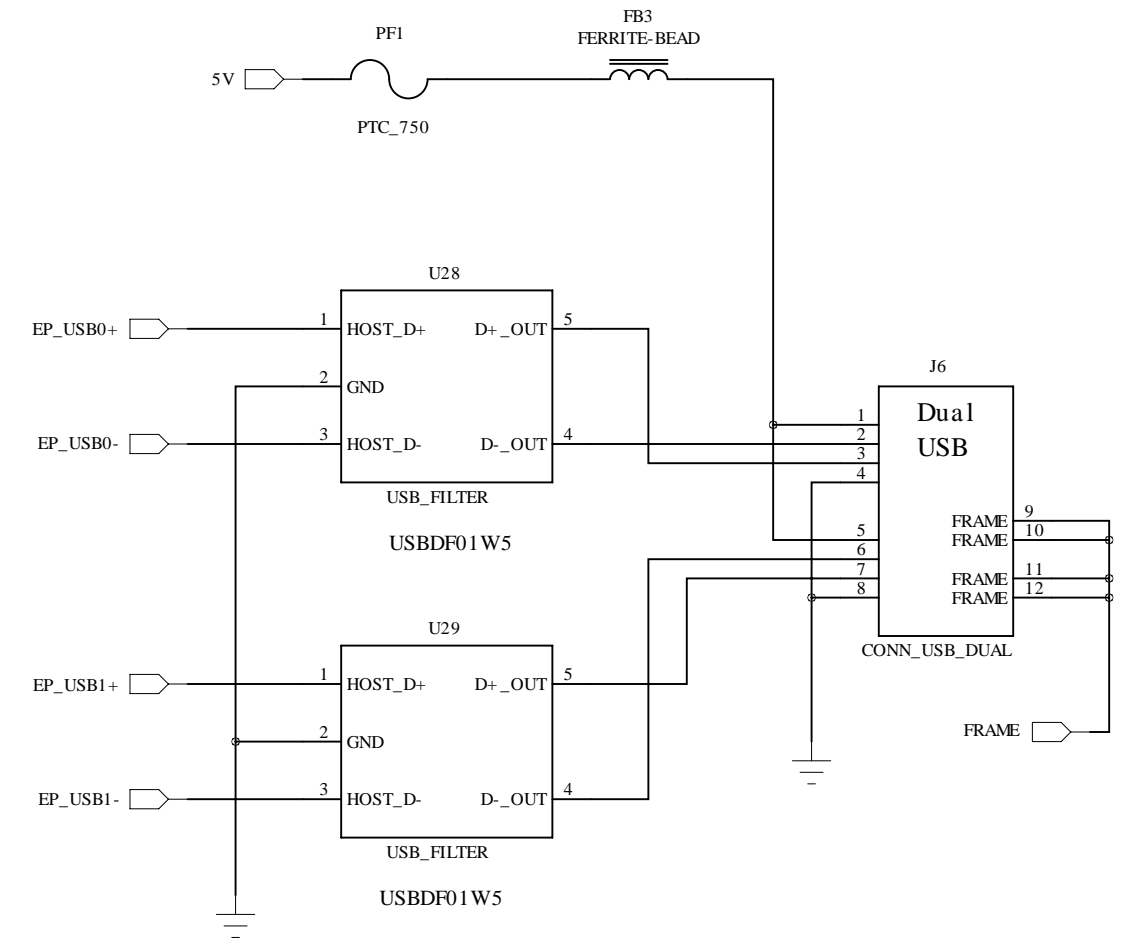
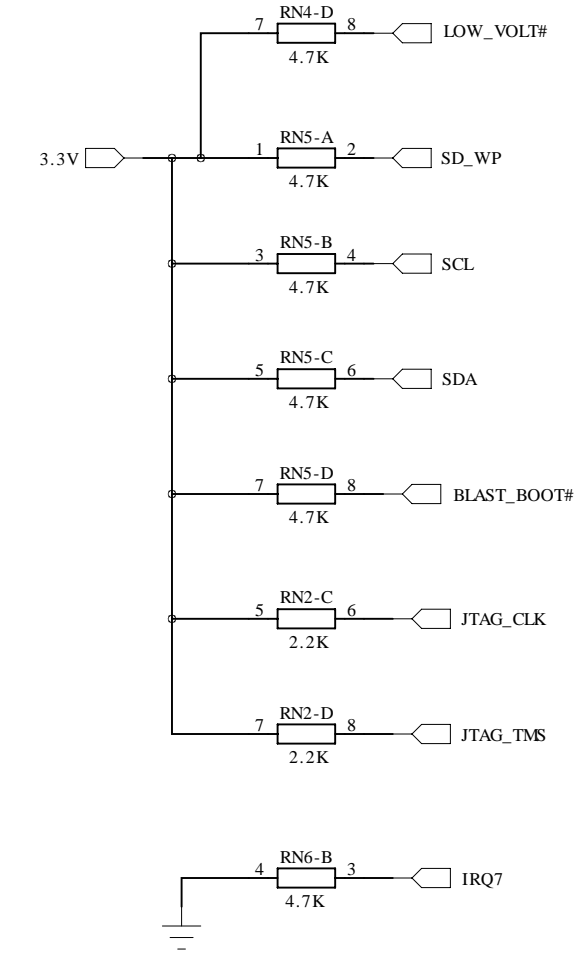
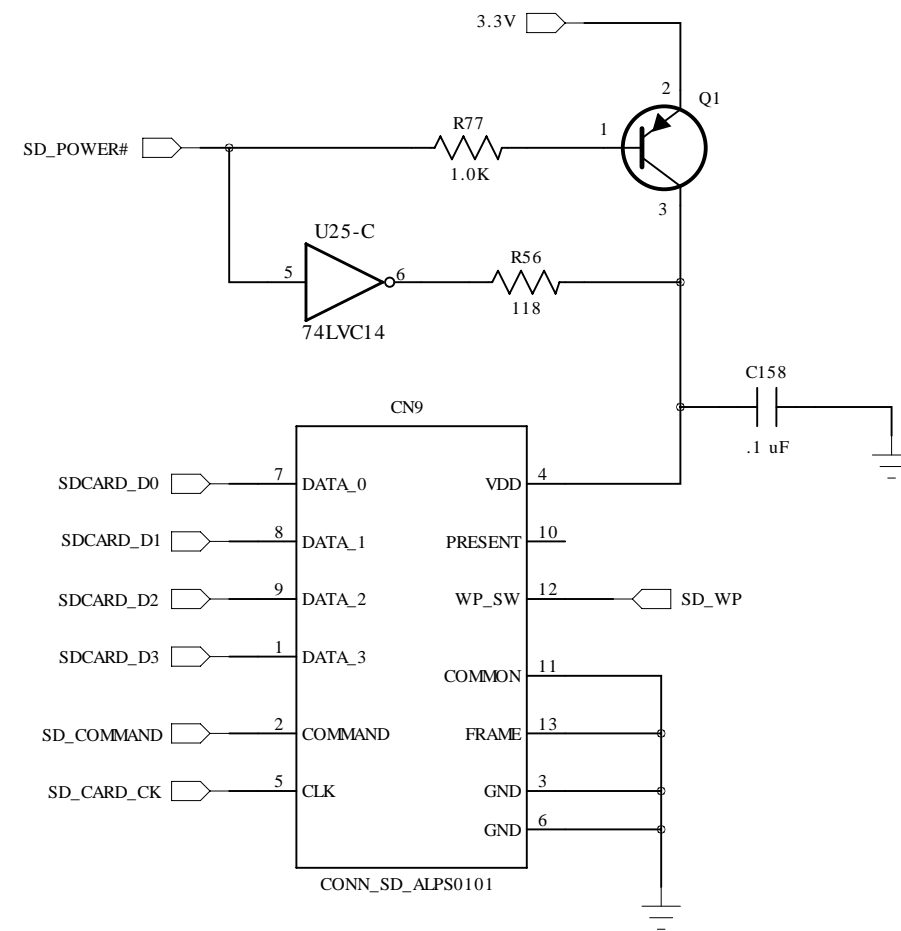
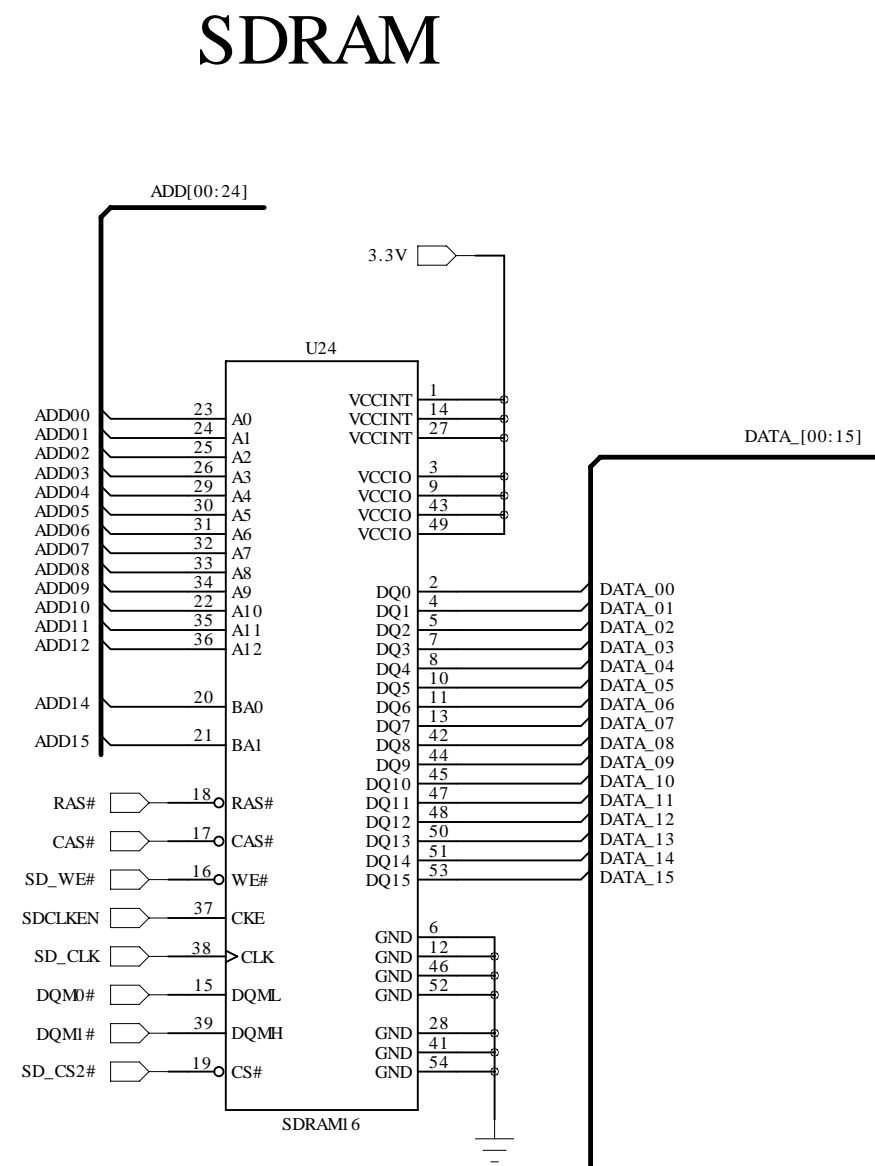


