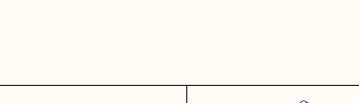
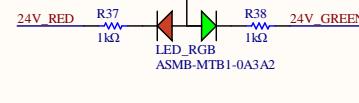
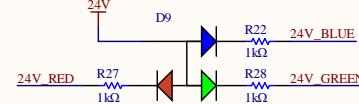
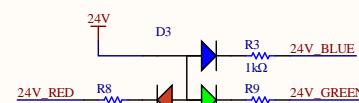
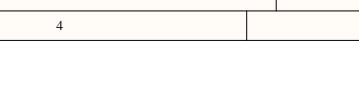
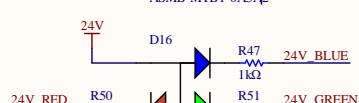
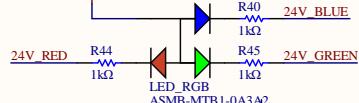
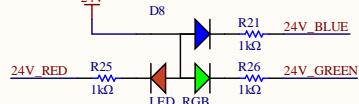
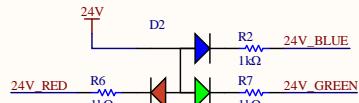
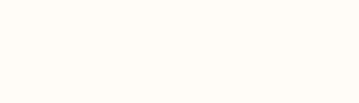
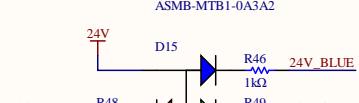
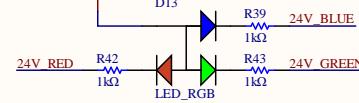
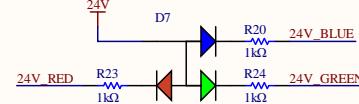
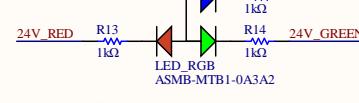
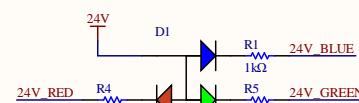
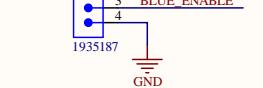
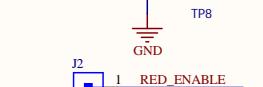
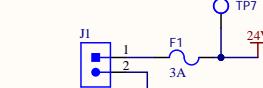
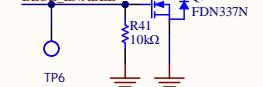
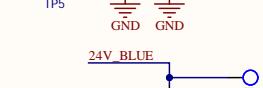
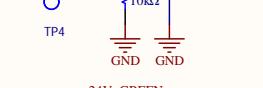
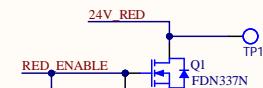


**LED Resistance Calculation**  
 Red LED voltage drop: 2.1V  
 Green/Blue LED voltage drop: 3.1V

Resistance for red LEDs:  
 $R = (24V - 2.1V)/20mA = 1095 \text{ ohms}$

Resistance for blue & green LEDs:  
 $R = (24V - 3.1V)/20mA = 1045 \text{ ohms}$



Title: LED Matrix Page 1

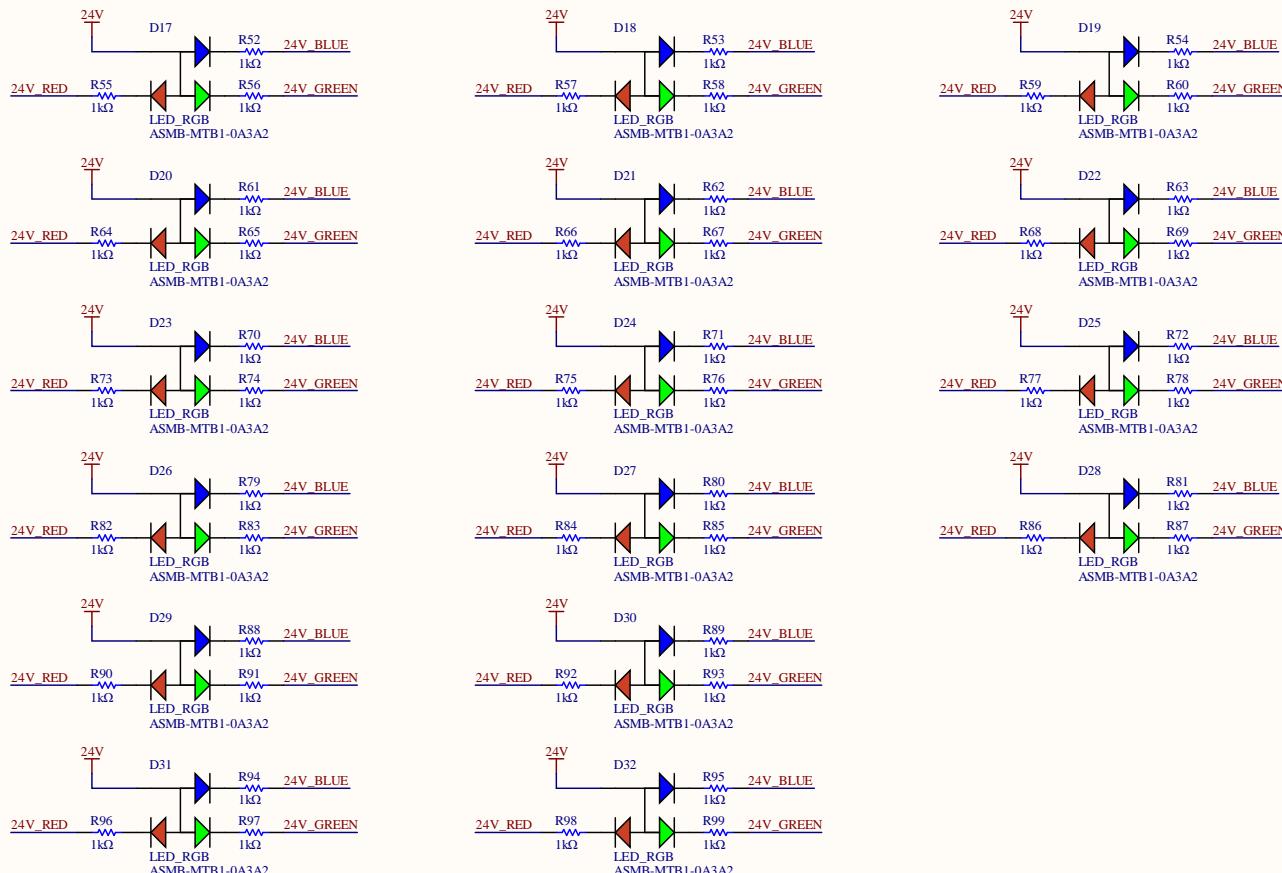
Project: LED Matrix.PnjPcb

Rev: 1 Reviewer: Lance Bantoto

Engineer: Emily Adam\*

Date: 2020-12-05 Sheet: 1 of 2





Title: LED Matrix Page 2	
Project: LED Matrix.PnjPcb	
Rev: 1	Reviewer: Lance Bantoto
Engineer: Emily Adam	Date: 2020-12-05 Sheet: 2 of 2

