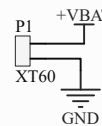


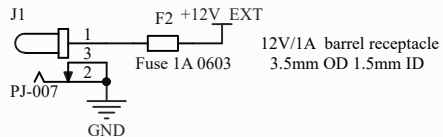
1

## Battery Connector



6S LiPo: 22.2V-25.2V

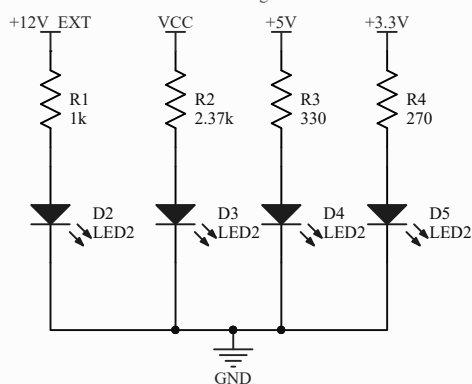
## Barrel Connector



2

## LEDs

10mA-15mA through each

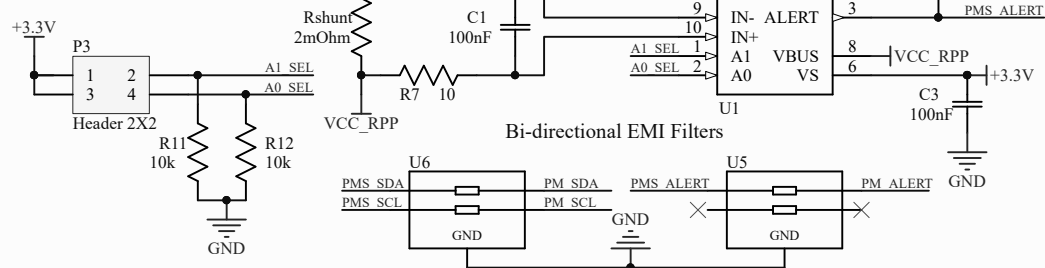


3

## INA226 Slave Address Selector

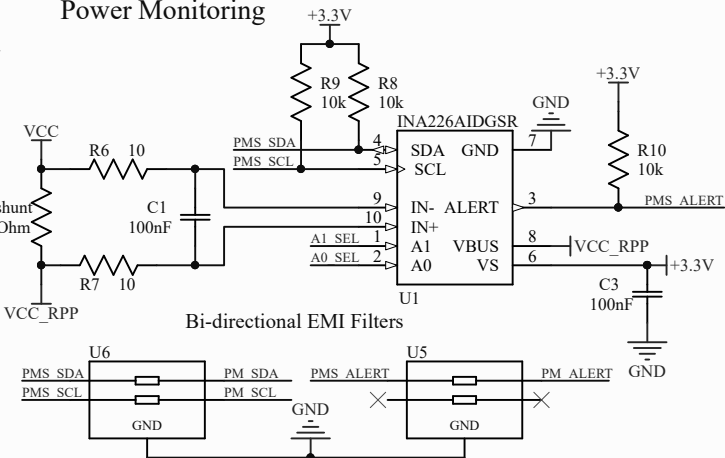
Jumpers used to connect 1->2 and 3->4. Pull-downs to pull to GND if jumpers not connected.

A1=A0=GND, Slave address is 1000000



4

## Power Monitoring



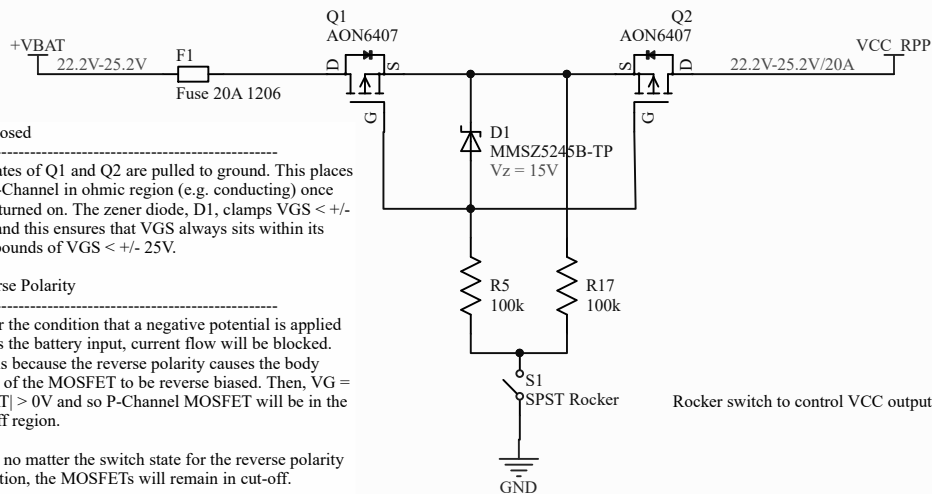
A

A

B

B

## Reverse Polarity Protection



S1 Closed

the gates of Q1 and Q2 are pulled to ground. This places the P-Channel in ohmic region (e.g. conducting) once fully turned on. The zener diode, D1, clamps VGS < +/- 15V and this ensures that VGS always sits within its safe bounds of VGS < +/- 25V.

Reverse Polarity

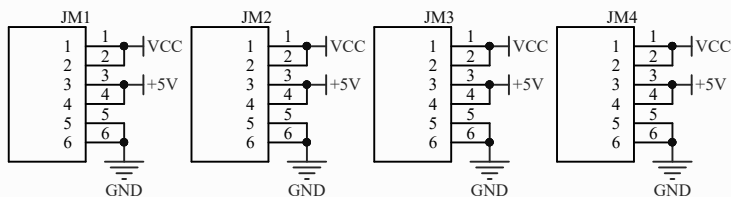
Under the condition that a negative potential is applied across the battery input, current flow will be blocked. This is because the reverse polarity causes the body diode of the MOSFET to be reverse biased. Then,  $V_G = |V_{BAT}| > 0V$  and so P-Channel MOSFET will be in the cut-off region.

Note: no matter the switch state for the reverse polarity condition, the MOSFETs will remain in cut-off.

Rocker switch to control VCC output

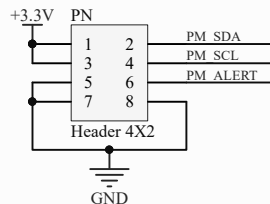
## Motor Connectors

VCC for motor windings, +5V for Hall sensors



## Nucleo Connector

Power monitor lines and +3.3V for Nucleo



1

2

3

4

D

D

Title		
Power Distribution - 2nd Revision		
Size	Number	Revision
A4		2
Date:	2019-12-25	Sheet of
File:	C:\Users\A\PowerBoard_Rev2.SchDoc	Drawn By: Hannah Sawiuk