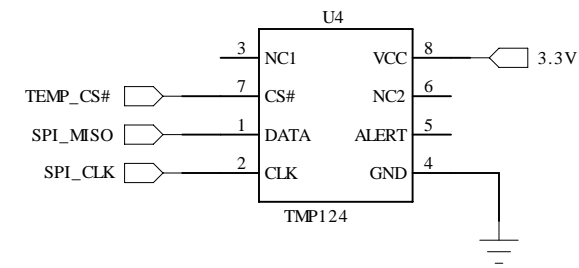
USB Ports



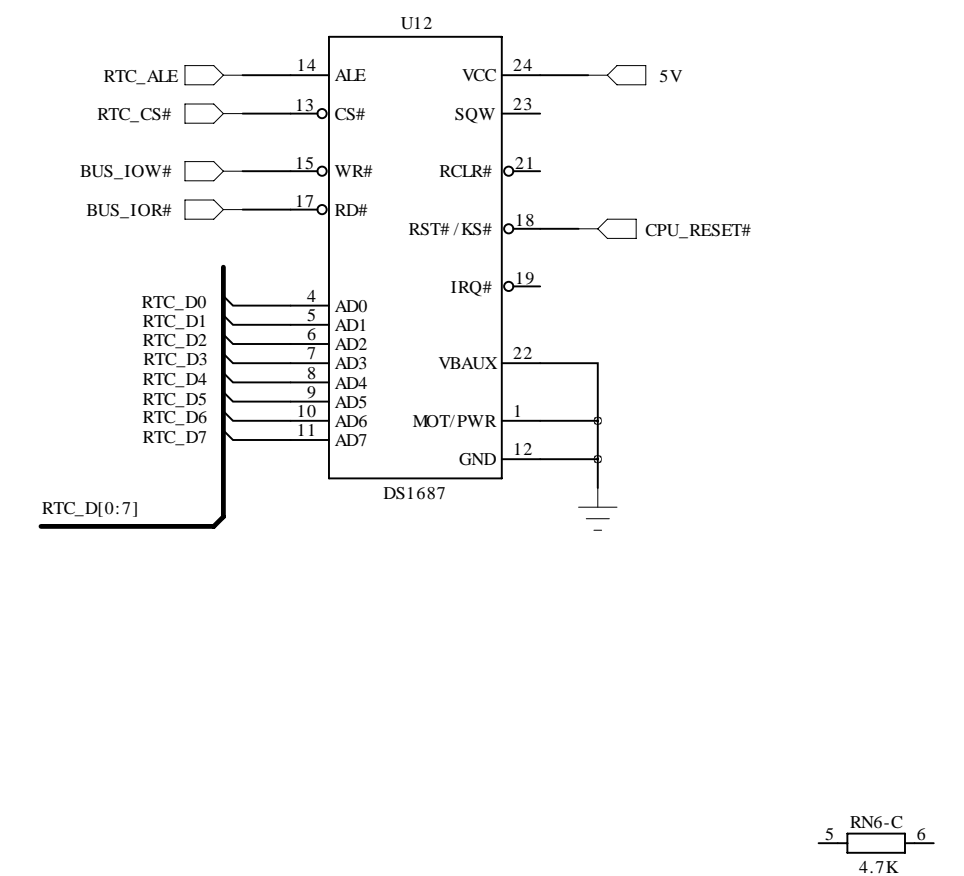
SD Card Socket



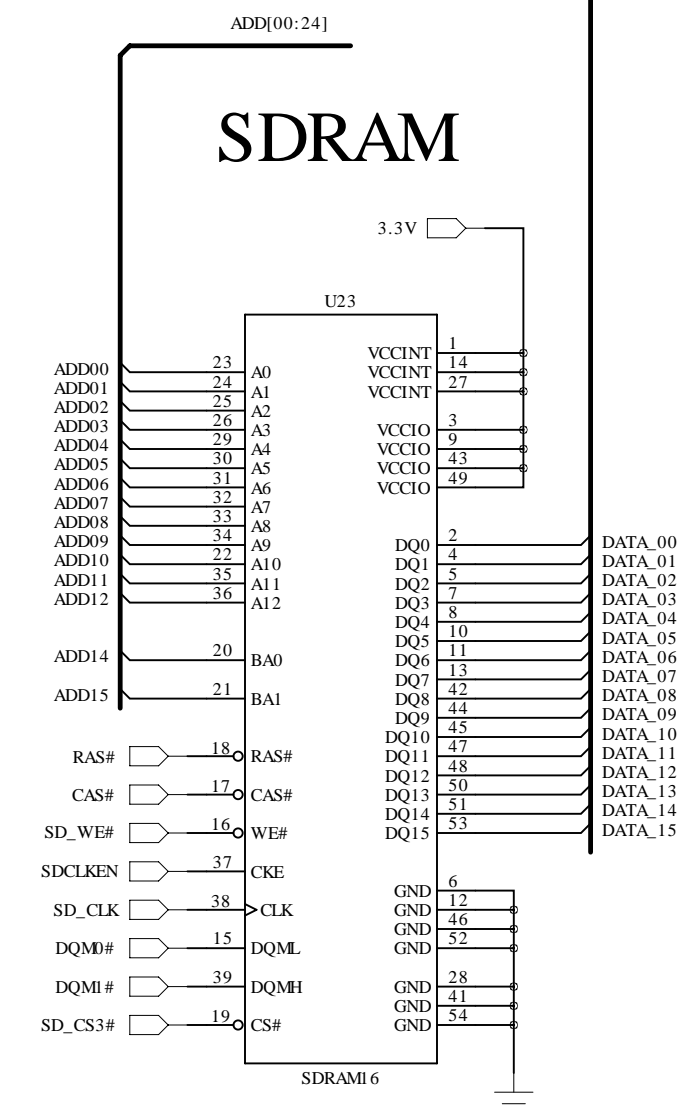
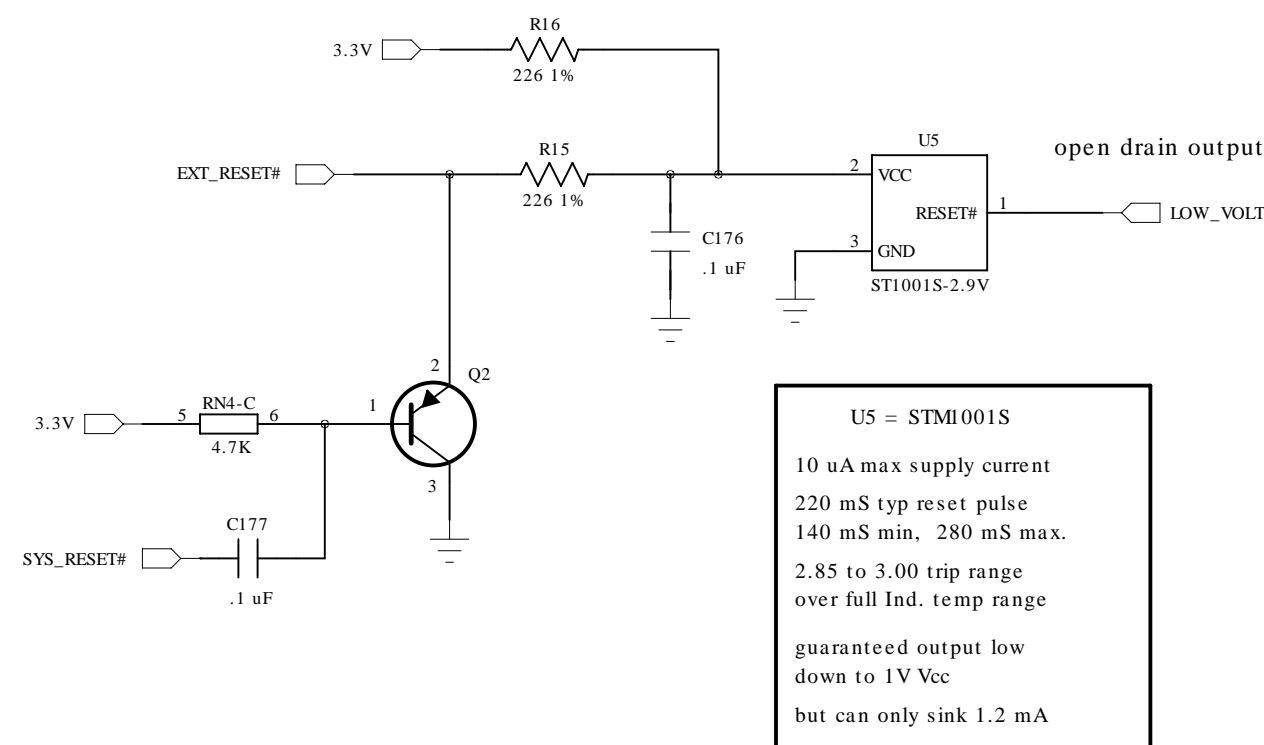
Temp Sensor



