

Rev	Description	Date	By
1.0	Initial release.	06/11/12	GM
1.1	Corrected few bugs on PLC SOM interface, added LEDs, changed 5V DC source to BBone.	06/18/12	GM
1.2	Added missing pin information to optocoupler in zero crossing circuit.	06/19/12	GM
1.3	Corrected few bugs: PLC_15V connected incorrectly, made ADC power and ground NC, wrong ground used in LED buffer, corrected name of AC ground.	07/09/12	GM
1.4	Fixed floating 3V3 source for zero-crossing circuit.	08/01/12	GM
1.5	---	18/04/14	GM
1.6	<ul style="list-style-type: none"> a. Compatible to BAGLE BONE BLACK. b. PLC capacitive coupling circuit made same as data concentrator. c. Zero crossing and som connector made same as concentrator 	18/04/14	GM

Page No.	Schematic Page
1	Title Page
2	BeagleBone Interface
3	PLC SOM Connector
4	PLC Interface
5	Zero Crossing Detector
6	CC Interface 1
7	RS232 Connector
8	Power

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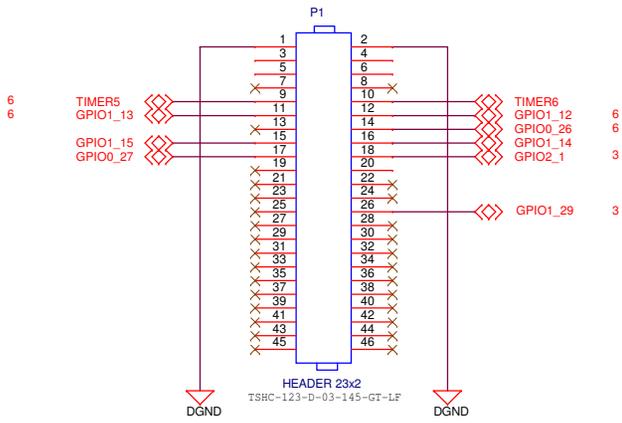
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Dallas, TX 75243

Page Contents

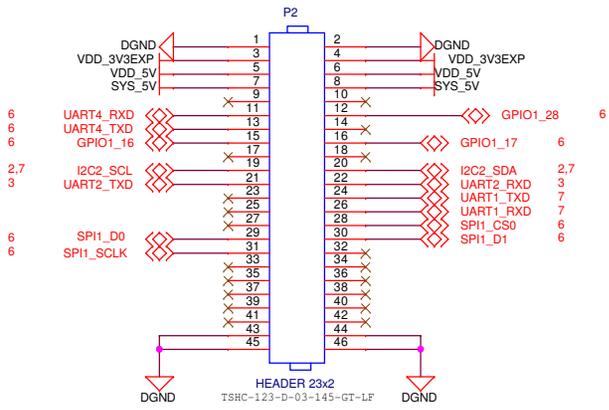
Title Page

Size A	Document Number TIDA-00225_3PH_PLC_DAUGHTERCARD_BBB	Rev 1.2
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Date: Wednesday, June 11, 2014 Sheet 1 of 8

