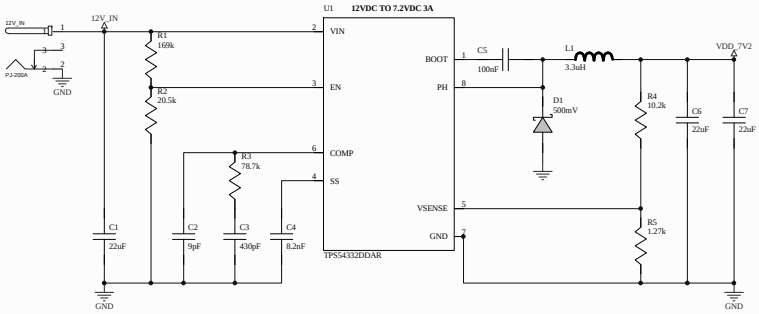
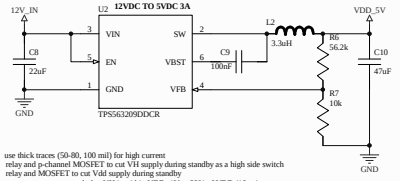
POWER

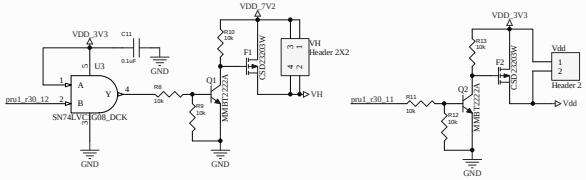
12V in, output 5V for BBB, 7.2V for VH, 3.3V for logic



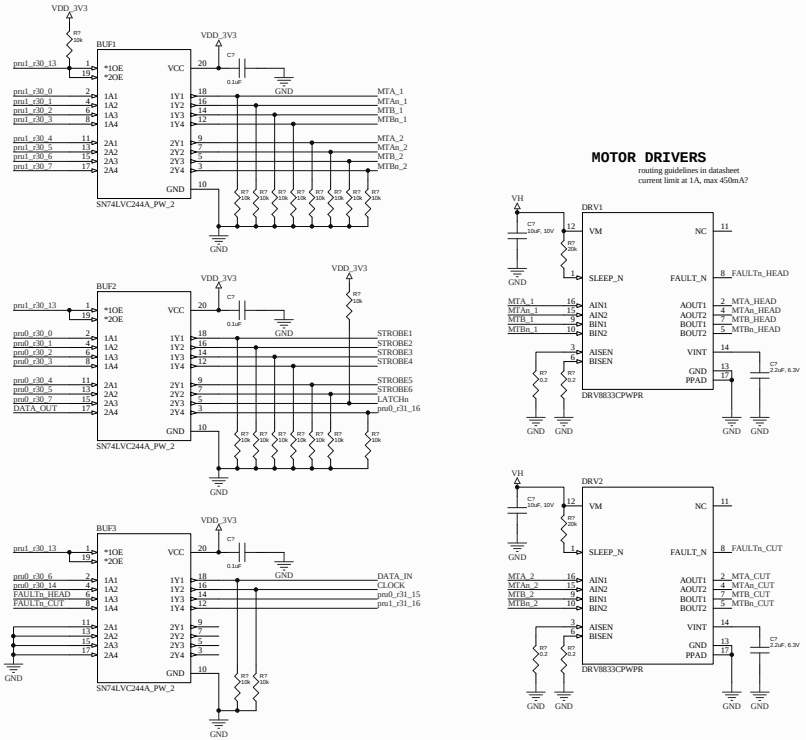


use thick traces (50-80, 100 mil) for high current
relay and p-channel MOSFET to cut VH supply during standby as a high side switch
relay and MOSFET to cut Vdd supply during standby
power up sequence such that VH is within VDD+1V at 80% of VDD (10ms)
peak load countermeasure (LC filter)
VDD/VH is also turned OFF during a hardware reset period
AND gate with PRU GPIO and VDD_3V3?
MOSFET schematic matches PCB pinout?