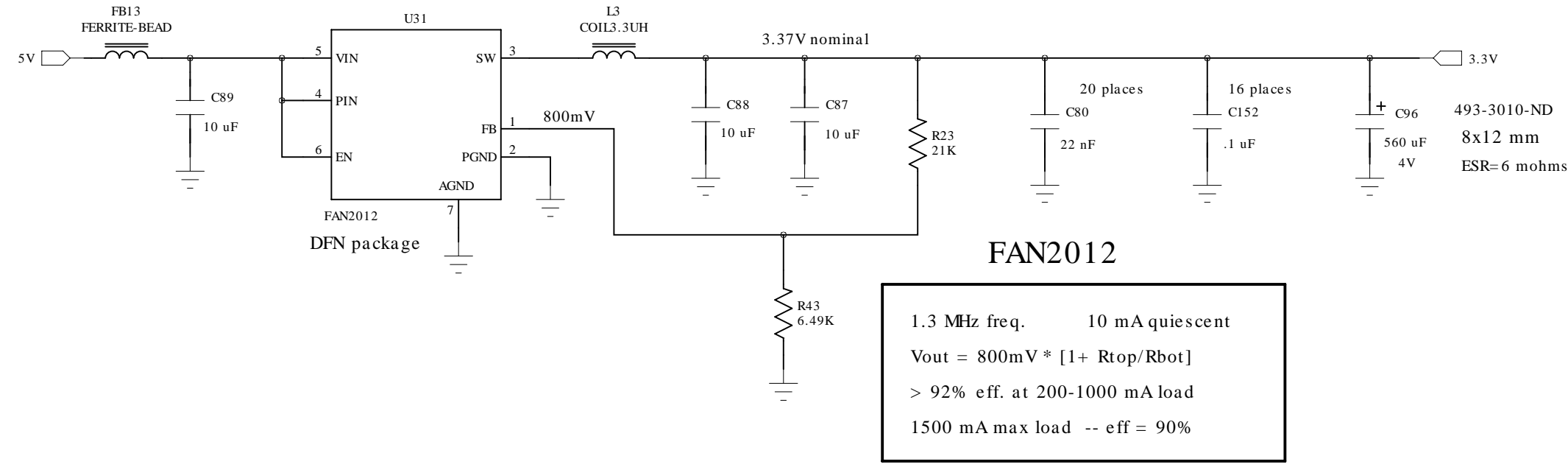
Battery-Backed Real Time Clock



Power On Reset

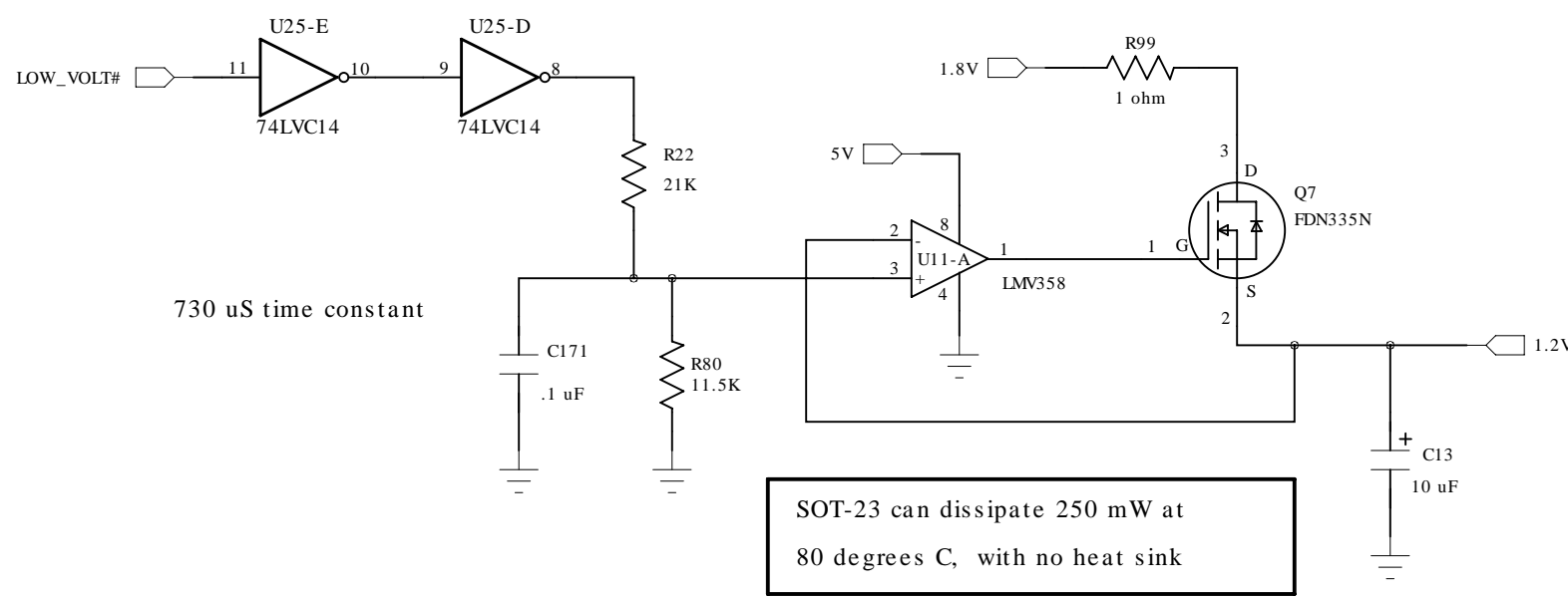


3.3V Switching Regulator



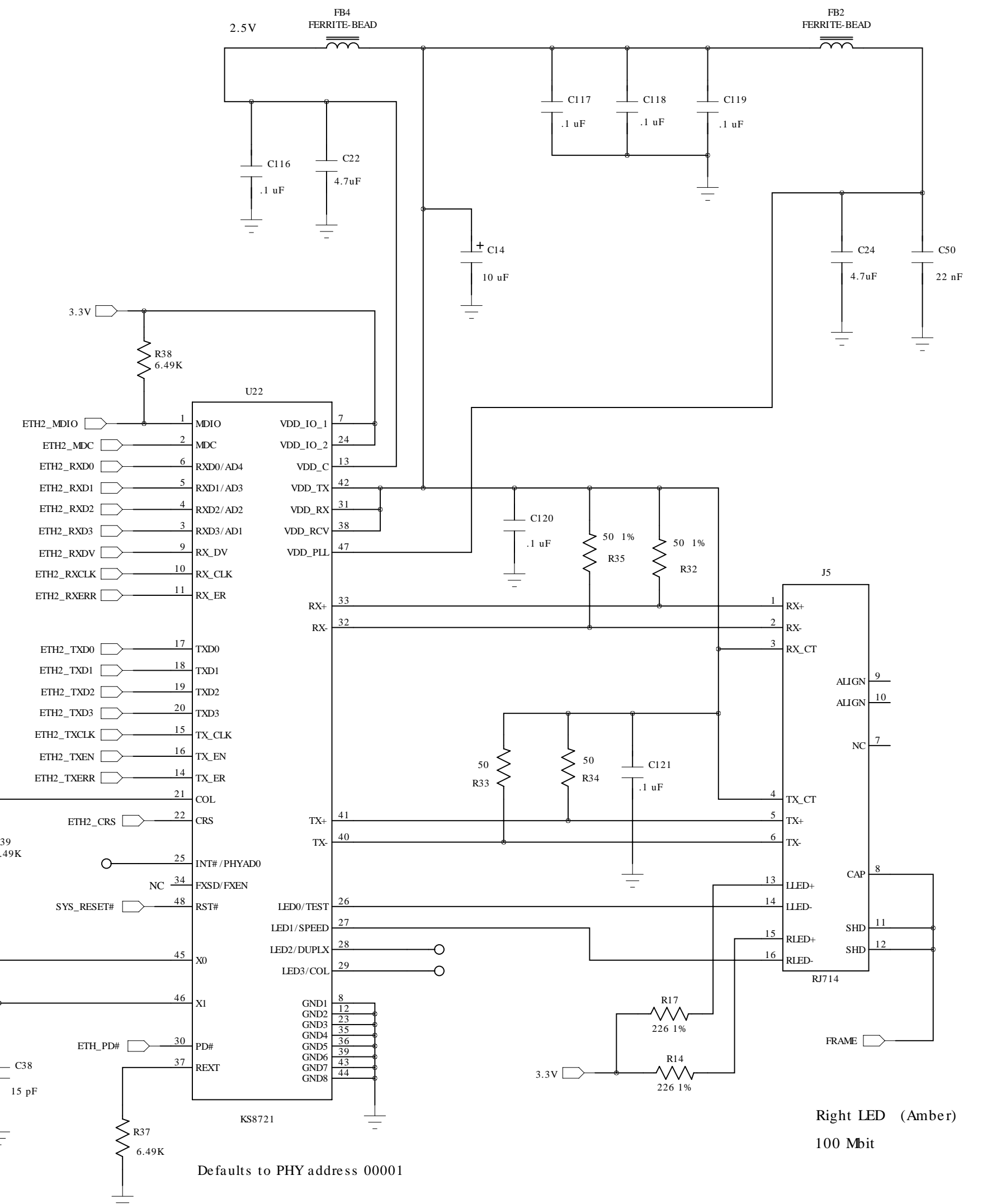
FAN2012
 1.3 MHz freq. 10 mA quiescent
 $V_{out} = 800mV * [1 + R_{top}/R_{bot}]$
 > 92% eff. at 200-1000 mA load
 1500 mA max load -- eff = 90%

1.2V Regulator



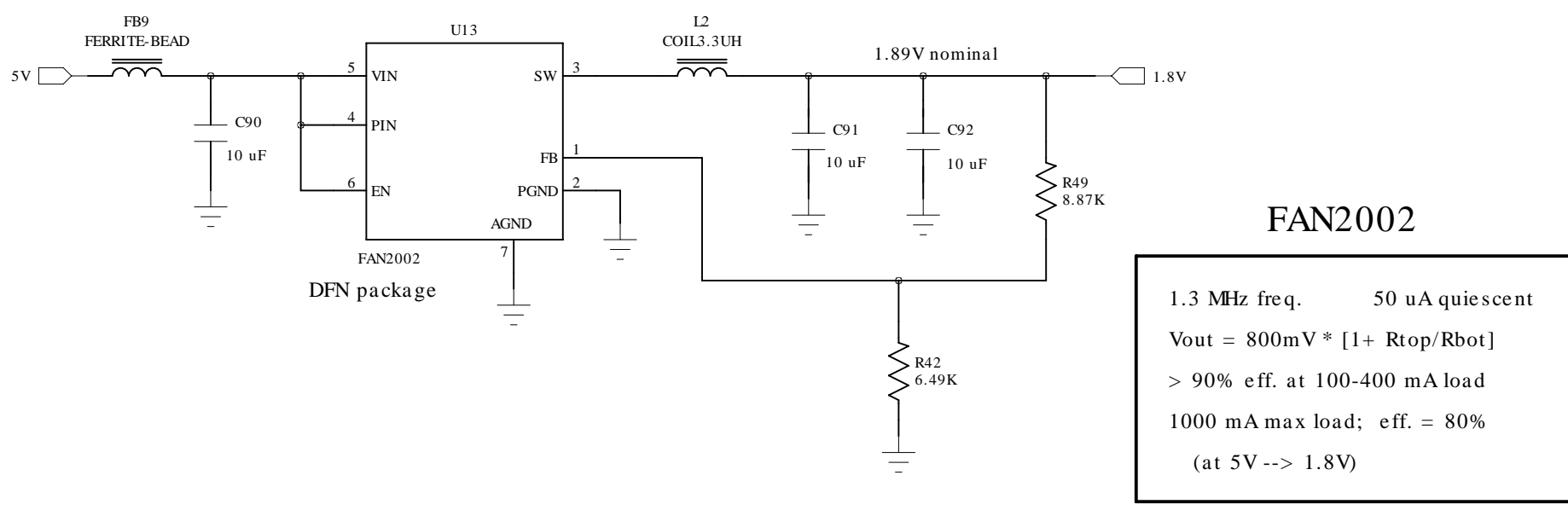
SOT-23 can dissipate 250 mW at 80 degrees C, with no heat sink

