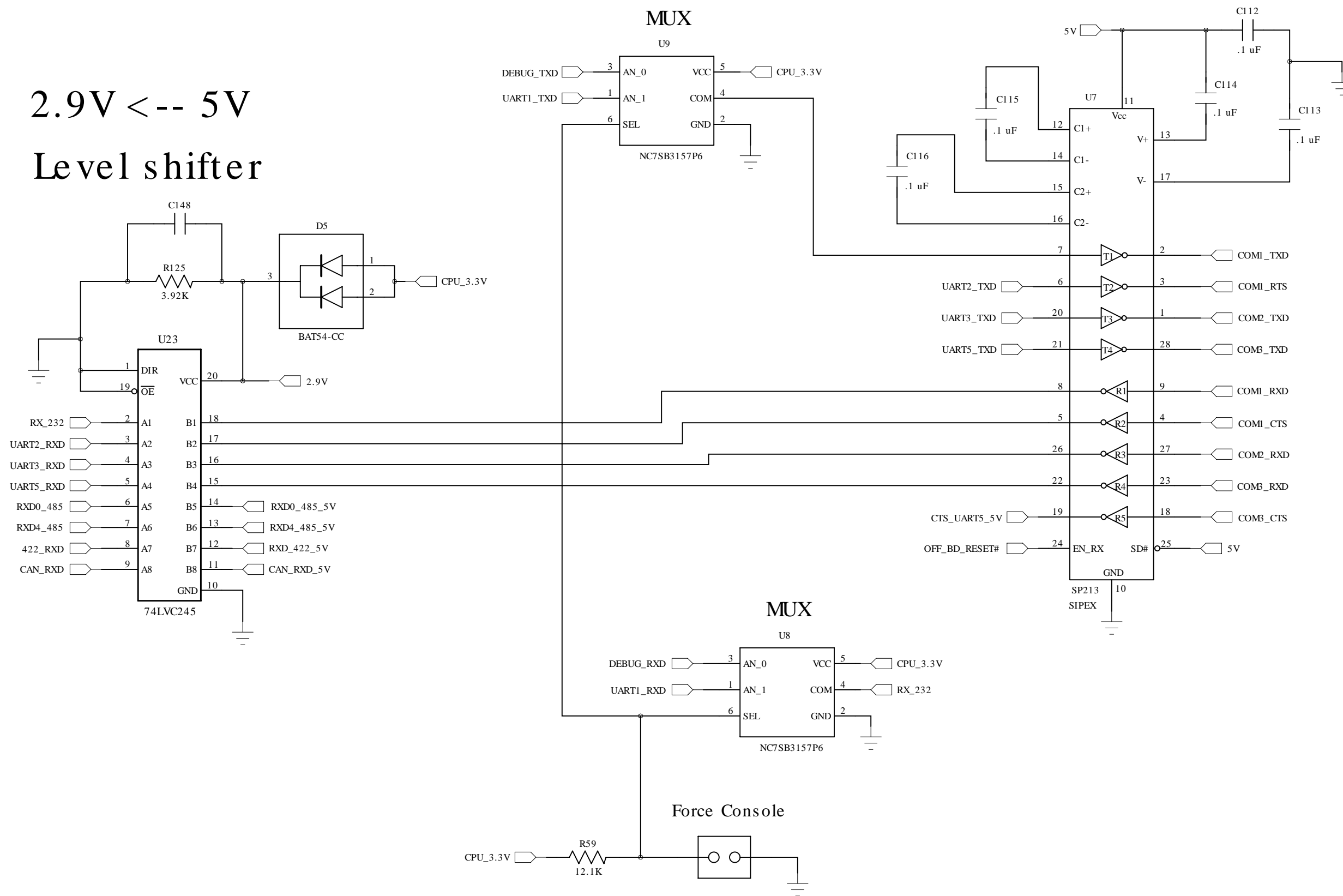
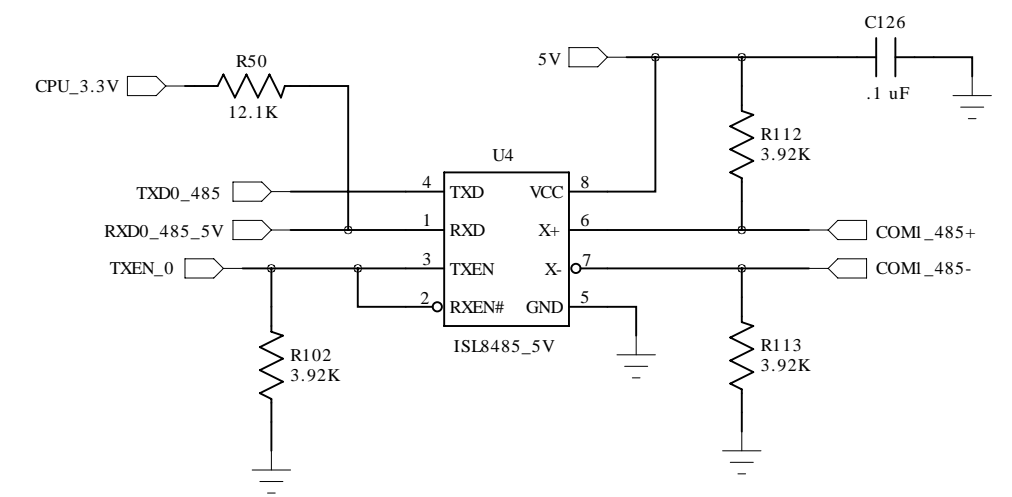


