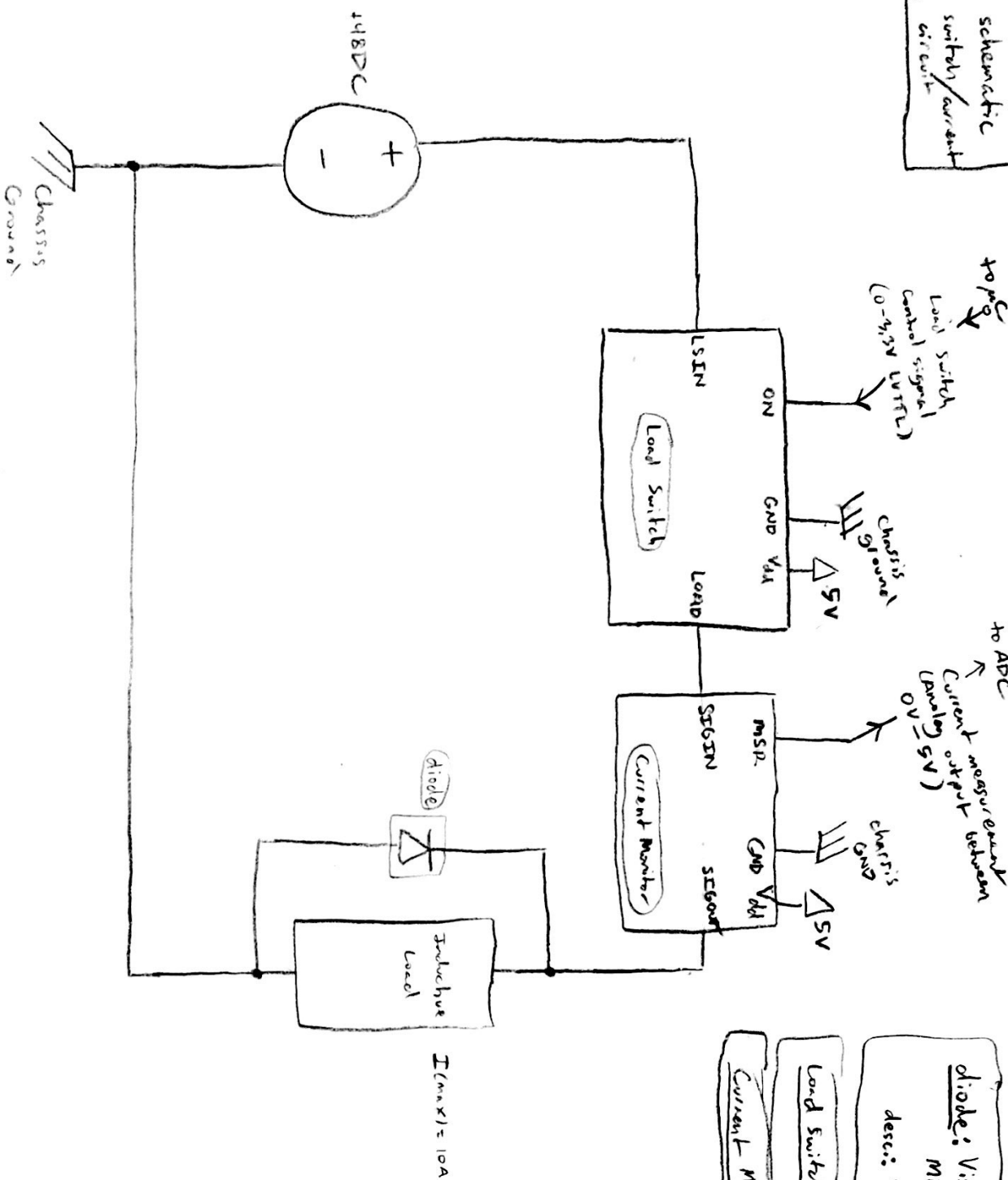


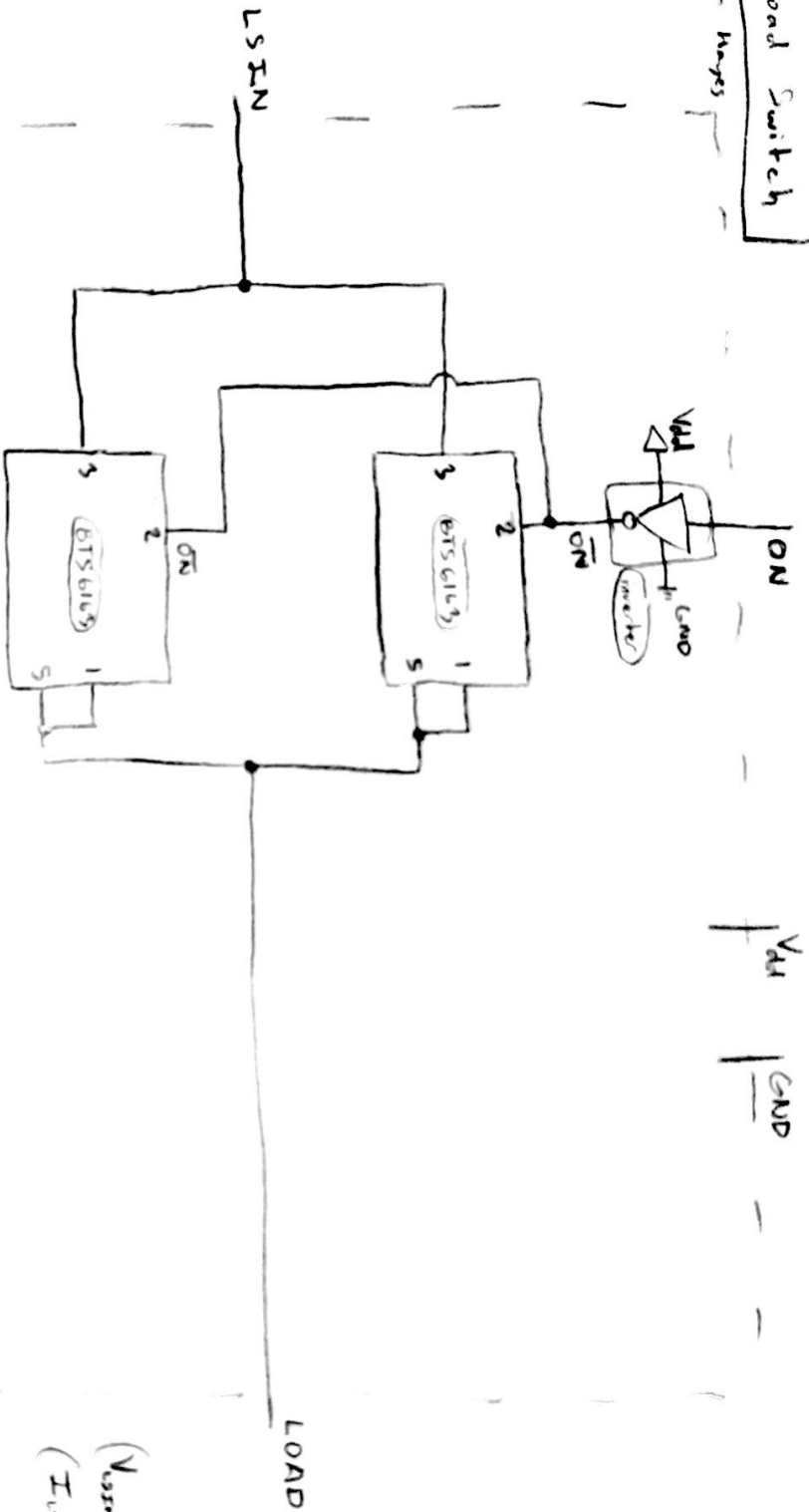
Top level schematic for load switch/current monitoring circuit
 Connor Hayes



- diode: Vishay Semiconductor MBRB1030
 desc: 50V 10A Schottky diode
 V_f I_F
- Load Switch: see pg. 2
- Current Monitor: see pg. 3

Load Switch

Control Signals



V_{dd} GND

inverter: Fairchild UC752 14MSX
des: inverter taking
1.65-5.5V voltage supply
comply to LVTTL

$$(V_{DSM} - V_{DSO})_{max} = 62V$$

$$(I_{DSM} \approx I_{DSO})_{max} = 11A$$

this easily
beats the 80ms
requirement.

