

NOTES, UNLESS OTHERWISE SPECIFIED:

1. The netname "P3P3V" represents connection to the +3.3V digital power plane.
2. The netname "P2P5V" represents connection to the +2.5V digital power plane.
3. The netname "P1P8V" represents connection to the +1.8V digital power plane.
4. The netname "P1P2V" represents connection to the +1.2V digital power plane.
5. The netname "P12V" represents connection to the +12V digital power plane.
6. The symbol ∇ represents connection to the digital ground plane.
7. The symbol ∇ represents connection to a ground plane isolated from digital ground.
8. A "Z" suffix on a signal name indicates an active low signal.
9. A "HC_X" suffix on a signal name indicates a high current trace.
The "X" portion is the required current rating in Amps.
10. All components with designators "U", "D", "Y" and "Q" are electrostatic discharge sensitive.
11. All resistor values are in ohms, 1/16W and 5% unless otherwise specified.

Z_PCB1

PCB, DLP HUD Formatter
DLP007
2514132

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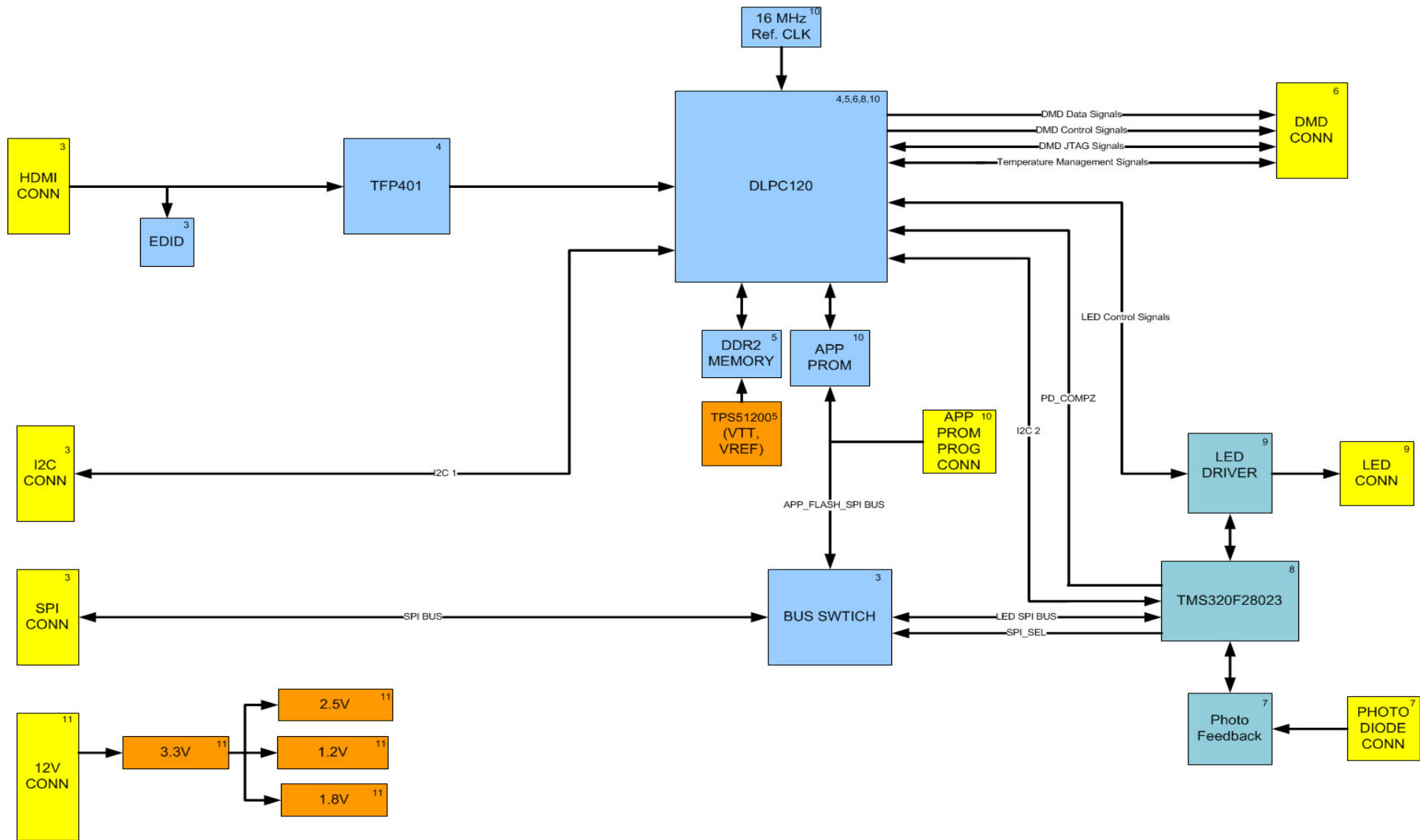
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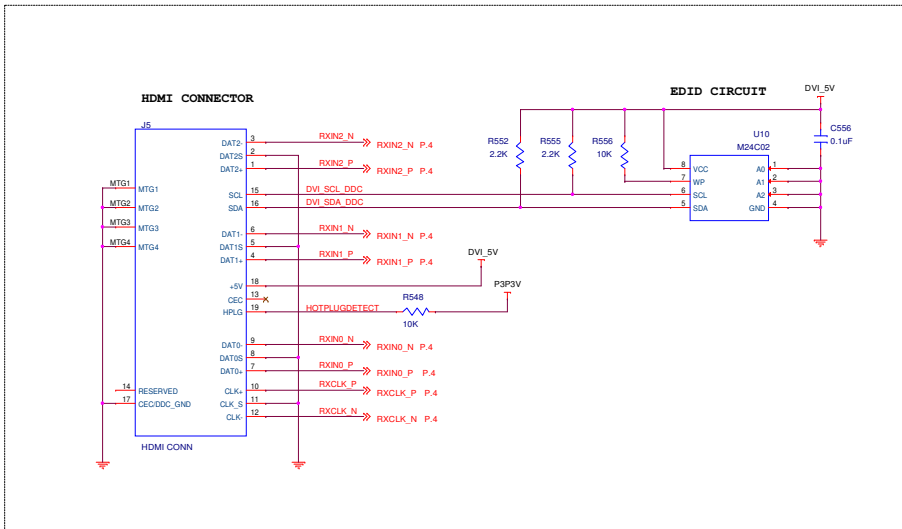
| COMPUTER GENERATED DRAWING. DO NOT REVISE MANUALLY | | | |
|--|--|-----------|----------|
| REVISIONS | | | |
| REV | DESCRIPTION | DATE | APPROVED |
| A | Initial Board Release | 10/10/14 | |
| B | Added J11 for LED Temperature Reading Connected Photo Diode to 6V Supply Pulled Down Enable Pin of U510 | 1/15/15 | |
| C | Connected pin E14 on the DLPC120 to the MFR on the Vbatt monitor | 12/4/15 | |
| D | Added U512 and U513 for a flicker circuit Pulled Down C14 Heater Enable Pin of U506C Added PCB, Changed DDR2 and serial Flash part numbers | 3/22/2018 | |
| E | Added R605 and J13 for a high priority interrupt option Changed R2 and Q2 to DNI to support high current red LEDs | 8/17/2018 | |



