



Q26010-001

**LIGHTNING STANDARD UI
USER INTERFACE -- ARM 4 DESIGN**

Intended as a replacement for the NXP arm boards being used in T16, T12, and T17.

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CPU, peripherals
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REV B - Changes
Accelerometer changed from I2C part to SPI part. Some micro pins moved around to accomodate.

REV C - Changes
Footprints corrected by Rob Arend to get layout completed.

REV D - Changes
Remove incorrect darlington chips.
Remove SPIDAC. Not needed now. PWM-ing screen for contrast works.
Fix CAN/Power connector.
Made Power input 36V tolerant.

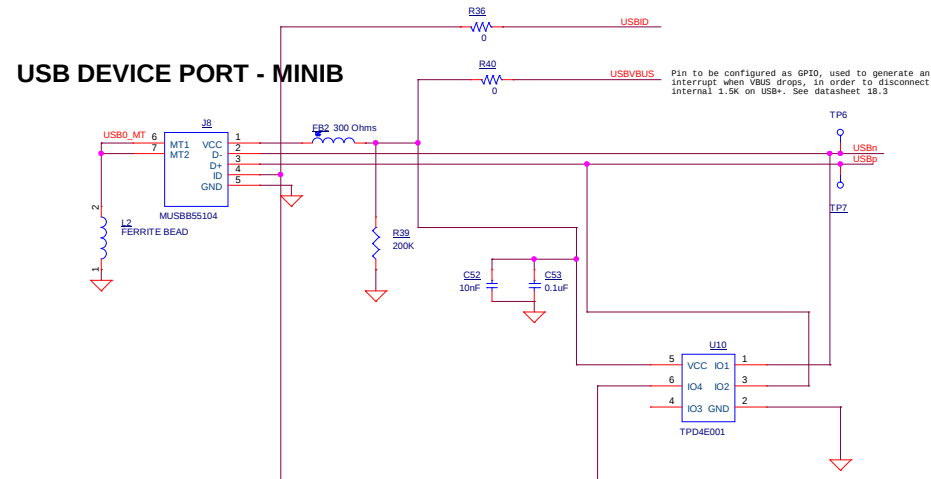
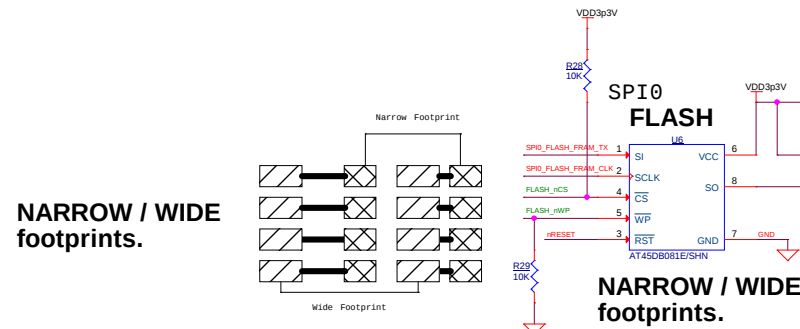
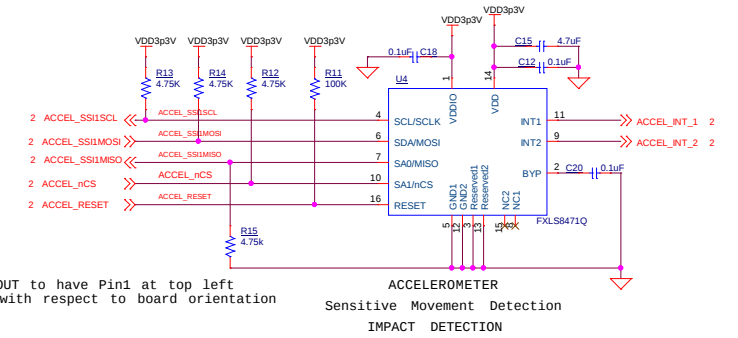
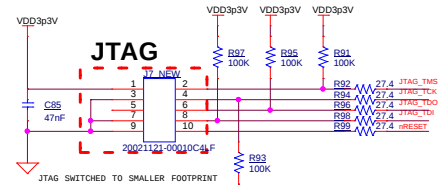
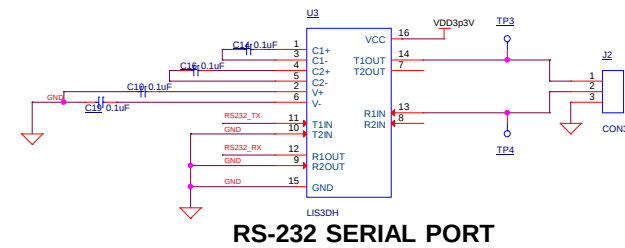
REV E - Changes
Corrected 6 wires and replaced ESD parts to SOT23-6 versions.
USB Connector changed to Vertical Mount and on back of PCB. See Charles Hawkins about new board outline.

