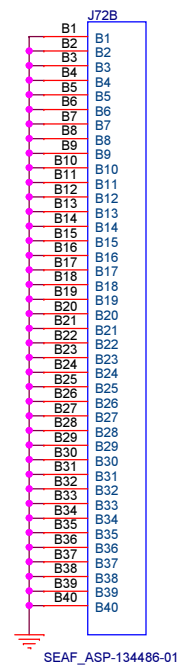
THE HIGH SPEED TX LINES SHOULD BE AC COUPLED IN THE SYSTEM WITH 0.1uF CAPACITORS FOR PROPER OPERATION. ZERO OHM RESISTORS ARE INSTALLED ON THIS BOARD TO ALLOW FOR EXTERNAL LOOPBACK BETWEEN THE HSTXB AND HSRXB UTILIZING THE AC CAPACITORS ON THE HSRXB PINS. THE ZERO OHM RESISTORS CAN BE REPLACED WITH 0.1uF CAPACITORS IF AC COUPLING CAPACITORS ARE NEEDED ON THESE SIGNALS.



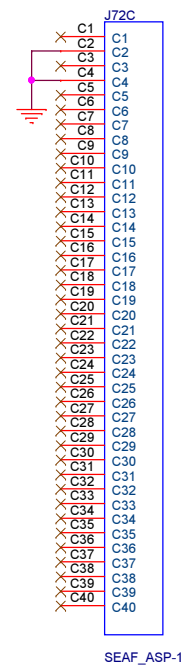
PAGE TITLE			
HIGH SPEED DATA SIGNALS, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	13 of 15



