

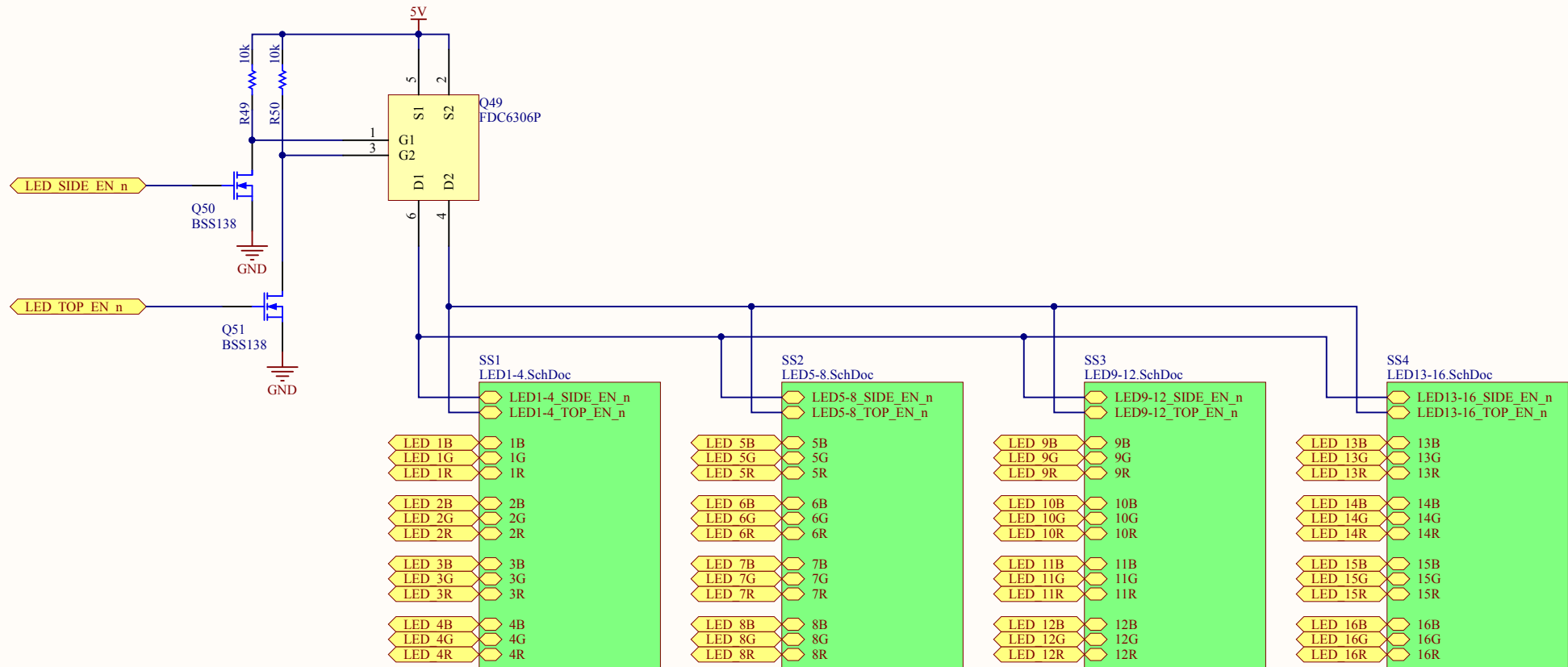
	1	2	3	4	
A	<div> <div>SS7</div> <div>DC Motors.SchDoc</div> <div> <div>MOTOR1_EN</div> <div>MOTOR1_1</div> <div>MOTOR1_2</div> <div>MOTOR2_EN</div> <div>MOTOR2_1</div> <div>MOTOR2_2</div> </div> </div>			<div> <div>SS5</div> <div>LEDs.SchDoc</div> <div> <div>LED_SIDE_EN_n</div> <div>LED_TOP_EN_n</div> <div>LED_1B</div> <div>LED_1G</div> <div>LED_1R</div> <div>LED_2B</div> <div>LED_2G</div> <div>LED_2R</div> <div>LED_3B</div> <div>LED_3G</div> <div>LED_3R</div> <div>LED_4B</div> <div>LED_4G</div> <div>LED_4R</div> <div>LED_5B</div> <div>LED_5G</div> <div>LED_5R</div> <div>LED_6B</div> <div>LED_6G</div> <div>LED_6R</div> <div>LED_7B</div> <div>LED_7G</div> <div>LED_7R</div> <div>LED_8B</div> <div>LED_8G</div> <div>LED_8R</div> <div>LED_9B</div> <div>LED_9G</div> <div>LED_9R</div> <div>LED_10B</div> <div>LED_10G</div> <div>LED_10R</div> <div>LED_11B</div> <div>LED_11G</div> <div>LED_11R</div> <div>LED_12B</div> <div>LED_12G</div> <div>LED_12R</div> <div>LED_13B</div> <div>LED_13G</div> <div>LED_13R</div> <div>LED_14B</div> <div>LED_14G</div> <div>LED_14R</div> <div>LED_15B</div> <div>LED_15G</div> <div>LED_15R</div> <div>LED_16B</div> <div>LED_16G</div> <div>LED_16R</div> </div> </div>	A
B	<div> <div>SS6</div> <div>Power Supply.SchDoc</div> <div> <div>5V_SHDN_n</div> <div>12V_SHDN_n</div> <div>LOW_BATT_3V</div> <div>LOW_BATT_2.8V</div> </div> </div>				B
C	<div> <div>SS8</div> <div>Light Sensors.SchDoc</div> <div> <div>LS1</div> <div>LS2</div> <div>LS3</div> <div>LS4</div> <div>LS5</div> <div>LS6</div> <div>LS7</div> <div>LS8</div> <div>LS9</div> <div>LS10</div> <div>LS11</div> <div>LS12</div> <div>LS13</div> <div>LS14</div> <div>LS15</div> <div>LS16</div> </div> </div>				C
D				<div> <div>Title</div> <div>PSoC.SchDoc</div> <div> <div>Size</div> <div>A4</div> <div>Number</div> <div>1</div> <div>Revision</div> <div>A</div> </div> <div> <div>Date:</div> <div>30/09/2014</div> <div>Sheet of</div> <div>6</div> </div> <div> <div>File:</div> <div>C:\Users\...\PSoC.SchDoc</div> <div>Drawn By:</div> <div>Nick D'Ademo</div> </div> </div>	D
	1	2	3	4	