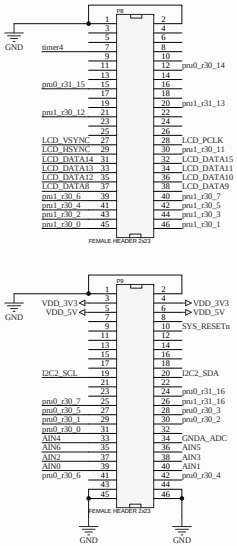
HIGH SIDE SWITCHES



BUFFERS



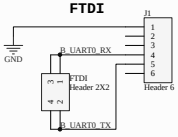
BBB EXPANSION HEADERS



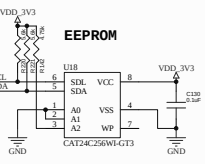
MOTOR DRIVERS

routing guidelines in datasheet
current limit at 1A, max 450mA?

FTDI

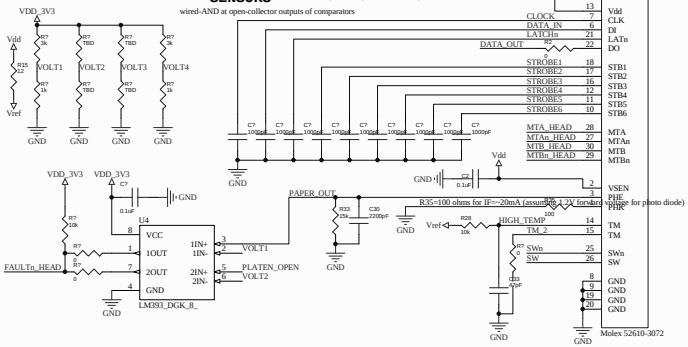


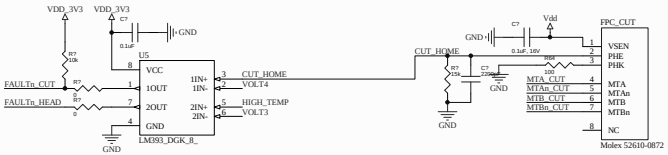
EEPROM



SENSORS

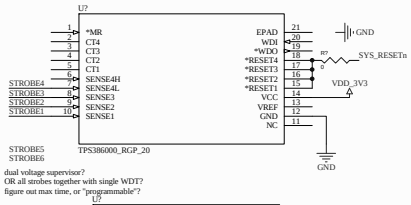
wired-AND at open-collector outputs of comparators



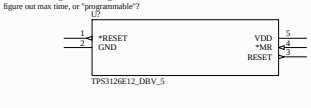


WATCHDOG

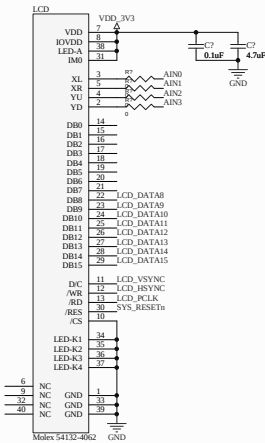
Hardware timer linked to STROBE
hardware timer gates?
watchdog timer 0.6 seconds (feasible?)



dual voltage supervisor?
OR all strobes together with single WDT?
figure out max time, or "programmable"?



DISPLAY



voltage reference to 1.8V for BBB ADC input
strobe retrigger pulses
footprint for bulk cap
connector pinouts are different on EVM and datasheet?

PRINT HEAD

- make sure there is enough current to supply both motors
- 5-9VDC, 1.5A current
- ESD protection
- display connector for complete demo?
- test print test, barcodes, images, QR

- MOSFET switch for VH
- decoupling capacitors for noise suppression
- power on sequence
- latch up countermeasure
- signal reset processing for VDD, VH
- standby and reset behavior for control signals

Hieu Nguyen

Title	AM335x Thermal Printer Cape	
Size: A2	Number	Revision
Date: 5/22/2015	Sheet of	
File: C:\github\..\TPcape_basic.SchDoc	Drawn By:	