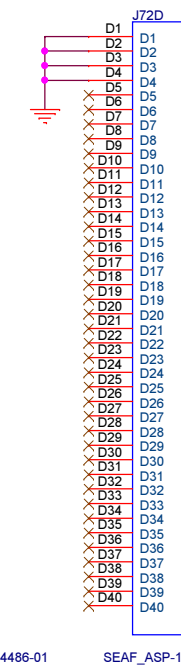
SEAF_ASP-134486-01



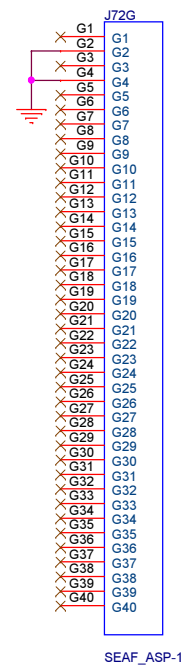
SEAF_ASP-134486-01



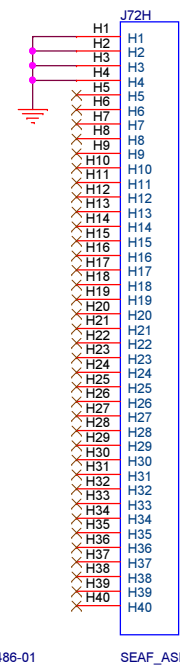
SEAF_ASP-134486-01



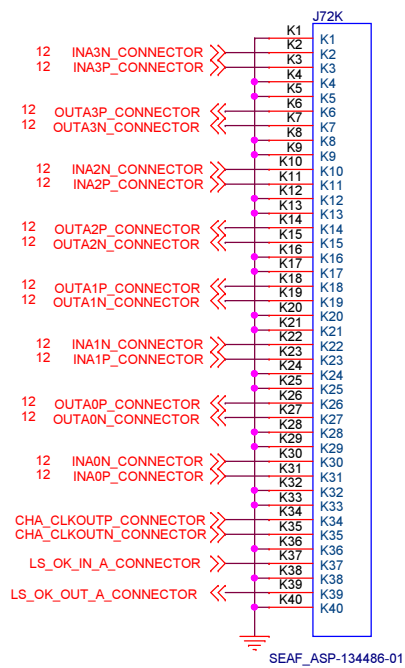
SEAF_ASP-134486-01



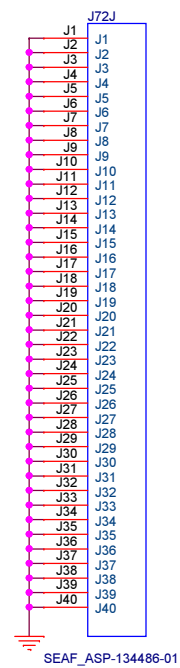
SEAF_ASP-134486-01



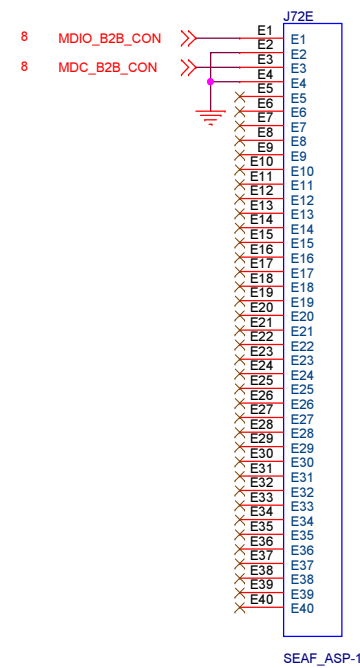
SEAF_ASP-134486-01



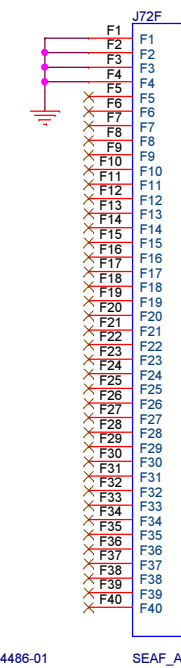
SEAF_ASP-134486-01



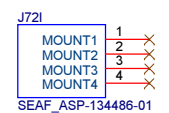
SEAF_ASP-134486-01



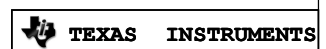
SEAF_ASP-134486-01



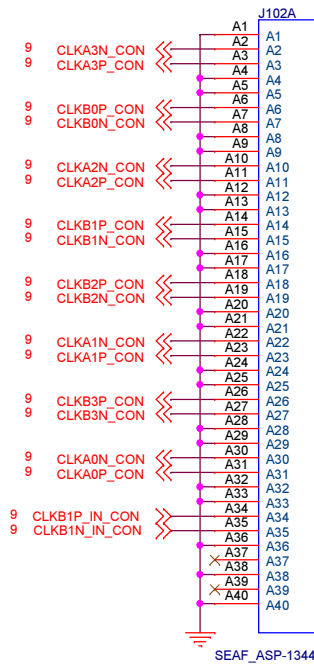
SEAF_ASP-134486-01



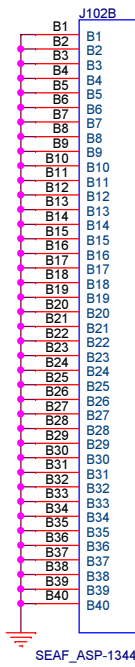
SEAF_ASP-134486-01



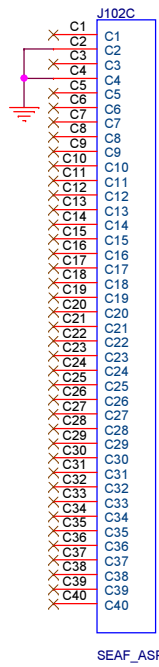
PAGE TITLE			
DATA BOARD TO BOARD CONNECTOR, TIDA-00309			
SIZE	DOCUMENT NUMBER	REV	PAGE
B	6566789	B	14 of 15



