


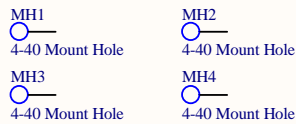
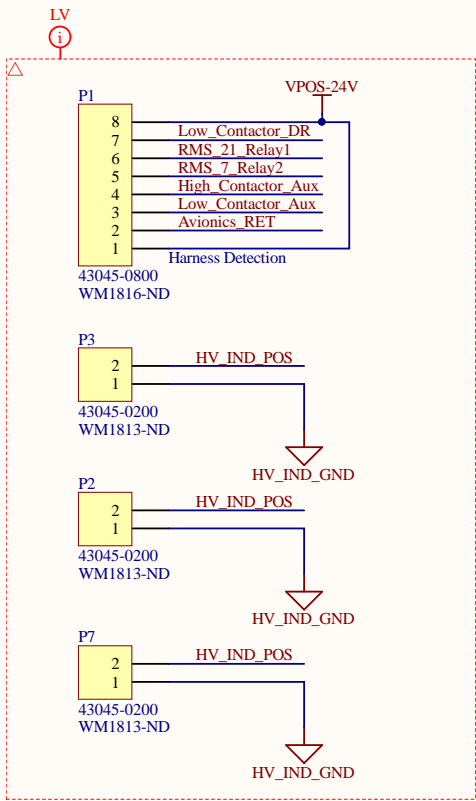
PRECHARGE

POD 5

REV 1

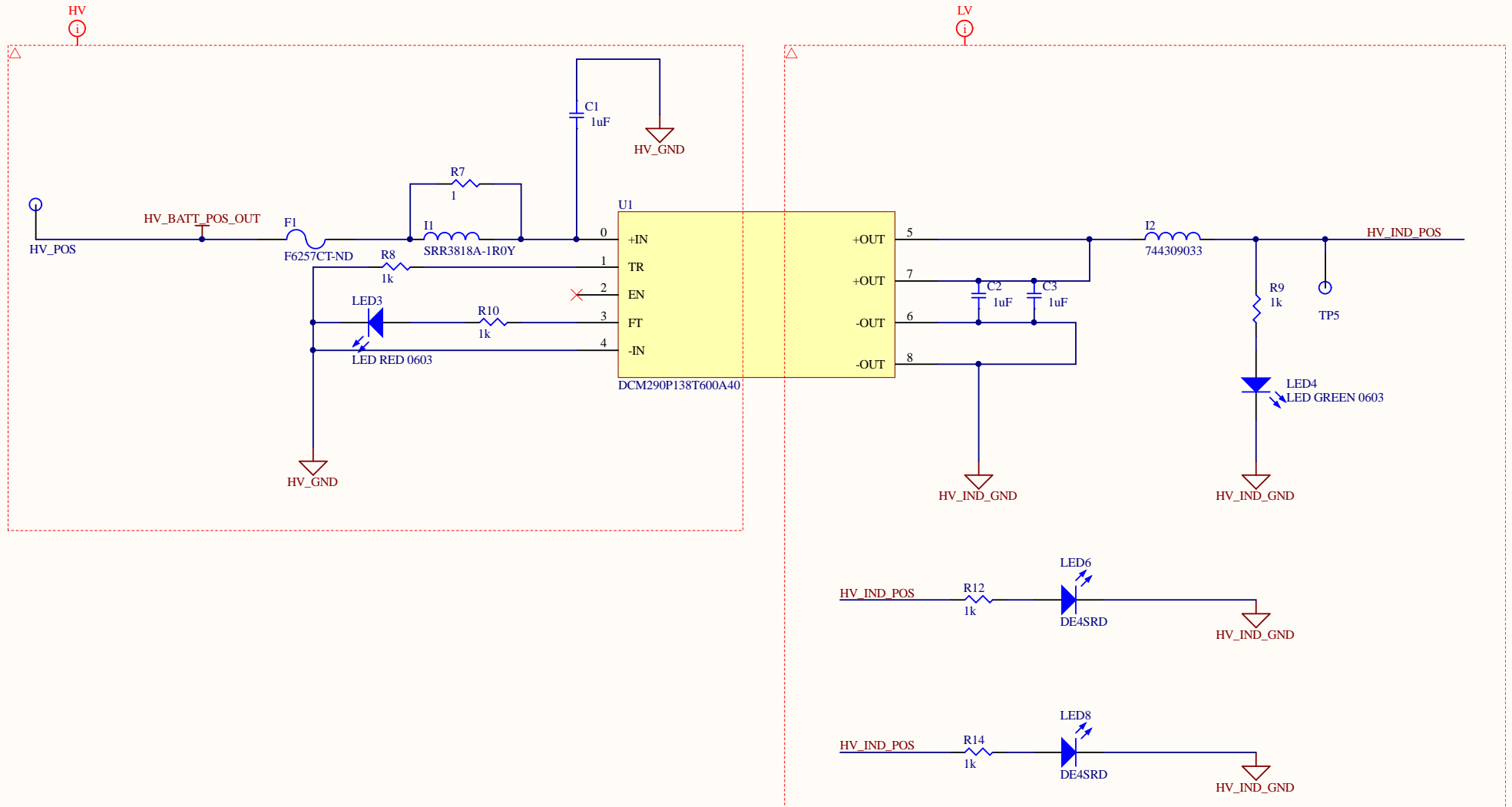
Title <i>Precharge</i>			Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, Wi 53706	
Engineer: Shelby Riggleman		Revision:1		
Date: 3/24/2020	Time: 4:44:43 PM	Sheet 1 of		
File: precharge.SchDoc				