10/100 Ethernet



Right LED (Amber)
 100 Mbit
 Left LED (Green)
 Link / Activity

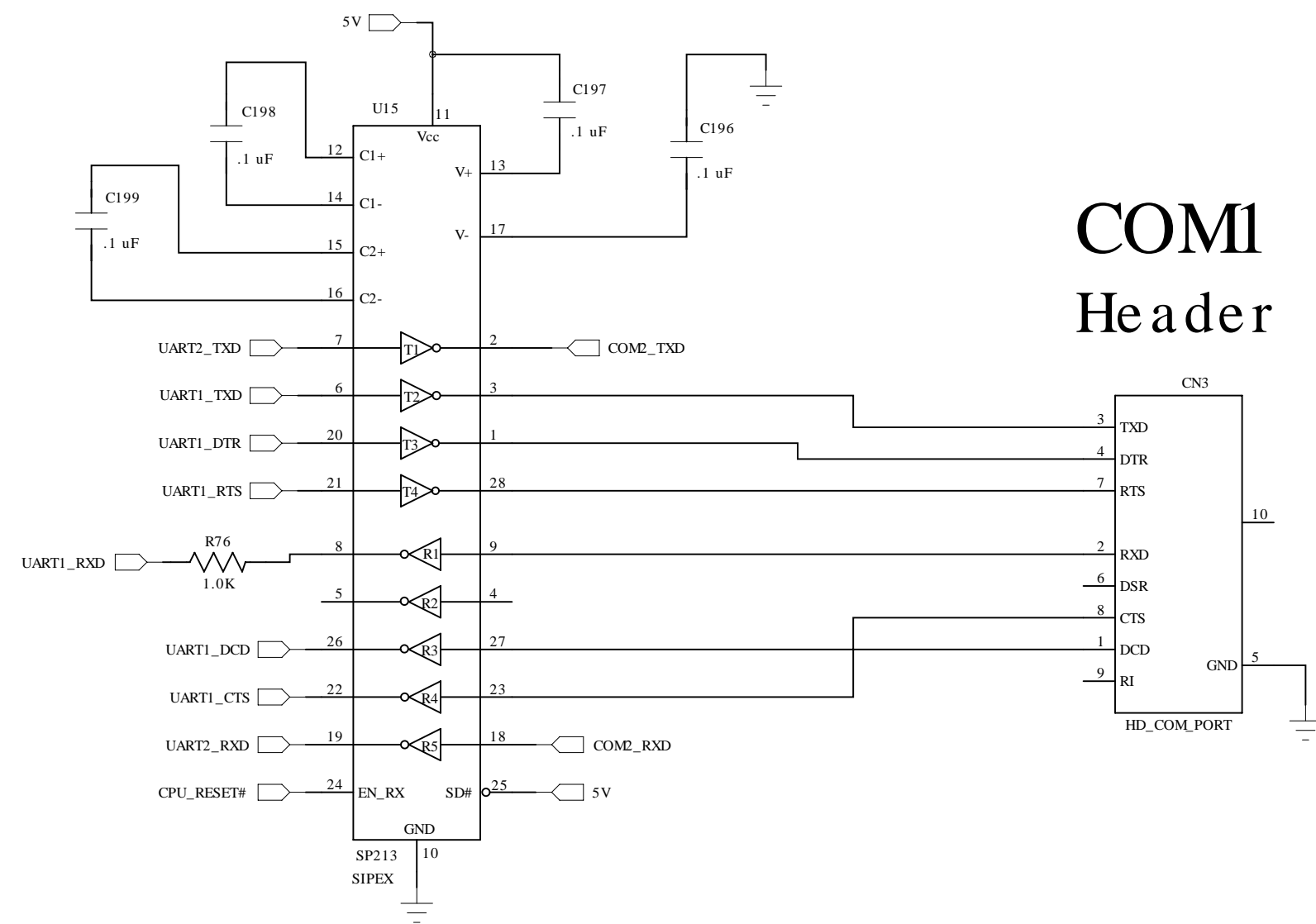
1.8V Switching Regulator



FAN2002
 1.3 MHz freq. 50 uA quiescent
 $V_{out} = 800mV * [1 + R_{top}/R_{bot}]$
 > 90% eff. at 100-400 mA load
 1000 mA max load; eff. = 80%
 (at 5V --> 1.8V)

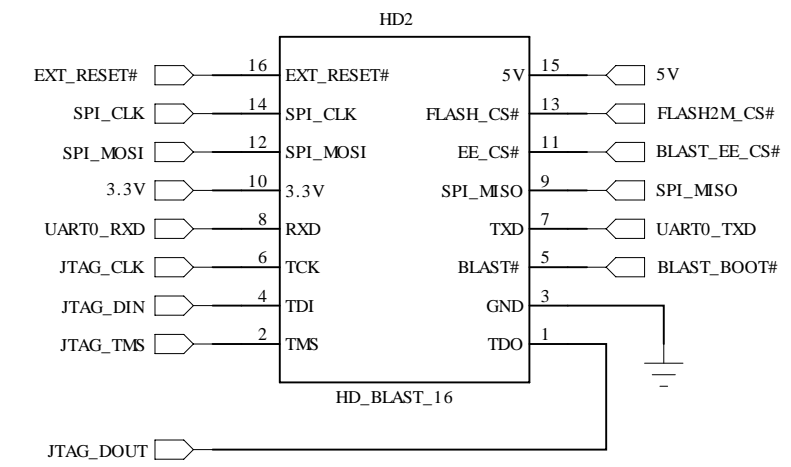
Technologic Systems		Date April 6, 2009	
Title: TS-7390 Power Supplies, Ethernet			
Rev:	Designer RLM	Sheet 3 of 8	

