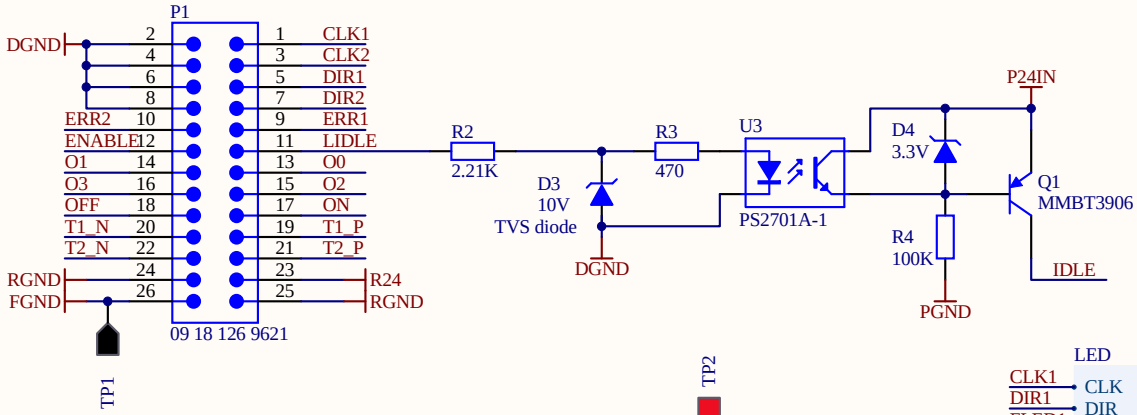
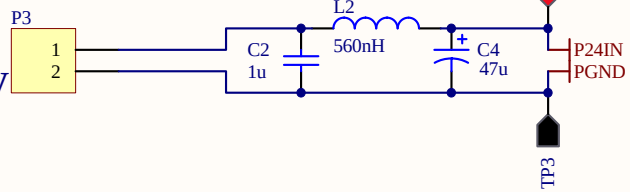
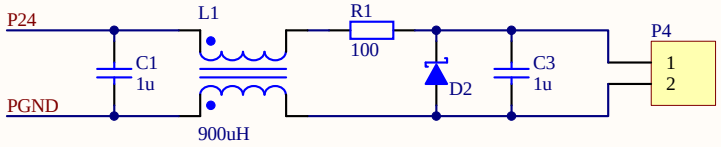
to rear DB25/male controls