Precharge Board Connectors



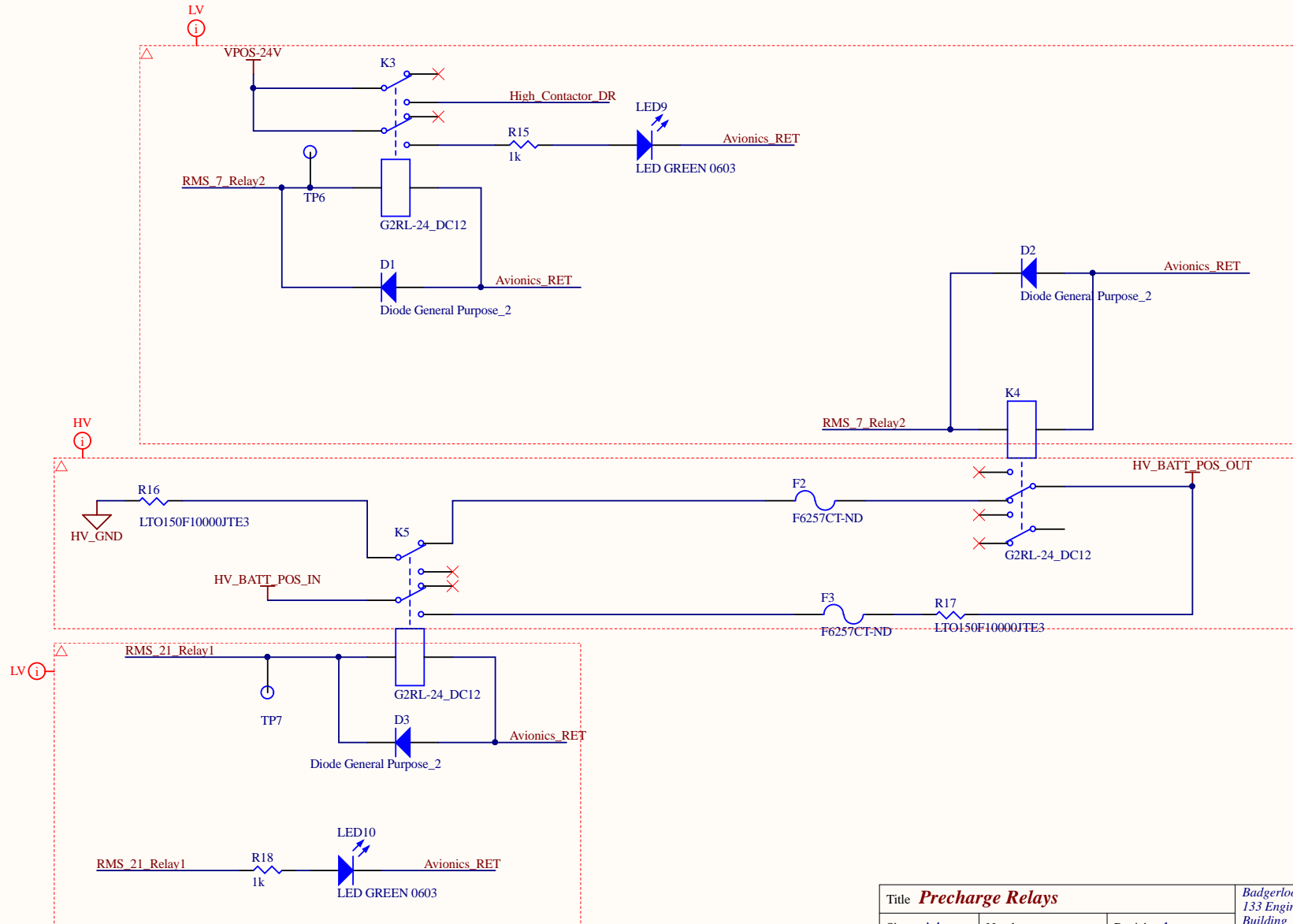
Title Connectors		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: Shelby Riggleman	Revision: 1	BADGER LOOP	
Date: 3/24/2020	Time: 4:44:43 PM		
File: connectors.SchDoc	Sheet 2 of		