RS-232 Transceiver

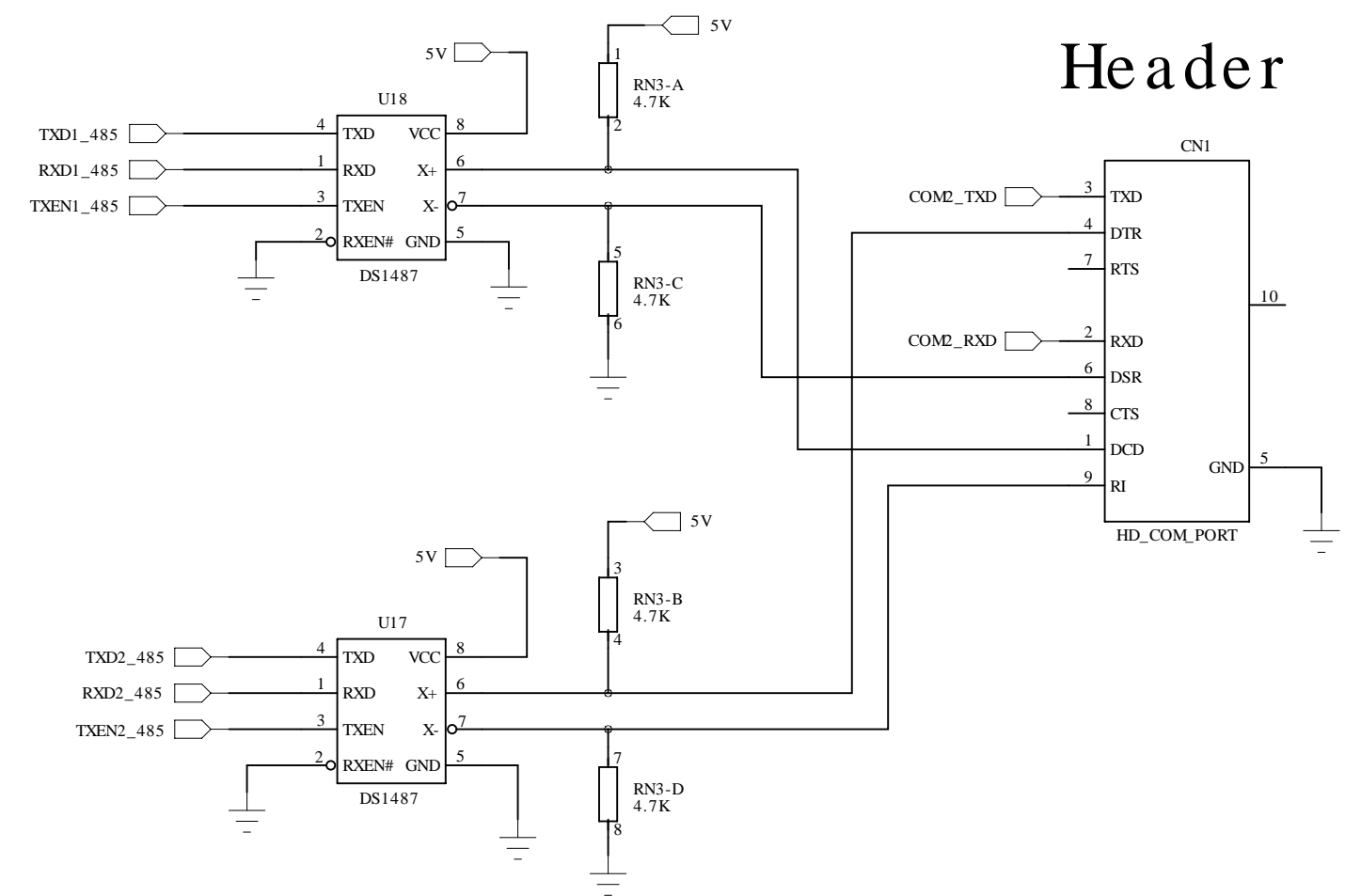


COM1 Header

JTAG Header



RS-485 Drivers

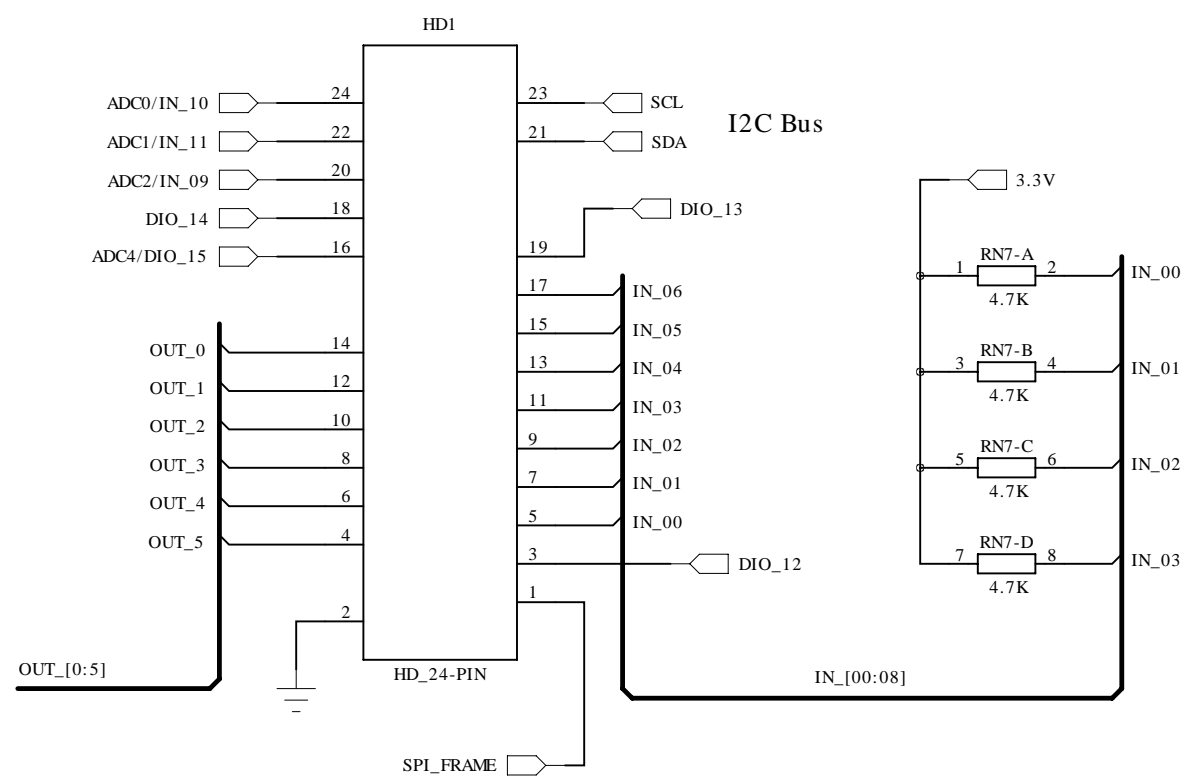


COM2 Header

24-pin Header

24 + 16 = 40-pin Header

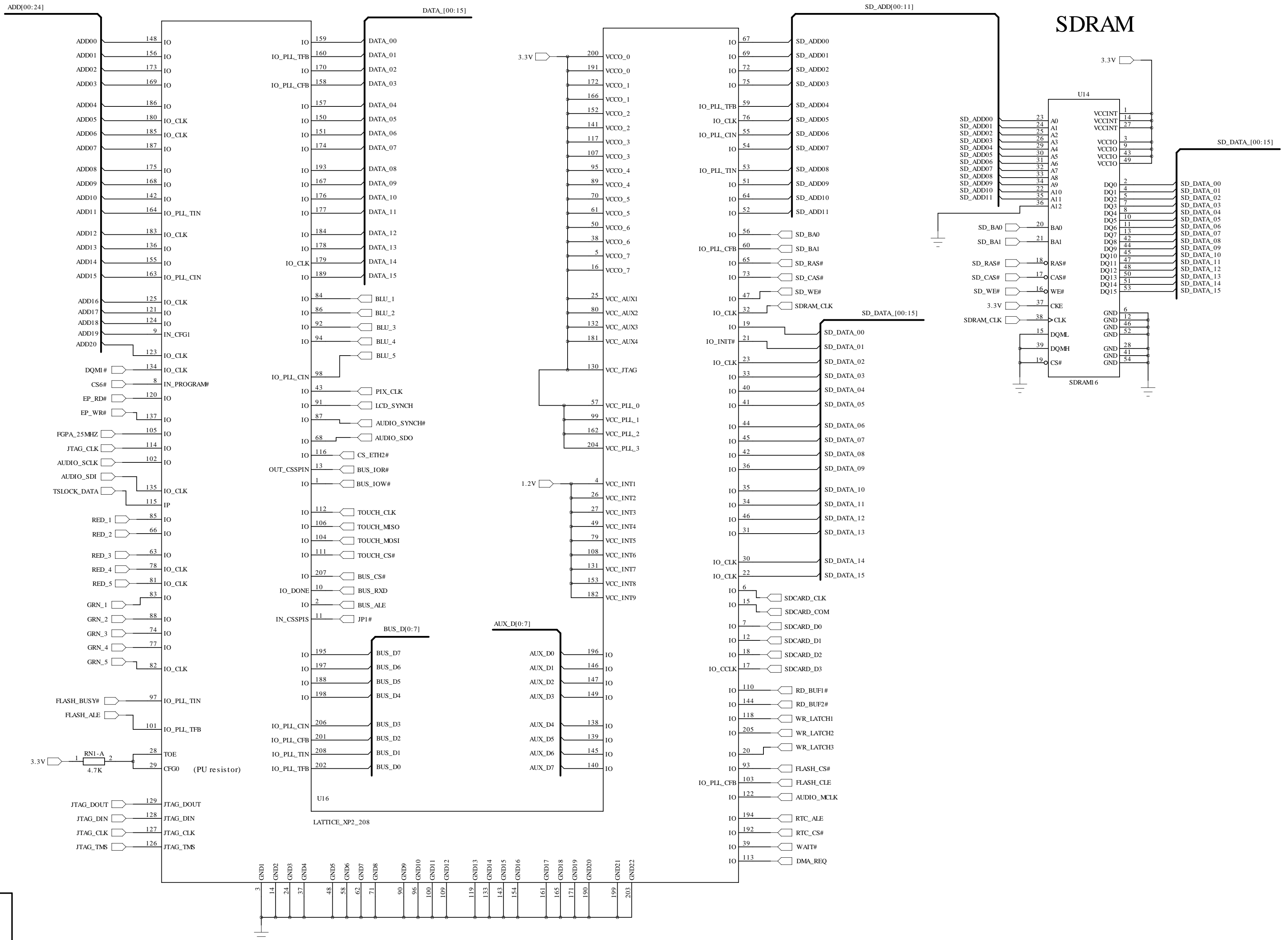
- 4 ADC
ADC lines in parallel with
IN_09, IN_10, IN11, DIO15
- 2 I2C
- 1 GND
- 6 Latched Outputs (OUT0-OUT5)
- 7 Buffered Inputs (IN0-IN6)
- 3 DIO_12, DIO_13, DIO_14
- 1 SPI_FRAME



Technologic Systems		Date April 6, 2009
Title: TS-7390 COM Ports DIO JTAG Headers		
Rev:	Designer	Sheet 4 of 8