RS-232 Transceiver

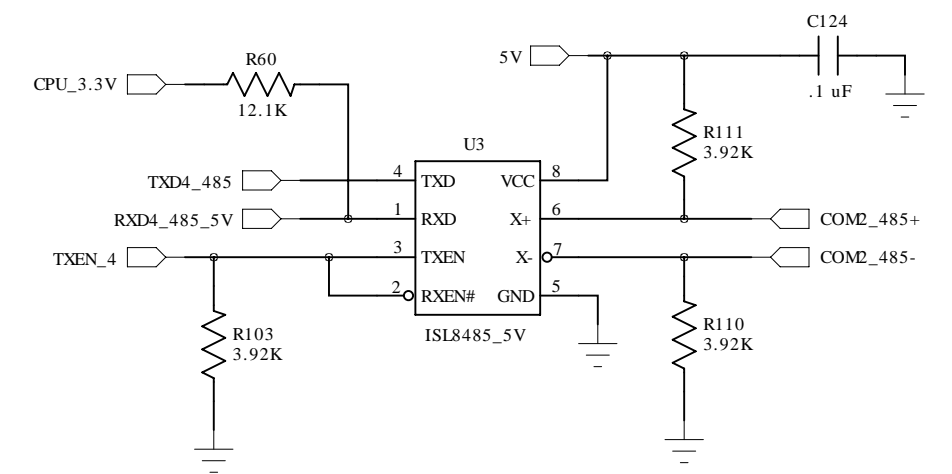
2.9V <-- 5V
Level shifter



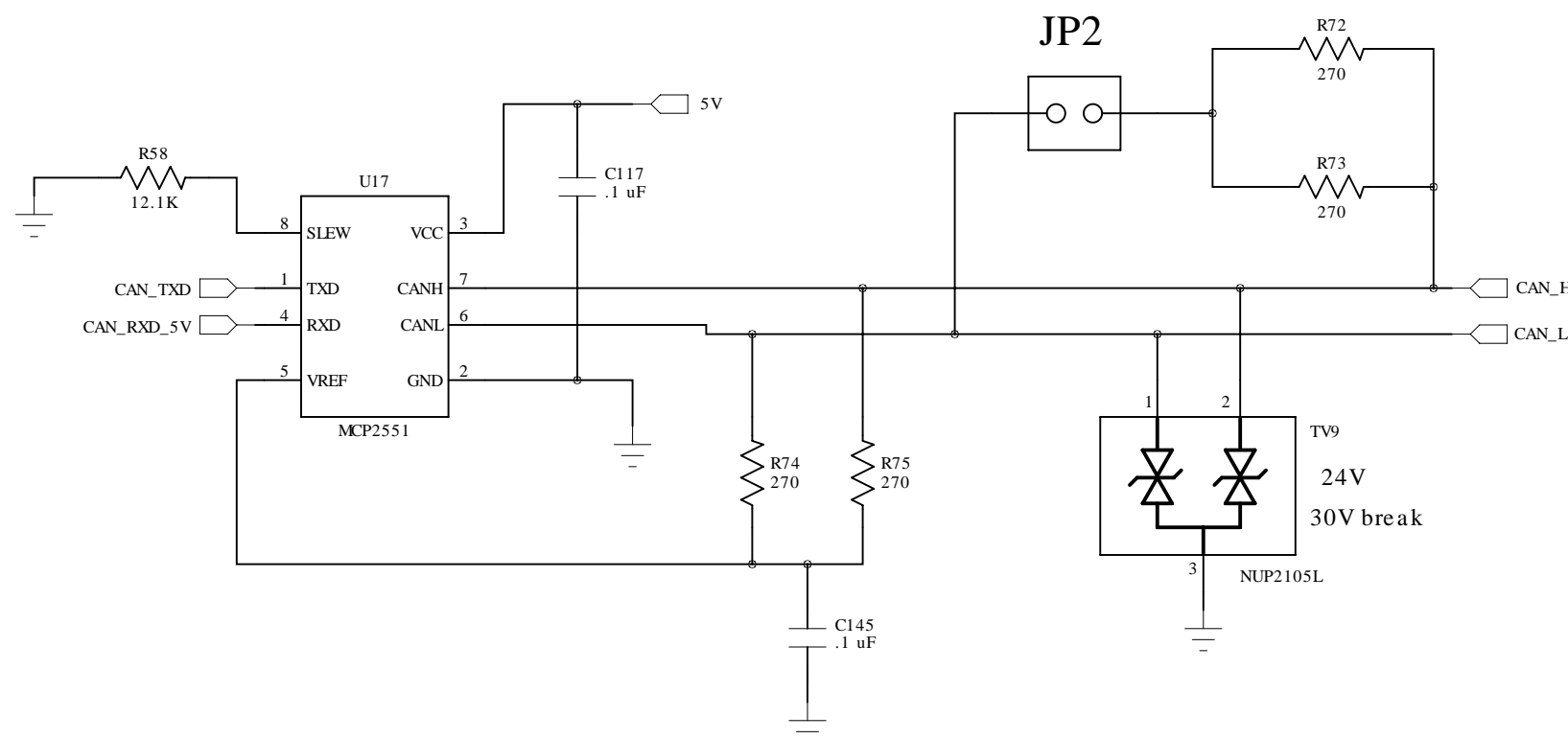
COM1 RS-485 Driver



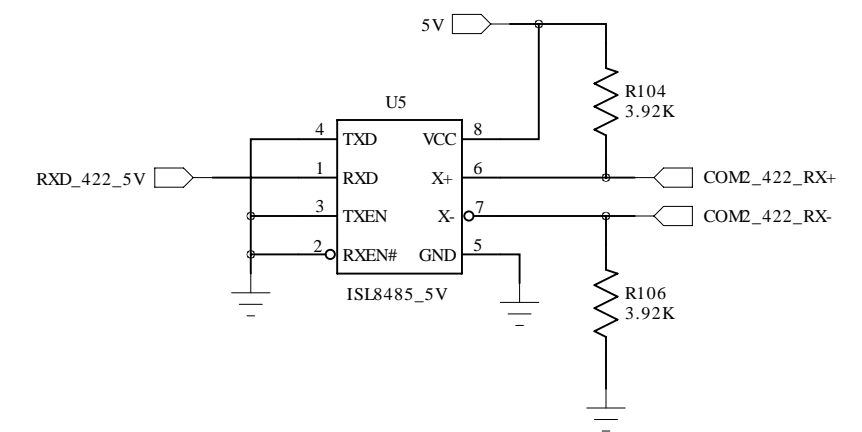
COM2 RS-485 Driver



Primary CAN Transceiver

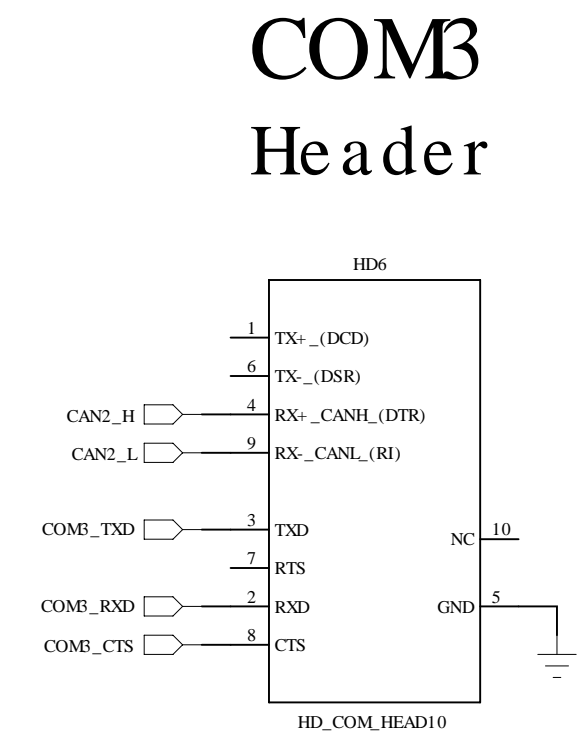
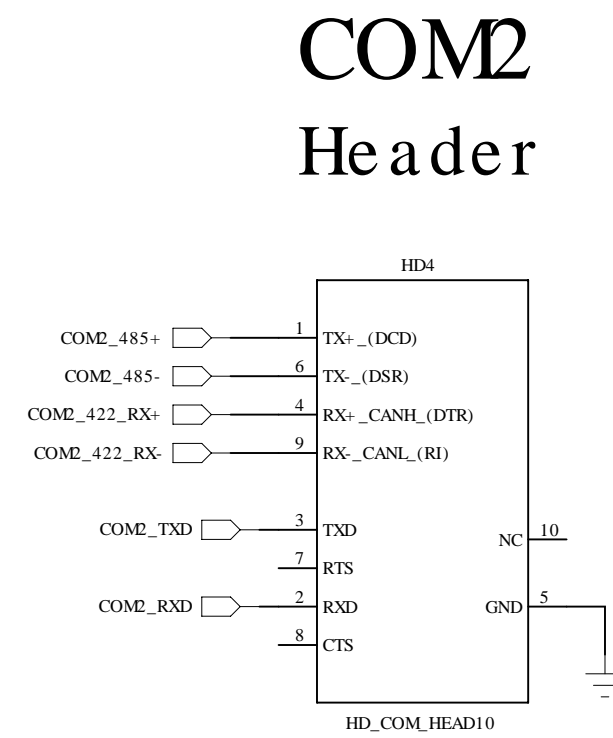
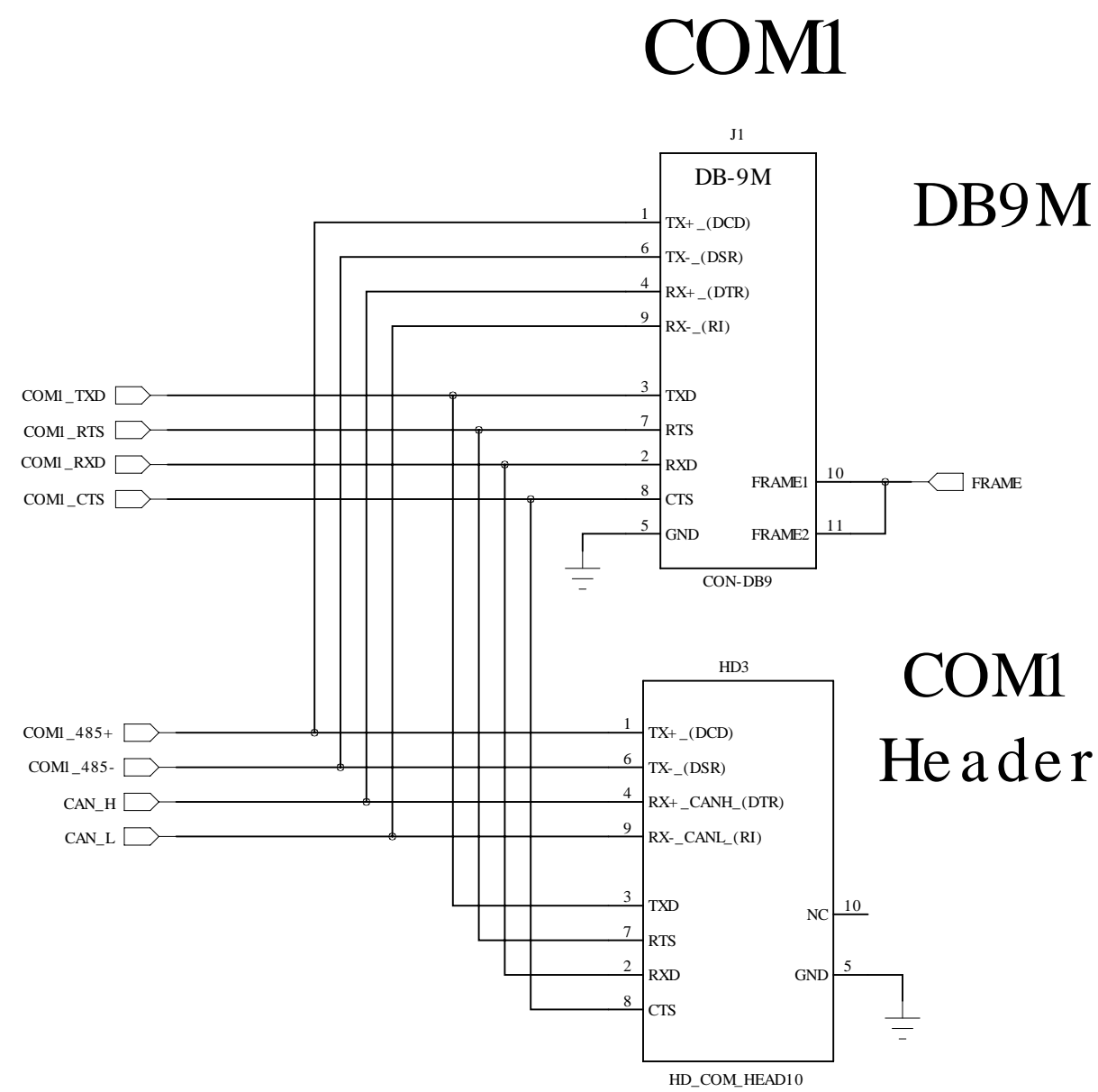


COM2 RS-422 Receiver

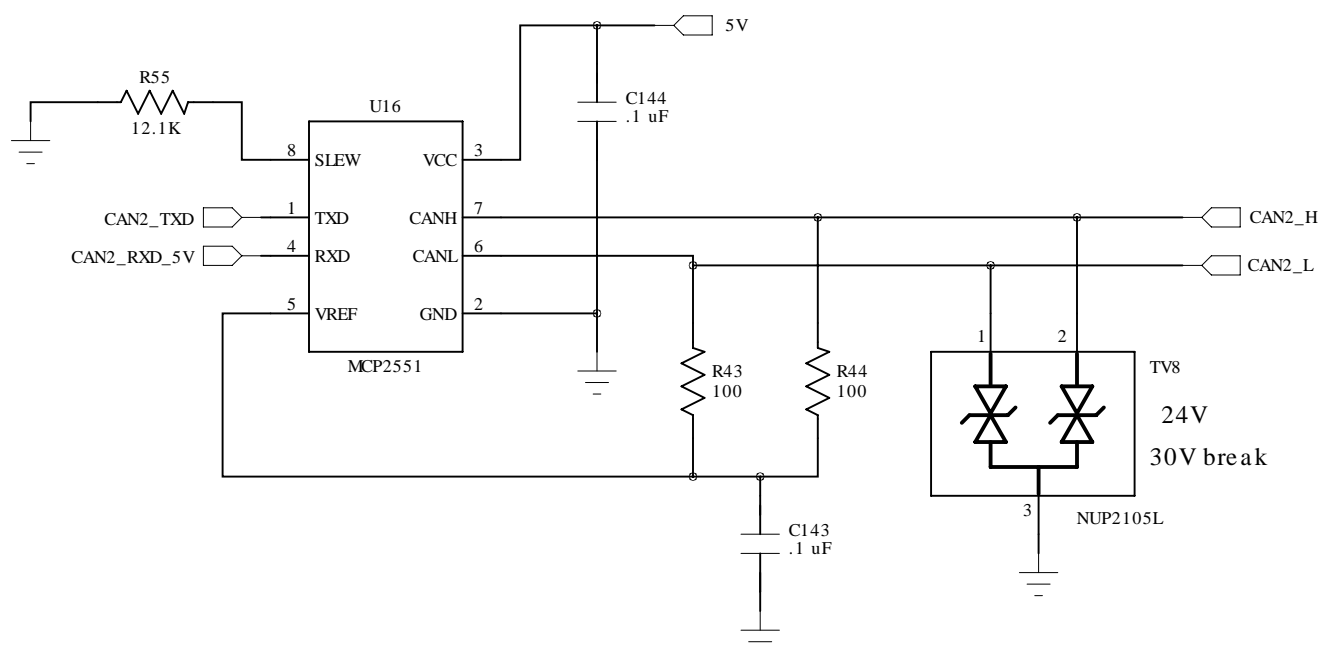


Technologic Systems	Nov. 3, 2010
Title: TS-8100 RS-232, RS-485, CAN	
Rev:	Designer
Sheet 1 of 10	