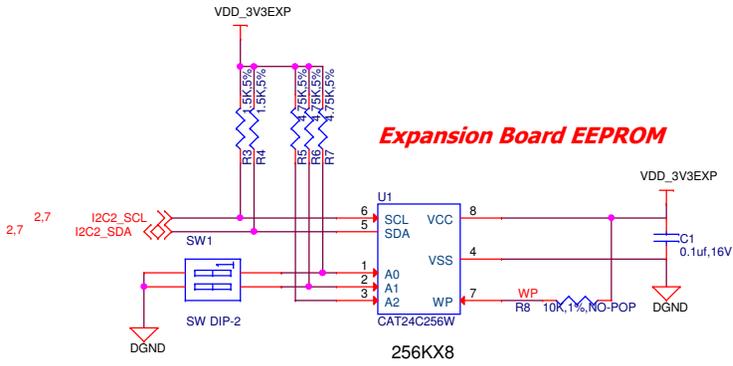


EXPANSION HEADER

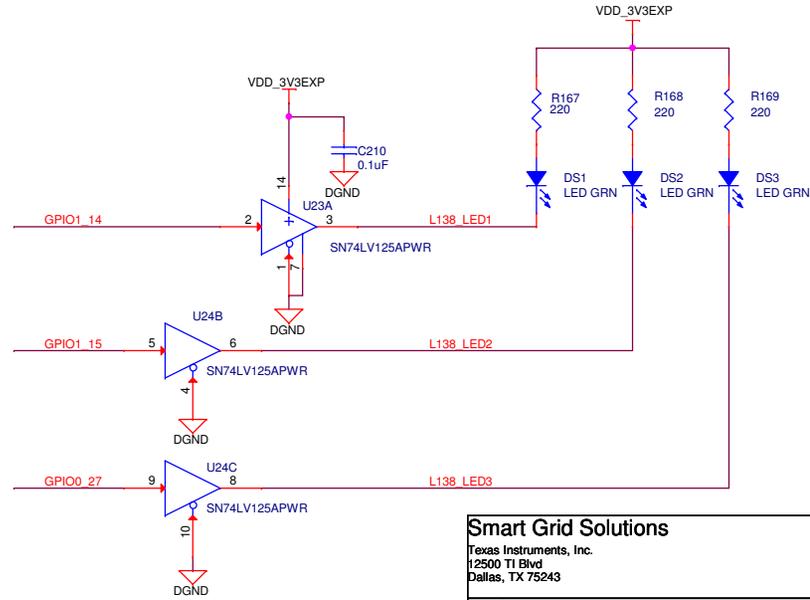


EXPANSION HEADER

UART4_RXD, UART4_TXD => RF
 UART5_RXD, UART5_TXD => RF
 UART1_RTSN (I2C_SCL), UART1_CTSN (I2C_SDA), UART1_RXD, UART1_TXD => PLC (PORTA)