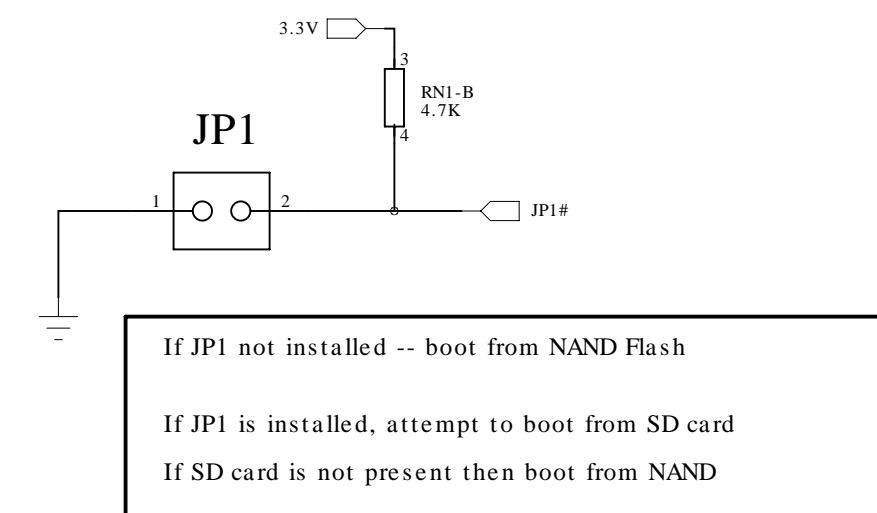
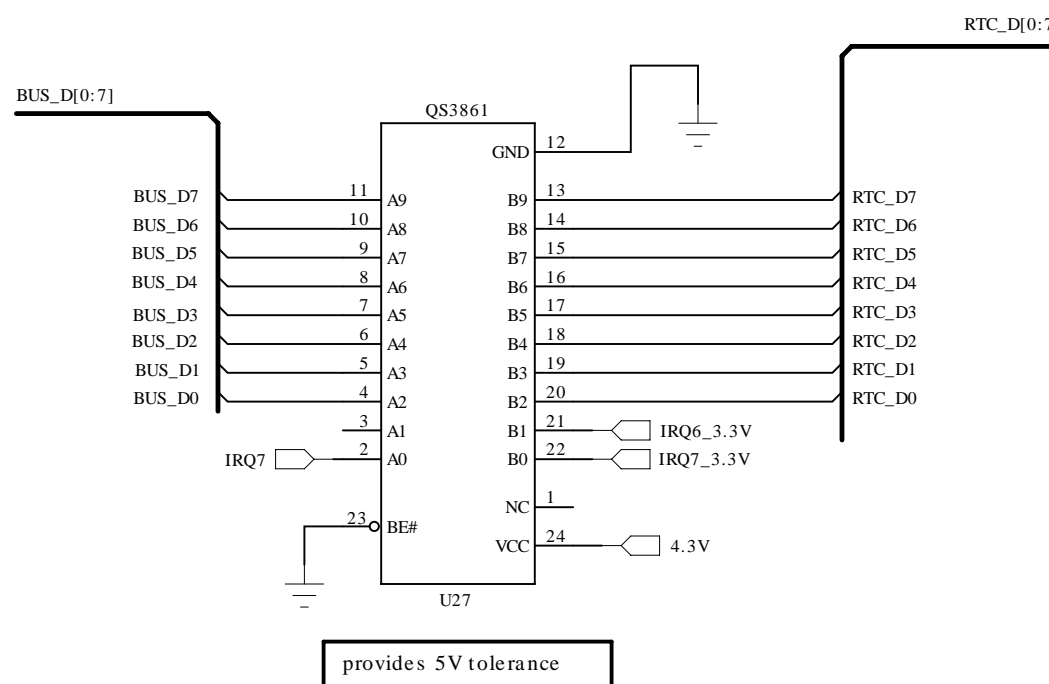
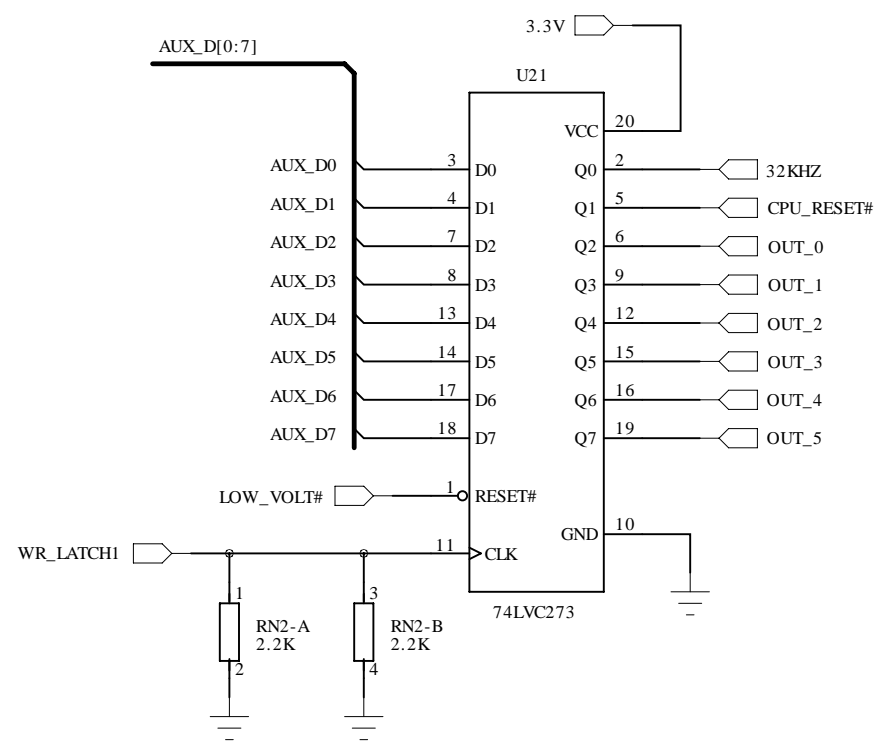
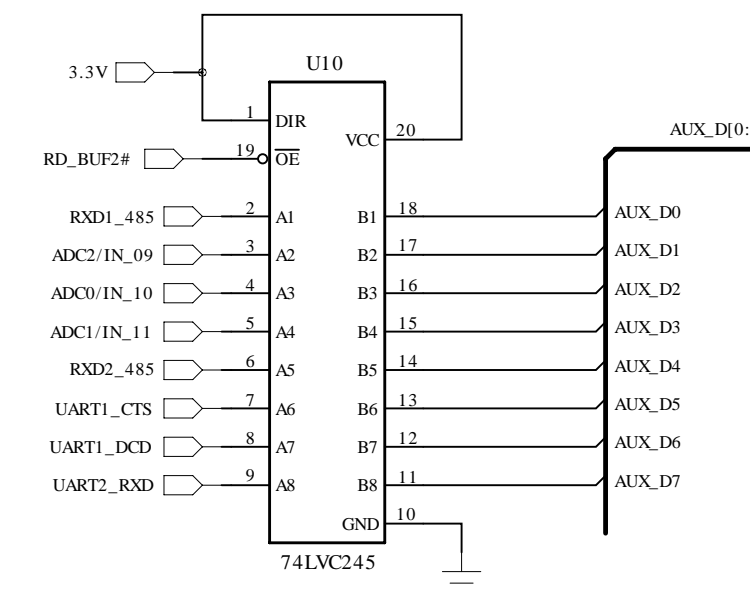
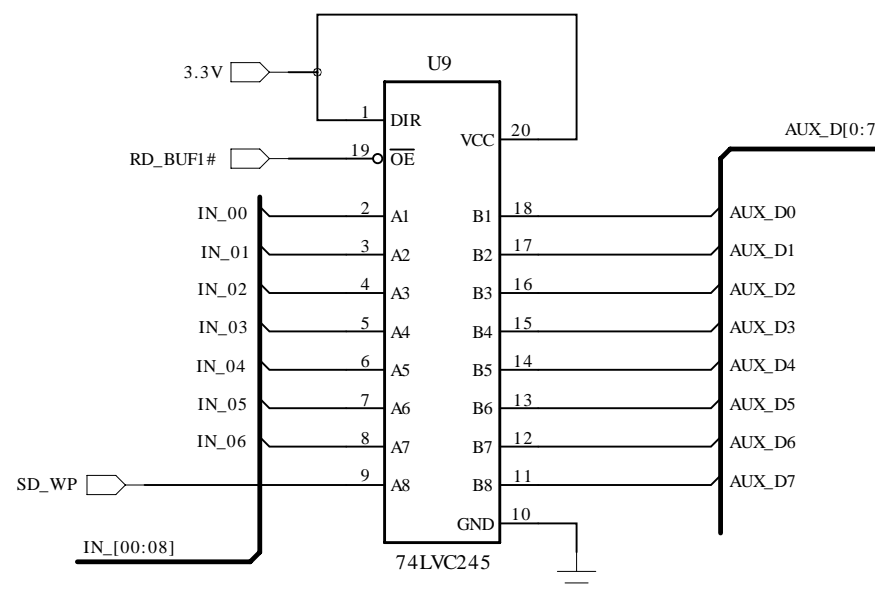
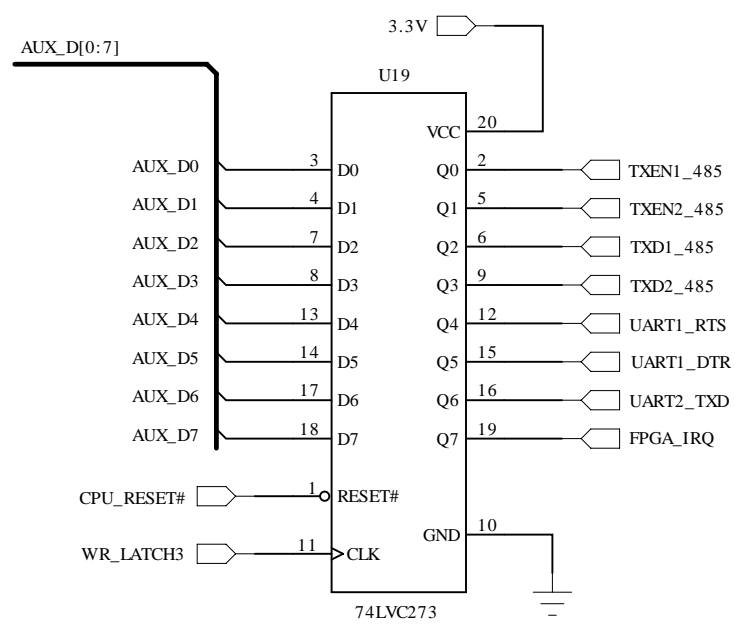
Lattice XP2 FPGA

8 MB Video SDRAM



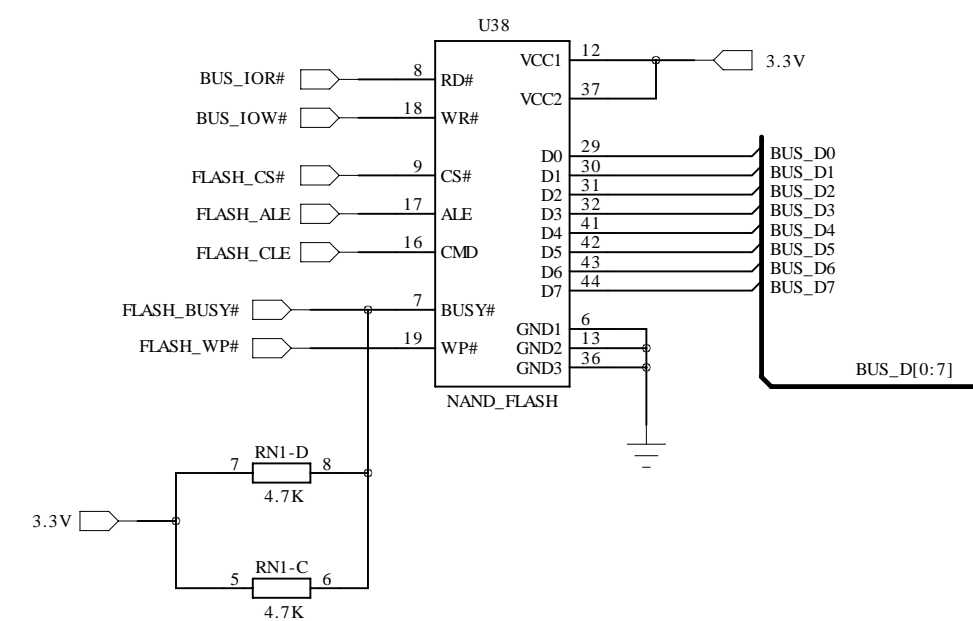
XP2-5 has:
 5K LUTs 2 PLLs
 9 blocks of 1Kx18 Block RAM
 12 18x18 Multipliers
 146 I/O with 208 pin package
 "instant ON" = about 1.5 mS
 input PLL clock = 10 MHz min

TAG Memory is 79 bytes of Flash (XP2-5)
 Always available thru JTAG port
 can not be Write or Read protected
 perfect for: MAC, birth date, Revision #
 TAG memory can be accessed from fabric

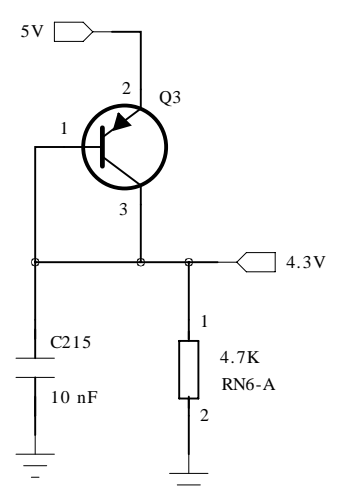


If JP1 not installed -- boot from NAND Flash
 If JP1 is installed, attempt to boot from SD card
 If SD card is not present then boot from NAND

