ADC

C1
10 pf

100K
R1
4.5V

R2   4.5V
7.5K

R3
1.2K

3.3K   3.3V
R4
0V

SFH203
D1

2 −
8
LM358N
1
3 +
4   IC1A
4.5V
0V

IC2
1 CH0   VDD 16   3.3V
2 CH1   VREF 15   0V
3 CH2   AGND 14
4 CH3   CLK 13   CLK
5 CH4   DOUT 12   MISO
6 CH5   DIN 11   MOSI
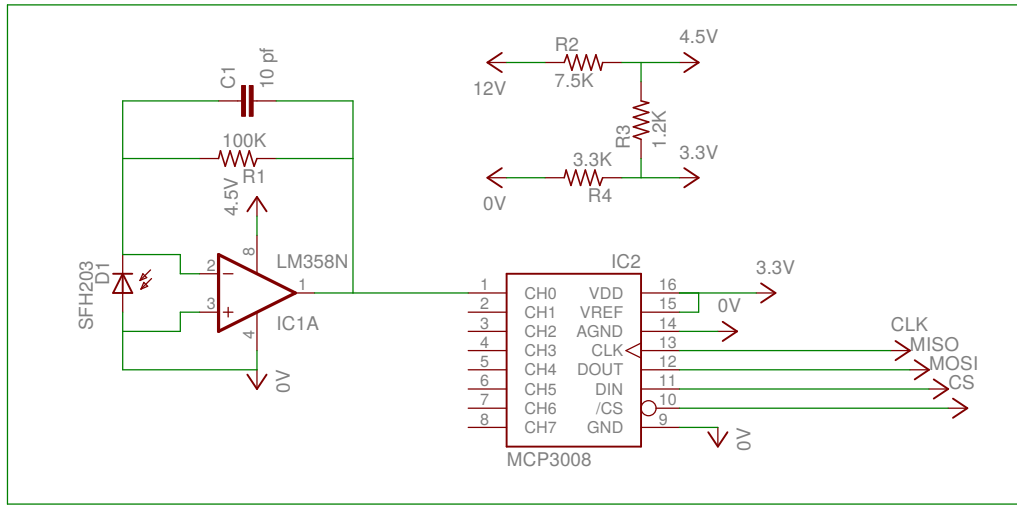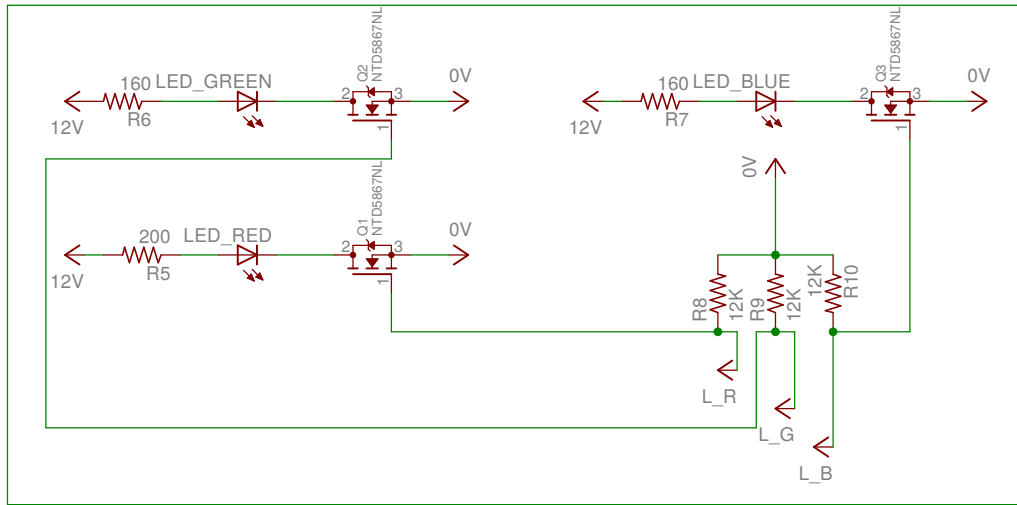7 CH6   /CS 10   CS
8 CH7   GND 9   0V
MCP3008

LEDS

forward voltage
red   - 1.8V
green - 3.2V
blue - 3.2V

160 LED_GREEN
R6
12V

Q2
NTD5867NL
2   3
1
0V

160 LED_BLUE
R7
12V

Q3
NTD5867NL
2   3
1
0V

200 LED_RED
R5
12V

Q1
NTD5867NL
2   3
1
0V

0V

R8 12K
R9 12K
R10 12K

L_R
L_G
L_B

Pinout

J2
12V
0V

J1
CLK
MISO
MOSI
CS
L_B
L_G
L_R