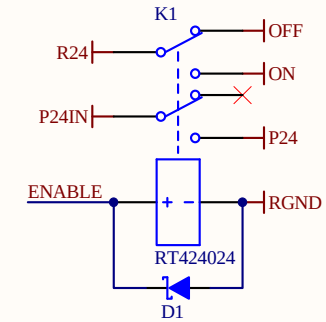


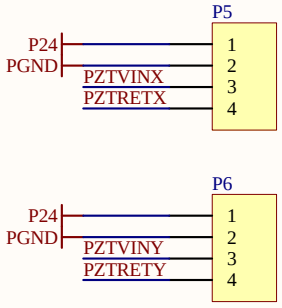
to rear power entry





to fan



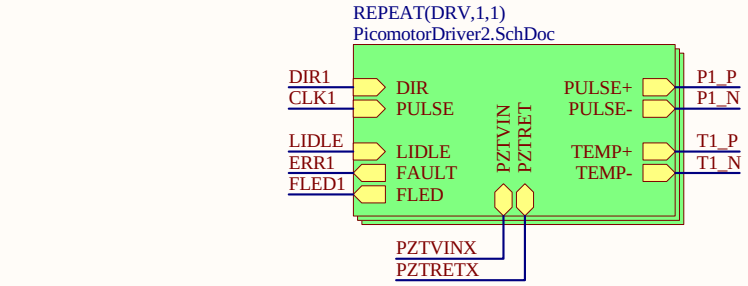


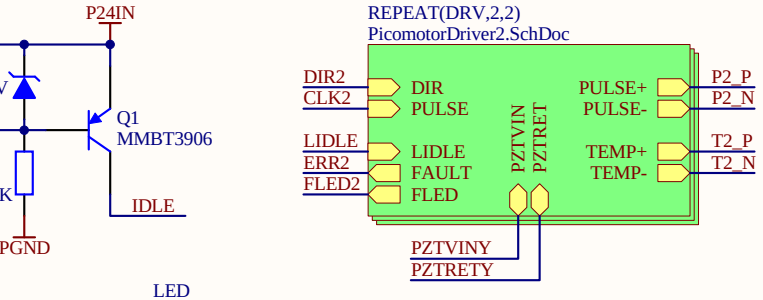
to X power board

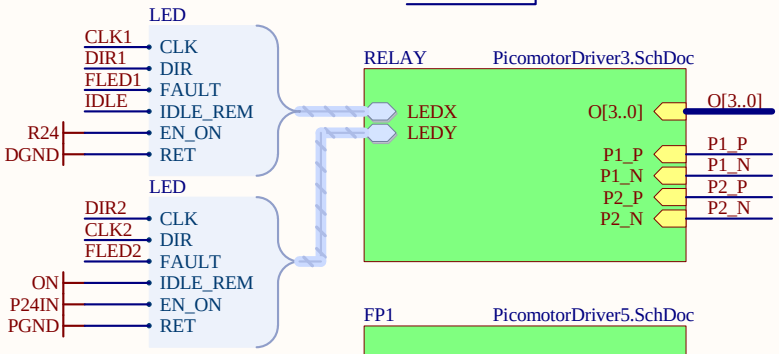
to Y power board