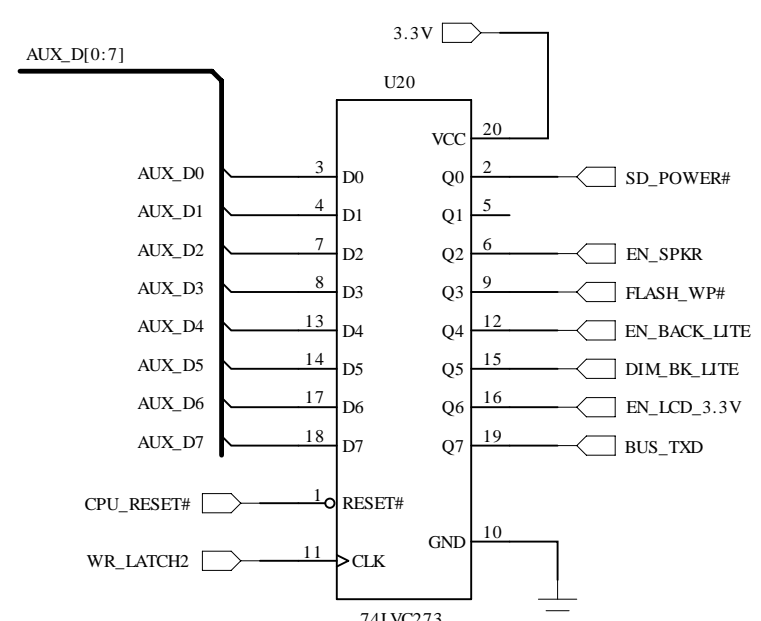
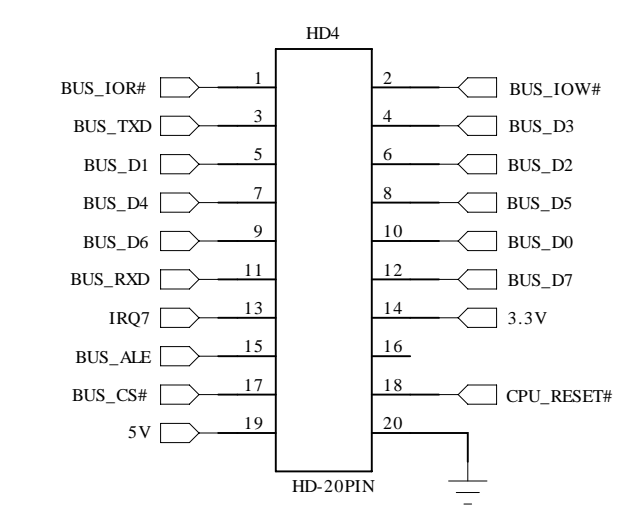
NAND Flash



4.3V Power Supply

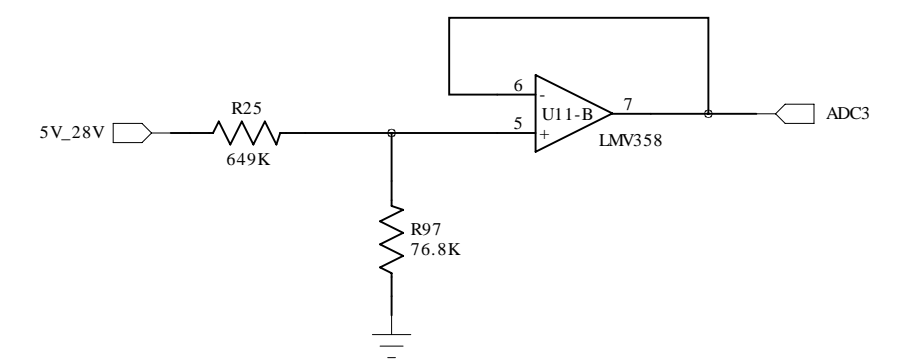
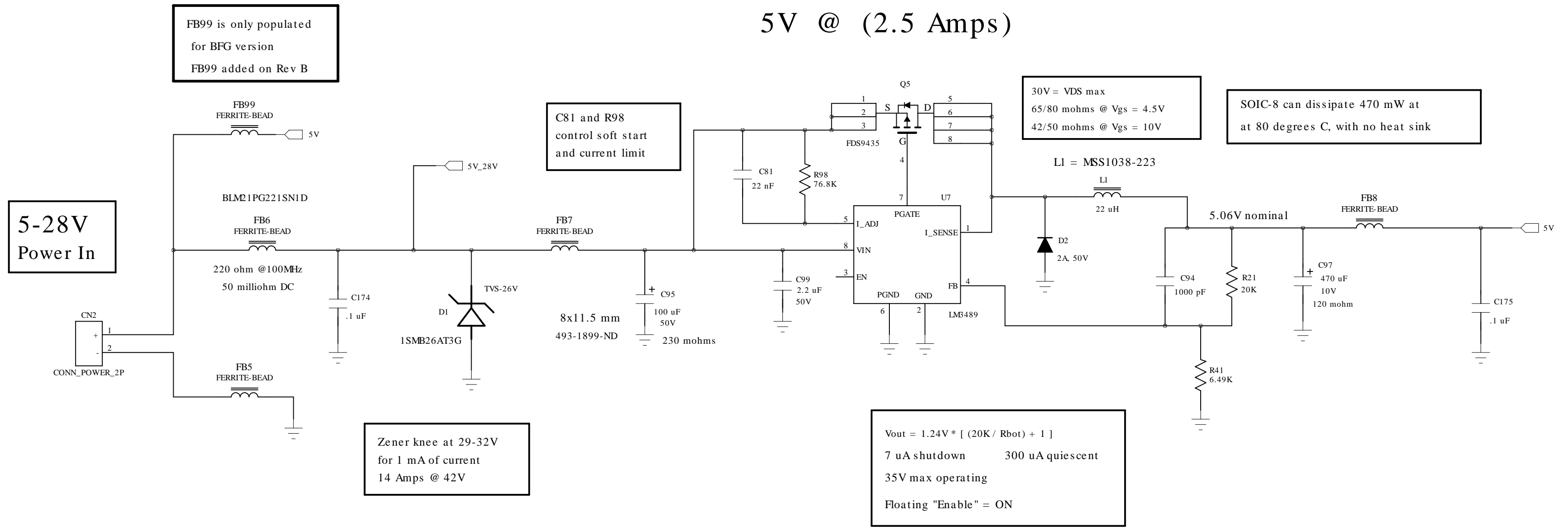


Expansion Bus



Hysteretic Switching Power Supply

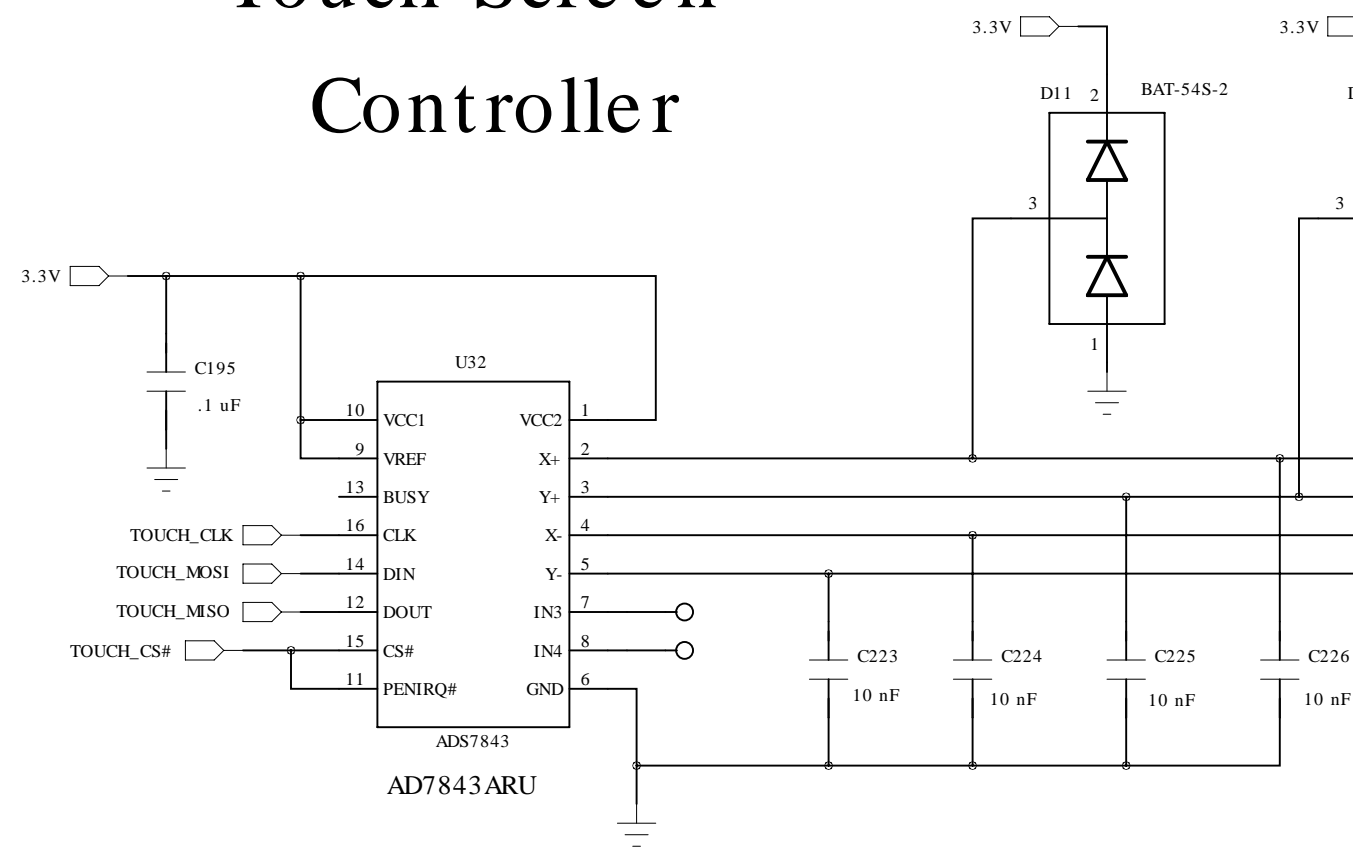
5V @ (2.5 Amps)



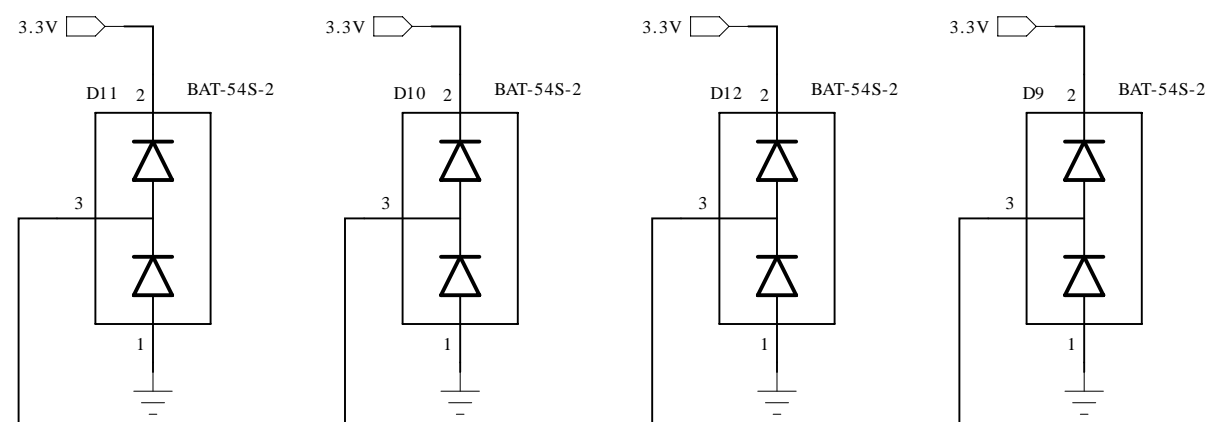
RN6-D
4.7K

Technologic Systems	Date	April 6, 2009
Title: TS-7390 5V Power Supply		
Rev:	Designer	Sheet 7 of 8