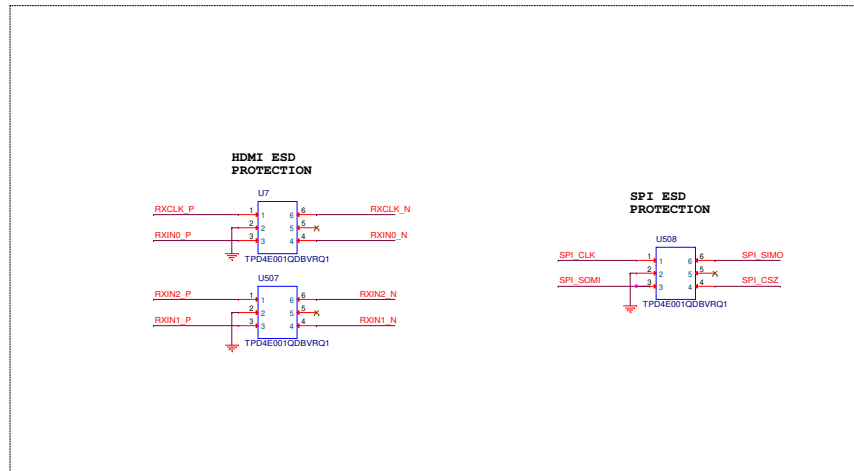
| | | | | |
|-------------|----------------|------|----------------------|---|
| OWN | Jackson Thomas | DATE | 08/17/18 | TEXAS INSTRUMENTS © COPYRIGHT 2014 TEXAS INSTRUMENTS ALL RIGHTS RESERVED TITLE Schematic, Automotive HUD Formatter Board DL P007 DL P3030Q1EVM DRAWING NO 2514132 SCALE SHEET 1 of 11 |
| ENGR | Jackson Thomas | | | |
| SYST | Jeff Farris | | | |
| PRJ | Jason Thompson | | | |
| QA | Scott Croff | | | |
| NEXT ASSY | USED ON | SW | Cadence Capture 16.6 | |
| APPLICATION | | | | |