▲ All LEDs have been set to 20mA forward current for 5V via:
RED: R=150R
GREEN: R=91R
BLUE: R=91R

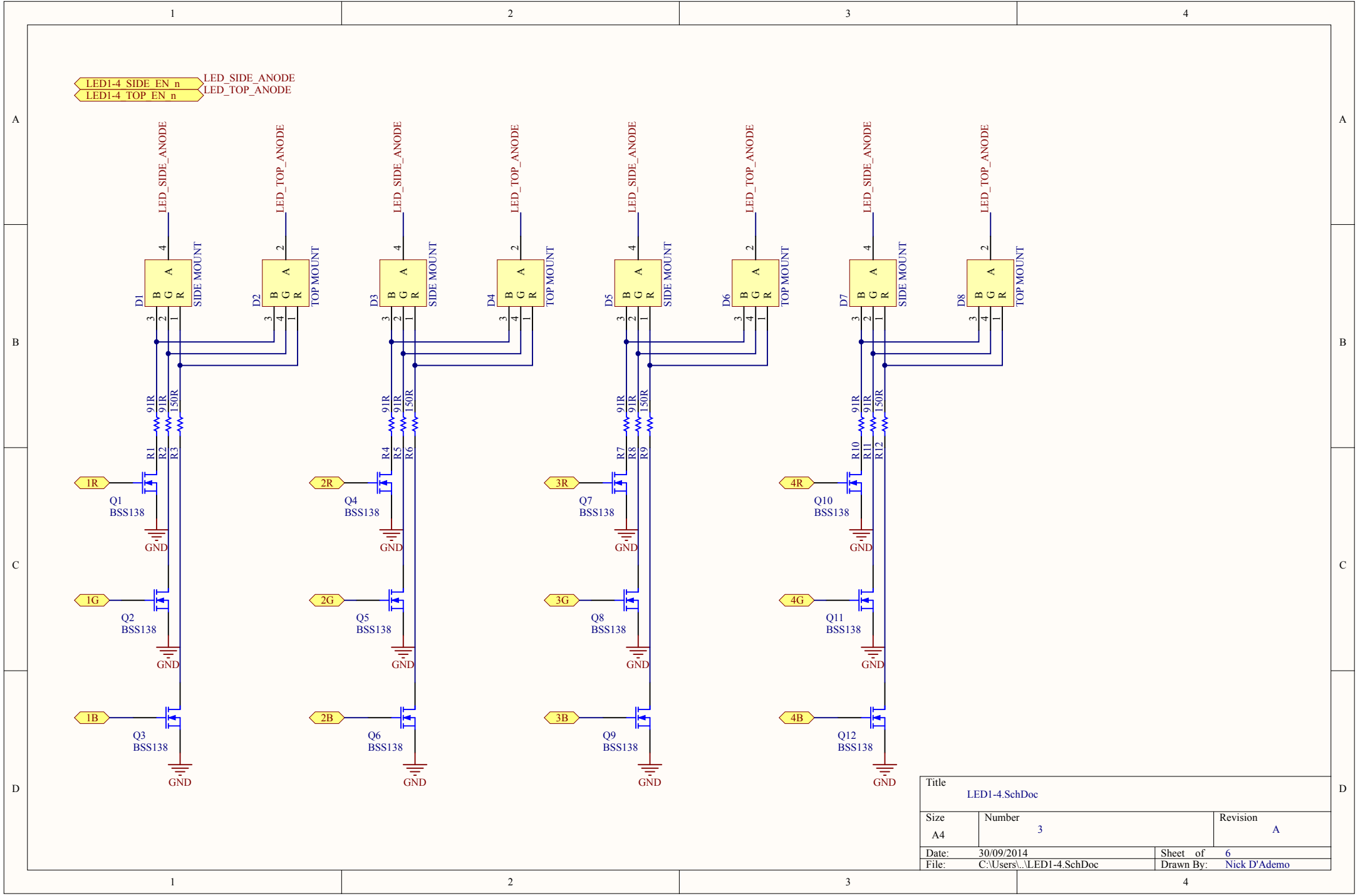
▲ SIDE LED:
Vf @ If=20mA (Min->Typ->Max):
RED: 1.8->2.0->2.4V
GREEN: 3.0->3.3->3.6V
BLUE: 3.0->3.3->3.6V

▲ TOP LED:
Vf @ If=20mA (Avg->Max):
RED: 2.0->2.6V
GREEN: 3.2->4.0V
BLUE: 3.2->4.0V