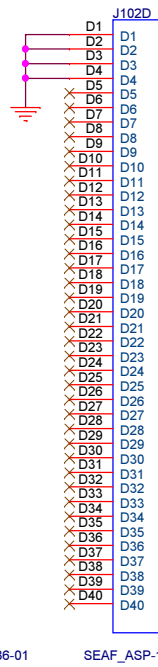
SEAF_ASP-134486-01



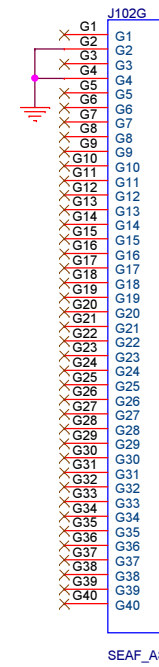
SEAF_ASP-134486-01



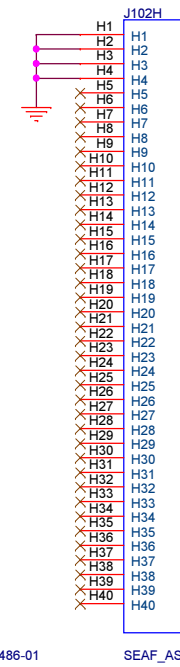
SEAF_ASP-134486-01



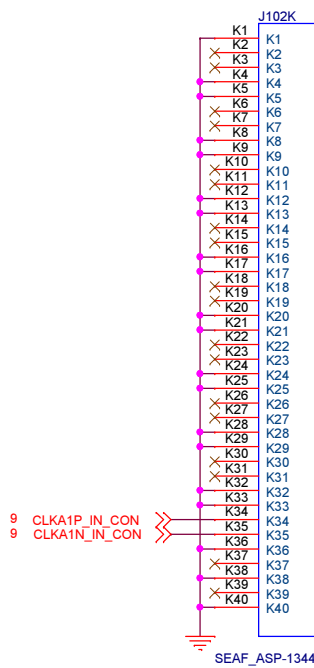
SEAF_ASP-134486-01



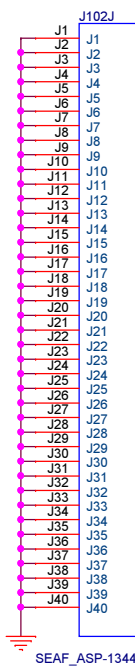
SEAF_ASP-134486-01



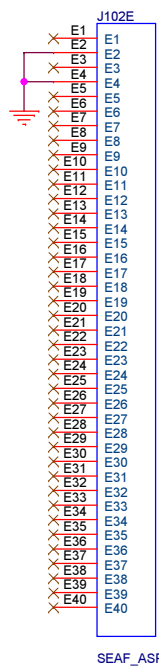
SEAF_ASP-134486-01



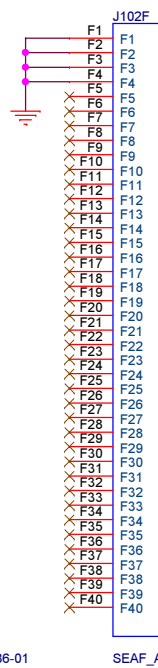
SEAF_ASP-134486-01



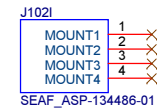
SEAF_ASP-134486-01



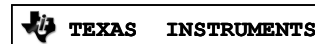
SEAF_ASP-134486-01



SEAF_ASP-134486-01



SEAF_ASP-134486-01



PAGE TITLE CLOCK BOARD TO BOARD CONNECTOR, TIDA-00309			
SIZE B	DOCUMENT NUMBER 6566789	REV B	PAGE 15 of 15

IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated ("TI") reference designs are solely intended to assist designers ("Buyers") who are developing systems that incorporate TI semiconductor products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products.

TI reference designs have been created using standard laboratory conditions and engineering practices. **TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.** TI may make corrections, enhancements, improvements and other changes to its reference designs.

Buyers are authorized to use TI reference designs with the TI component(s) identified in each particular reference design and to modify the reference design in the development of their end products. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI REFERENCE DESIGNS ARE PROVIDED "AS IS". TI MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. TI DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO TI REFERENCE DESIGNS OR USE THEREOF. TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY BUYERS AGAINST ANY THIRD PARTY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON A COMBINATION OF COMPONENTS PROVIDED IN A TI REFERENCE DESIGN. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES, HOWEVER CAUSED, ON ANY THEORY OF LIABILITY AND WHETHER OR NOT TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING IN ANY WAY OUT OF TI REFERENCE DESIGNS OR BUYER'S USE OF TI REFERENCE DESIGNS.

TI reserves the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques for TI components are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

Reproduction of significant portions of TI information in TI data books, data sheets or reference designs is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards that anticipate dangerous failures, monitor failures and their consequences, lessen the likelihood of dangerous failures and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in Buyer's safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed an agreement specifically governing such use.

Only those TI components that TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components that have **not** been so designated is solely at Buyer's risk, and Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.