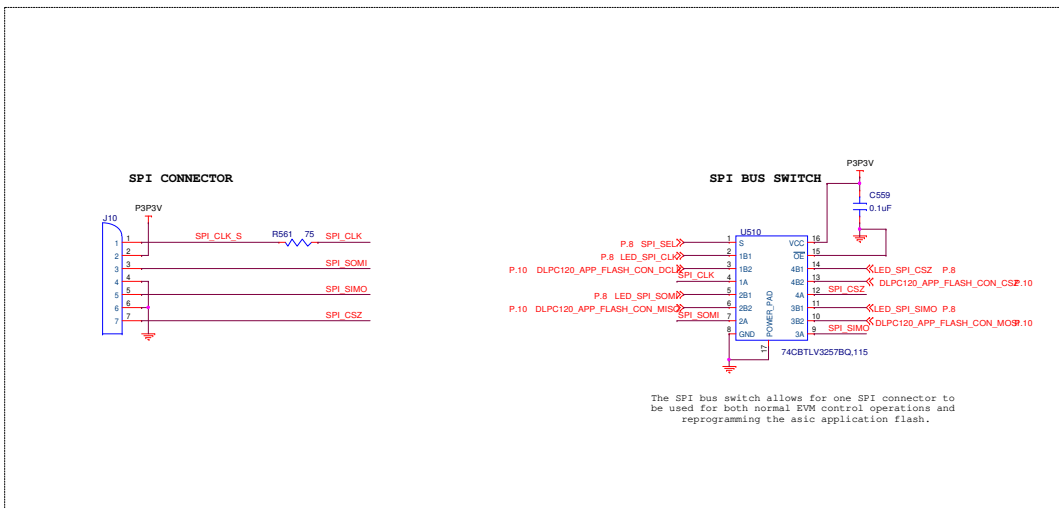
HDMI INPUT BLOCK



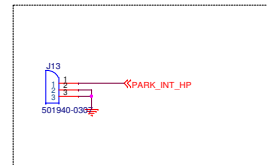
INPUT ESD PROTECTION



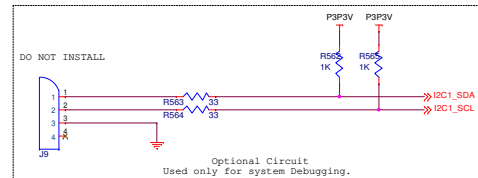
SPI INPUT BLOCK



High Priority Park Interrupt Signal