CLV1A-FKB-CJ1M1F1BB7R4S3: 675med Red, 1055med Green, 337med Blue
CLV1A-FKB-CK1N1G1BB7R4S3: 730med Red, 1150med Green, 365med Blue



Title			
Size	Number	Revision	
A4	2	A	
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Title		
LED1-4.SchDoc		
Size	Number	Revision
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Date:	30/09/2014	Sheet of 6
File:	C:\Users\...\LED1-4.SchDoc	Drawn By: Nick D'Ademo

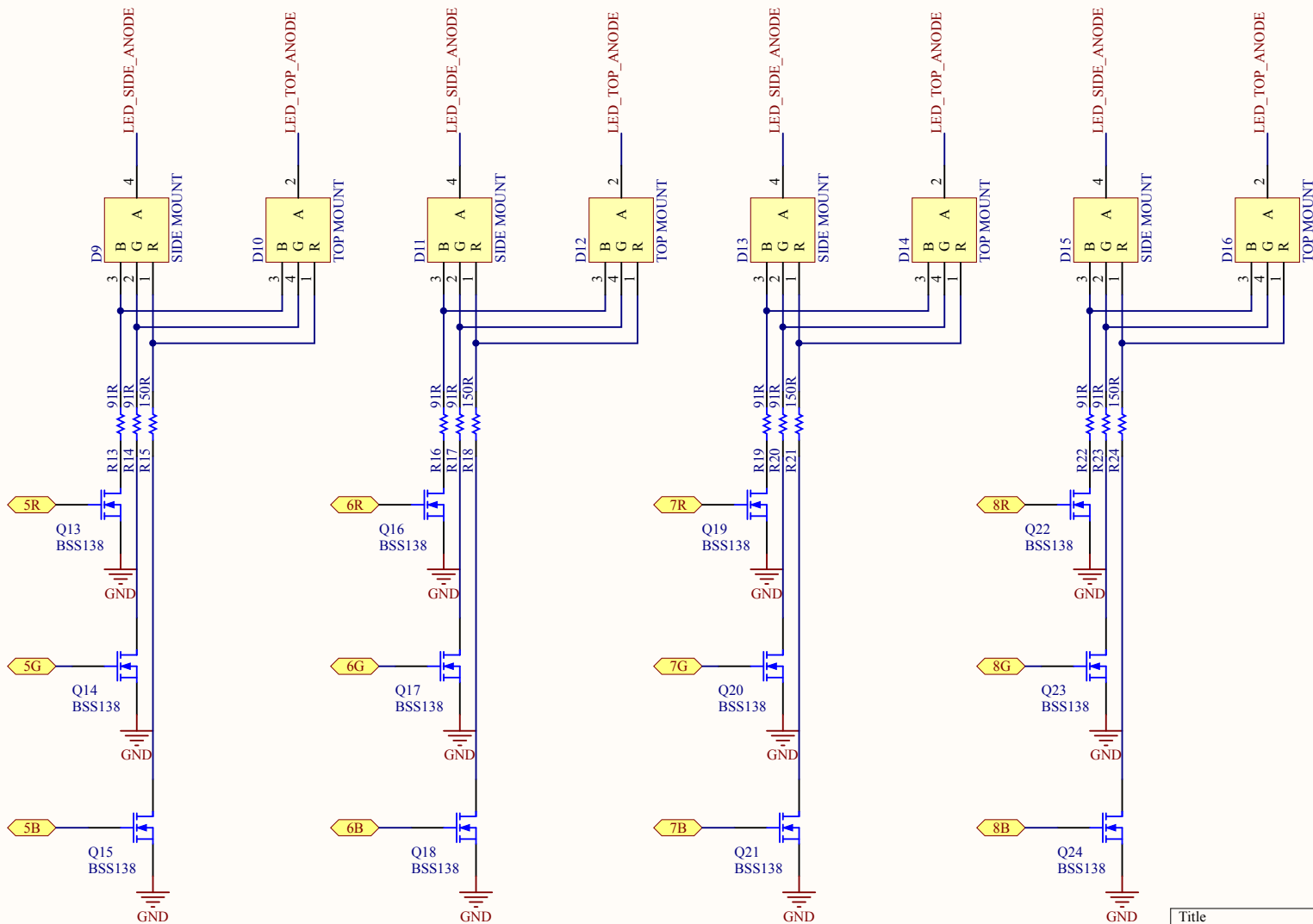
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LED5-8 SIDE EN_n LED_SIDE_ANODE
LED5-8 TOP EN_n LED_TOP_ANODE