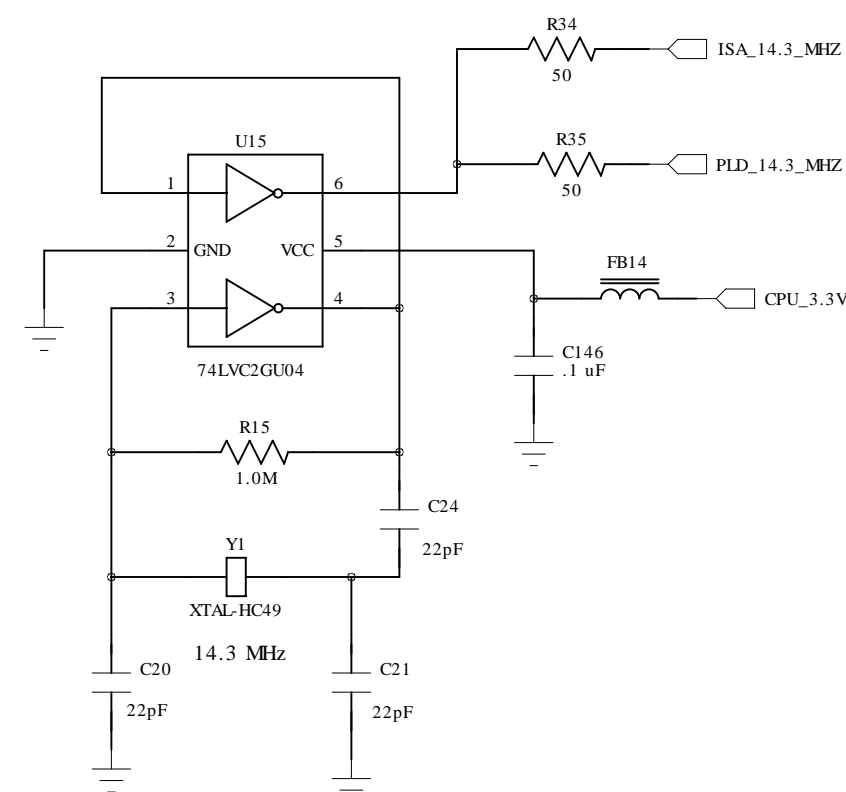
COM Connectors and Headers



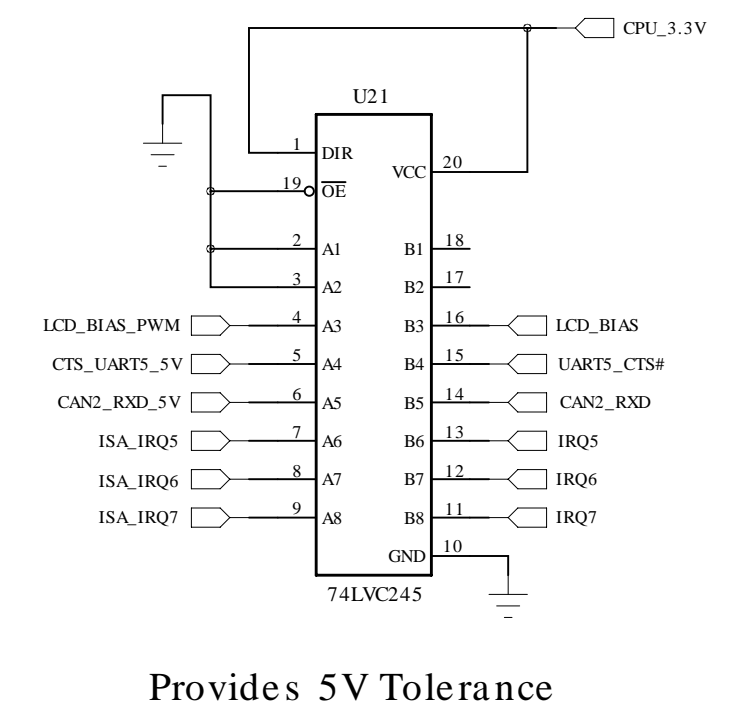
2nd CAN Transceiver



14.3 MHz Osc.



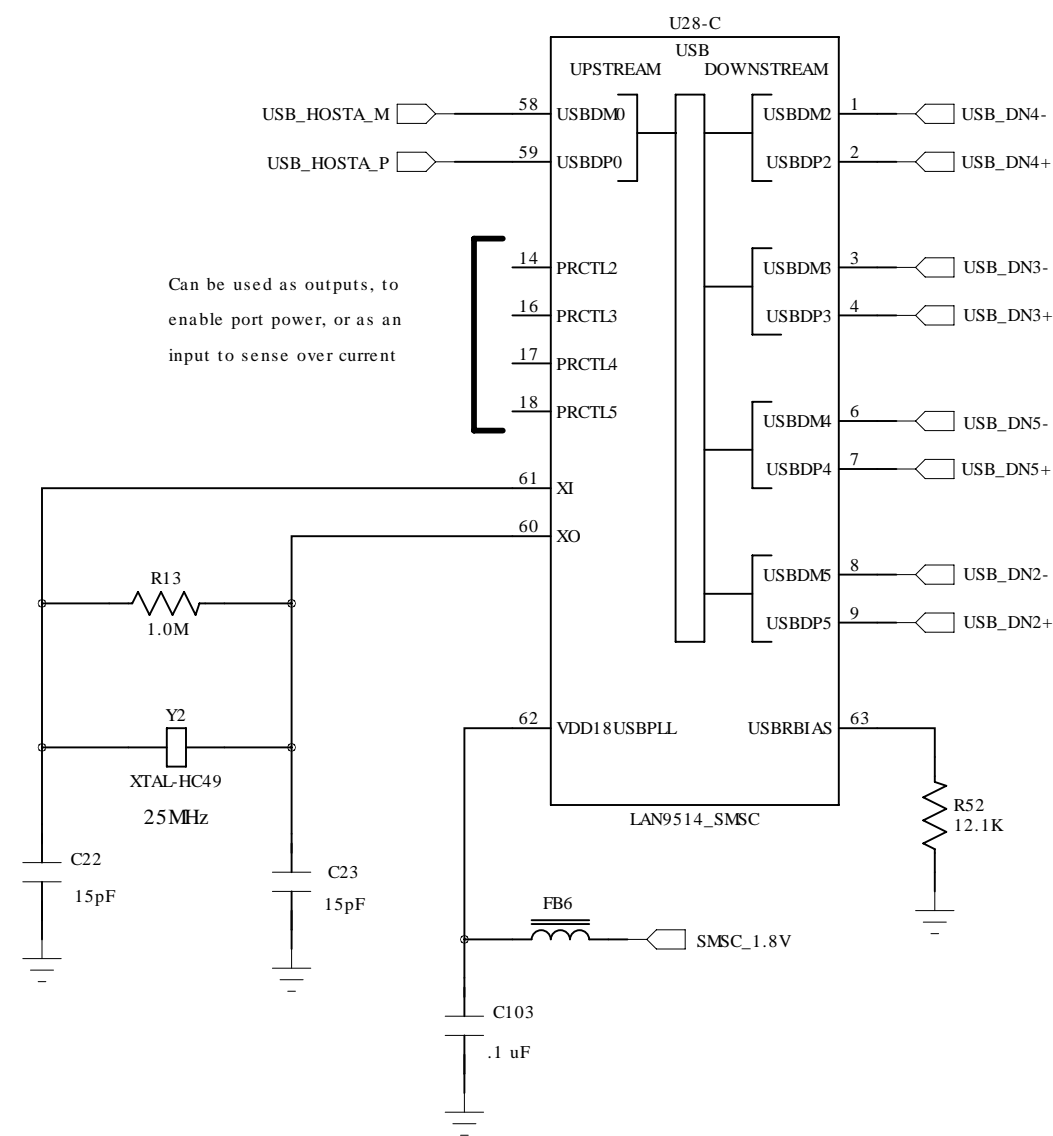
5V --> 3.3V



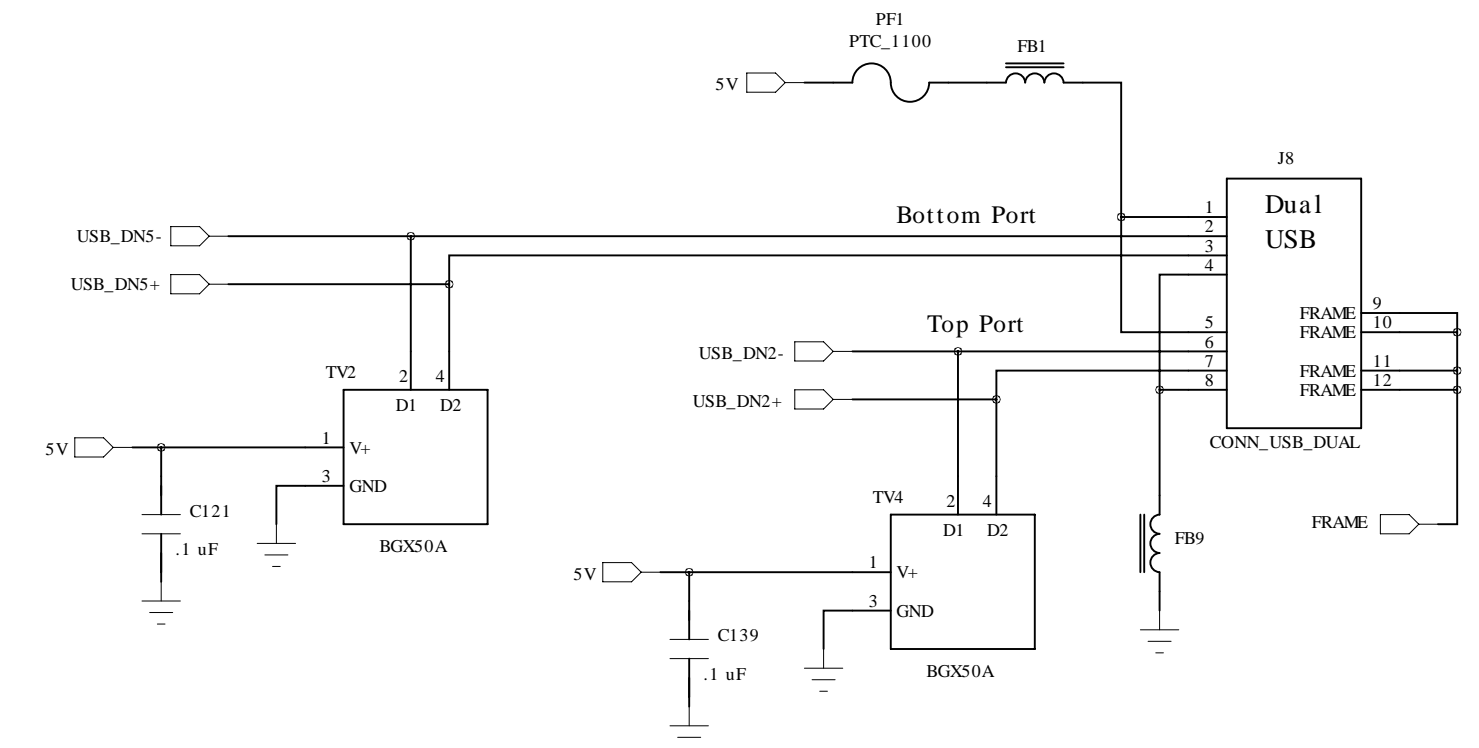
Provides 5V Tolerance

Technologic Systems		Nov. 3, 2010
Title: TS-8100 DB9, COM Headers		
Rev:	Designer	Sheet 2 of 10