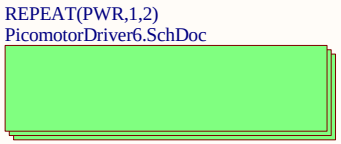
KS1 Relay socket
Digi-Key
PB525-ND

KR1 Retainer ring
Digi-Key
PB778-ND



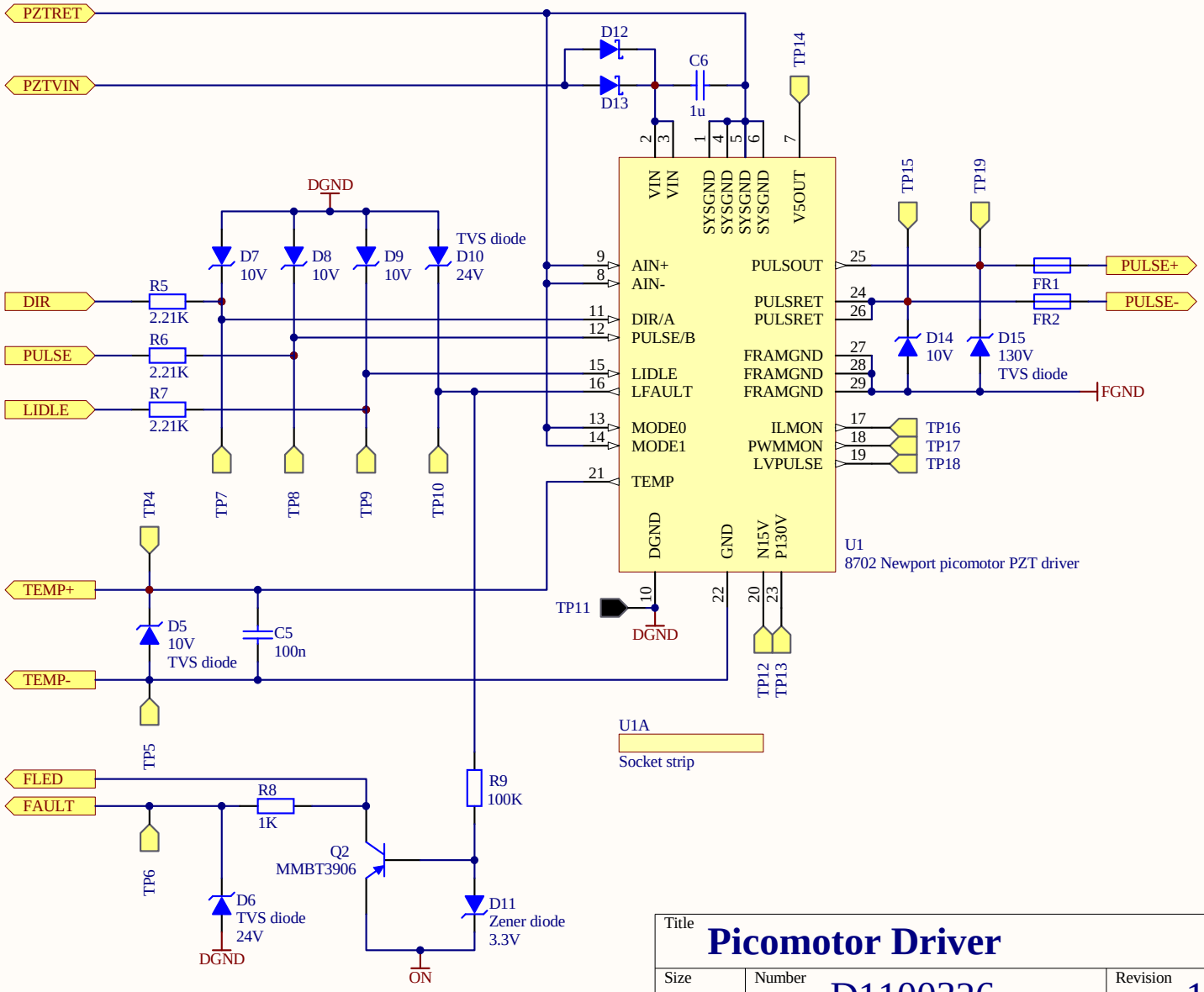






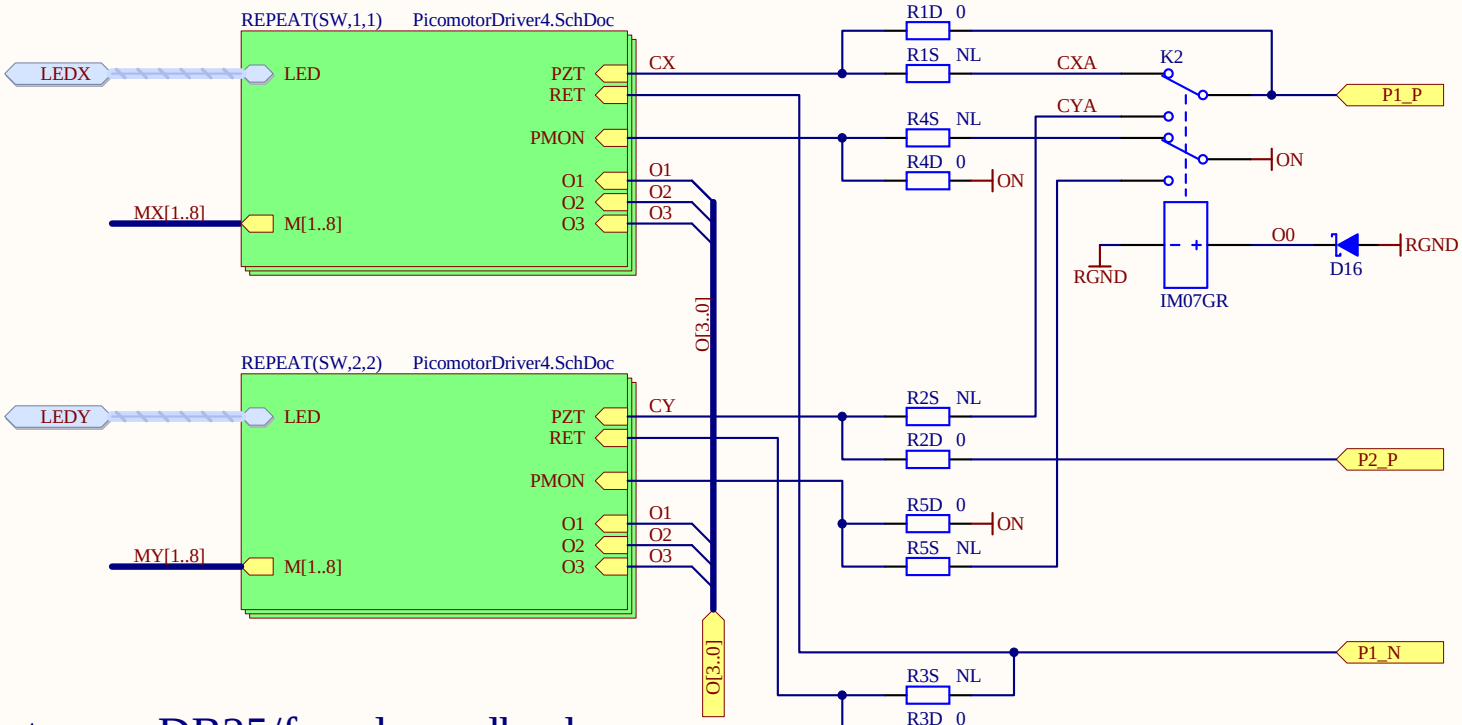
Use 3oz/2oz copper for outer/inner layers, respectively.
Board thickness is 0.093".