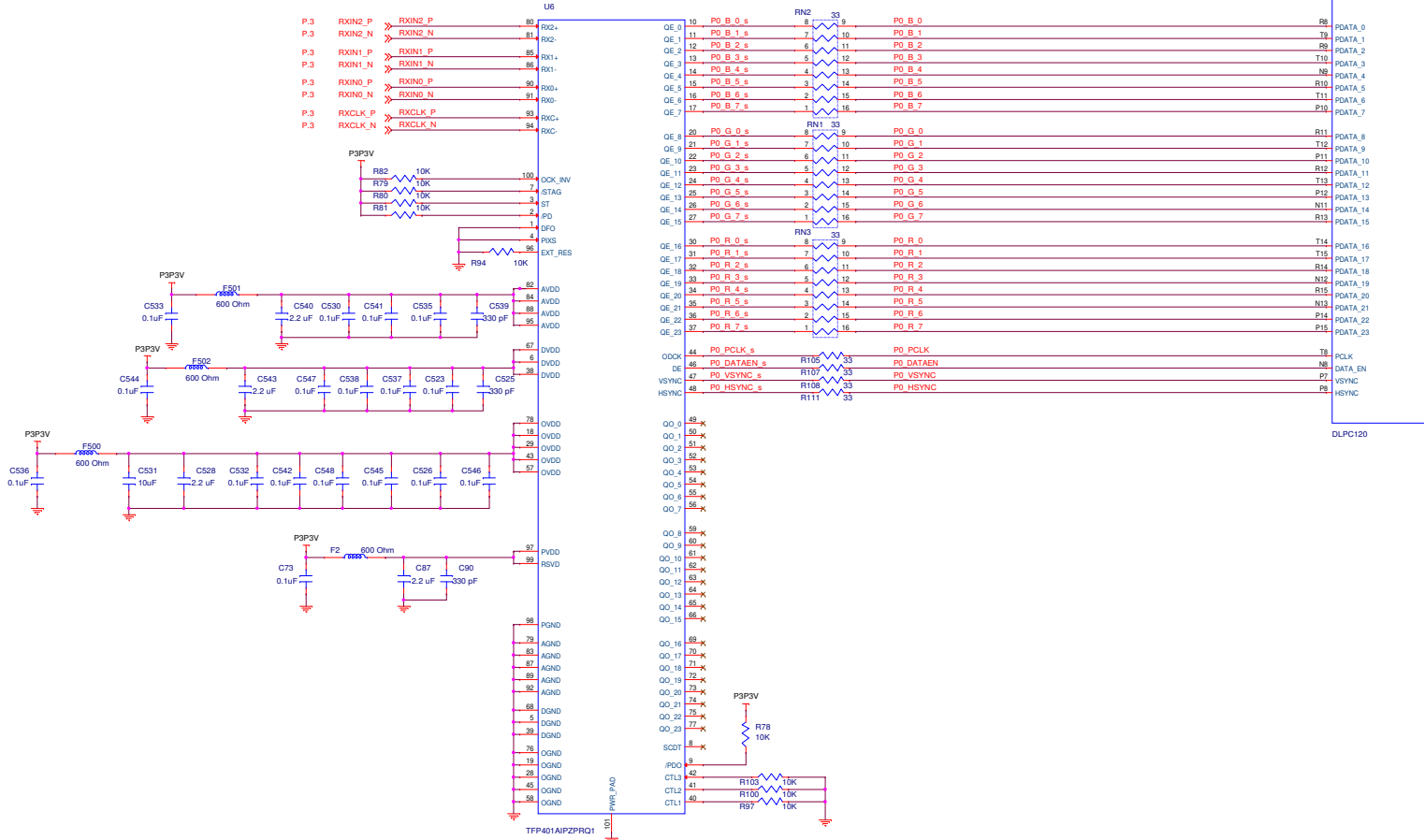


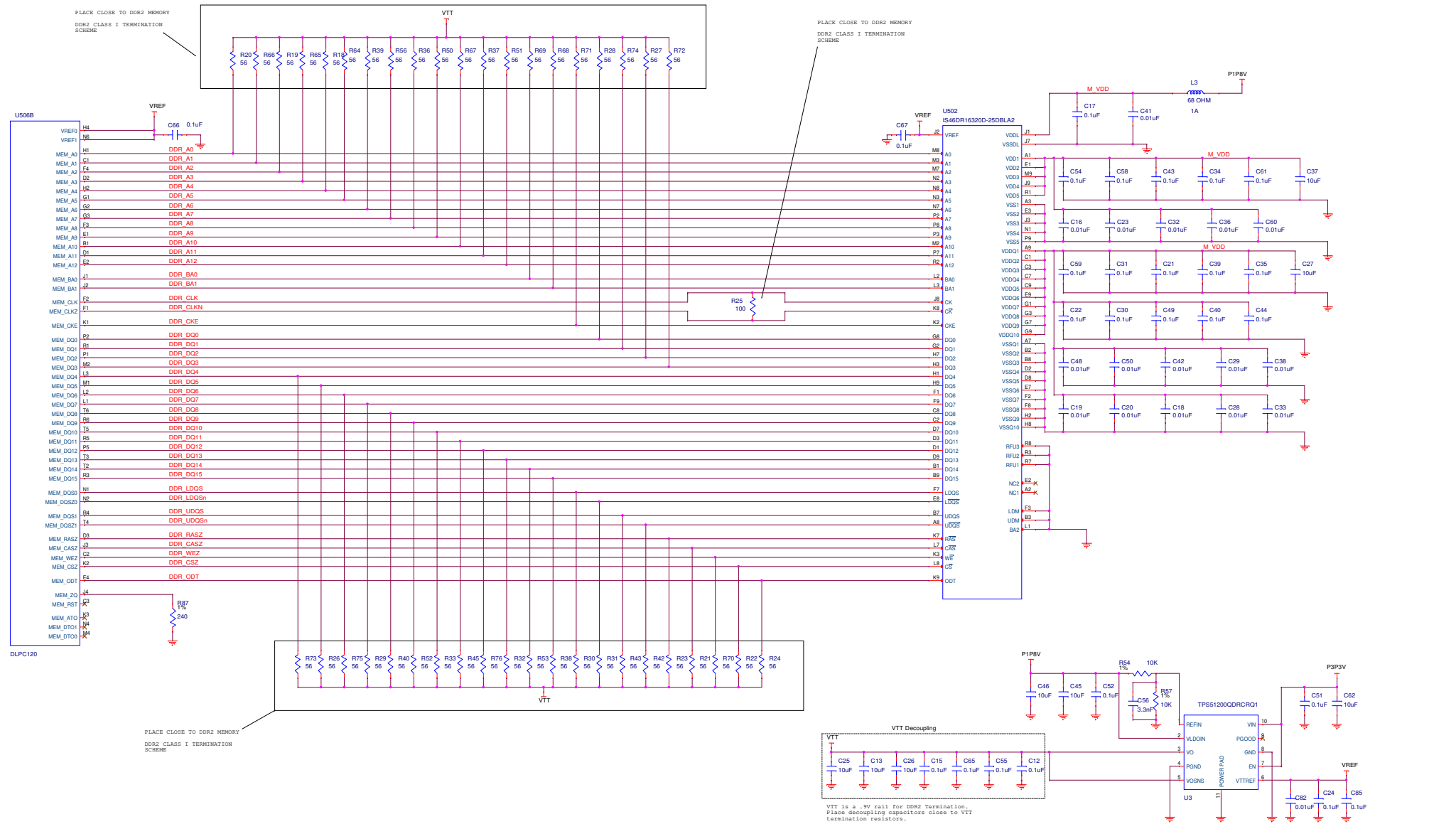
I2C 1 INPUT



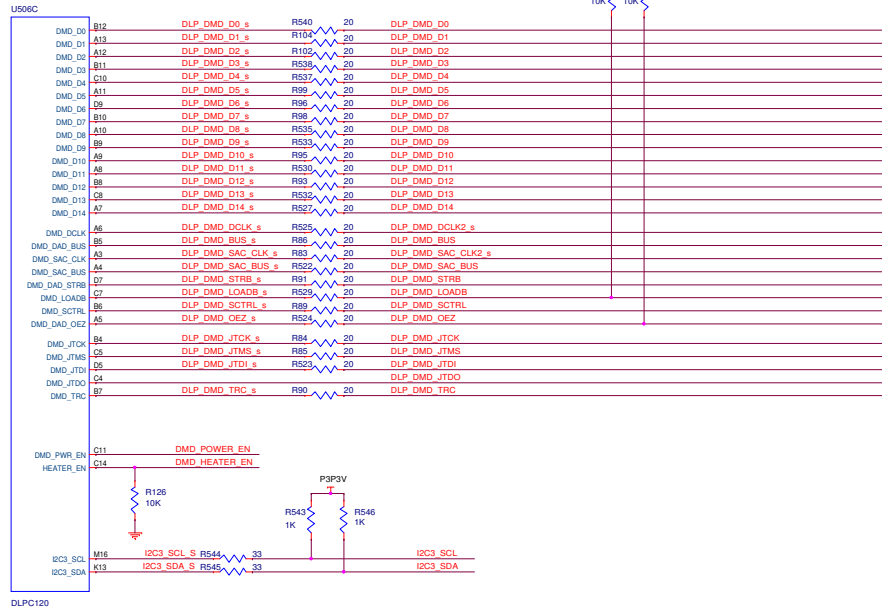
DVI RECEIVER

U506A

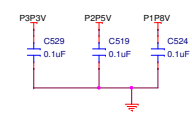
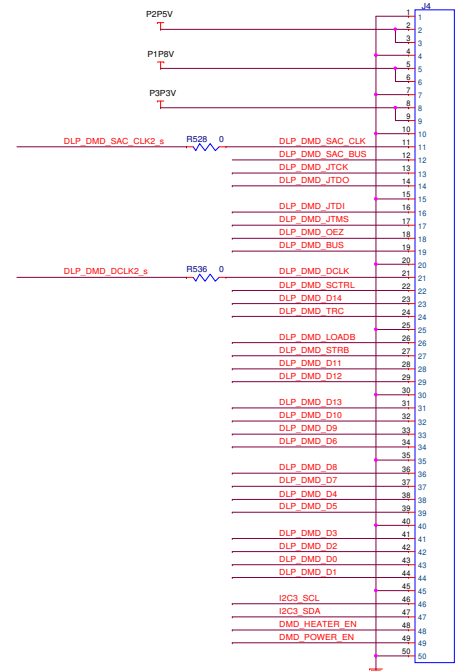