SMSC USB Hub

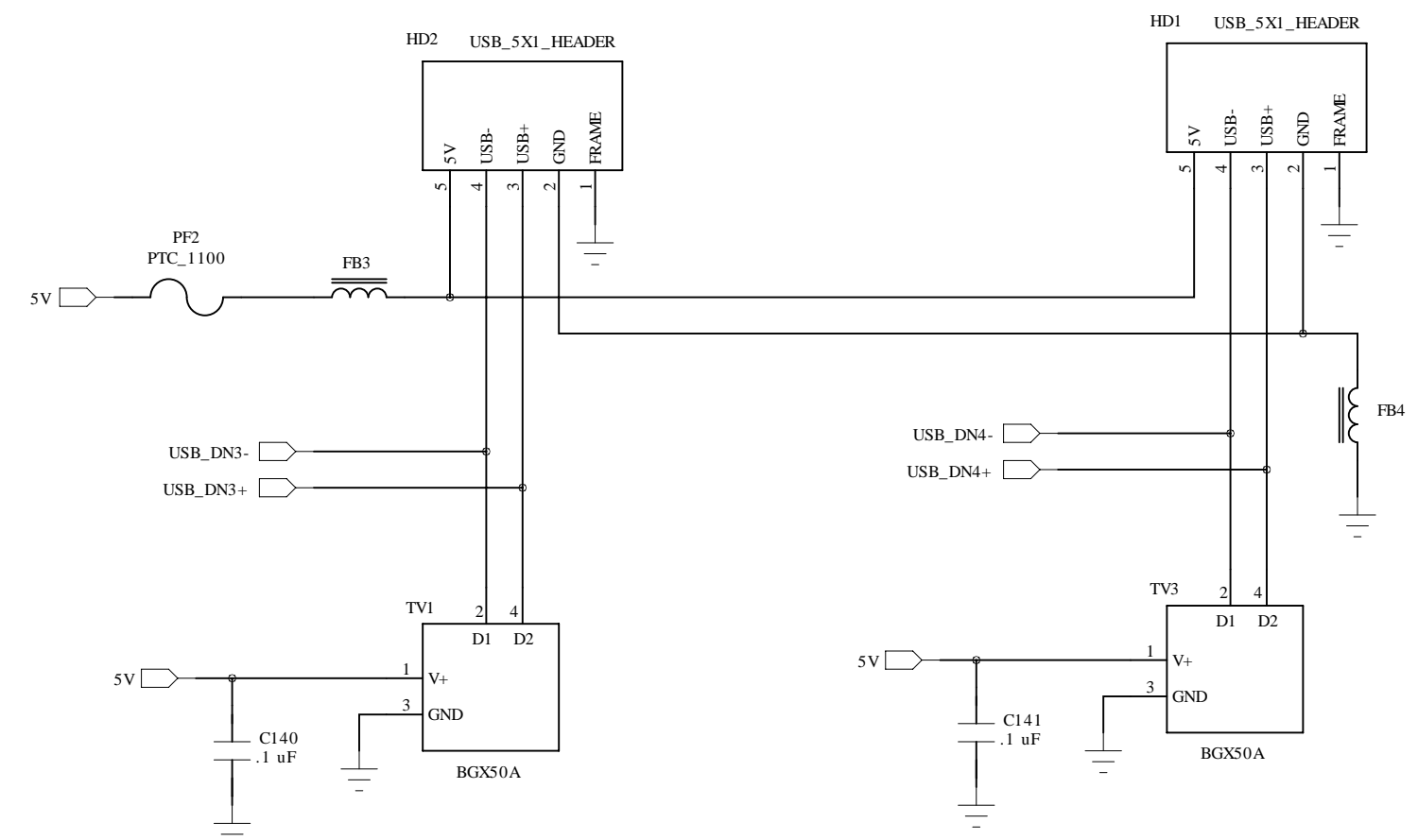
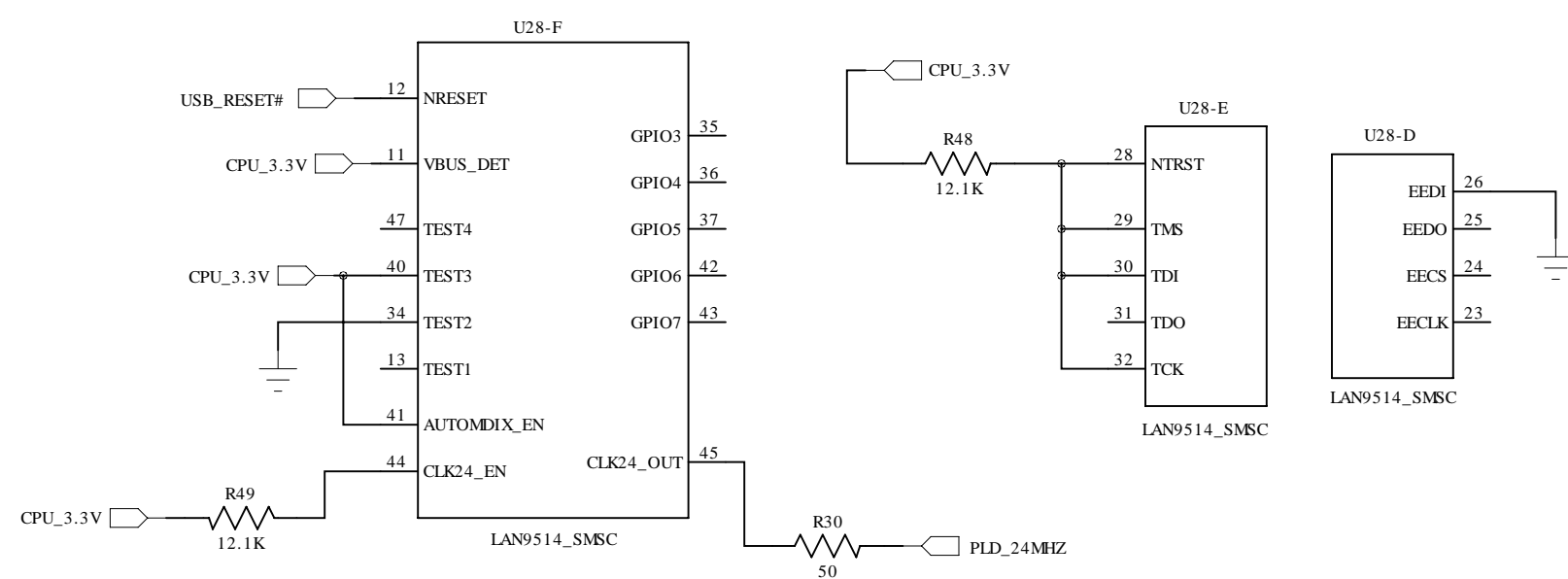
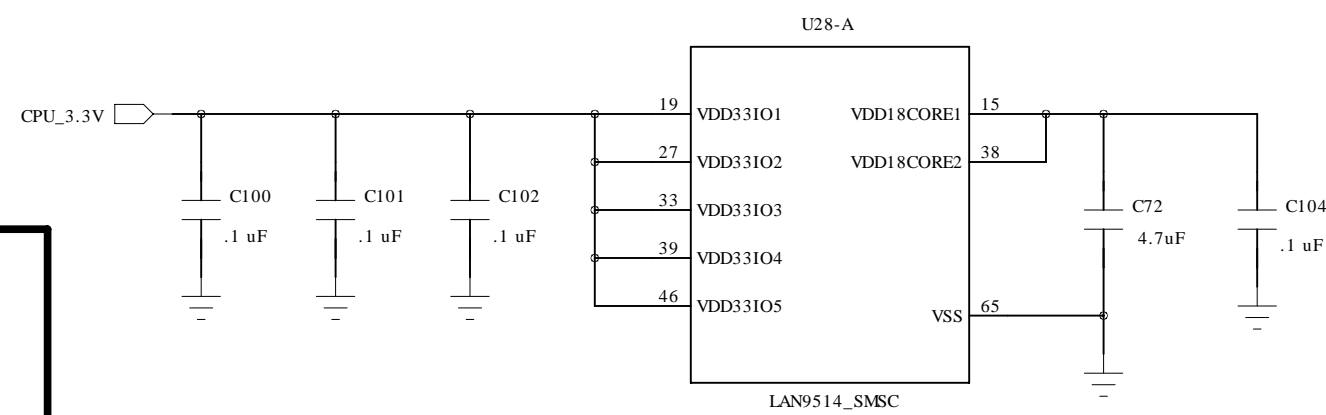


External Dual USB



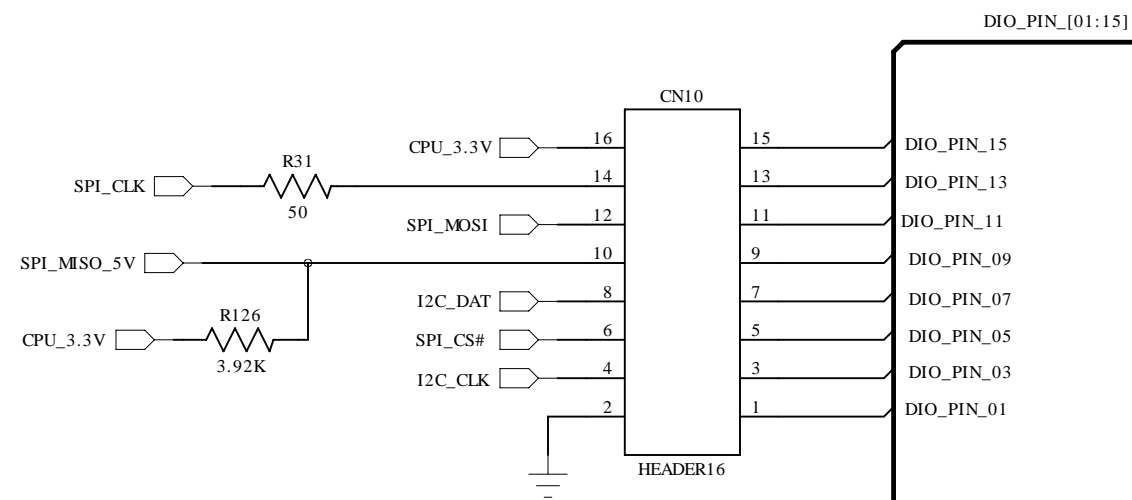
Internal USB Headers

Typical 3.3V current
with all ports active
is 288 mA (950 mw)

