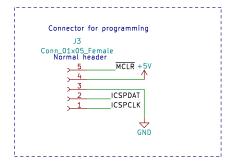
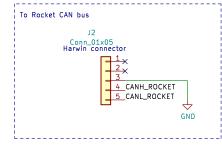
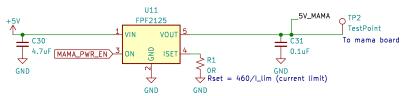
## Mama board 5V power switch



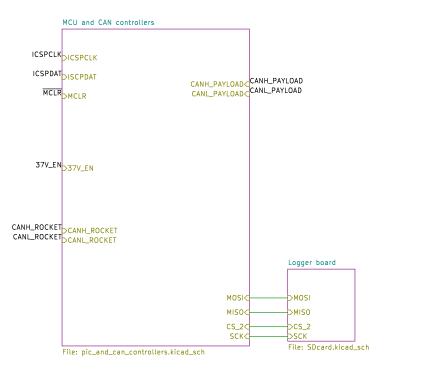


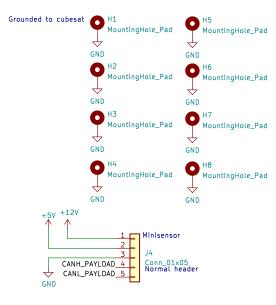


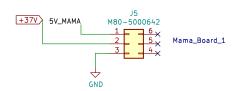


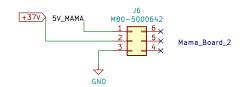


 $MAMA\_PWR\_EN$  set by MCU, HIGH = power to mama board, LOW = no power to mama board







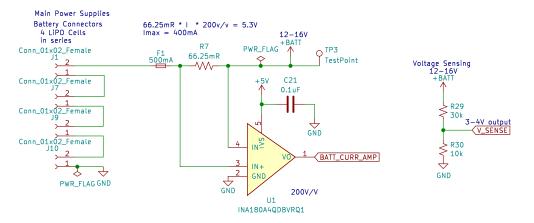


## Terminanting resistors will be on the CAN harness +5V ▲ U10 MCP2562-E/SN 117 MCP2562-E/SN C13 0.1uF 2 \_\_\_ C15 PIC\_TX 1 TXD 0.1uF PIC\_RX\_4 MCP\_TX\_1 RXD CANH CANH\_PAYLOAD TXD MCP\_RX\_4 GND RXD CANH CANH\_ROCKET GND CANL\_PAYLOAD CANL C14 0.1uF Vio 8 STBY CANL CANL\_ROCKET C16 0.1uF STBY GND GND GND +3.3V +3.3V ↑ GND +51 1811 1817 Ç29 10uF C12 0.1uF $\dot{\uparrow}$ $\rightarrow$ +3.3V GND GND GND DSPIC33EP512GP502 ₹R24 10kR VDD Not all pins support peripheral output. RP20 and RP35-43 are the pins that support peripheral output. R6 ₹R2 10kR R10 115 10kR \_CS\_1 100R MCP2515-I/P PGED3/VREF-/AN2/C2IN1-/RPI32/CTED2/RB0 4 37V\_EN MCLRD-MCLR PGED3/VREF+/AN3/OA1OUT/RPI33/CTED1/RB1 5 V\_SENSE MCP\_TX 1 TXCAN VDD 18 MCP\_RX 2 RXCAN **C**3 17 PGEC1/AN4/C1IN1+/RPI34/RB2 6 GICSPCLK RESET 0.1 uF CLKOUT 3 CLKOUT 7 DISCPDAT 11 PIC\_TX 16 PGED1/AN5/C1IN1-/RP35/RB3 CS SO 15 MISO × 4 TXORTS $\uparrow$ VCAP RP36/RB4 PGED2/ASDA2/RP37/RB5 14 CS\_2 X 5 TX1RTS 14 MOSI SI GND 19 OSC3 7 OSC2 SCK 13 CAN\_INT VSS \_ C8 PGEC2/ASCL2/RP38/RB6 15 CS\_1 SCK **−** 10uF SCK1/RP39/INTO/RB7 16 SCK 0SC4<u>8</u>0SC1 TCK/CVREF10/ASCL1/SD01/RP40/T4CK/RB8 17 MISO RXOBF 11× TMS/ASDA1/SDI1/RP41/RB9 18 MOSI 9 VSS $\rightarrow$ RX1BF 10 X TDO/RP42/RB10 21 CAN\_INT GND GND 22 CLKOUT $\triangle$ BATT\_CURR\_AMP ANO/OA2OUT/RAO TDI/RP43/RB11 GND 3V3\_CURR\_AMP AN1/C2IN1+/RA1 RPI44/RB12 0SC1 9 OSC1/CLKI/RA2 RPI45/CTPLS/RB13 OSC2 10 OSC2/CLKO/RA3 - R5 C1 RPI46/T3CK/RB14 ≥ 500R PIC\_RX\_12 CVREF20/RP20/T1CK/RA4 R4 27pF 26 MAMA\_PWR\_EN RPI47/T5CK/RB15 ≥ 500R \_0SC3 Mama board power is on when MAMA\_PWR\_EN R9 is high. BLUE RED D5 Y2 $\mathbf{A}$ 12MHz MOSI\_\_\_\_IROM ≥ 500R 150120BS75000 🗸 D4 156120RS75000 D4 OSC4 <u>ш</u> 3 GND MISO\_\_\_\_OMISO WHITE $\uparrow$ $\uparrow$ 27pF $\rightarrow$ To logger board D3 C2 CS\_2\_\_\_\_\_CS\_2 GND GND QBLP650-IW GND GND SCK\_\_\_\_GSCK Debugging LEDs Vs = 5V $\Rightarrow$ C9 GND 27pF \_OSC1

12MHz OSC2

GND

27pF C10

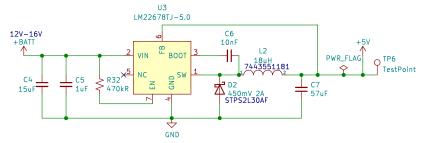


LM22678TJ-5.0/NOPB is a buck converter.

lout: 1.5A

Values are taken from WEBENCH power designer https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=2053C05C03E5ECAE

https://drive.google.com/file/d/13pYM-p7NzZnNQYZXknj9P6BV4uZ4R9wv/view?usp=sharing

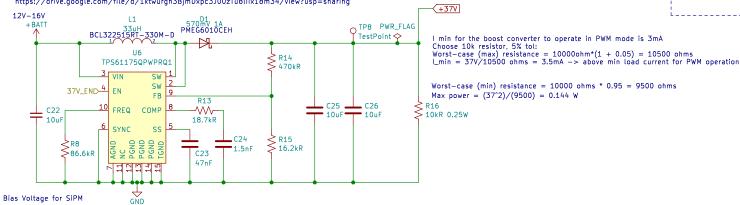


TPS61175 is a boost converter.

Max lout rating: 3A

Values are taken from WEBENCH power designer https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=944A159EFA65DE89

https://drive.google.com/file/d/1ktwurgh3BjmDxpc3J00zTu8llix18m34/view?usp=sharing



MCU, CAN, SDcard power supply 66.25mR \* I \* 200v/v = 5.3V Imax = 400mA