DLPC120 DMD Interface



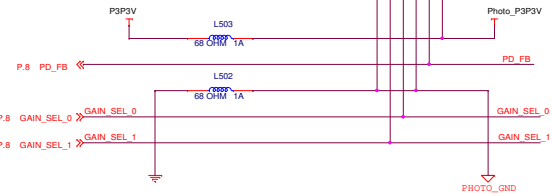
DMD Connector



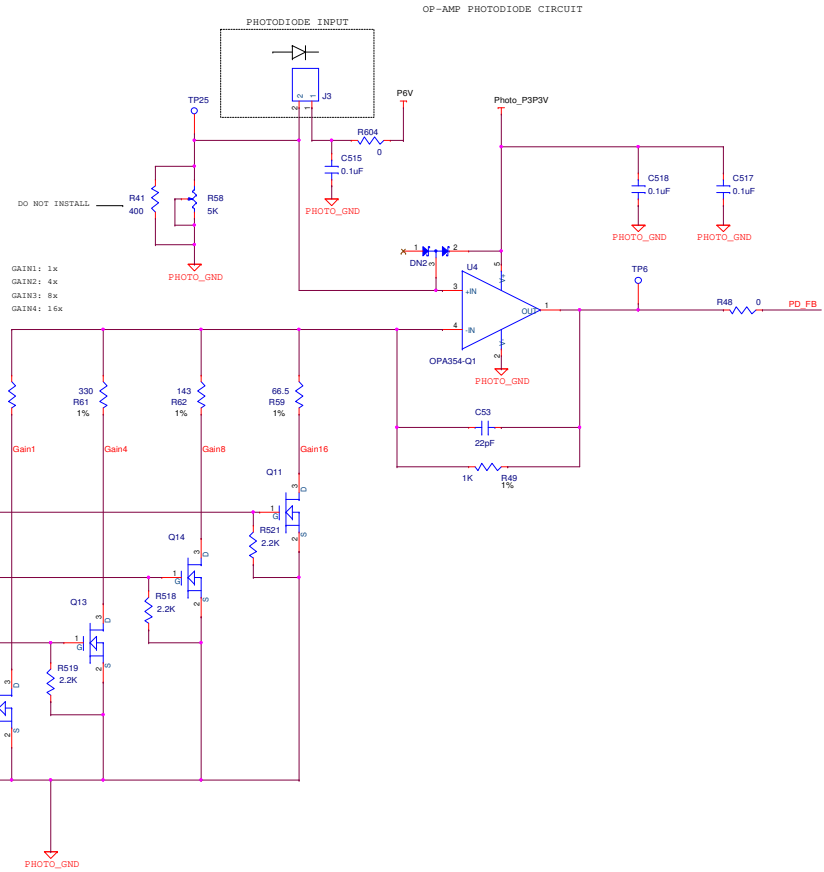
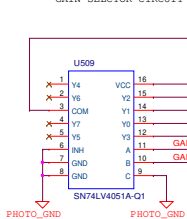
This entire circuit needs to be isolated from the rest of the board to prevent noise issues. Please note the analog ground to digital ground ferrite bead separating the ground planes.

EXTERNAL PHOTODIODE CIRCUIT CONNECTOR

Optional Circuit
Used only for system testing.
DO NOT INSTALL



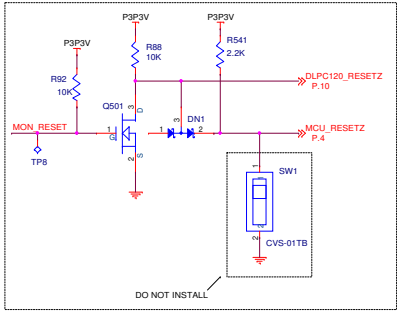
GAIN SELECTOR CIRCUIT



DO NOT INSTALL

GAIN1: 1x
GAIN2: 4x
GAIN3: 8x
GAIN4: 16x

ASIC RESET CONTROLLER



LED DRIVE ENABLE LOGIC

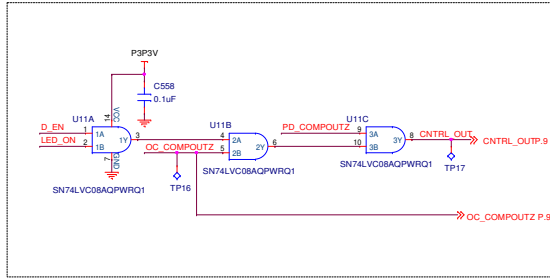
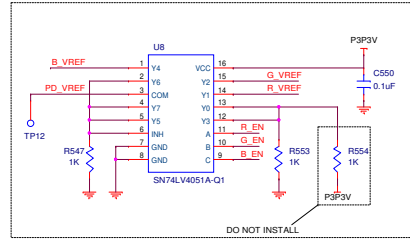
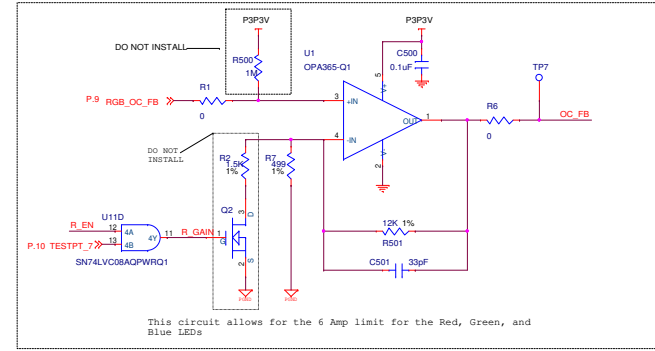