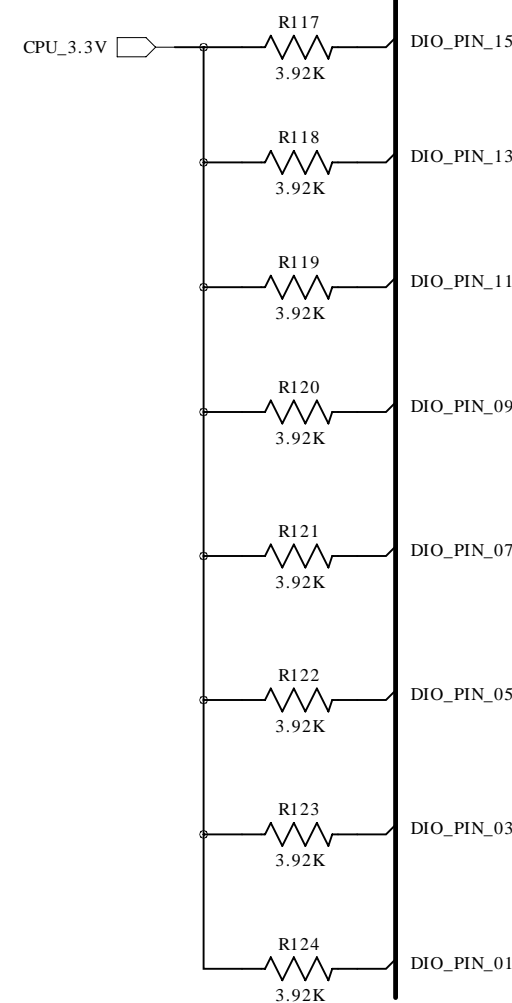


DIO and LCD and SATA

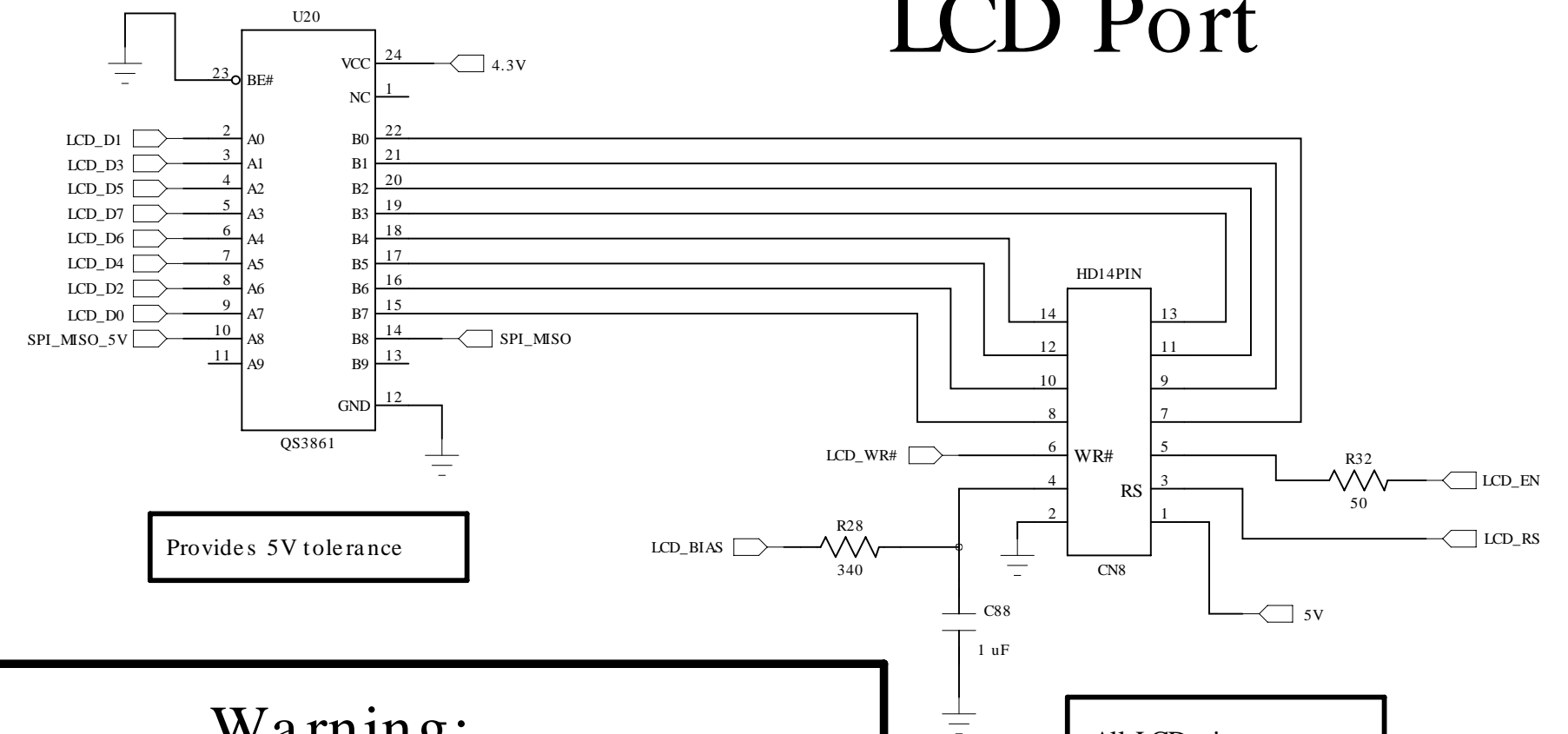
DIO Port



Warning:
DIO are not 5V tolerant !
Only SPI_MISO is 5V tolerant



LCD Port

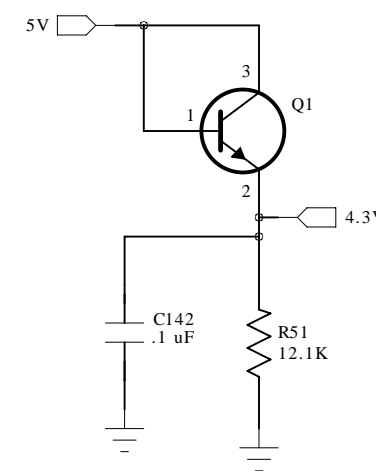


Provides 5V tolerance

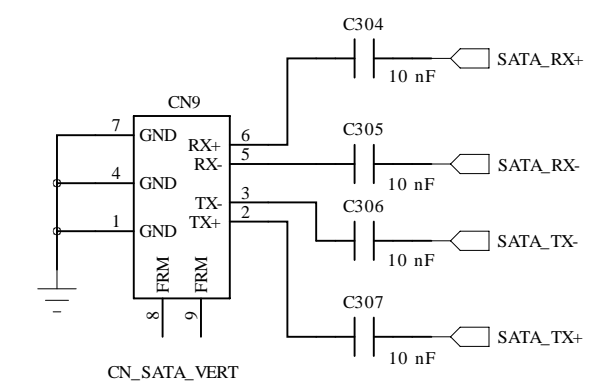
Warning:
LCD_D0 thru LCD_D7 are 5V tolerant
LCD_WR#, LCD_RS, and LCD_EN are not !

All LCD pins are
bi-directional DIO

4.3V Supply



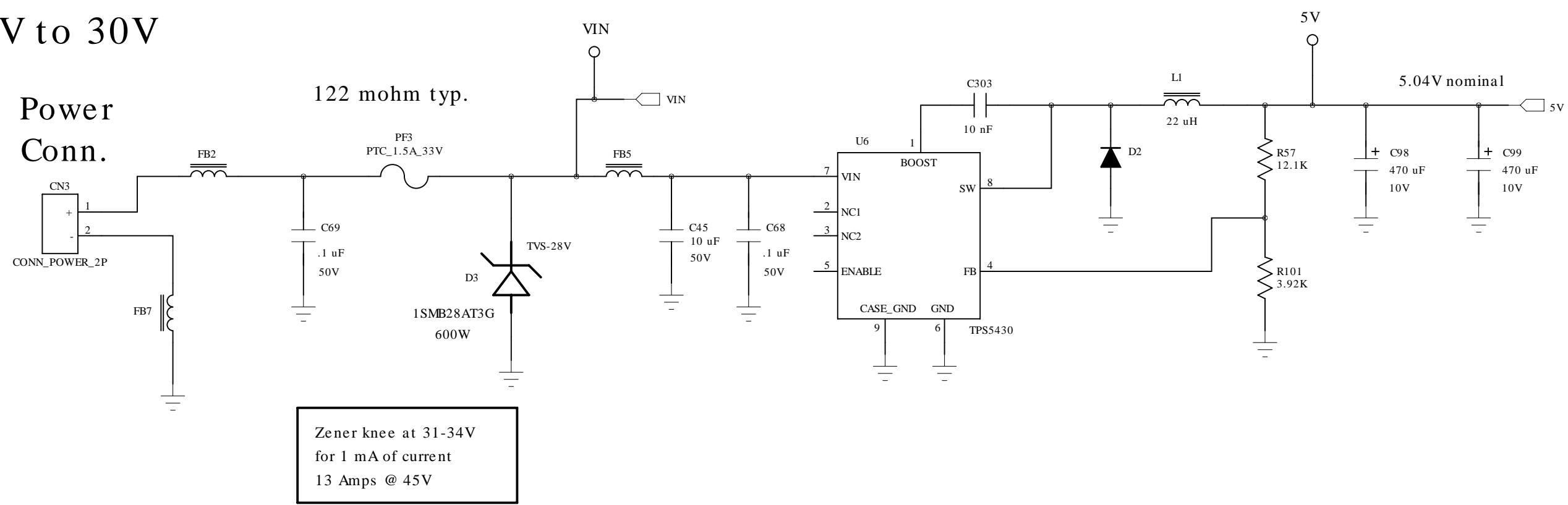
SATA Port



Input Power

4.7V to 5.4V
or
6.0V to 30V

5V Power Supply (3.0 Amps)