REV F - Changes
REFENENCE DESIGNATORS RESET

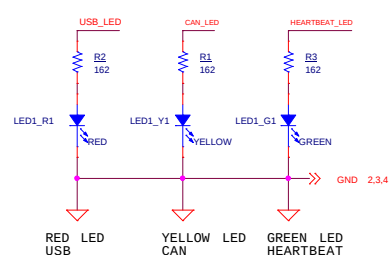
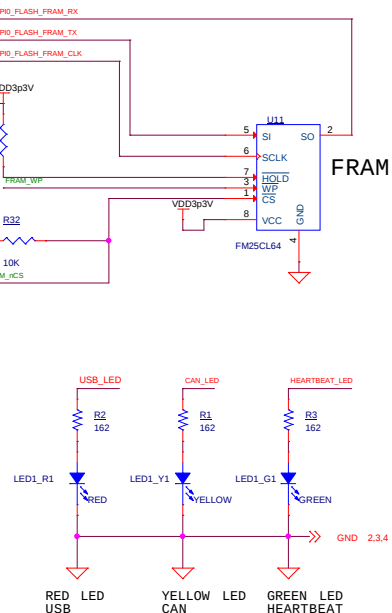
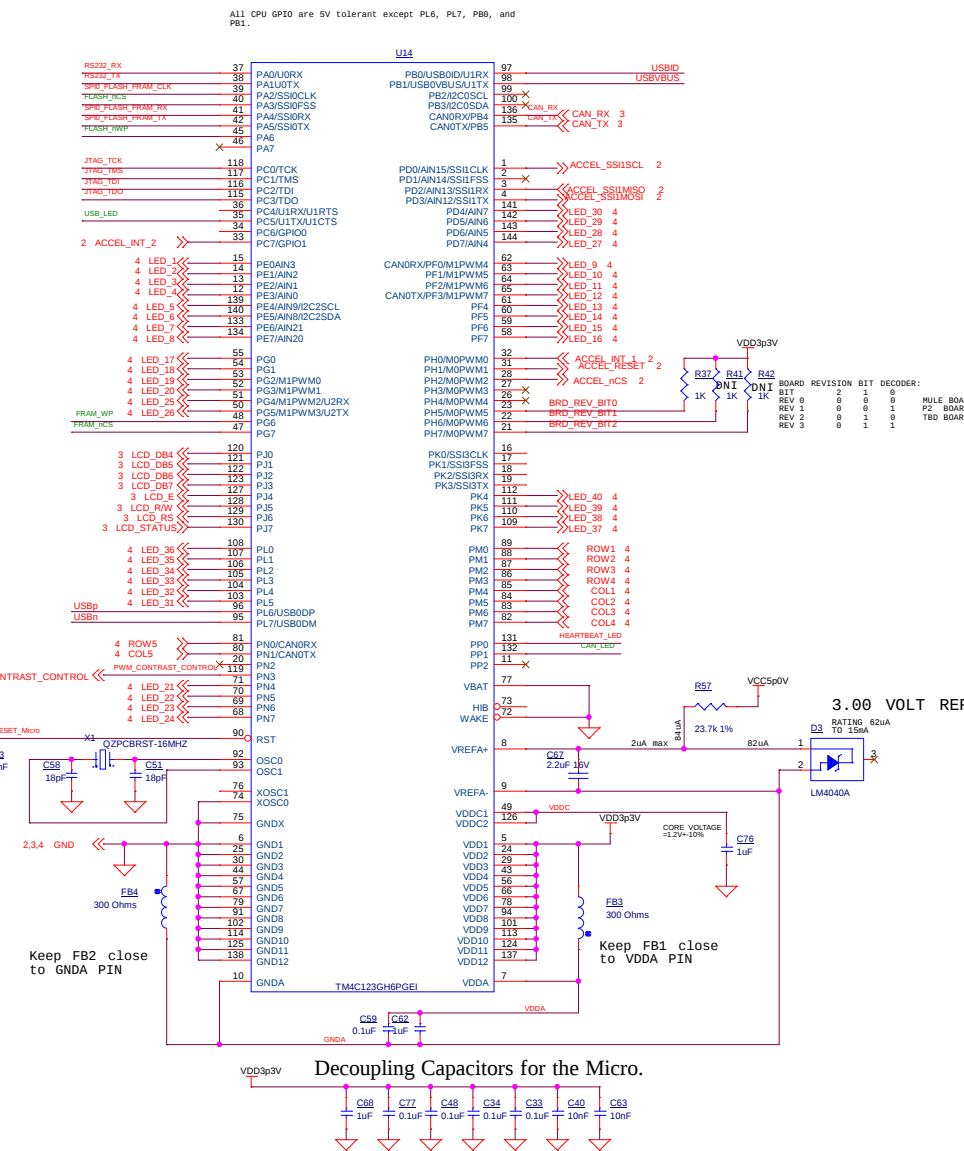
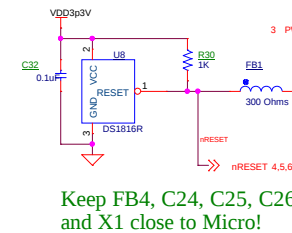
REV G - Changes
JTAG SWITCHED TO SMALLER FOOTPRINT