High Voltage Indicator Light



Title <i>HV Indicator Light</i>			Badgerloop 133 Engineering Research Building Madison, WI 53715 
Size: A4	Number:	Revision: 1	
Date: 3/24/2020	Time: 4:44:43 PM	Sheet 3 of	
File: C:\Users\Windows PC\Desktop\Badgerloop\git_repos\hardware\precharge\indicator_light.SchDoc			

Precharge Relays

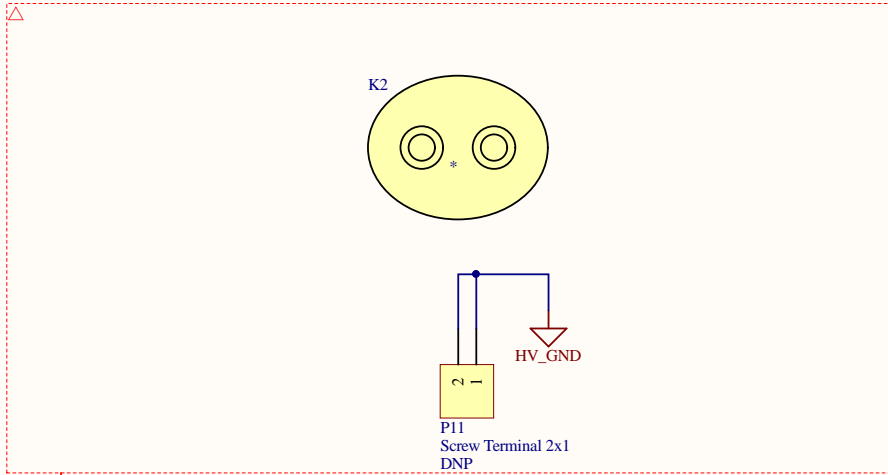