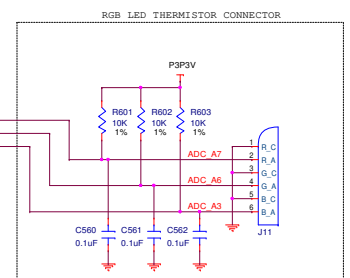
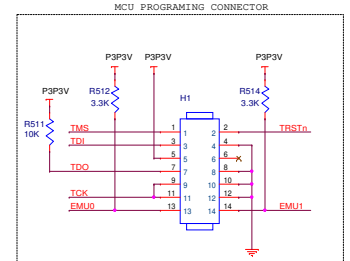
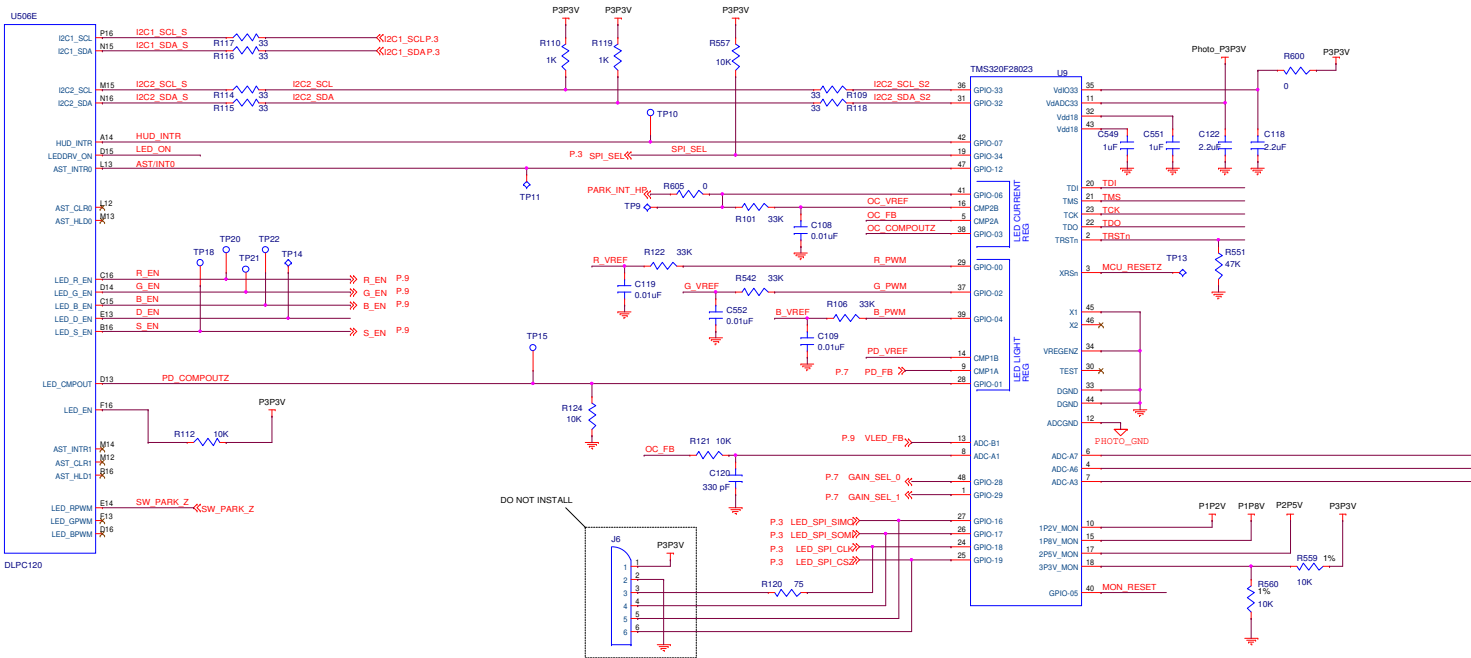
PHOTO DIODE REFERENCE SELECTOR