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CPU, Peripherals

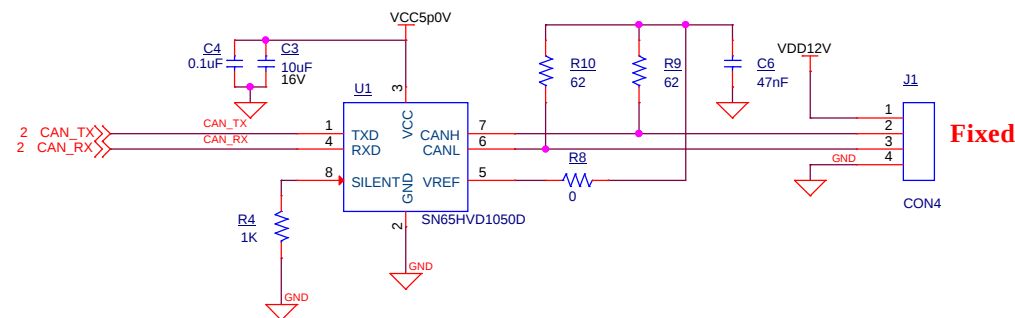


Keep C22 and R32 close to U7

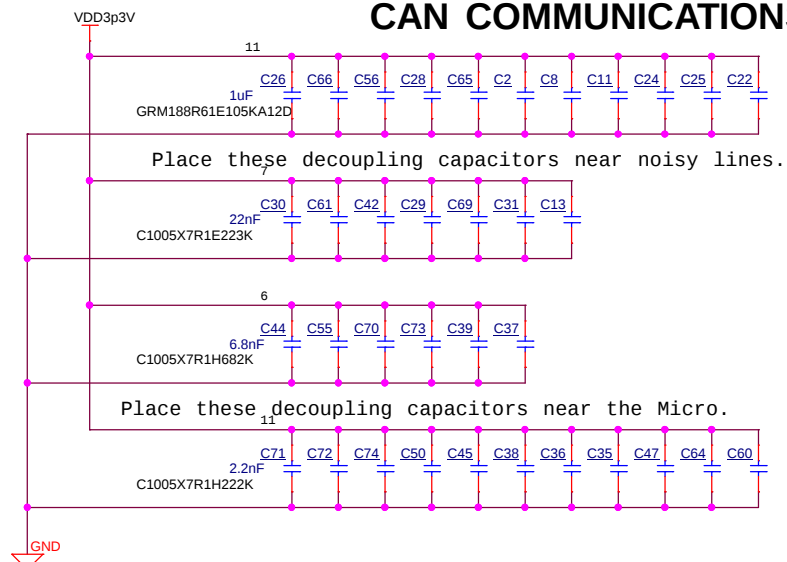


Power supplies, CAN, Display, Decoupling

12V Going out the CAN J1-4 powers the User Interface Module



CAN COMMUNICATIONS

