

P8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

PT1+ PT1- PT2+ PT2- PT3+ PT3- PT4+ PT4- PT5+ PT5- PT6+ PT6- PT7+ PT7- PT8+ PT8-

5V

C30 1uF

C29 68uF

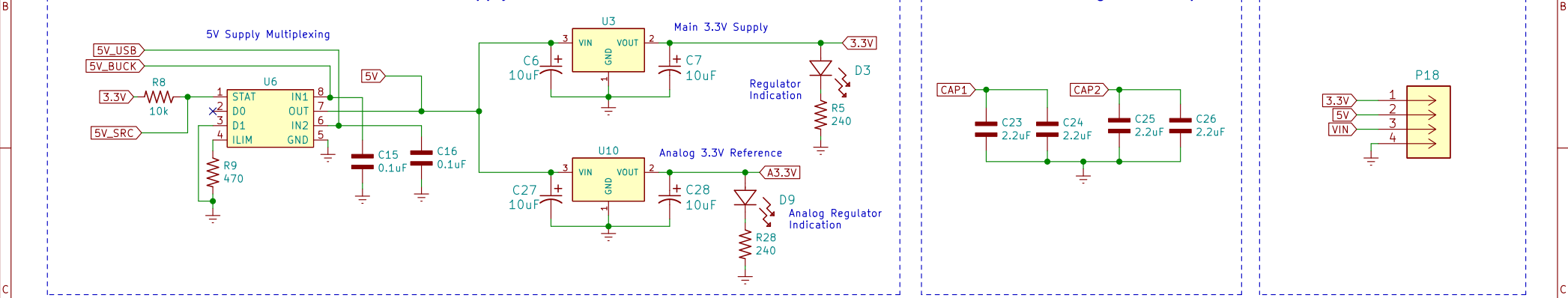
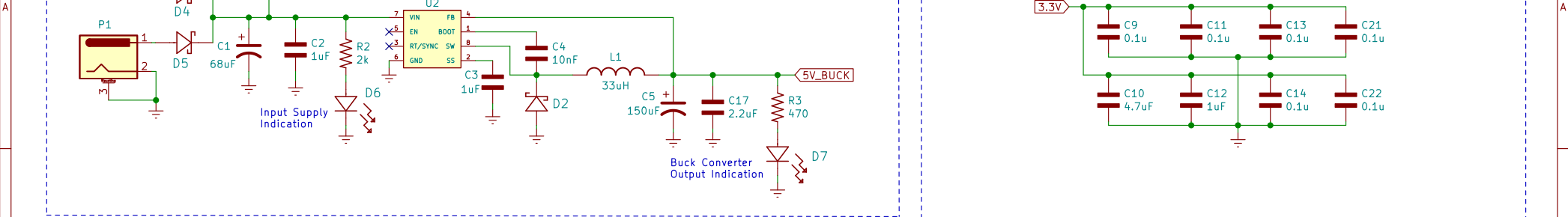
PT Programmable Gain Differential Amplifier

The circuit diagram illustrates a PT Programmable Gain Differential Amplifier. It consists of a PT8060 programmable gain amplifier (U8) configured as a differential amplifier. The circuit includes a 3.3V supply and a 5V supply. The gain is set by a 1k resistor (R2) and a 1k resistor (R19). The circuit is labeled 'PT Programmable Gain Differential Amplifier'.


Rev:
Id: 4/4

The image contains two circuit diagrams. The first diagram, titled "5V Buck Converter", shows a power management circuit. It starts with a "Source Selector" consisting of two diodes, D4 and D5, connected to a switch P1. The output of the selector is connected to the VIN pin of a buck converter IC, U2. The IC has several pins: EN (enable), FB (feedback), BOOT (bootstrap), RT/SYNC (resonant/synchronous), SW (switch), and SS (soft-start). The input filter consists of a 68uF capacitor (C1) and a 1uF capacitor (C2) in parallel, followed by a 2k resistor (R2) and a diode (D6) for "Input Supply Indication". The output filter consists of a 10nF capacitor (C4) and a 150uF capacitor (C5) in parallel, followed by a 33uH inductor (L1) and a diode (D2). The output is connected to a 470 resistor (R3) and a diode (D7) for "Buck Converter Output Indication". The output voltage is labeled "5V_BUCK".

The second diagram, titled "Microcontroller Decoupling Caps", shows a 3.3V supply line with eight decoupling capacitors. The capacitors are arranged in two rows of four. The top row contains capacitors C9, C11, C13, and C21, all with a value of 0.1uF. The bottom row contains capacitors C10, C12, C14, and C22. Capacitors C10 and C22 have a value of 4.7uF, while C12, C14, and C21 have a value of 1uF. The capacitors are connected to the 3.3V supply and ground.




Power Connector



The diagram shows a power connector with two pins labeled 1 and 2. Pin 1 is connected to a component labeled V_HEAD. Pin 2 is connected to a ground symbol. The connector is labeled P7.