Title: **Picomotor Driver**		
Size: A	Number: D1100326	Revision: 1
Date: 3/29/2011		Sheet 1 of 6
File: C:\Users\..\PicoMotorDriver1.SchDoc		Drawn By: Daniel Sigg

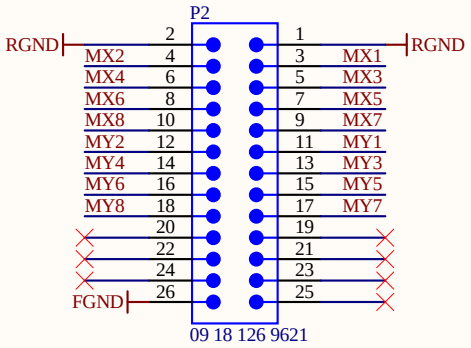


Title	**Picomotor Driver**	
Size: A	Number: D1100326	Revision: 1
Date: 3/29/2011		Sheet 2 of 6
File: C:\Users\..\PicoMotorDriver2.SchDoc		Drawn By: Daniel Sigg

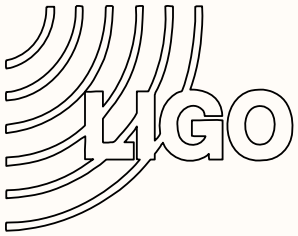
Jumper R1S, R2S, R3S, R4S and R5S for a single axis driver.
Jumper R1D, R2D, R3D, R4D and R5D for a dual axis driver.