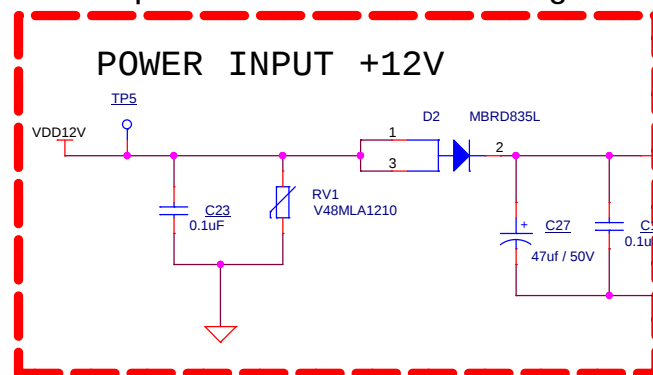


Place these decoupling capacitors near noisy lines.

Place these decoupling capacitors near the Micro.

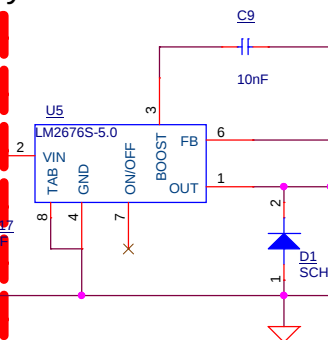
36V input safe for testing only.

POWER INPUT +12V



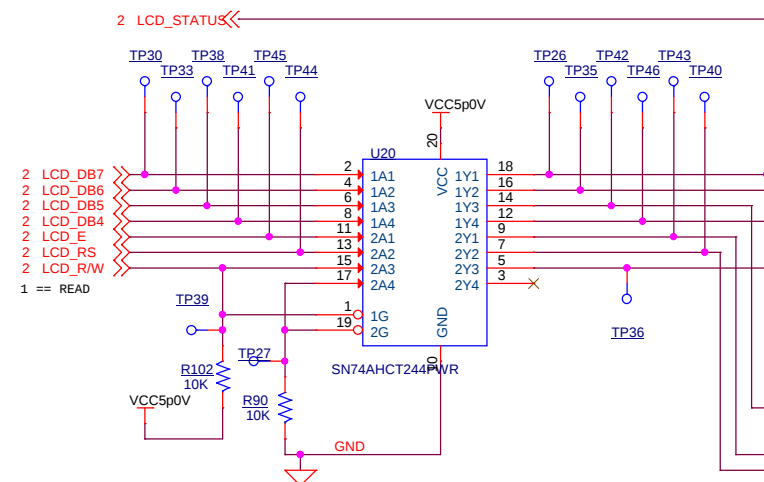
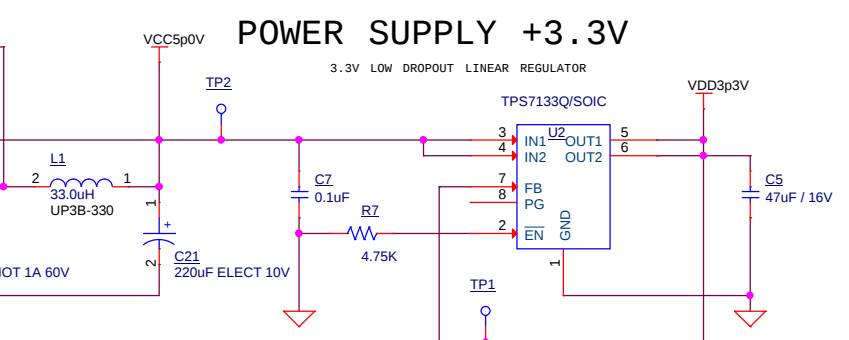
POWER SUPPLY +5V