 UART2_RXD, UART2_TXD => PLC (PORTB)
 SPI1 (CS0, SCLK, D0, D1) => CC1 & CC2
 TIMER5 => CC1
 TIMER6 => CC2



Expansion Board EEPROM



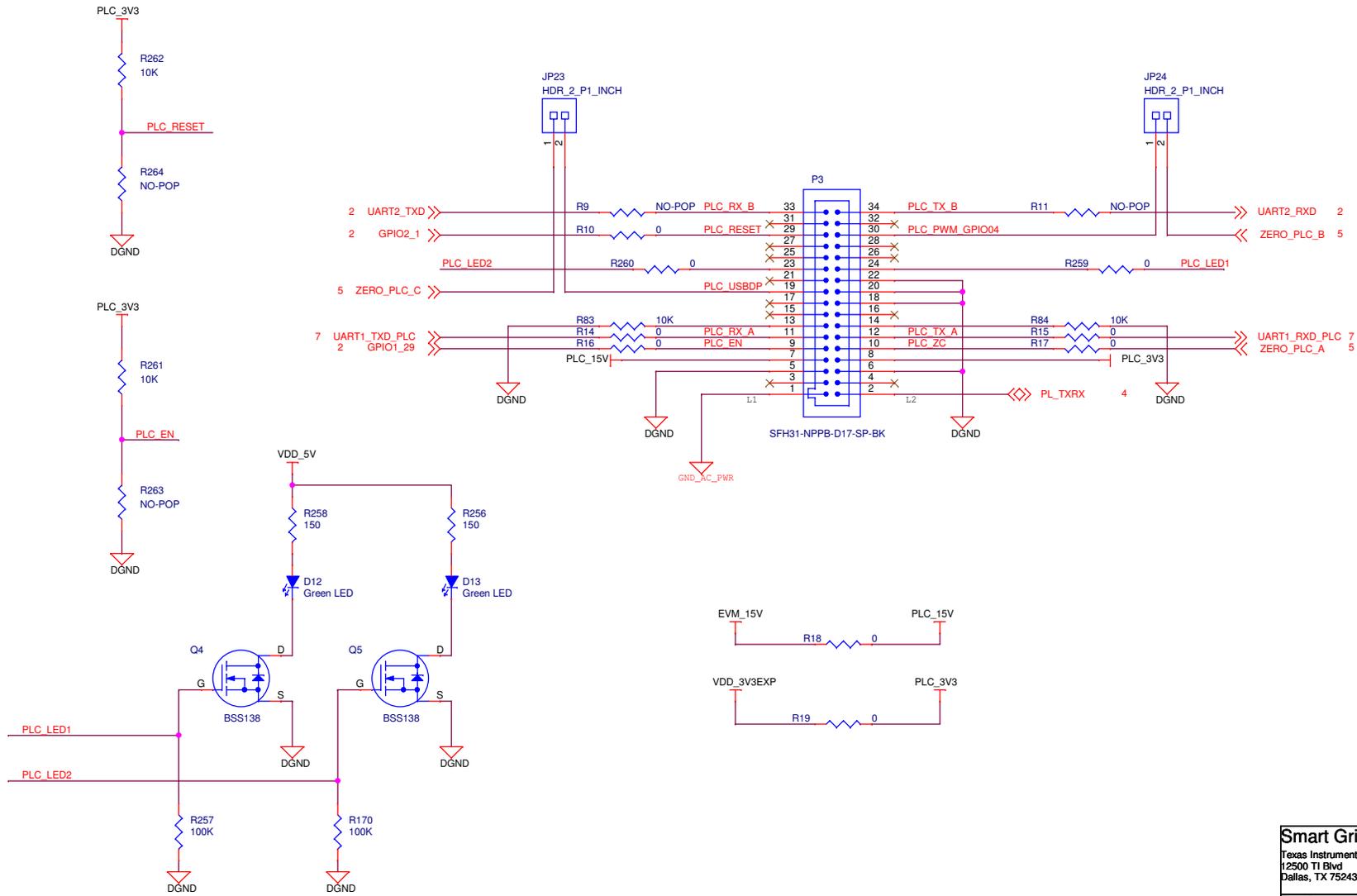
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Page Contents
 BeagleBone Interface