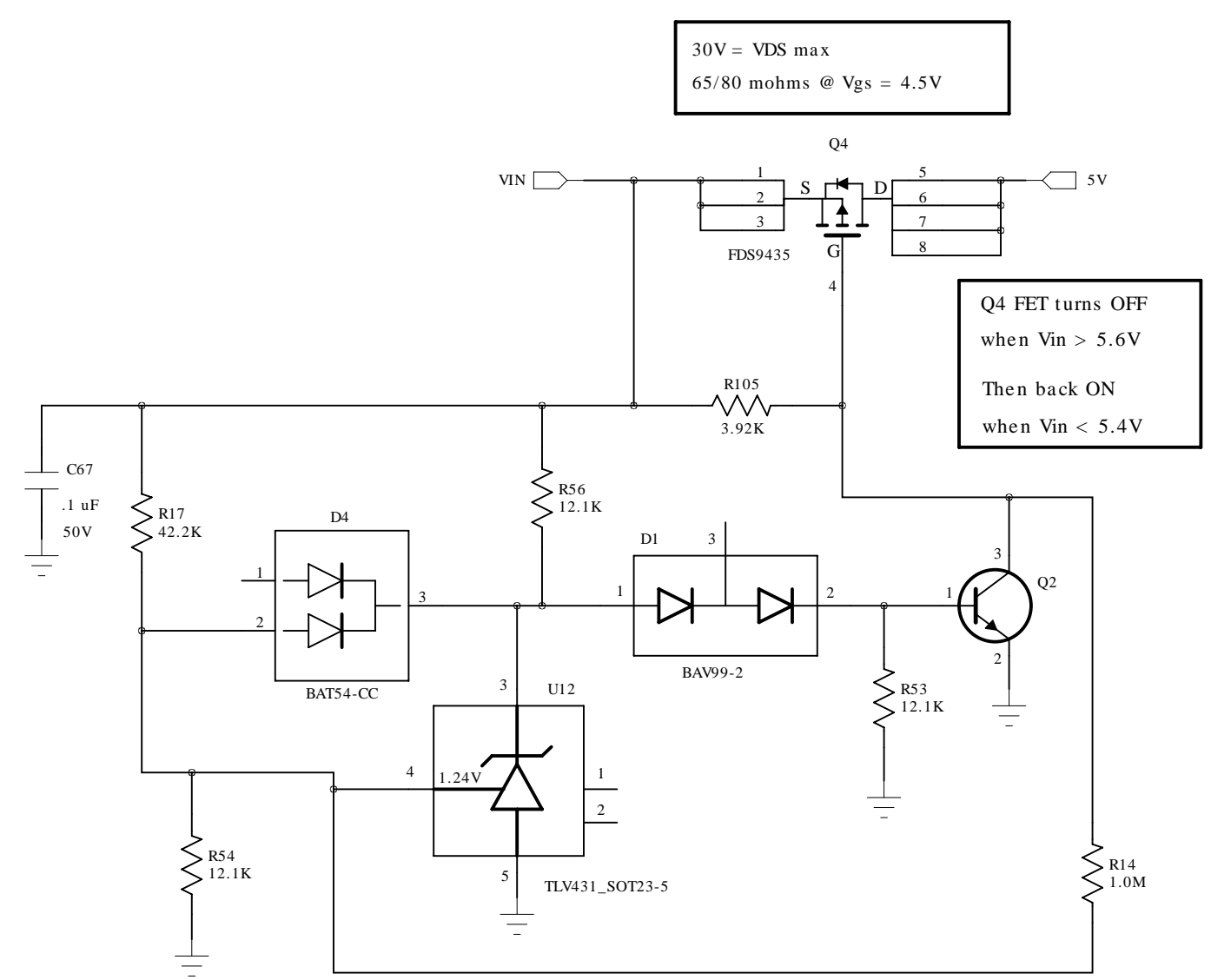


Zener knee at 31-34V
for 1 mA of current
13 Amps @ 45V

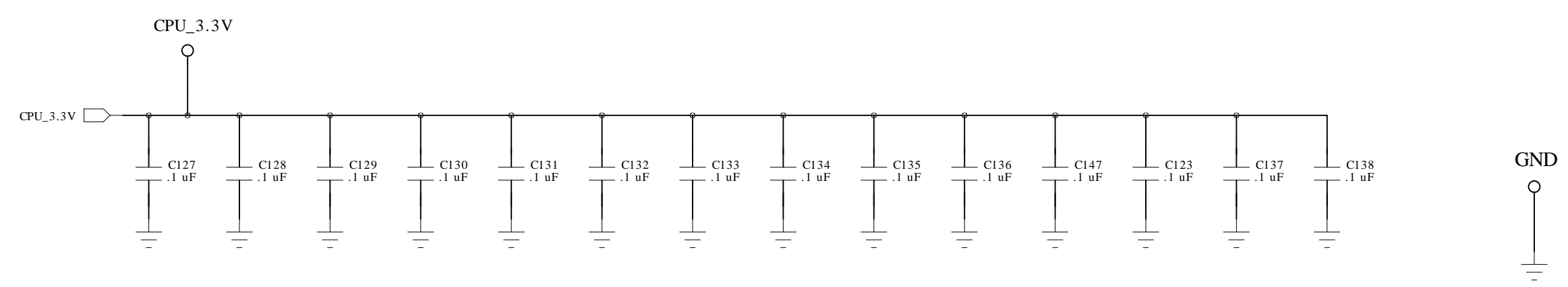
Warning:

When Vin is between 5.4V and 6.0V
The 5V rail can fall below 4.5V
This means the SBC may reset