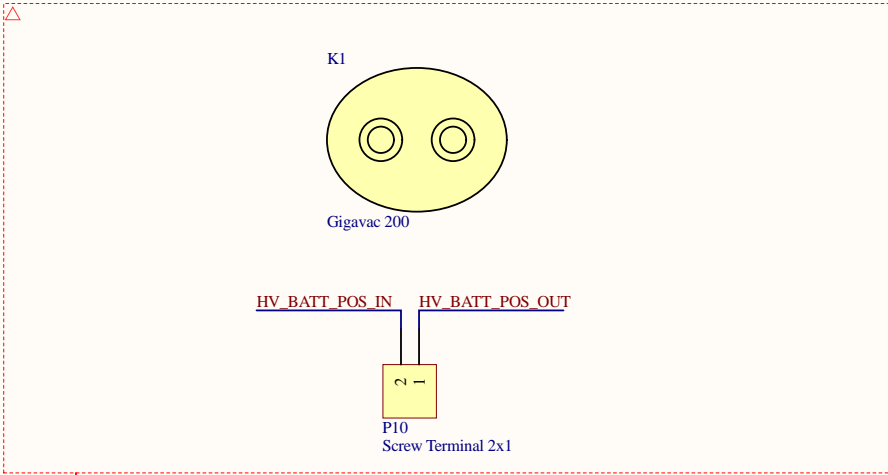
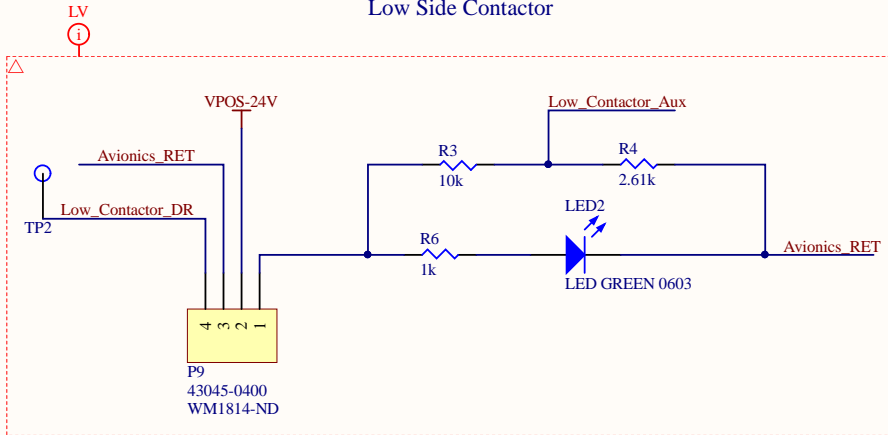
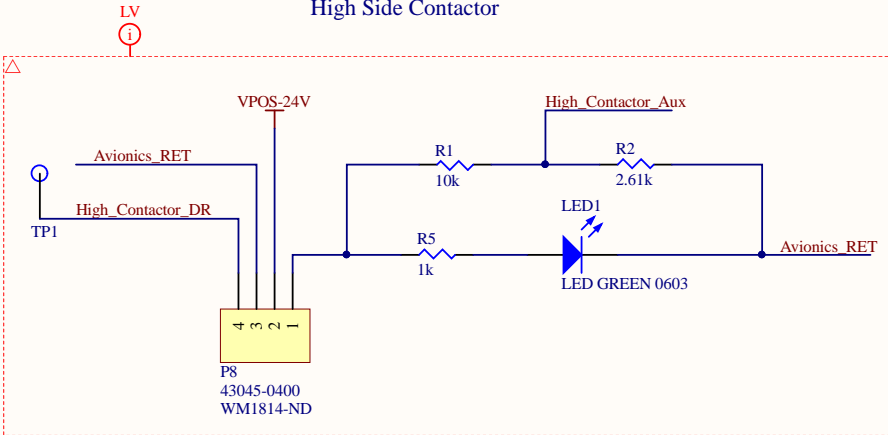



Title <i>Precharge Relays</i>			Badgerloop 133 Engineering Research Building Madison, WI 53715	
Size: A4	Number:	Revision:1		
Date: 3/24/2020	Time: 4:44:43 PM	Sheet 4 of		
File: C:\Users\Windows PC\Desktop\Badgerloop\git_repos\hardware\precharge\precharge_relays.SchDoc				