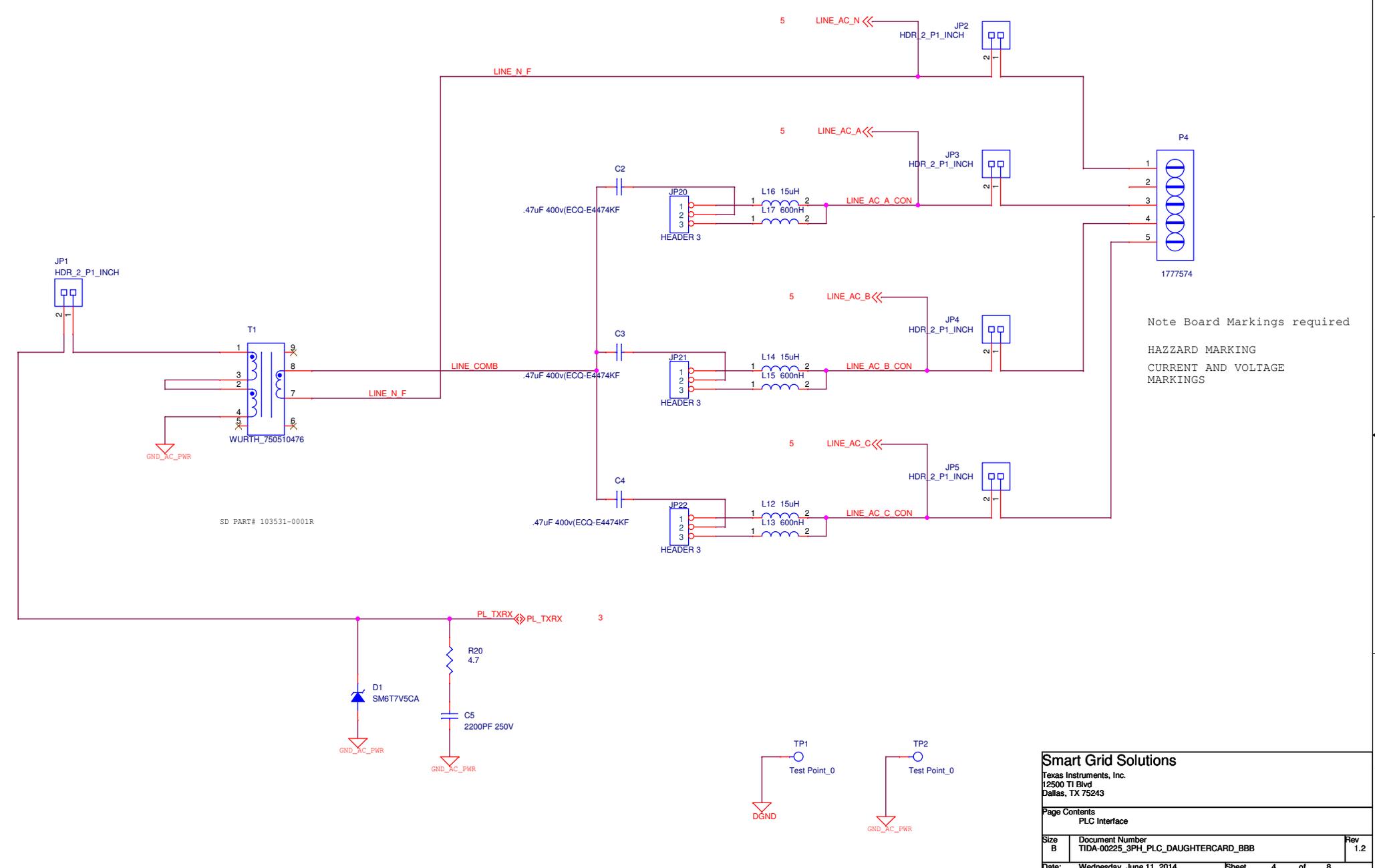
Size B	Document Number TIDA-00225_3PH_PLC_DAUGHTERCARD_BBB	Rev 1.2
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Date: Wednesday, June 11, 2014 Sheet 2 of 8