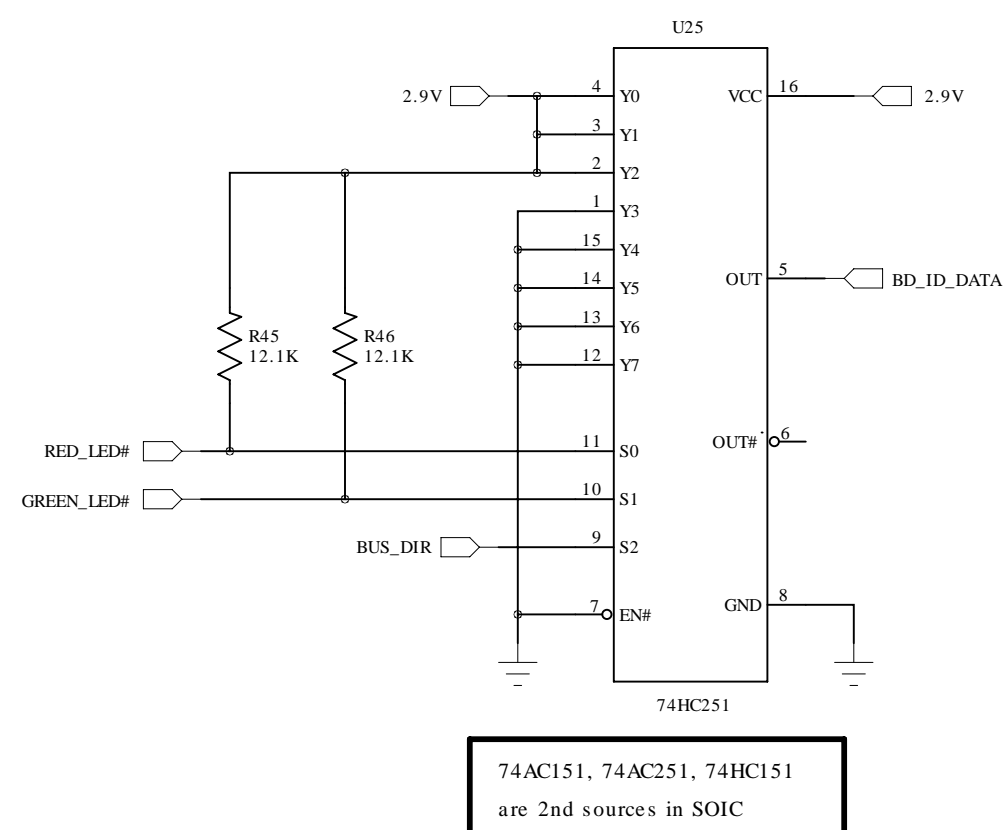
5V Regulator Bypass



Turns FET on when Vin < 5.5V nominal

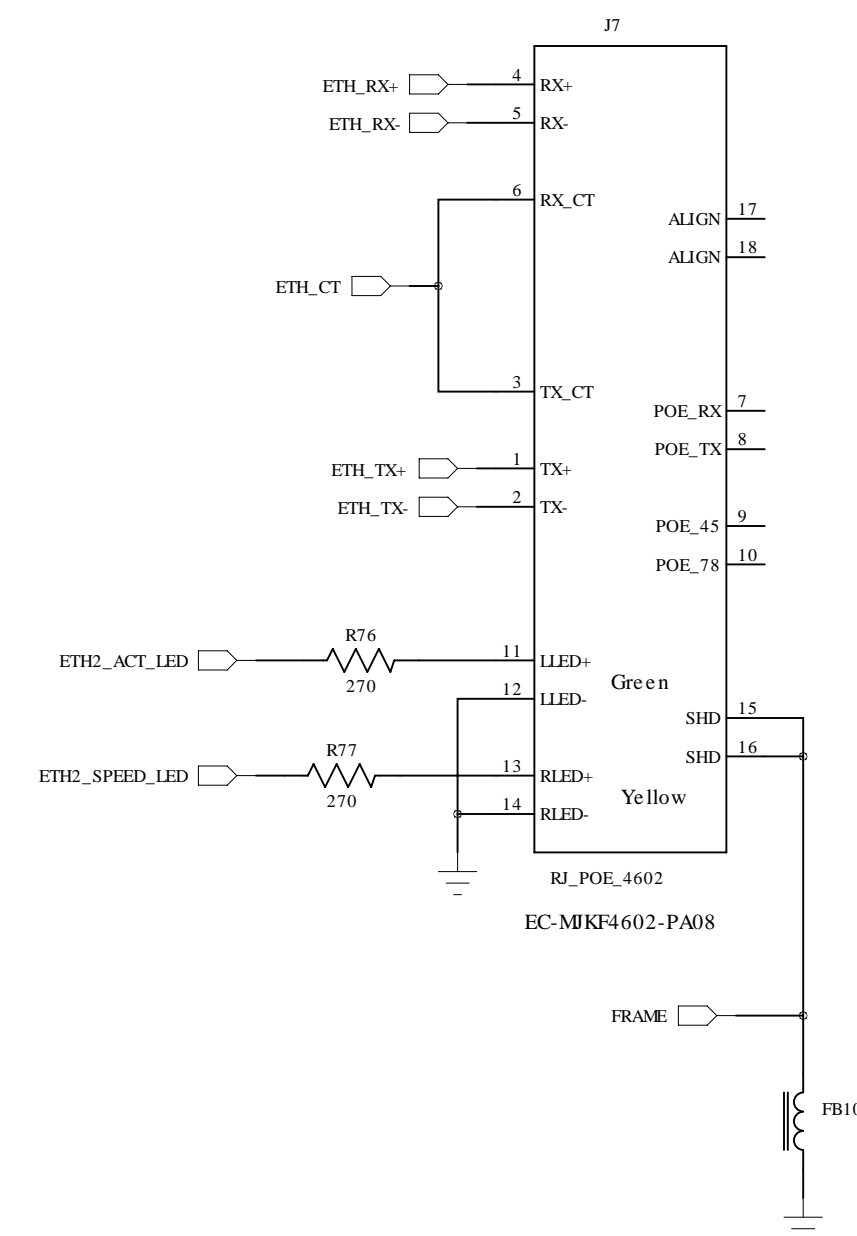


Board ID = 7

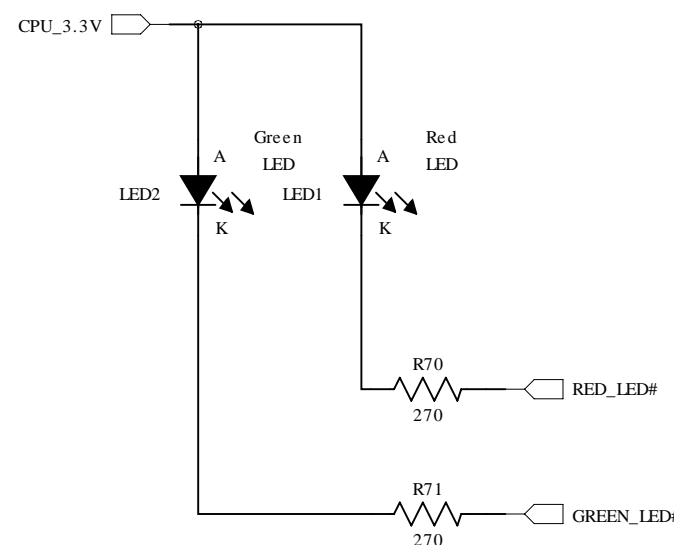


74AC151, 74AC251, 74HC151
are 2nd sources in SOIC

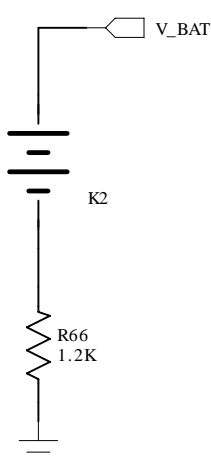
SBC Primary 10/100 Ethernet



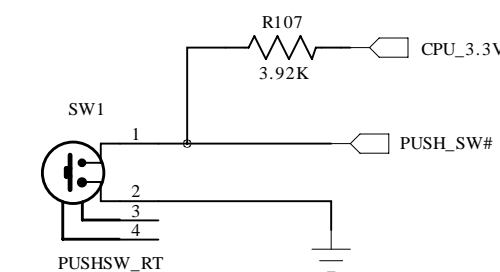
LEDs



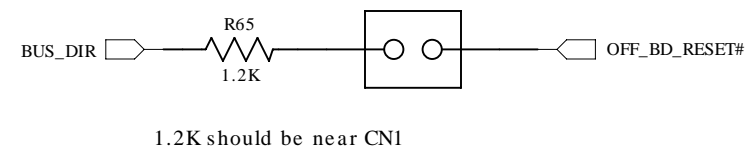
RTC Battery



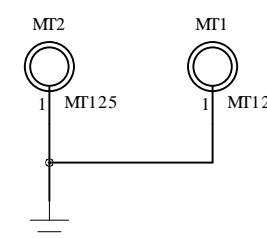
Push Switch



Force Boot to SD card



1.2K should be near CN1



Technologic Systems	Nov. 3, 2010
Title: TS-8100 Ethernet, Battery, Board ID	
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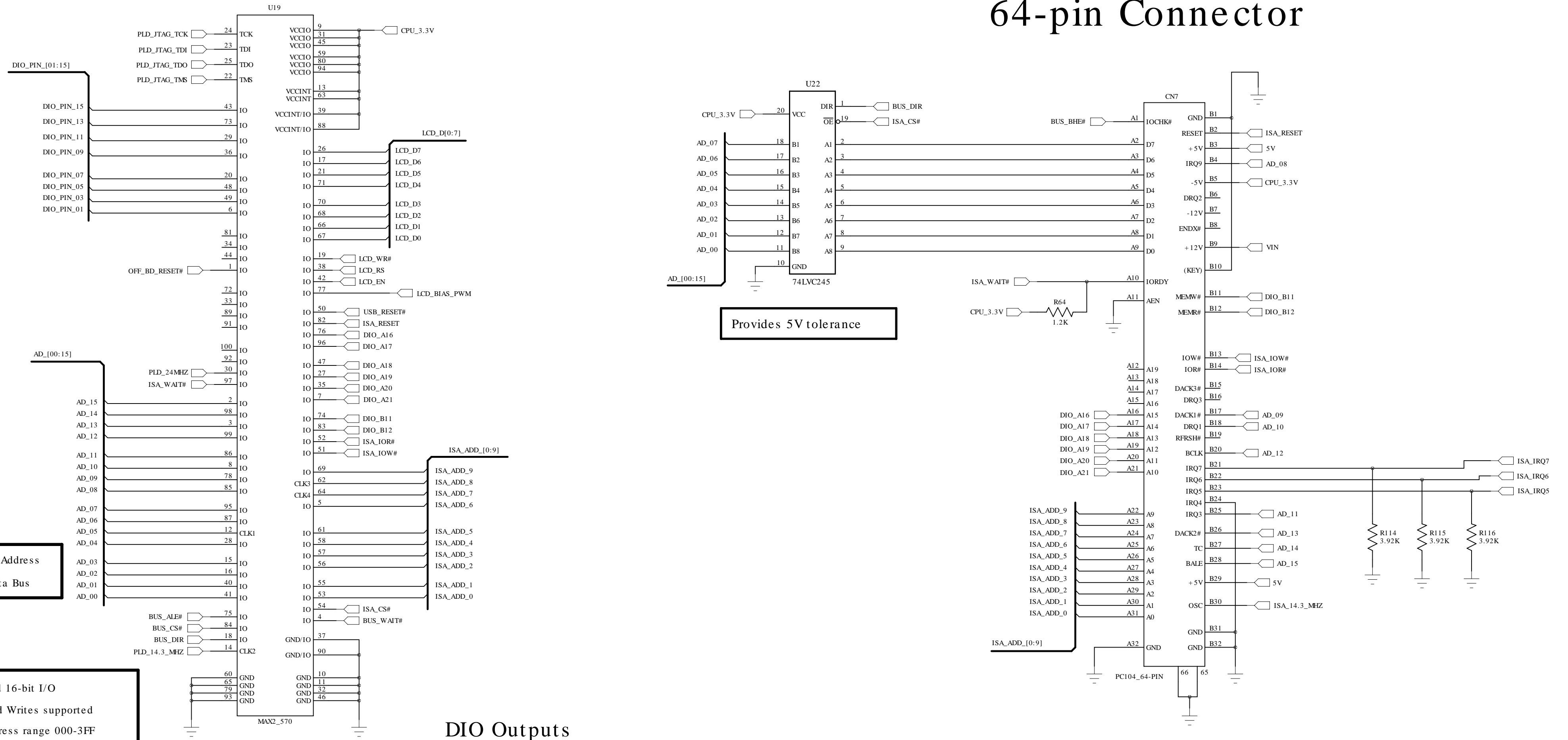
Inputs on Left

PLD

Outputs on Right

PC/104

64-pin Connector



Provides 5V tolerance

MUXed Address and Data Bus

8-bit and 16-bit I/O
Read and Writes supported over address range 000-3FF

Address range 100-3FF drives PC/104 bus

Address range 000-0FF is internal PLD registers

DIO Outputs

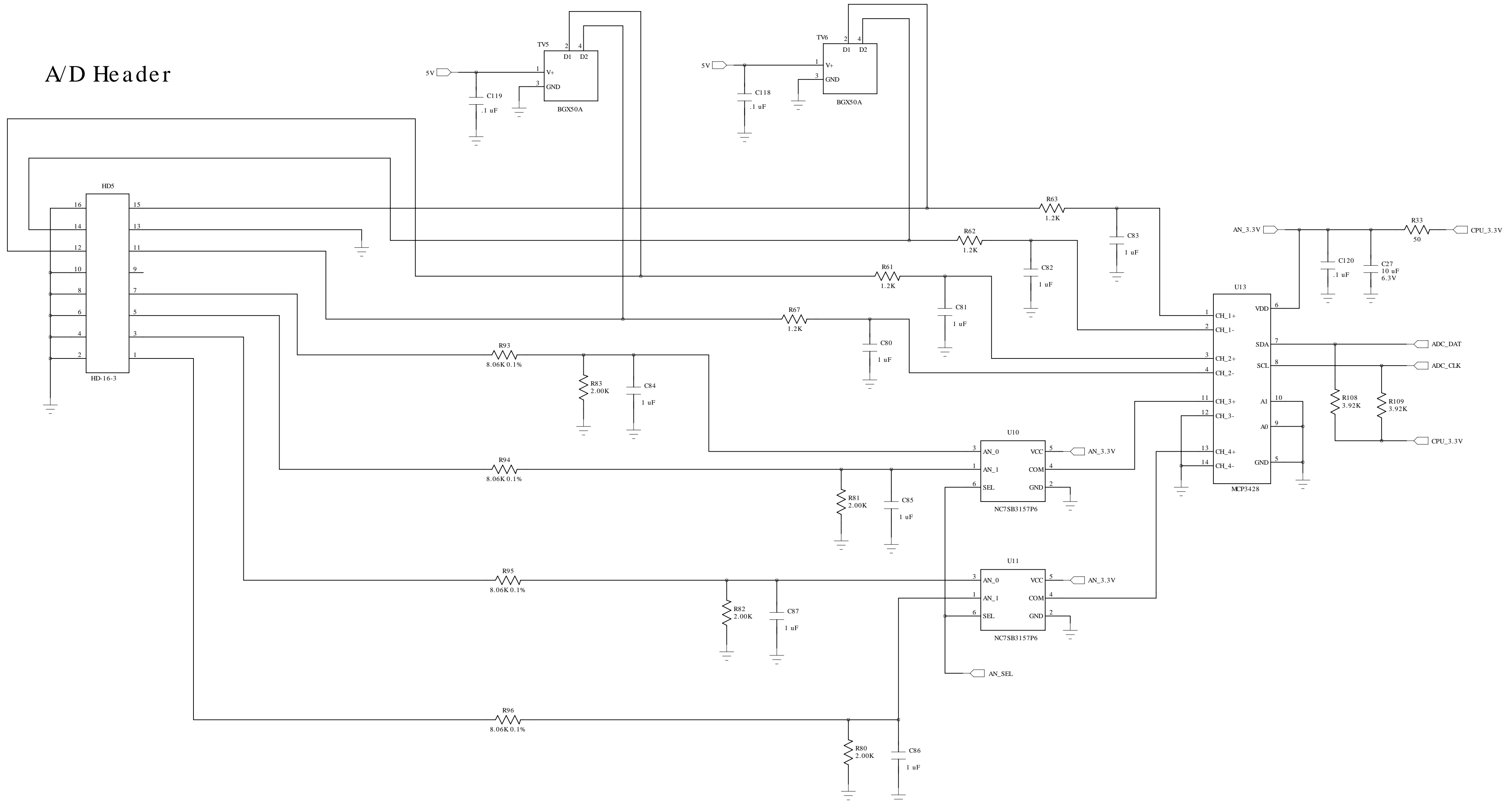
DIO_A16 thru DIO_A21 and LCD_EN should default to logic zero

DIO_B11 and DIO_B12 should default to logic "1"

