

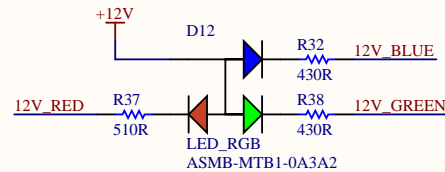
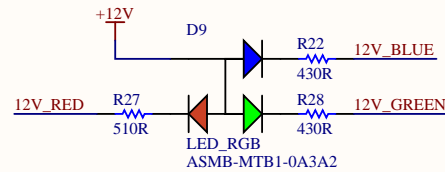
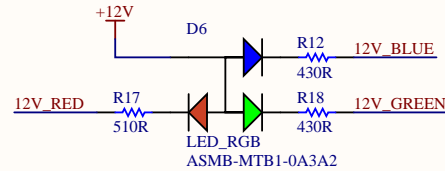
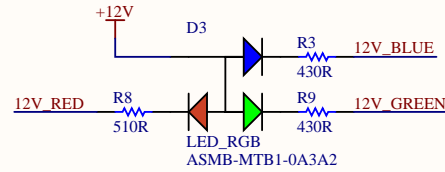
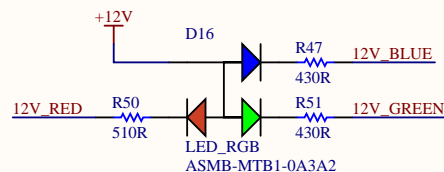
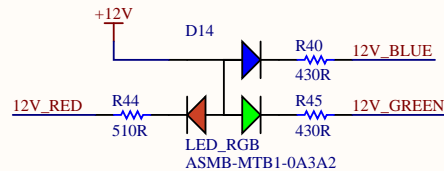
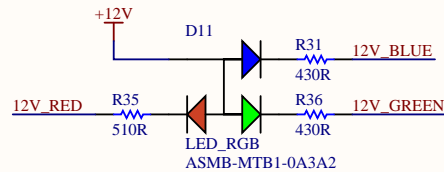
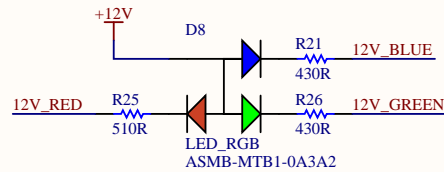
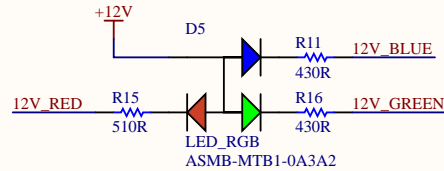
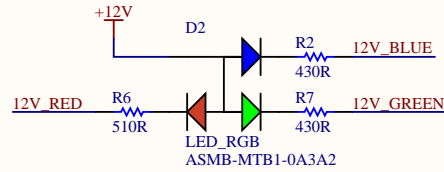
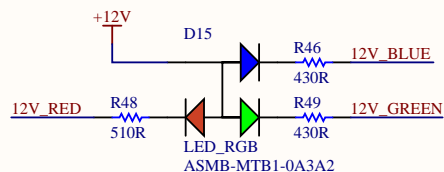
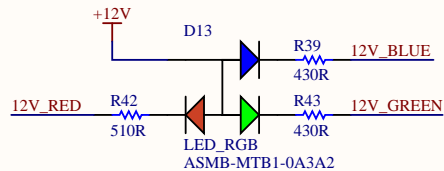
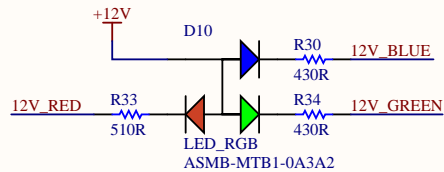
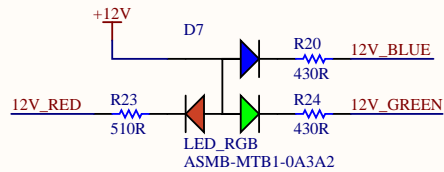
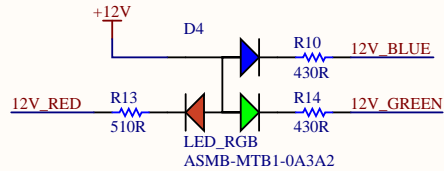
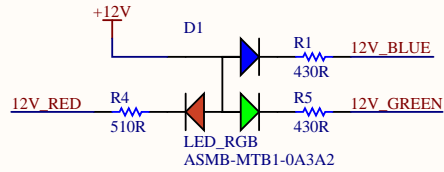
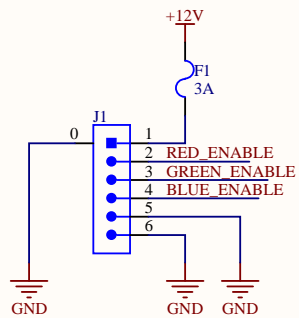
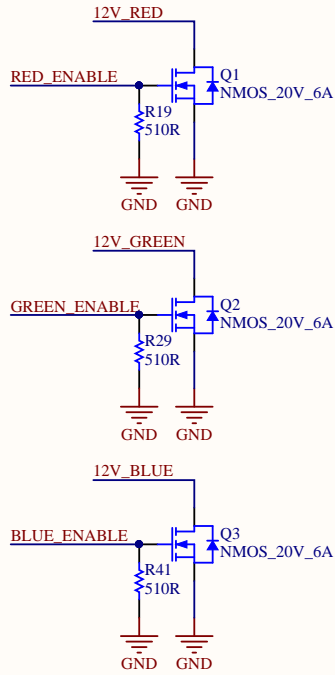
▲ LED Current Calculation
Supply Voltage: 12V
Red LED voltage drop: 2.1V
Green/Blue LED voltage drop: 3.1V


Current through red LEDs
- $I = (12V - 2.1V) / 510R = 19.41mA$

Current through blue/green LEDs
- $I = (12V - 3.1V) / 430R = 20.70mA$

Total current through Q1:
- $I = 19.41mA * 32 = 621.12\text{ mA}$

Total current through Q2/Q3:
- $I = 20.70mA * 32 = 662.4\text{ mA}$



Title *		* * * *	
Size: Letter	Drawn By: Tony Liu, Kyle Hong		
Date: 2020-03-16	Sheet1 of 1		
File: C:\Users\Shu_Yan\Documents\GitHub\MarsRover2020-PCB\Projects\LED_Matrix\rev1\LED_Matrix_SchDoc			