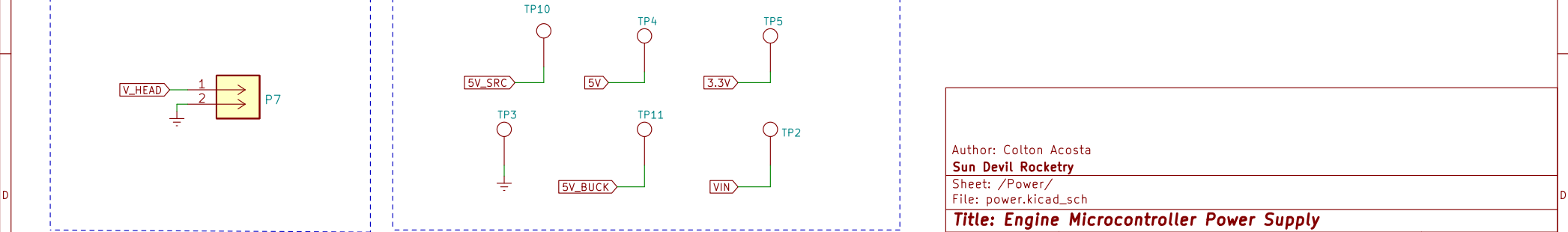
Test Points



The diagram shows test points TP2 through TP11. TP2 is connected to VIN. TP3 is connected to ground. TP4 is connected to 5V. TP5 is connected to 3.3V. TP10 is connected to 5V_SRC. TP11 is connected to 5V_BUCK.

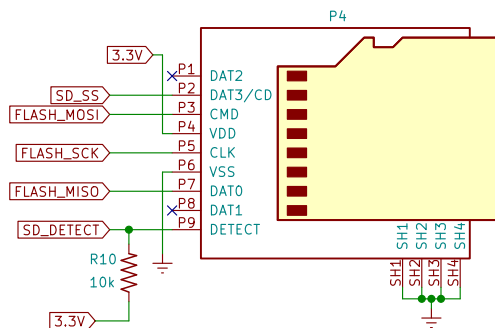
Author: Colton Acosta
Sun Devil Rocketry
Sheet: /Power/
File: power.kicad_sch

Title: Engine Microcontroller Power Supply

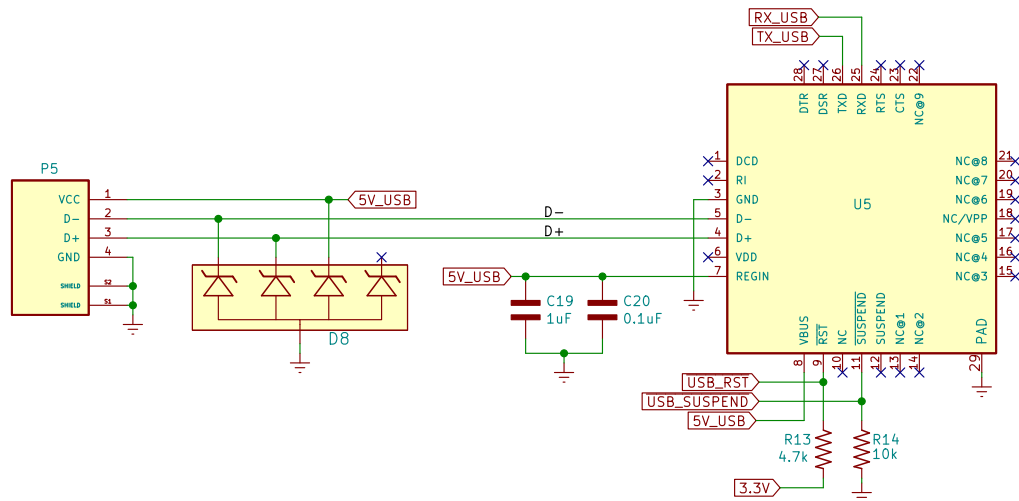


Id: 6/4

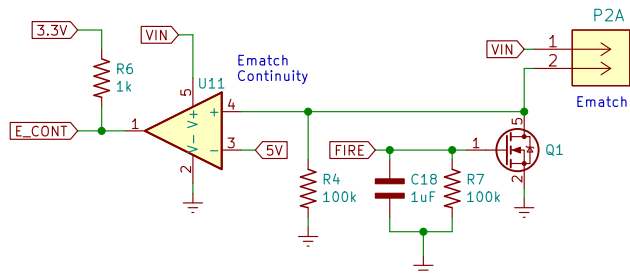
SD Card



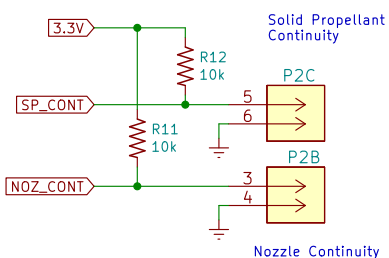
USB Transceiver



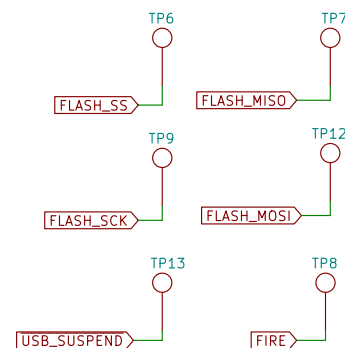
Ignition



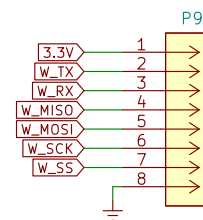
Ignition Continuity



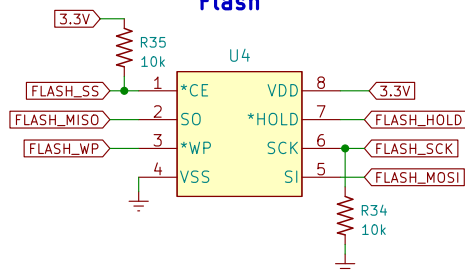
Test Points



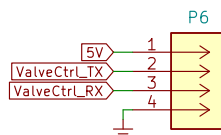
Wireless Interface



Flash



Valve Controller Serial Interface



Sheet: /Page2/
File: Page2.kicad_sch

Title:

Size: A4
KiCad E.D.A. kicad (6.0.5)

Date:

Rev:

Id: 6/4