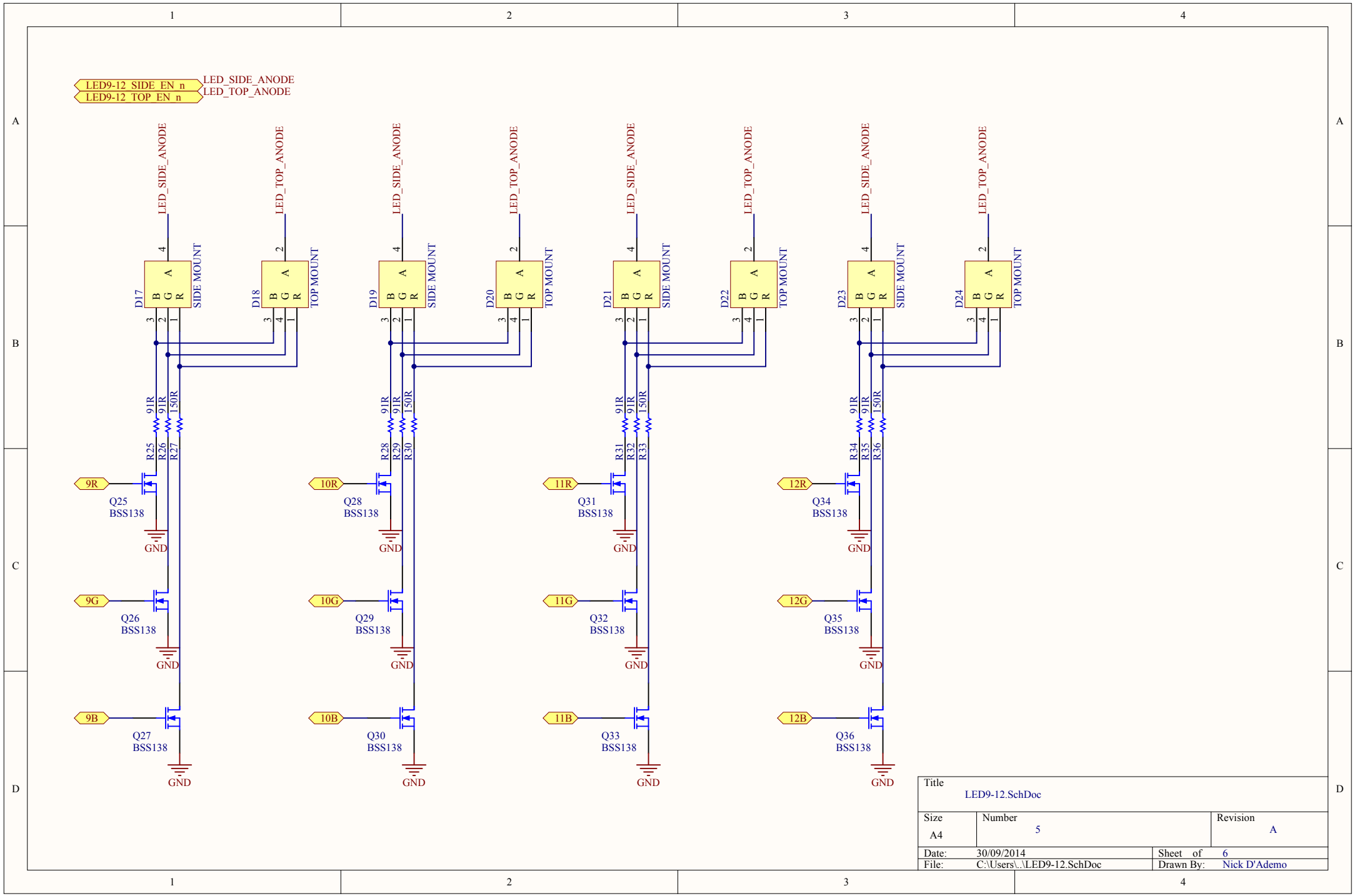
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Size A4	Number 4	Revision A
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File: C:\Users\...\LED5-8.SchDoc	Drawn By: Nick D'Ademo	