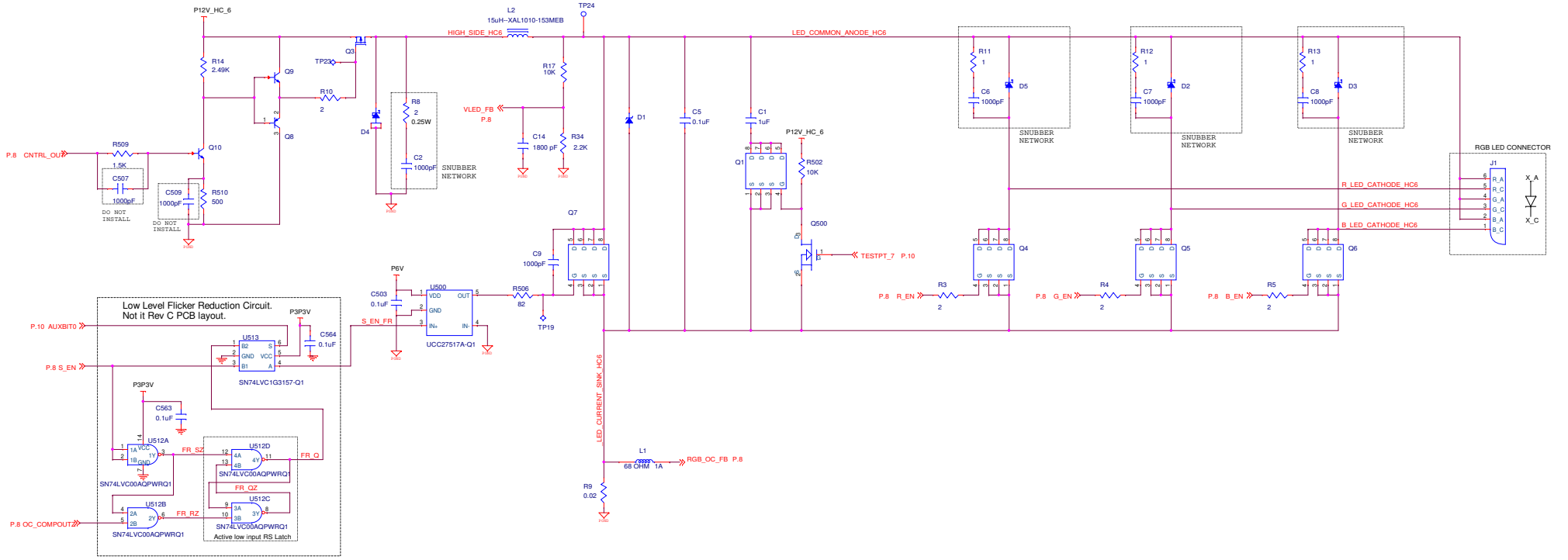


LED CURRENT FEEDBACK

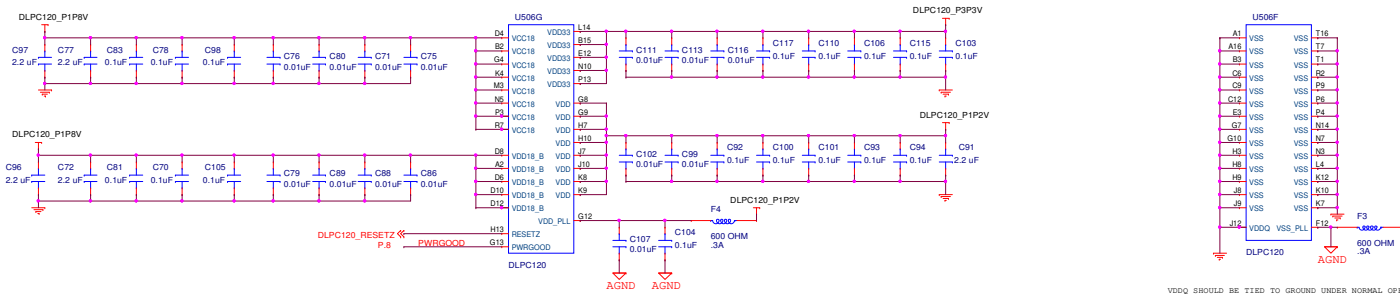


LED DRIVER CONTROLLER CIRCUIT

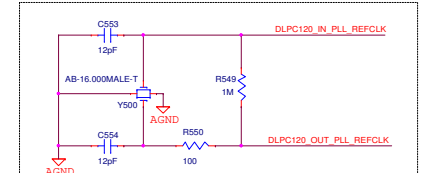




DLPC120 POWER

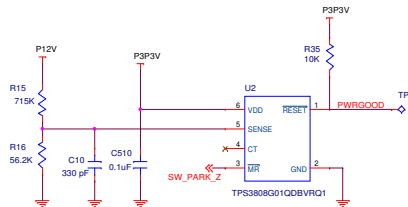


DLPC120 PLL REFERENCE CLOCK CIRCUITS

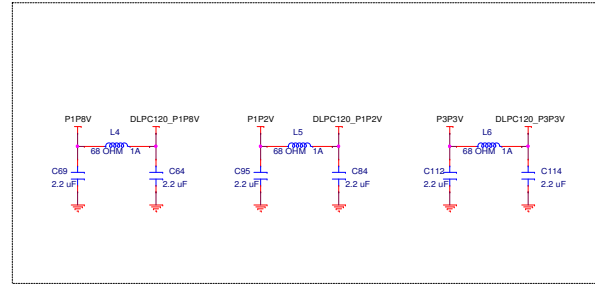


Place Circuit as Close as Possible to the ASIC.