NOTE: KEEP OUT REGION EXISTS AROUND THIS CONNECTOR IN ORDER TO ACCOMMODATE PLC SOM
 REFERENCE SMART GRID EVM DESIGN FILES

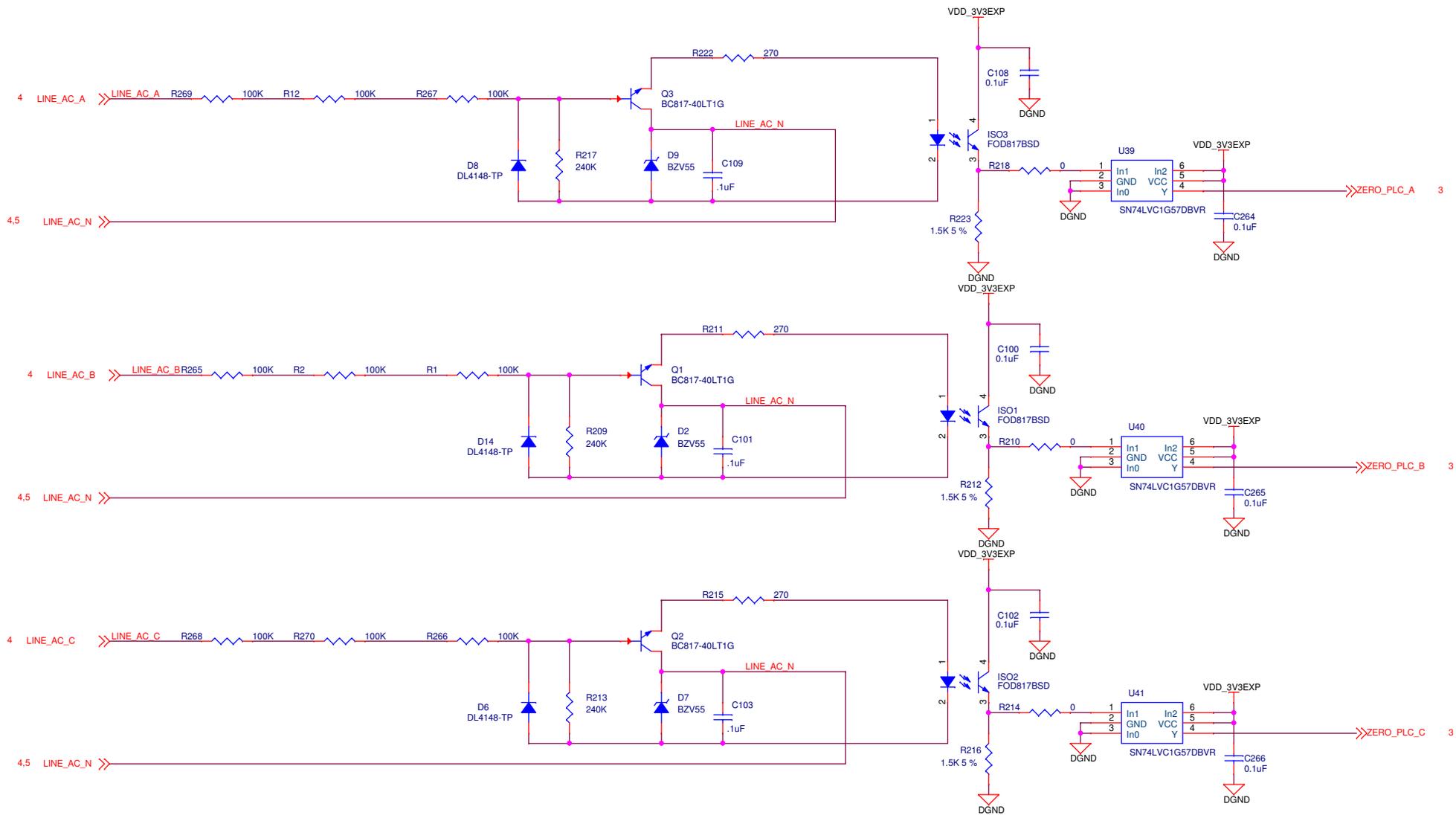


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Page Contents PLC SOM Connector		
Size B	Document Number TIDA-00225_3PH_PLD_DAUGHTERCARD_BBB	Rev 1.2
Date: Wednesday, June 11, 2014	Sheet 3	of 8



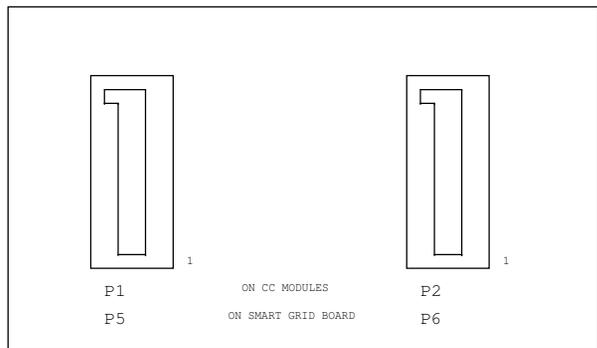
Note Board Markings required
HAZZARD MARKING
CURRENT AND VOLTAGE
MARKINGS

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Page Contents PLC Interface		
Size B	Document Number TIDA-00225_3PH_PLC_DAUGHTERCARD_BBB	Rev 1.2
Date: Wednesday, June 11, 2014	Sheet 4	of 8