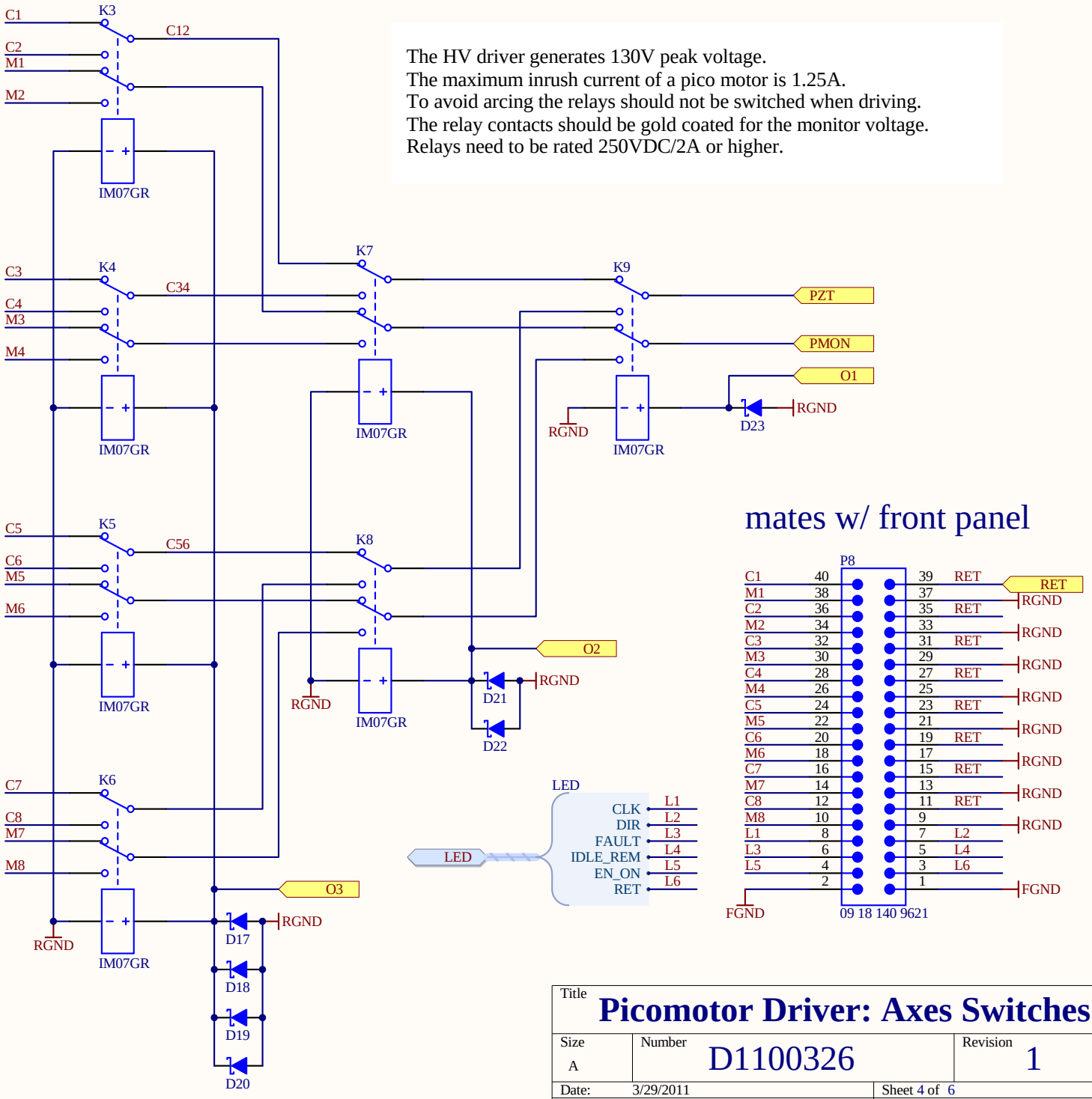
to rear DB25/female readbacks



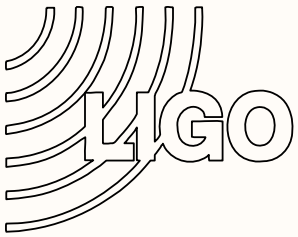
Title: **Picomotor Driver: Axes Switches**		
Size: A	Number: D1100326	Revision: 1
Date: 3/29/2011		Sheet 3 of 6
File: C:\Users\..\PicoMotorDriver3.SchDoc		Drawn By: Daniel Sigg



The HV driver generates 130V peak voltage.
The maximum inrush current of a pico motor is 1.25A.
To avoid arcing the relays should not be switched when driving.
The relay contacts should be gold coated for the monitor voltage.
Relays need to be rated 250VDC/2A or higher.



Title	**Picomotor Driver: Axes Switches**		
Size: A	Number: D1100326	Revision: 1	
Date: 3/29/2011		Sheet 4 of 6	
File: C:\Users\..\PicoMotorDriver4.SchDoc		Drawn By: Daniel Sigg	



P3Y
RJ9 jack
C3Y
R3Y
M3Y R15 2.21K DS6 LGND

P6Y
RJ9 jack
C6Y
R6Y
M6Y R21 2.21K DS12 LGND

P1X
RJ9 jack
C1X
R1X
M1X R10 2.21K DS1 LGND

P4X
RJ9 jack
C4X
R4X
M4X R16 2.21K DS7 LGND

P7X
RJ9 jack
C7X
R7X
M7X R22 2.21K DS13 LGND

P1Y
RJ9 jack
C1Y
R1Y
M1Y R11 2.21K DS2 LGND

P4Y
RJ9 jack
C4Y
R4Y
M4Y R17 2.21K DS8 LGND

P7Y
RJ9 jack
C7Y
R7Y
M7Y R23 2.21K DS14 LGND

P2X
RJ9 jack
C2X
R2X
M2X R12 2.21K DS3 LGND

P5X
RJ9 jack
C5X
R5X
M5X R18 2.21K DS9 LGND

P8X
RJ9 jack
C8X
R8X
M8X R24 2.21K DS15 LGND

P2Y
RJ9 jack
C2Y
R2Y
M2Y R13 2.21K DS4 LGND

P5Y
RJ9 jack
C5Y
R5Y
M5Y R19 2.21K DS10 LGND

P8Y
RJ9 jack
C8Y
R8Y
M8Y R25 2.21K DS16 LGND

P3X
RJ9 jack
C3X
R3X
M3X R14 2.21K DS5 LGND

P6X
RJ9 jack
C6X
R6X
M6X R20 2.21K DS11 LGND

RJ-9:
pin 1: black
pin 2: red
pin 3: green
pin 4: yellow

L1X L1Y R26 2.21K R31 2.21K DS17 DS22 DG DG
L2X L2Y R27 2.21K R32 2.21K DS18 DS23 DG DG
L3X L3Y R28 2.21K R33 2.21K DS19 DS24 DG DG
L4X L4Y R29 2.21K R34 2.21K DS20 DS25 PG LGND
L5X L5Y R30 2.21K R35 2.21K DS21 DS26 LGND PG