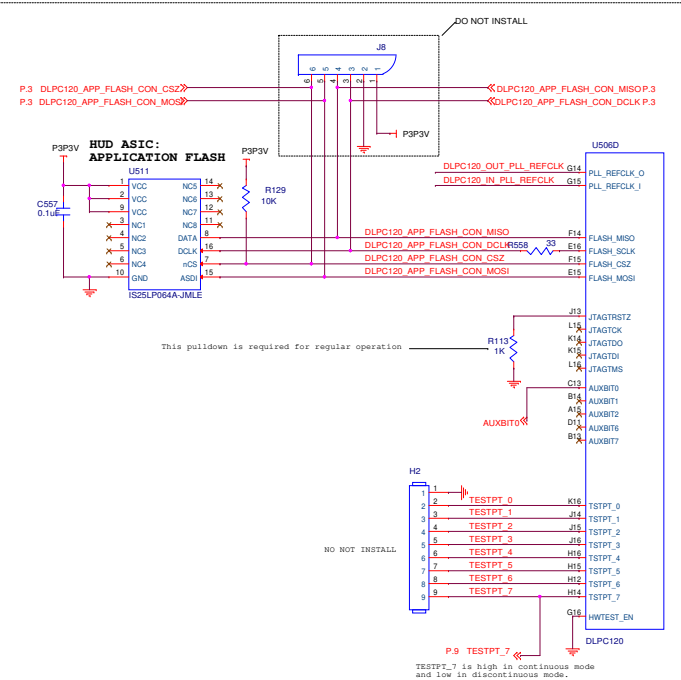
BATTERY VOLTAGE MONITOR



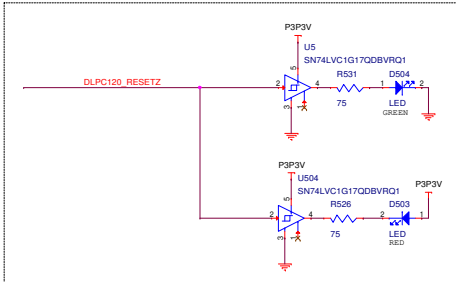
ASIC EMC FILTER



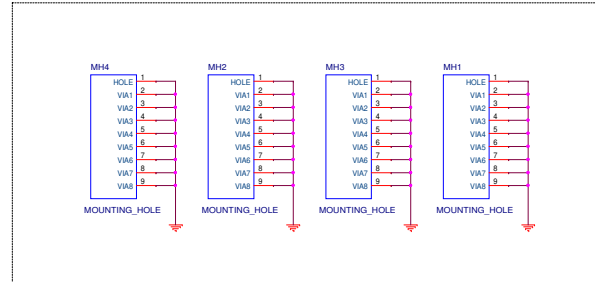
DLPC120 TEST AND CONFIGURATION INTERFACES



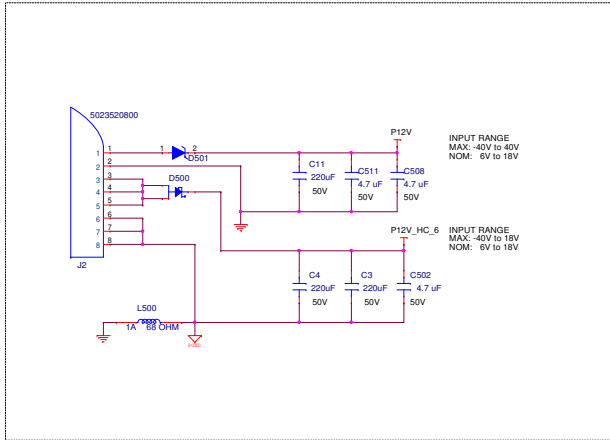
SYSTEM POWER/RESET INDICATORS



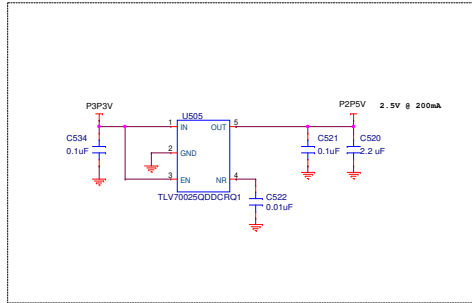
PBC MOUNTING HOLES



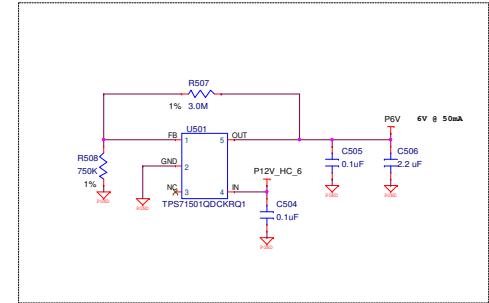
12V POWER INPUT



2.5V REGULATOR

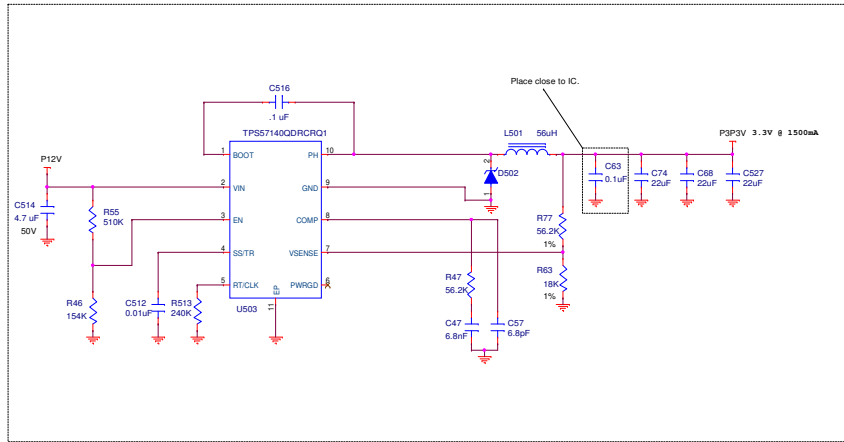


5V REGULATOR



Optional Circuit
Used only for system testing.

3.3V REGULATOR



1.2V AND 1.8V REGULATOR