High Voltage Contactors

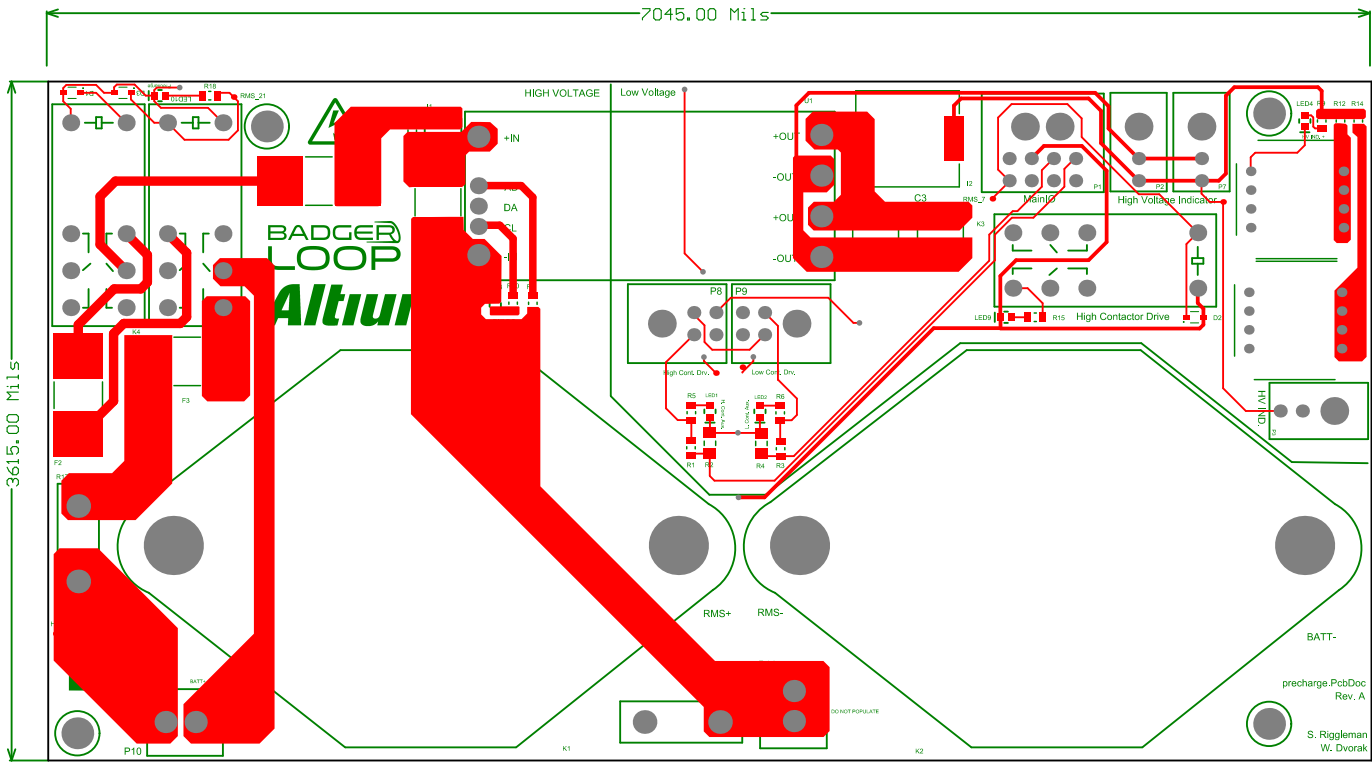
High Side Contactor

Low Side Contactor



Title <i>HV Contactors</i>			Badgerloop 133 Engineering Research Building Madison, WI 53715	
Size: A4	Number:	Revision:1		
Date: 3/24/2020	Time: 4:44:44 PM	Sheet 5 of		
File: C:\Users\Windows PC\Desktop\Badgerloop\git_repos\hardware\precharge\Contactors.SchDoc				

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3.5	
3	Top Layer	Copper	1.40mil		
4	Dielectric 1	FR-4	12.60mil	4.8	
5	Internal Plane 1	Copper	1.40mil		
6	Dielectric2	FR-4	12.60mil	4.8	
7	Internal Plane 2	Copper	1.40mil		
8	Dielectric3	FR-4	12.60mil	4.8	
9	Bottom Layer	Copper	1.40mil		
10	Bottom Solder	Solder Resist	0.40mil	3.5	
11	Bottom Overlay				



**BADGER
LOOP**

Badgerloop
ERB Room 133
1400 Engineering Drive
Madison, WI 53706

ENGINEER:
SRiggelman, WDvorak

PCB DESIGNER:
SRiggelman, WDvorak

DATE:
3/24/2020

FILE NAME:
precharge.PcbDoc

TITLE:
precharge.PcbDoc

PART NO.:
Precharge HV Board

DWG NO:

REV:
A

SCALE:
1:1

1

2

3

4

A

A

B

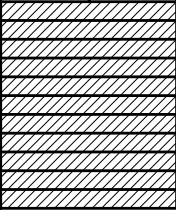
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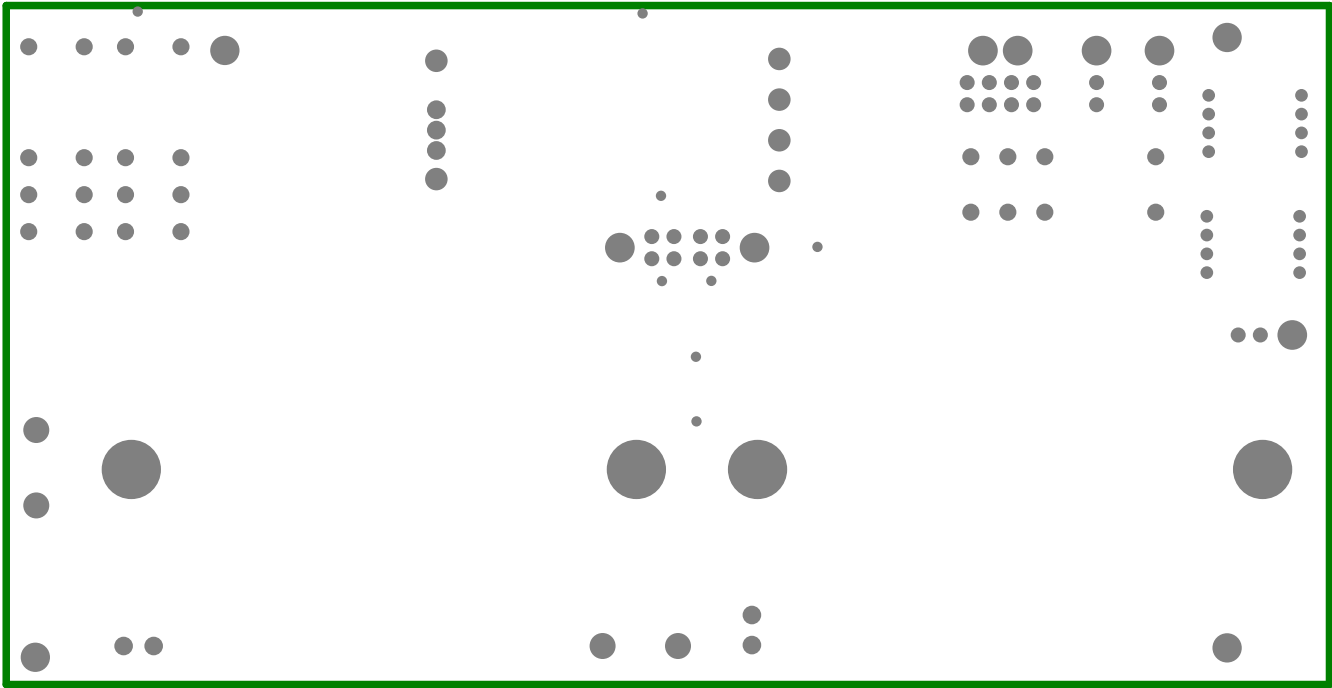
C

C

D

D

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3.5	
3	Top Layer	Copper	1.40mil		
4	Dielectric 1	FR-4	12.60mil	4.8	
5	Internal Plane 1	Copper	1.40mil		
6	Dielectric2	FR-4	12.60mil	4.8	
7	Internal Plane 2	Copper	1.40mil		
8	Dielectric3	FR-4	12.60mil	4.8	
9	Bottom Layer	Copper	1.40mil		
10	Bottom Solder	Solder Resist	0.40mil	3.5	
11	Bottom Overlay				



Internal Plane 1



Badgerloop
ERB Room 133
1400 Engineering Drive
Madison, WI 53706

ENGINEER:
SRiggleman, WDVorak

PCB DESIGNER:
SRiggleman, WDVorak

DATE:
3/24/2020

FILE NAME:
precharge.PcbDoc

TITLE:
precharge.PcbDoc

PART NO.:
Precharge HV Board

REV:
A

DWG NO:

SCALE:
1:1

1

2

3

4

A

A

B

B

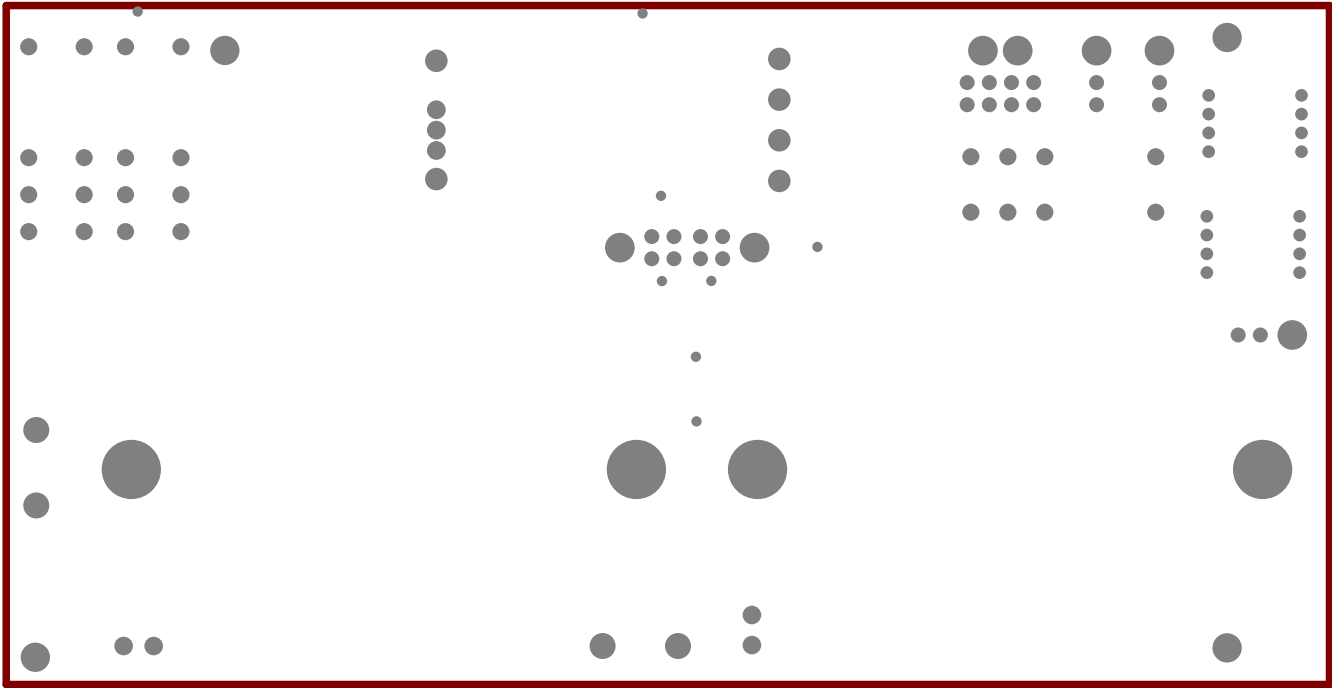
C

C

D

D

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3.5	
3	Top Layer	Copper	1.40mil		
4	Dielectric 1	FR-4	12.60mil	4.8	
5	Internal Plane 1	Copper	1.40mil		
6	Dielectric2	FR-4	12.60mil	4.8	
7	Internal Plane 2	Copper	1.40mil		
8	Dielectric3	FR-4	12.60mil	4.8	
9	Bottom Layer	Copper	1.40mil		
10	Bottom Solder	Solder Resist	0.40mil	3.5	
11	Bottom Overlay				



Internal Plane 2



Badgerloop
ERB Room 133
1400 Engineering Drive
Madison, WI 53706

ENGINEER:
SRiggleman, WDVorak

PCB DESIGNER:
SRiggleman, WDVorak

DATE:
3/24/2020

FILE NAME:
precharge.PcbDoc

TITLE:
precharge.PcbDoc

PART NO.:
Precharge HV Board

REV:
A

DWG NO:

SCALE:
1:1

1

2

3

4

A

A

B

B

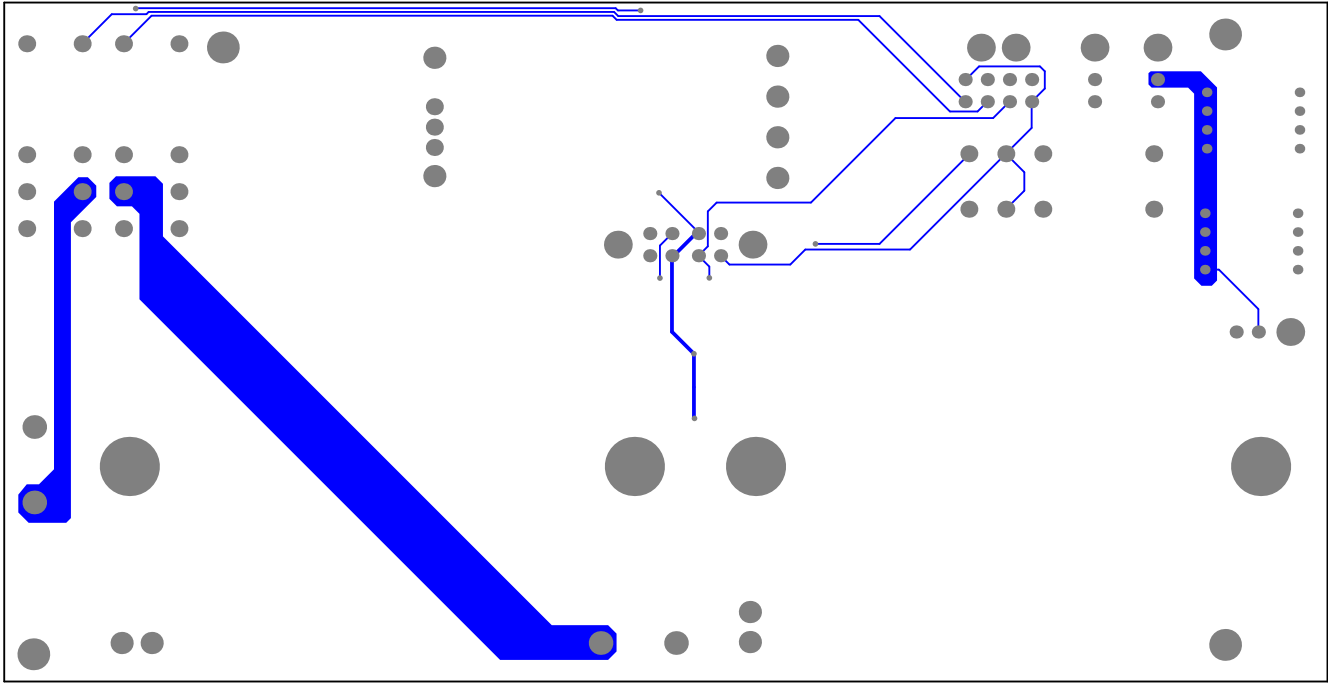
C

C

D

D

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3.5	
3	Top Layer	Copper	1.40mil		
4	Dielectric 1	FR-4	12.60mil	4.8	
5	Internal Plane 1	Copper	1.40mil		
6	Dielectric2	FR-4	12.60mil	4.8	
7	Internal Plane 2	Copper	1.40mil		
8	Dielectric3	FR-4	12.60mil	4.8	
9	Bottom Layer	Copper	1.40mil		
10	Bottom Solder	Solder Resist	0.40mil	3.5	
11	Bottom Overlay				



**BADGER
LOOP**

Badgerloop
ERB Room 133
1400 Engineering Drive
Madison, WI 53706

ENGINEER:
SRiggleman, WDvorak

PCB DESIGNER:
SRiggleman, WDvorak

DATE:
3/24/2020

FILE NAME:
precharge.PcbDoc

TITLE:
precharge.PcbDoc

PART NO.:
Precharge HV Board

REV:
A

DWG NO.:
SCALE:
1:1

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3.5	
3	Top Layer	Copper	1.40mil		
4	Dielectric 1	FR-4	12.60mil	4.8	
5	Internal Plane 1	Copper	1.40mil		
6	Dielectric2	FR-4	12.60mil	4.8	
7	Internal Plane 2	Copper	1.40mil		
8	Dielectric3	FR-4	12.60mil	4.8	
9	Bottom Layer	Copper	1.40mil		
10	Bottom Solder	Solder Resist	0.40mil	3.5	
11	Bottom Overlay				