5V / 1A SWITCHING SUPPLY

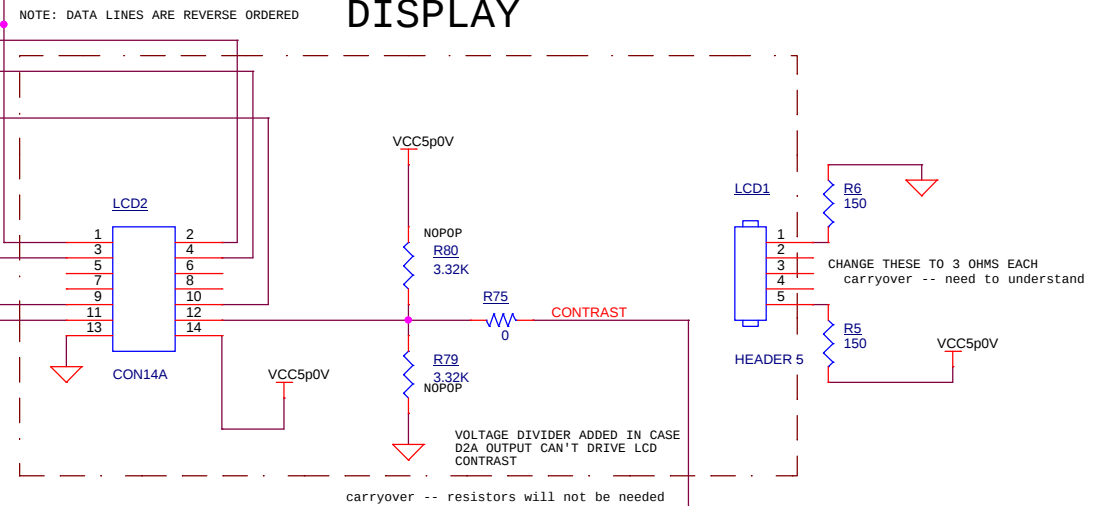


POWER SUPPLY +3.3V

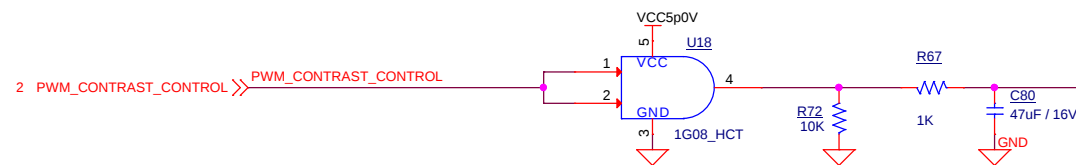
3.3V LOW DROPOUT LINEAR REGULATOR



DISPLAY



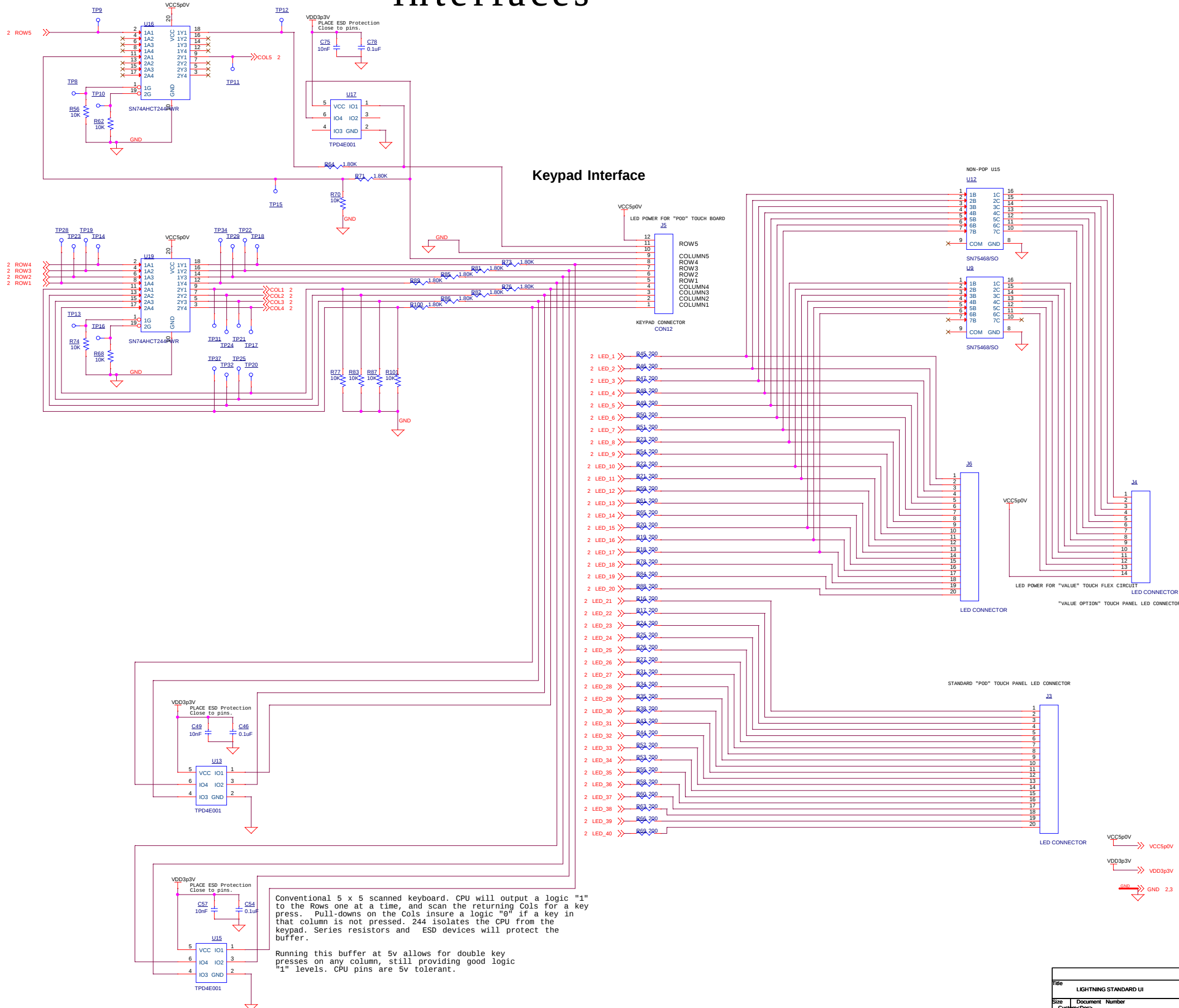
AND used as 3.3V to 5.0V LEVEL SHIFT



PWM and RC time constant used to control contrast levels.

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Keypad & LED interfaces



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