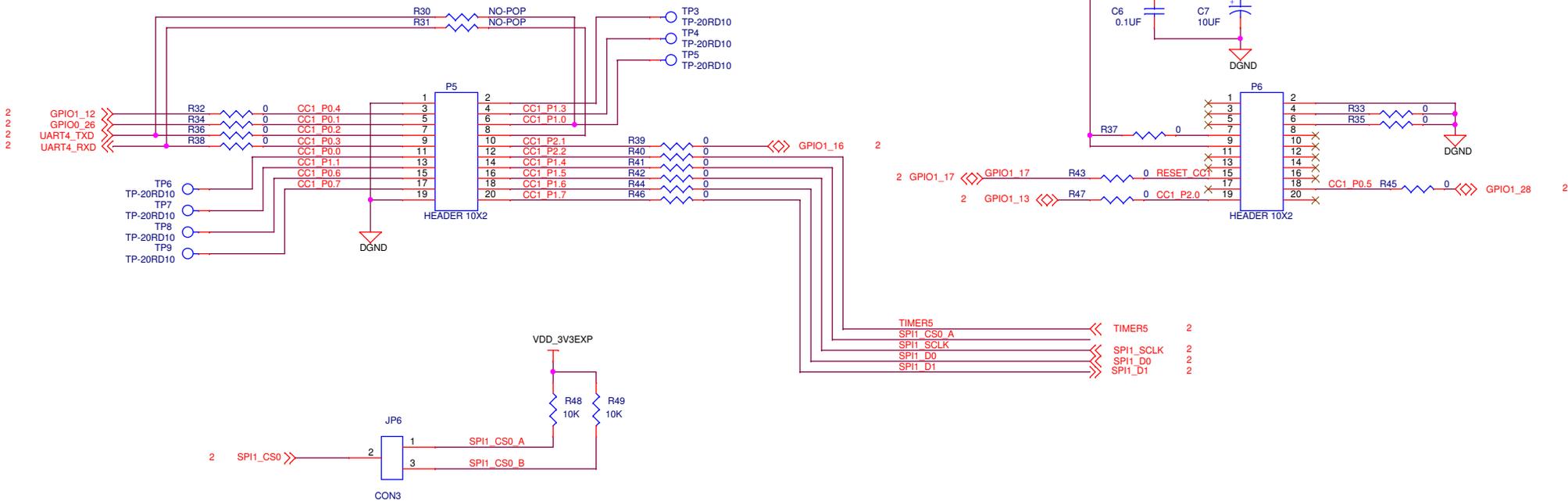
NOTE: DIMENSIONS AND LOCATIONS OF THESE CONNECTORS MUST MEET SPECIFICATION FOR INTERFACE MODULES
 REFERENCE CC2530EMK USER GUIDE (SWRU208) OR SMART GRID EVM DESIGN FILES

Connector P/N: TFM-110-02-SM-D-A-K-TR (Samtec)



P1 ON CC MODULES

P2 ON SMART GRID BOARD

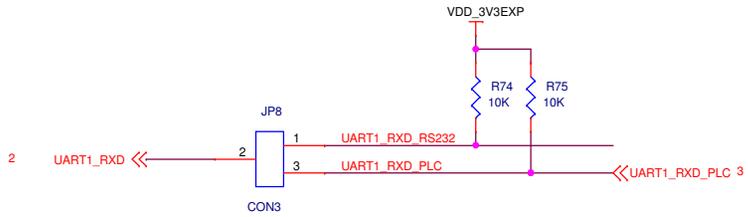
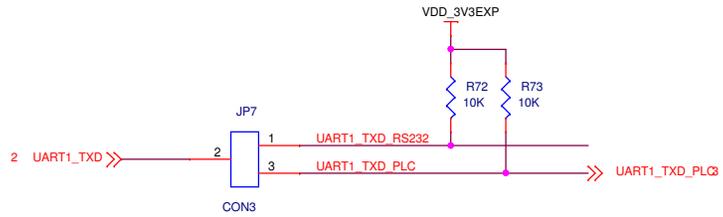
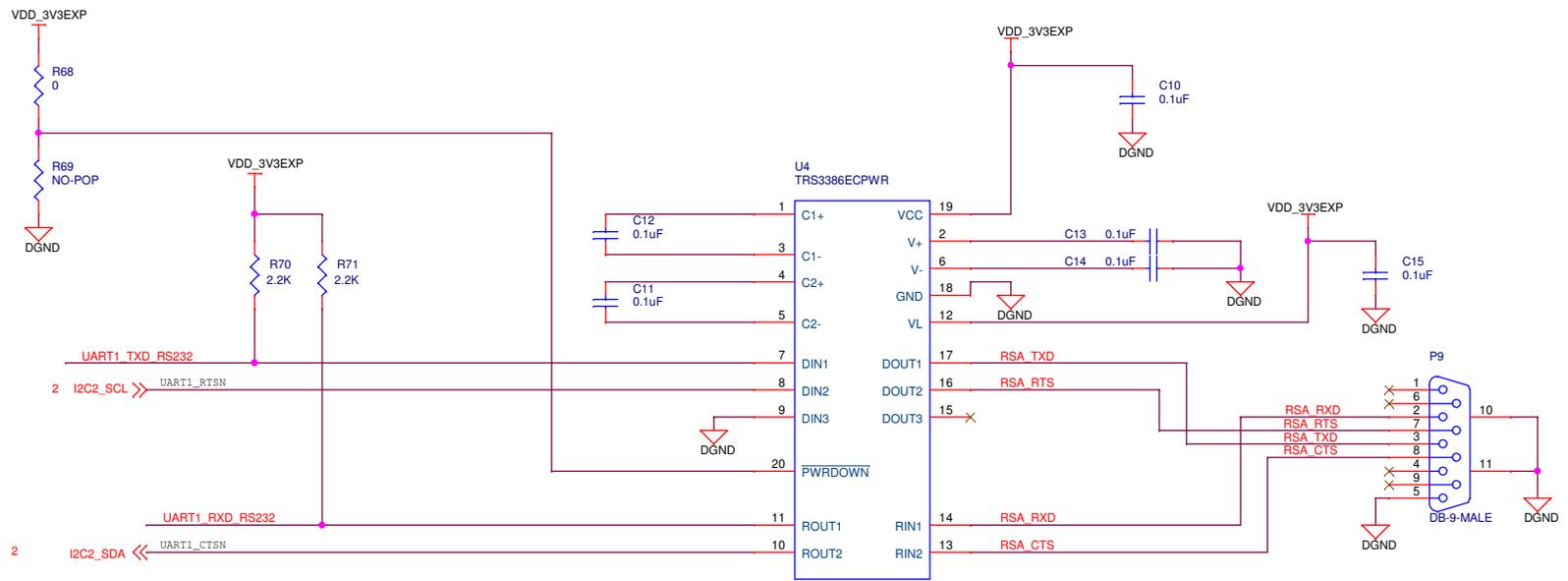