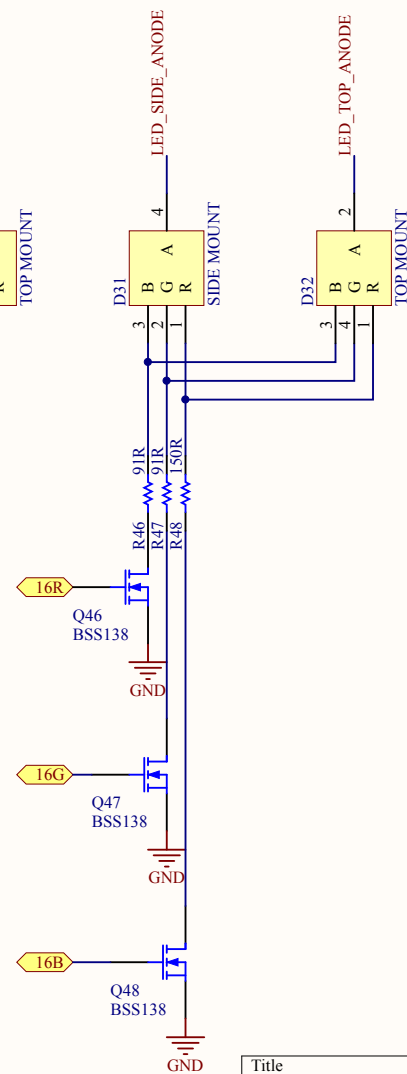
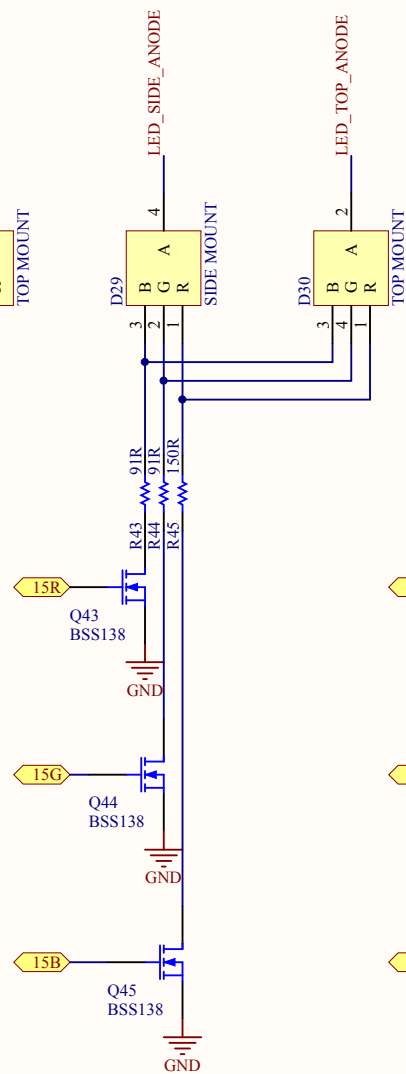
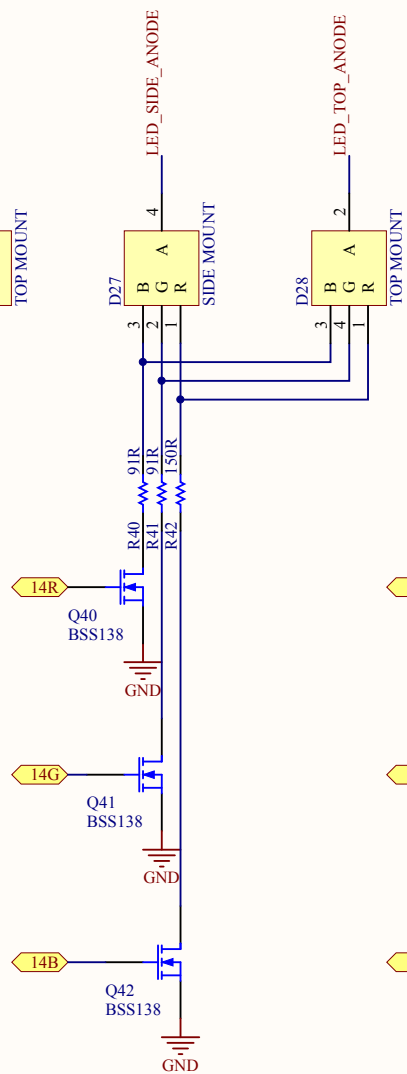
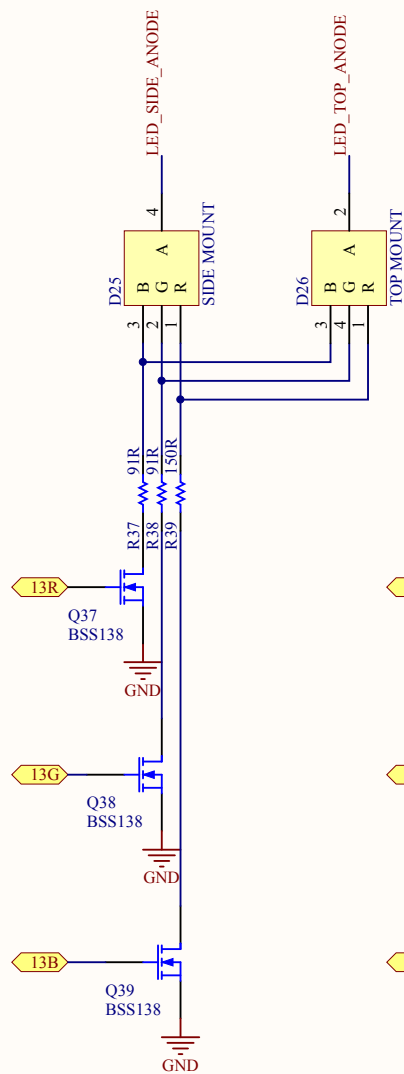
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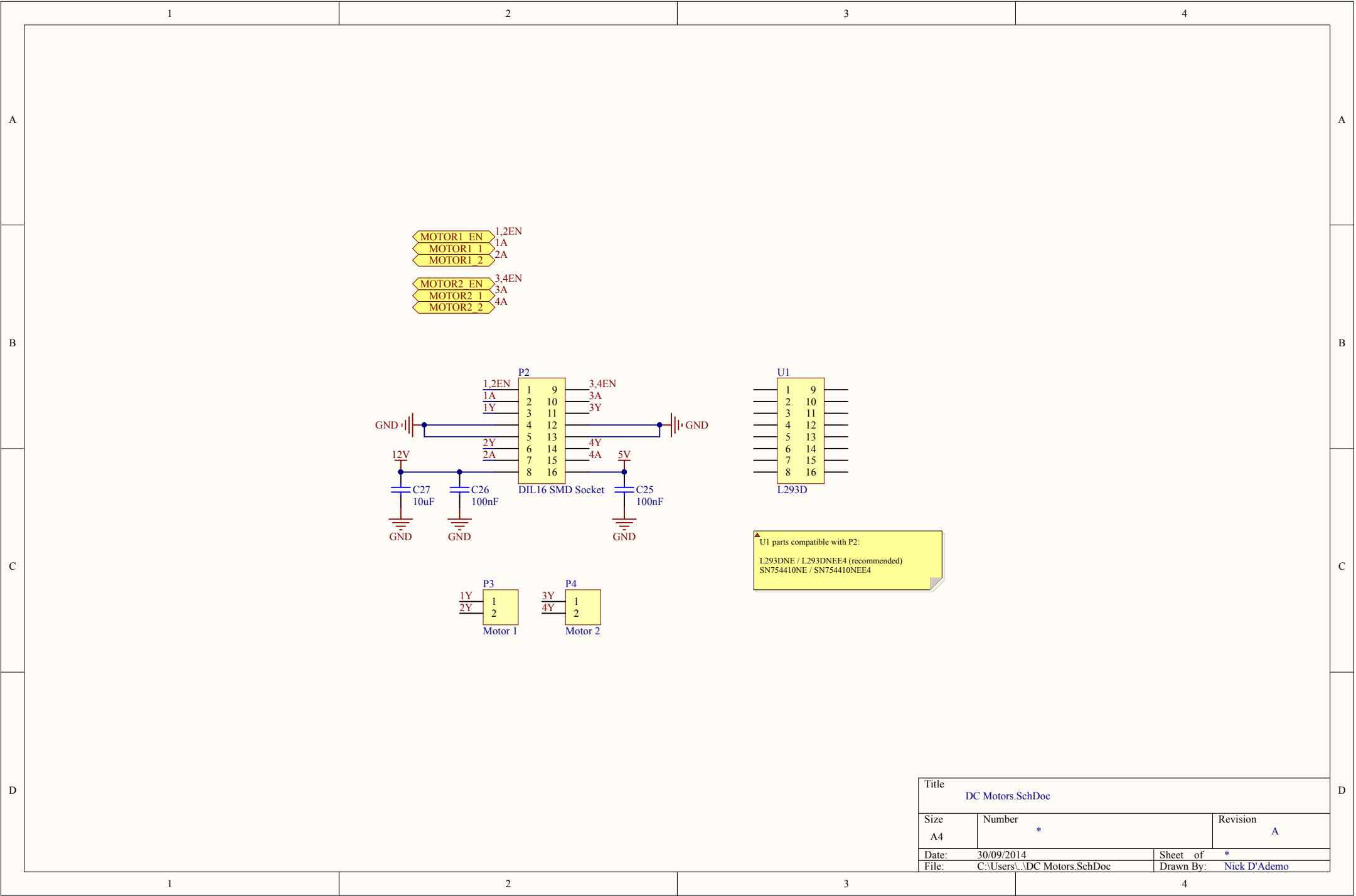
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4