BTS6163 specs

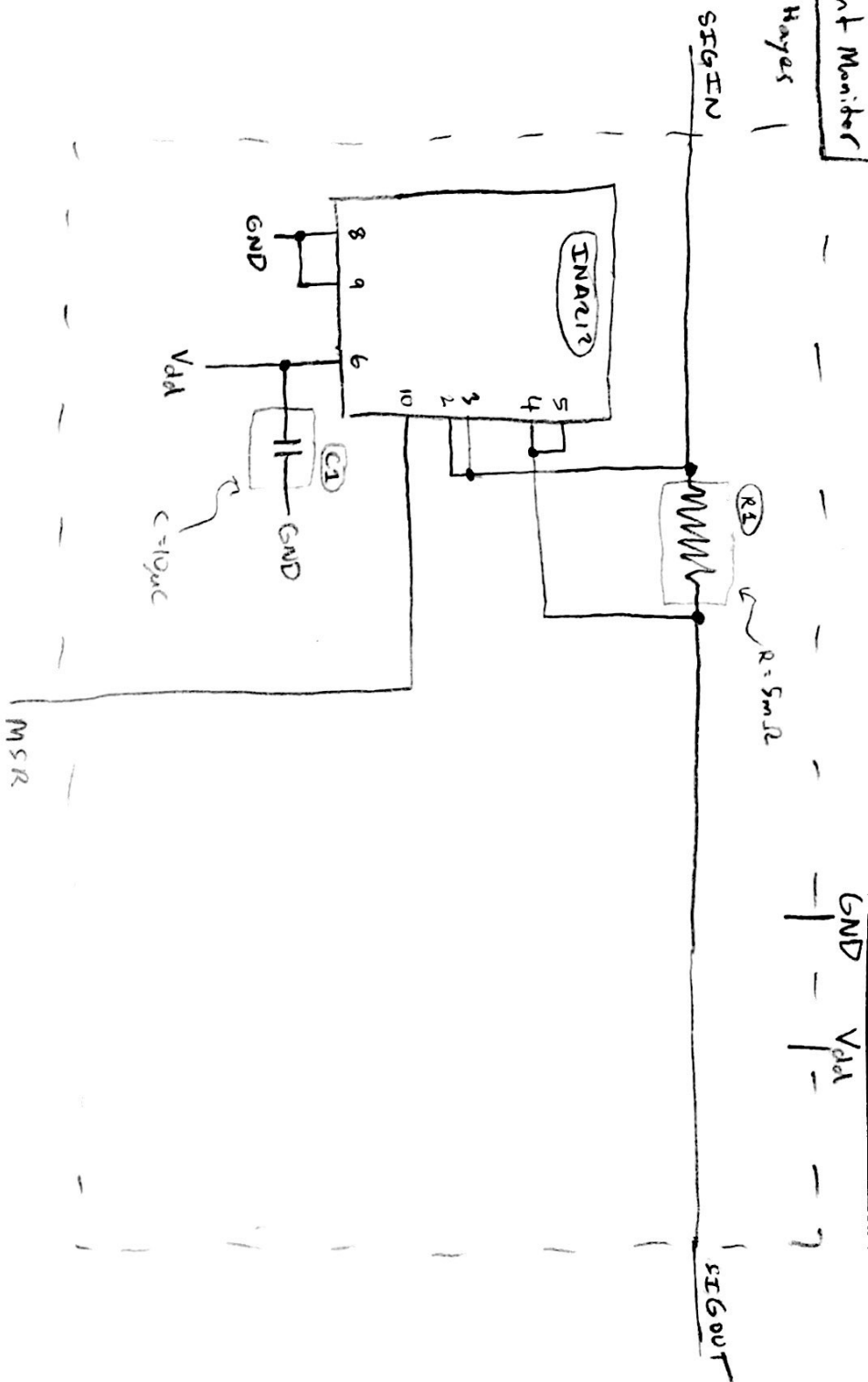
max turn-on time @ $I_{DSO} = 3.9A$: 300ns
Operating Voltage : 5.5 - 62V
Nominal Current : 5.5A

45-60V
is fine.

since we have
2 in parallel,
nominal I_{DSM} is 11A

BTS6163 pin mapping (see datasheet for more details)

- 1 - OUT
 - 2 - IN
 - 3 - V_{dd}
 - 4 - IS
 - 5 - OUT
- not used/left floating



INA212 Pin Mapping (see datasheet for more)

- 1 - NC
- 2 - IN+
- 3 - IN+
- 4 - IN-
- 5 - IN-
- 6 - V+ (power supply, rated for 2.7-2.6V nominal 5V)
- 7 - NC
- 8 - REF (grounded in this case)
- 9 - GND
- 10 - OUT

R1: Vishay Foil Resistor
Y14880R0050089R
desc: high precision
5mΩ resistor

C1: Panasonic Aluminum
electrolytic capacitors
EEE-1CA100SR
desc: standard 10μF
capacitor