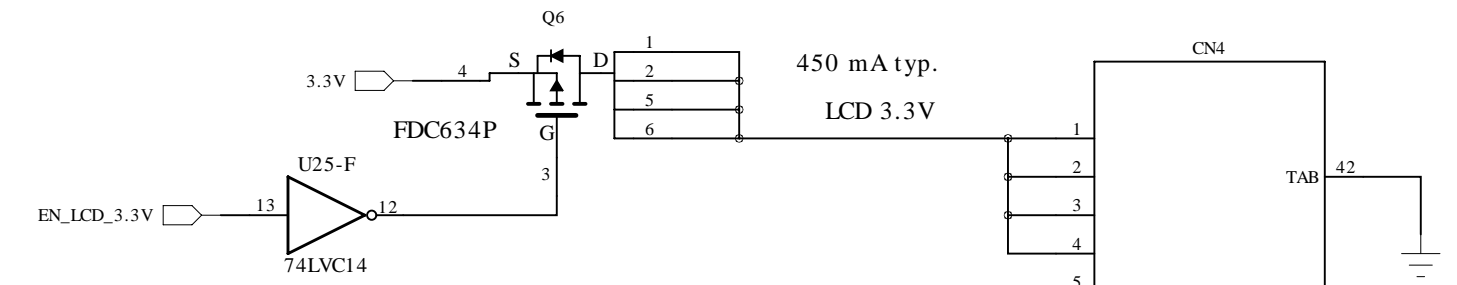
Touch Screen Controller



Diodes are BAV199 (silicon)

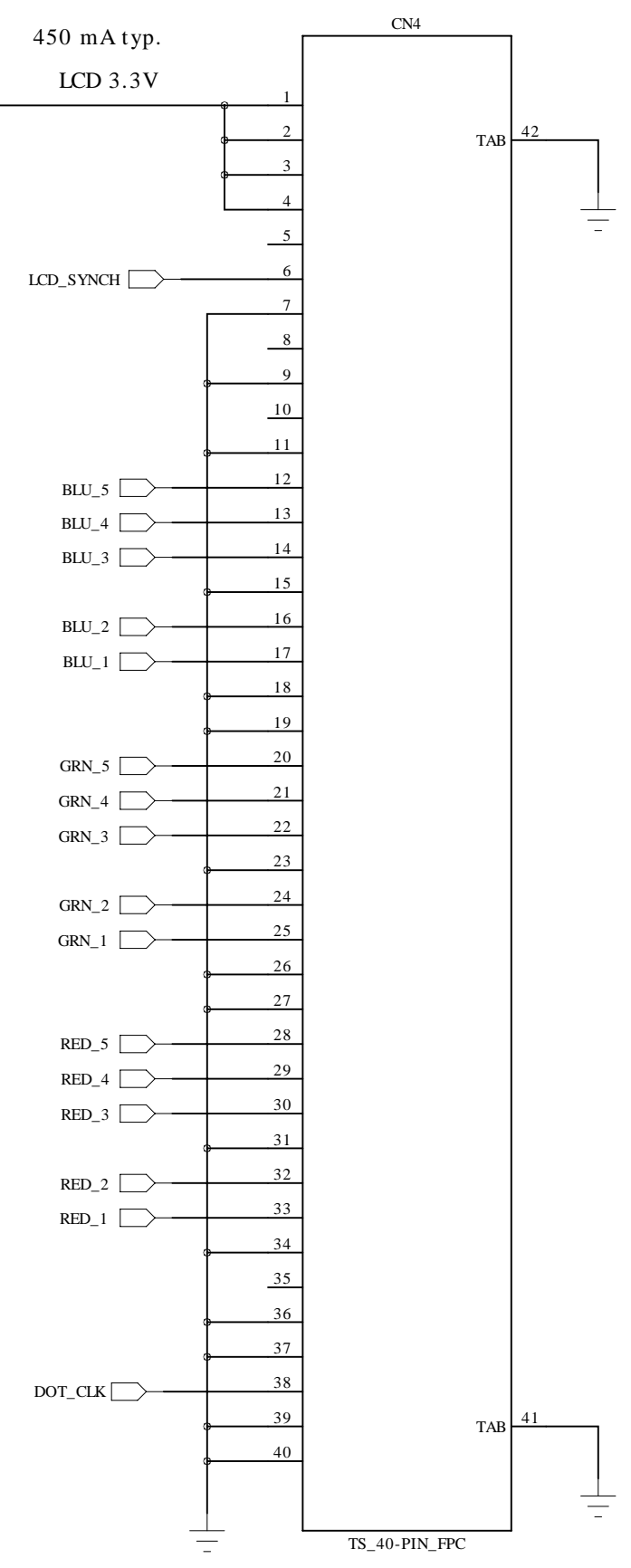


Q6 removed on Rev B board

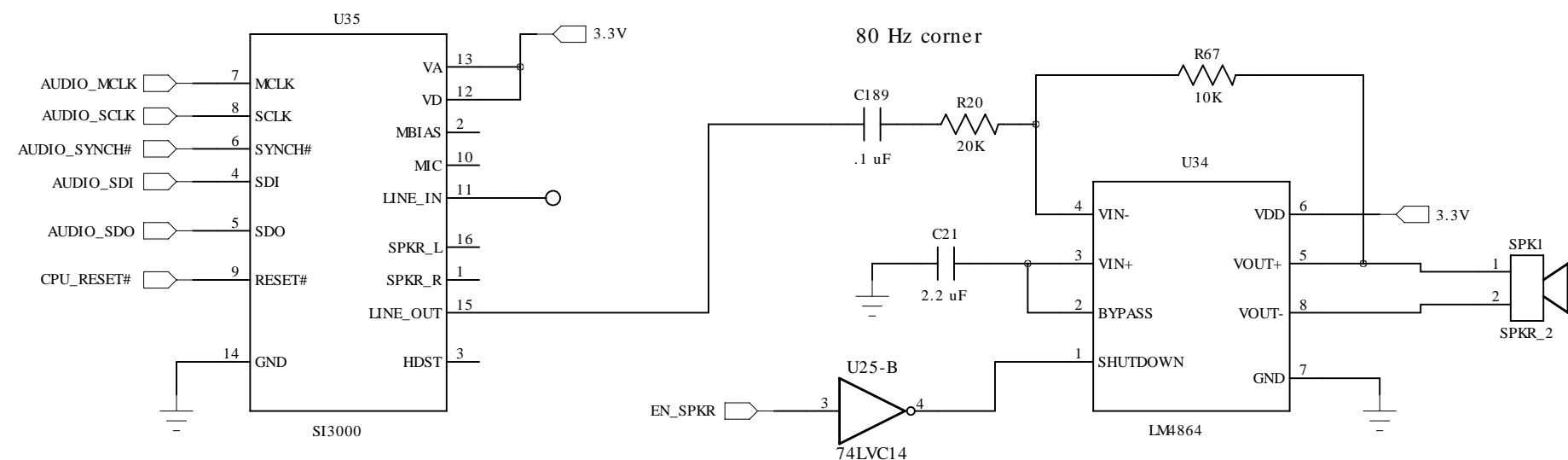


SOT-6pin can dissipate 440 mW at 80 degrees C, with no heat sink

Pin 1 is on left side looking into connector



SPKR DAC

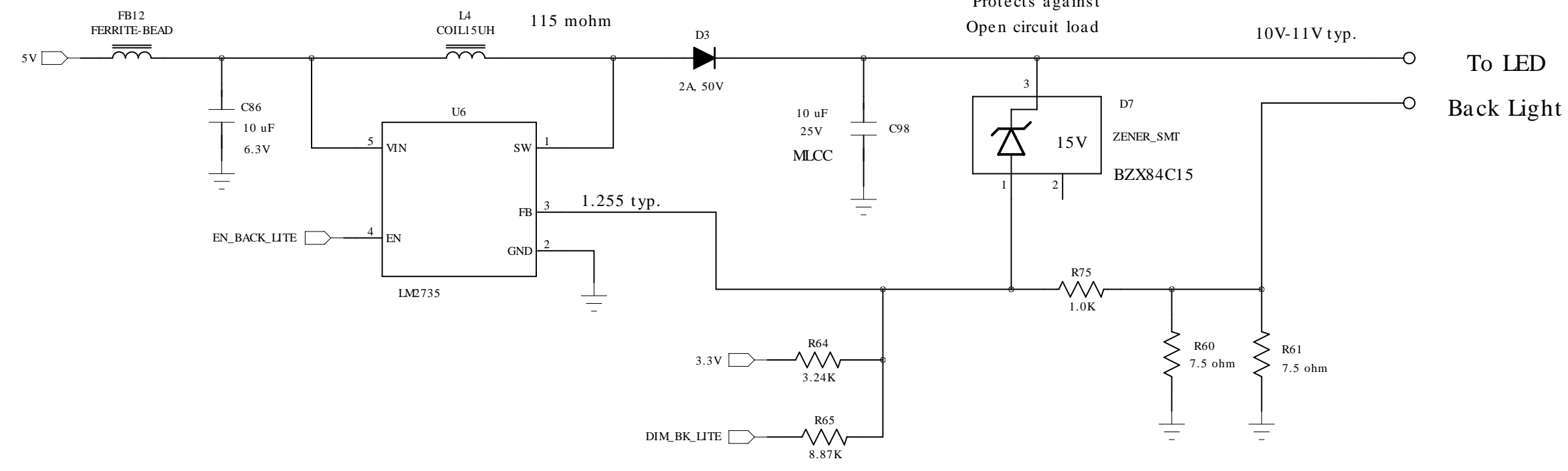


Can delivery 250 mW with 3.3V supply

BackLight Power

780 mA Isat (20% drop)

L4 = CoilCraft MSS5131-153



87% typ. eff. at 200 mA load (12V out) per data sheet

744 mV is high setting (198 mA)
333 mV is low setting (88 mA)

200 mA is maximum continuous that LED BackLight is rated at.