Title LED13-16.SchDoc			
Size A4	Number 6		Revision A
Date:	30/09/2014	Sheet of	6
File:	C:\Users\... \LED13-16.SchDoc	Drawn By:	Nick D'Ademo



▲ AMS light sensors (www.ams.com) have the following pin-outs:
GND - 1
VDD - 2
OUT - 3

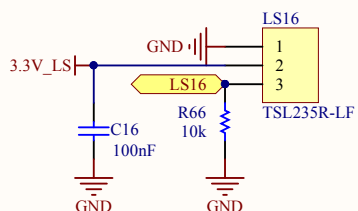
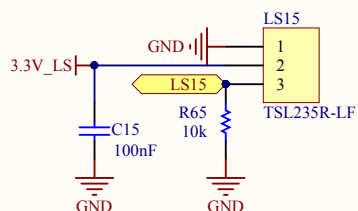
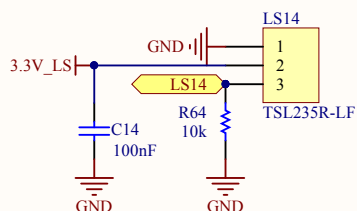
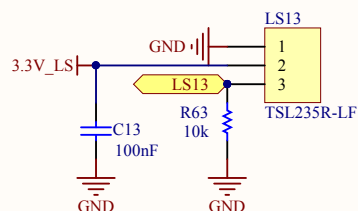
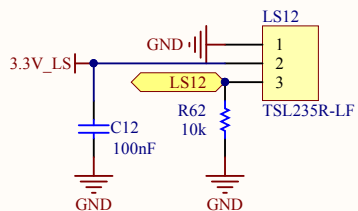
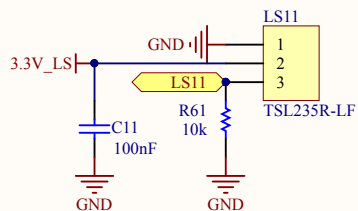
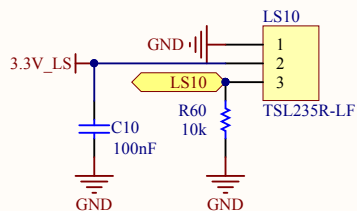
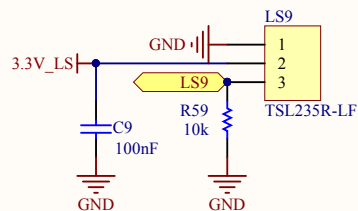
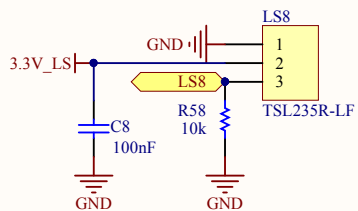
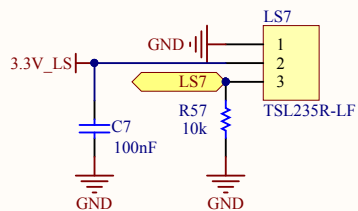
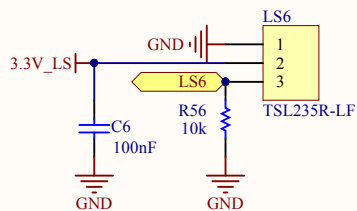
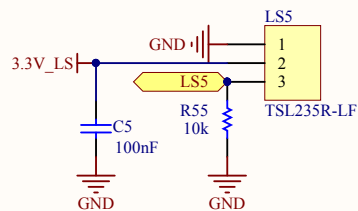
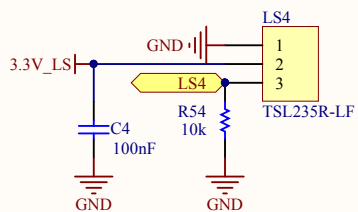
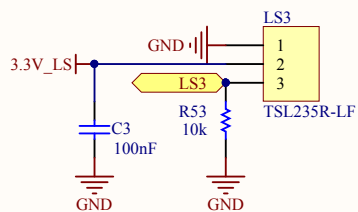
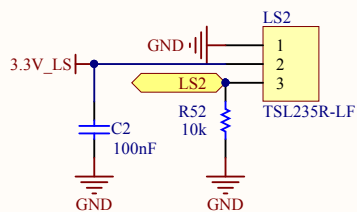
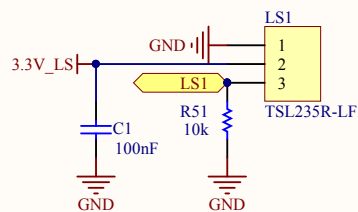
Light-to-Frequency parts:

TSL235
TSL237
TSL245 (IR light)

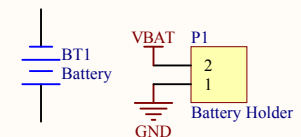
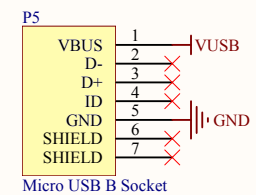
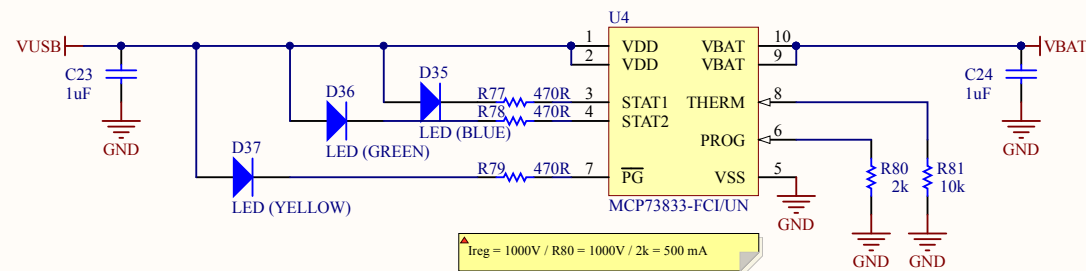
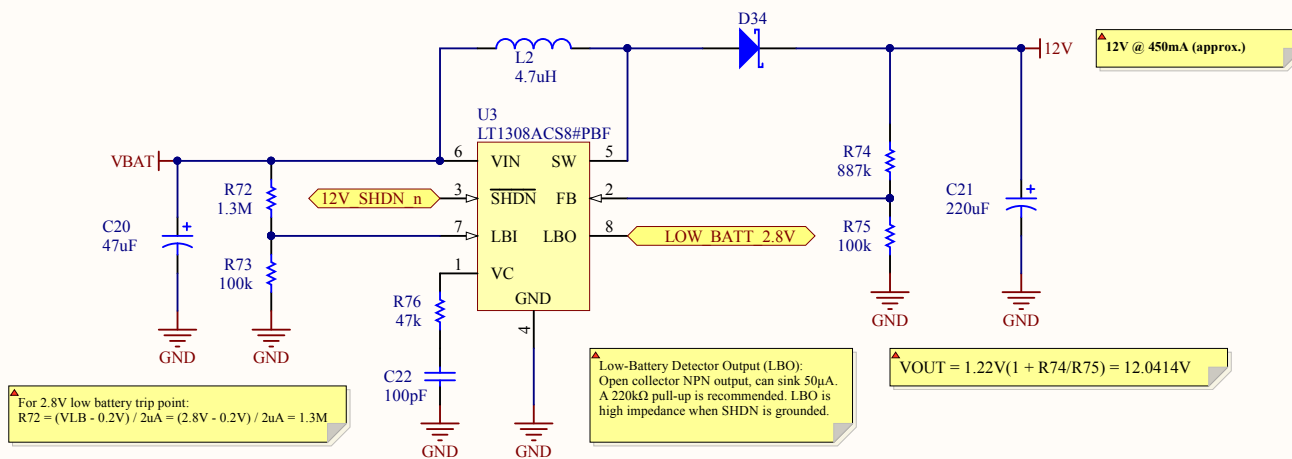
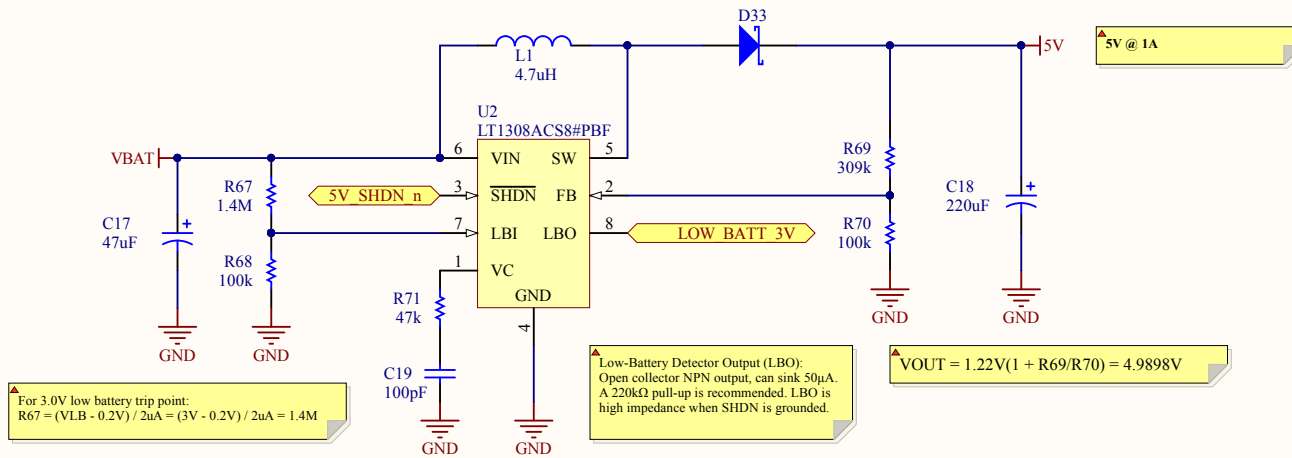
Light-to-Voltage parts:

TSL125
TSL135
TSL145
TSL250R
TSL251R
TSL252R
TSL253R
TSL254R
TSL257
TSL260R
TSL261R
TSL262R
TSL267 (IR light)

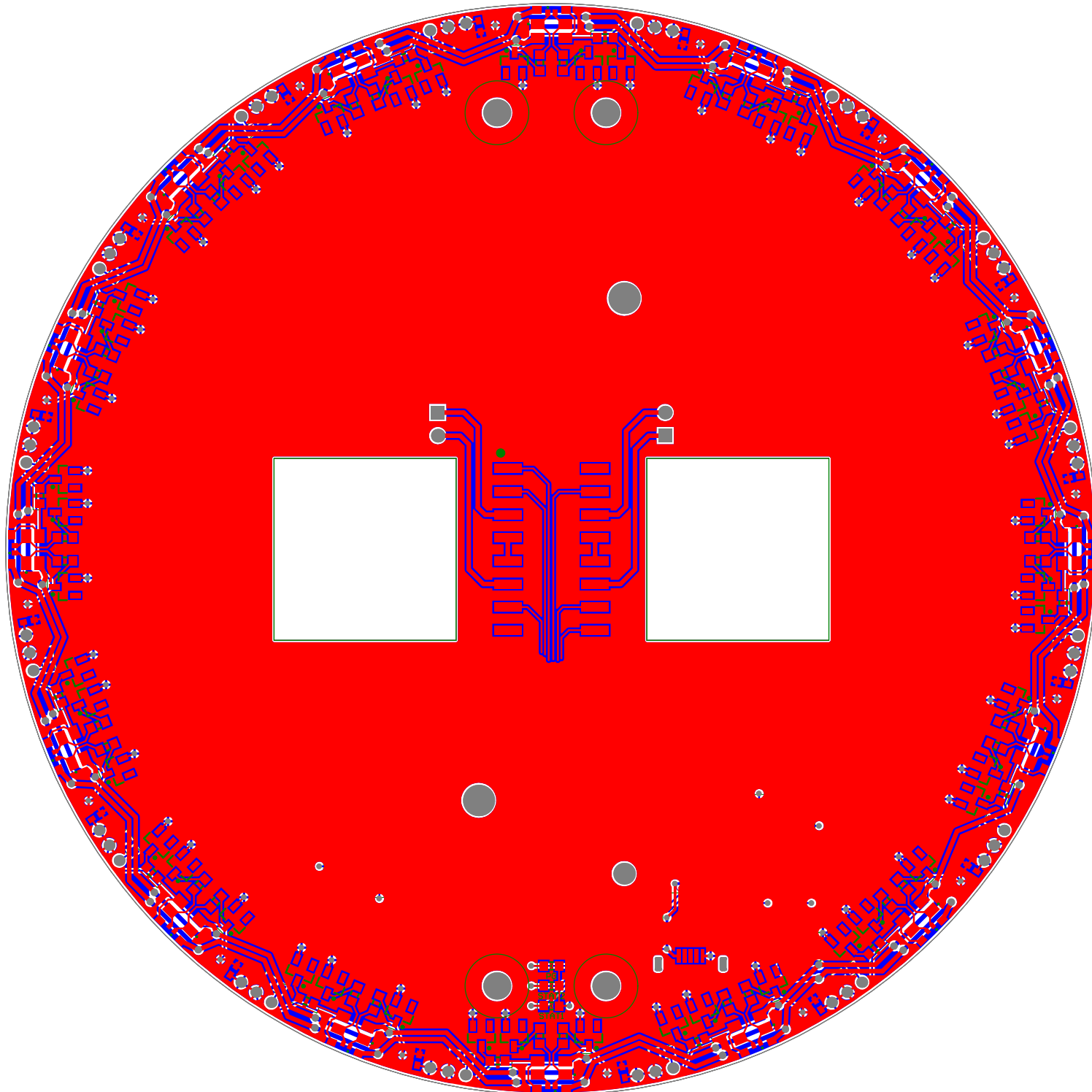
▲ Only install R51 to R66 if Light-to-Voltage parts are used.



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Title		
Power Supply.SchDoc		
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C27 C26 C25