J1
DB25F
27 SGND
26
1 C1X
14 R1X
2 SGND
15 SGND
3 C1Y
16 R1Y
4 C2X
17 R2X
5 SGND
18 SGND
6 C2Y
19 R2Y
7 C3X
20 R3X
8 SGND
21 SGND
9 C3Y
22 R3Y
10 C4X
23 R4X
11 SGND
24 SGND
12 C4Y
25 R4Y
13 SGND

P9A
09 18 140 9621
C1X 39 40 R1X
M1X 37 38 LGND
C2X 35 36 R2X
M2X 33 34 LGND
C3X 31 32 R3X
M3X 29 30 LGND
C4X 27 28 R4X
M4X 25 26 LGND
C5X 23 24 R5X
M5X 21 22 LGND
C6X 19 20 R6X
M6X 17 18 LGND
C7X 15 16 R7X
M7X 13 14 LGND
C8X 11 12 R8X
M8X 9 10 LGND
L1X 7 8 L2X
L3X 5 6 L4X
L5X 3 4 DG
SGND 1 2 SGND

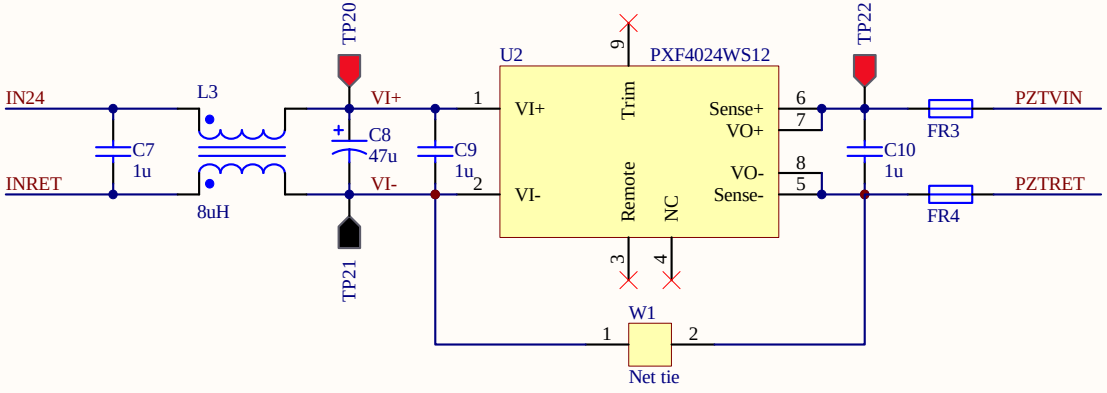
J2
DB25F
27 SGND
26
1 C5X
14 R5X
2 SGND
15 SGND
3 C5Y
16 R5Y
4 C6X
17 R6X
5 SGND
18 SGND
6 C6Y
19 R6Y
7 C7X
20 R7X
8 SGND
21 SGND
9 C7Y
22 R7Y
10 C8X
23 R8X
11 SGND
24 SGND
12 C8Y
25 R8Y
13 SGND

P9B
09 18 140 9621
C1Y 39 40 R1Y
M1Y 37 38 LGND
C2Y 35 36 R2Y
M2Y 33 34 LGND
C3Y 31 32 R3Y
M3Y 29 30 LGND
C4Y 27 28 R4Y
M4Y 25 26 LGND
C5Y 23 24 R5Y
M5Y 21 22 LGND
C6Y 19 20 R6Y
M6Y 17 18 LGND
C7Y 15 16 R7Y
M7Y 13 14 LGND
C8Y 11 12 R8Y
M8Y 9 10 LGND
L1Y 7 8 L2Y
L3Y 5 6 L4Y
L5Y 3 4 PG
SGND 1 2 SGND

front panel

mates w/ main board

Title: **Picomotor Driver: Front Panel**		
Size: A	Number: D1100326	Revision: 1
Date: 3/29/2011		Sheet 5 of 6
File: C:\Users\..\PicoMotorDriver5.SchDoc		Drawn By: Daniel Sigg



Title: **Picomotor Driver: Power Board**		
Size: A	Number: D1100326	Revision: 1
Date: 3/29/2011		Sheet 6 of 6
File: C:\Users\..\PicoMotorDriver6.SchDoc		Drawn By: Daniel Sigg