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Page Contents
 CC Interface 1

Size B	Document Number TIDA-00225_3PH_PLC_DAUGHTERCARD_BBB	Rev 1.2
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Date: Wednesday, June 11, 2014 Sheet 6 of 8



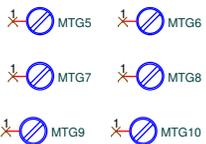
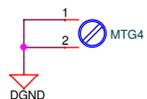
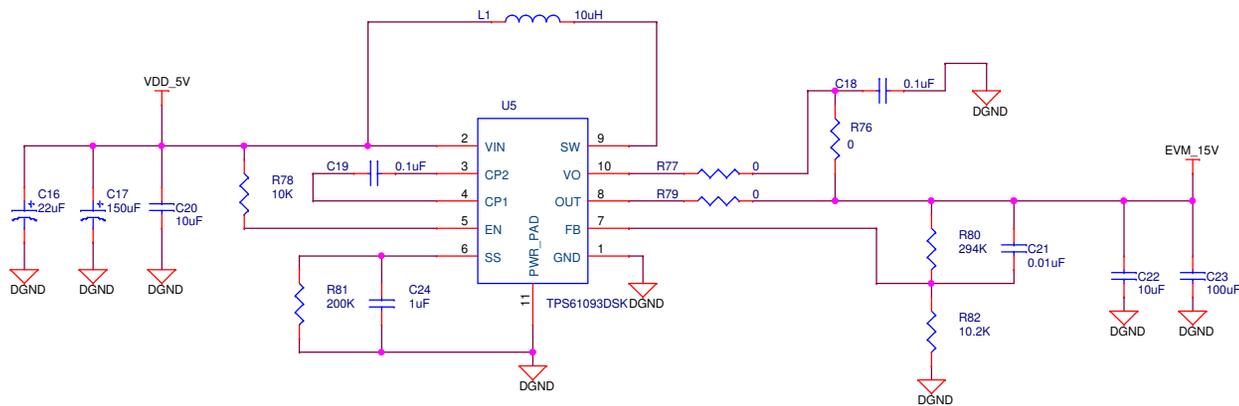
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Page Contents
 RS232

Size B	Document Number TIDA-00225_3PH_PLC_DAUGHTERCARD_BBB	Rev 1.2
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Date: Wednesday, June 11, 2014 Sheet 7 of 8

BeagleBone must supply 5VDC power from external power supply.
 Recommended power supply: CUI Inc., 5V/2A, EMMA050200-P5.



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Page Contents		
Power		
Size B	Document Number TIDA-00225_3PH_PLG_DAUGHTERCARD_BBB	Rev 1.2
Date:	Wednesday, June 11, 2014	Sheet 8 of 8

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