USB_RESET# should default to a logic zero

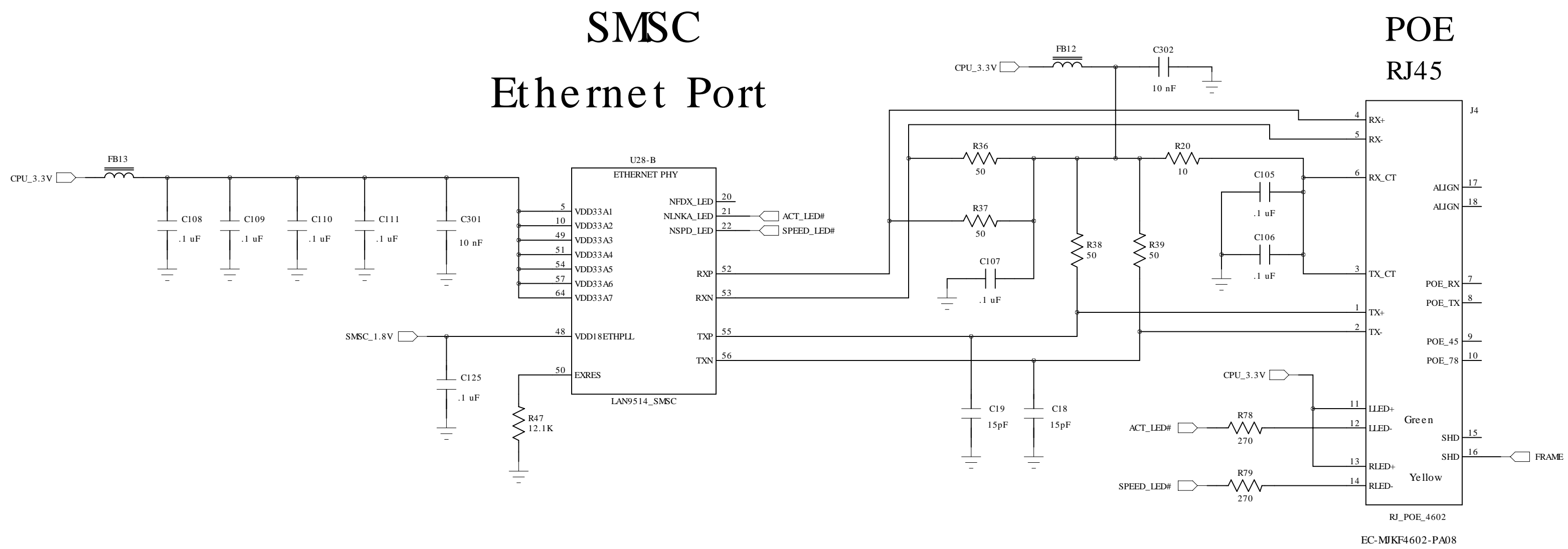
16-bit A/D Converter

Four single-ended 0-10V Inputs
Two differential pairs 0-2V range



2nd Ethernet Port

(Optional)

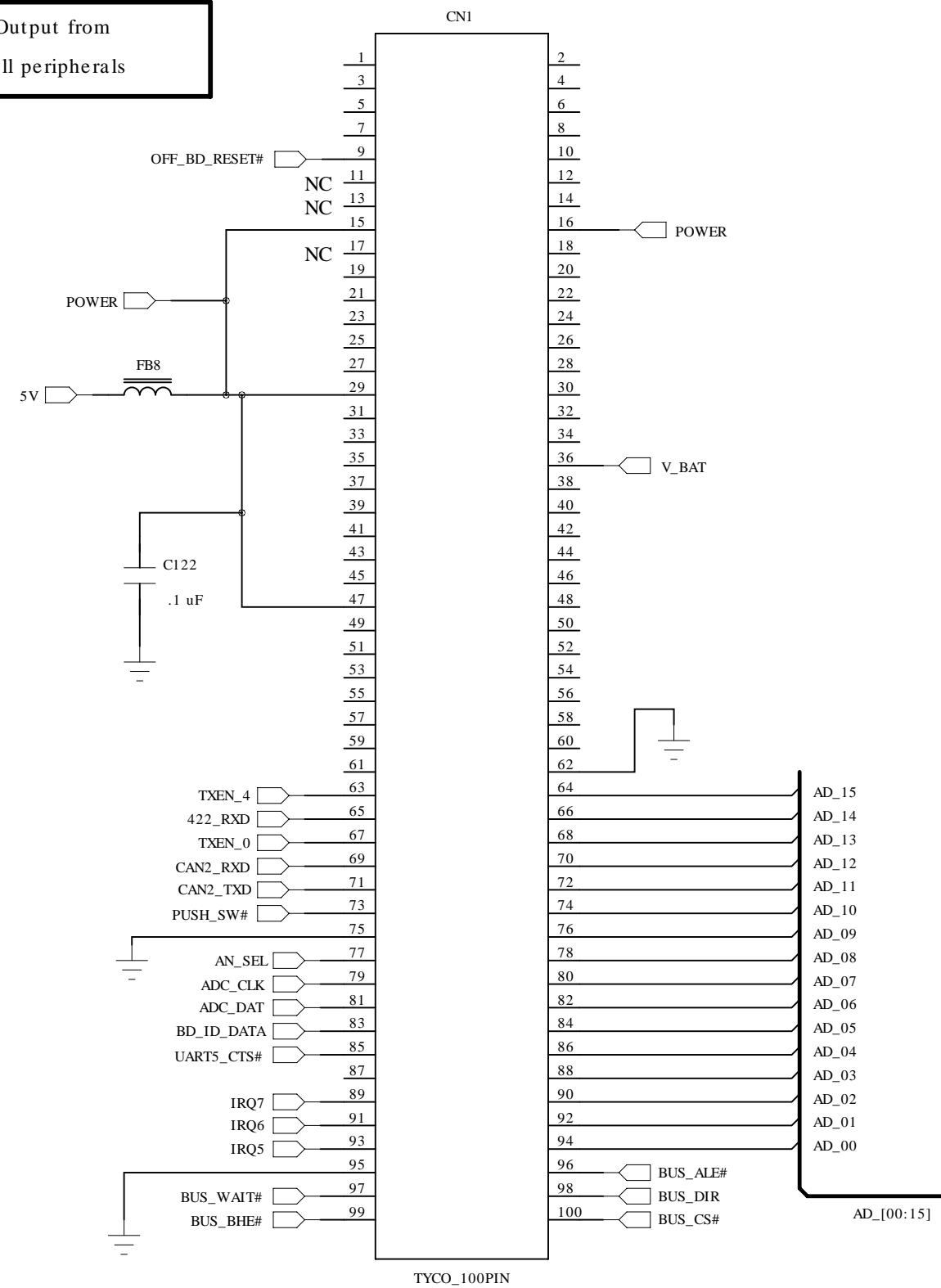


Two 100-pin Module Connectors

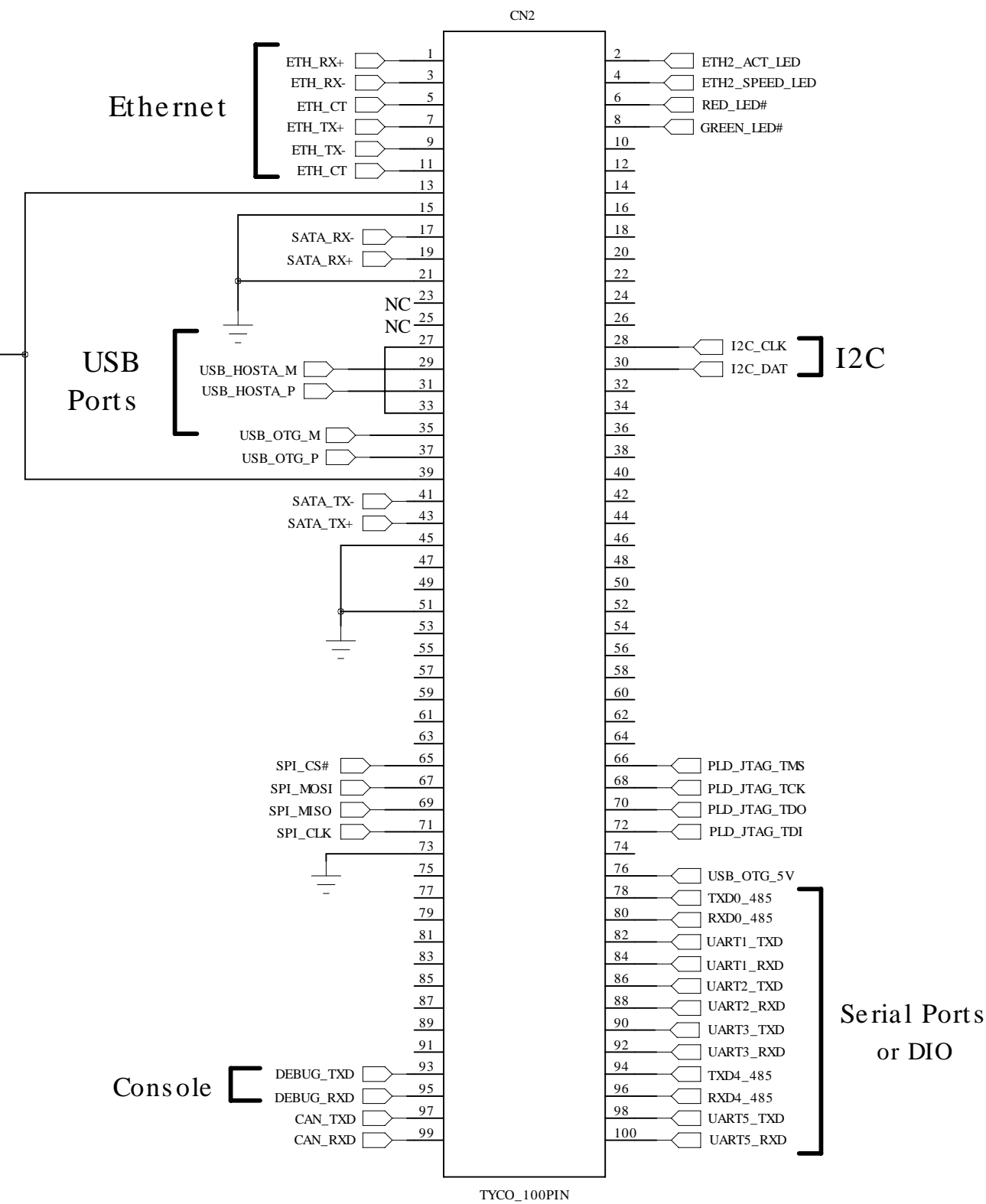
Left

Right

OFF_BD_RESET# is an Output from the SBC used to reset all peripherals



SBC can supply up to 400 mA of 3.3V power to the base board



Boot Strap

BUS_DIR	SBC Boots from
1	NAND Flash
0	SD Card

BUS_DIR state is latched prior to OFF_BD_RESET# deasserted

BUS_DIR has a 12K pull-up resistor on the SBC module

Use 1.2K ohm resistor to OFF_BD_RESET# to strap logic low