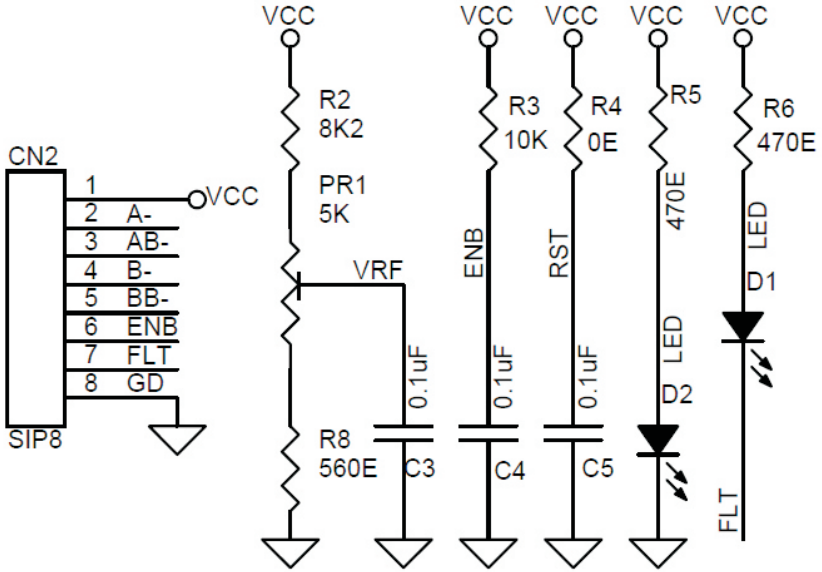
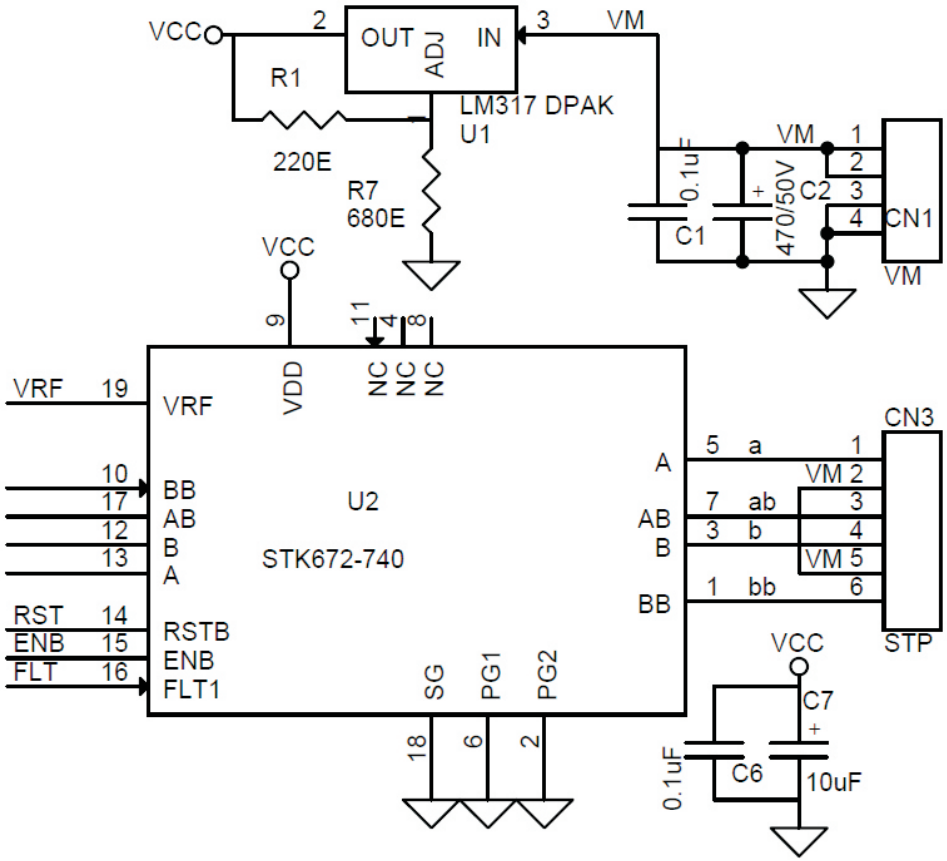
Circuit published here is high-performance unipolar stepper drivers that offer PWM controlled higher current output. Arduino and project published here combined can create good unipolar stepper motor driver with micro-stepping, supply 36v DC and load current up to 4Amps. This board required sequence of 4 phase pulse which can be feed and generate using Arduino or other micro-controllers. IC incorporates various functions like built in over current detection, over heat output OFF, fault output (active low) when over current or over heat detected, and also has built in power on reset. LED D2 power indictor, LED D1 indicates the fault. PR1 trimmer potentiometer provided to set the current. Refer data sheet of STK672-740 for pulse sequence and timing information.

Note: The board works perfectly with motor supply up to 36V DC, however motor supply possible up to 50V DC, in this case remove LM317 regulator, and supply 5V from external power supply.

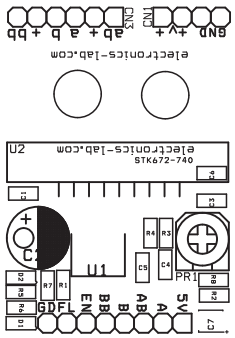
Features

- Motor Supply 36V DC (Up to 50V DC Possible Read Note)
- Logic Supply 5V DC (On Board LM317 Regulator Provides 5V)
- Motor Load Up to 4Amps
- Required large size heat sink for IC
- Built-in overcurrent detection function, overheat detection function (output current OFF)
- Fault signal (active low) is output when over current or overheat is detected
- Built-in power on reset function
- Phase signal input driver activated with an active low and incorporates a simulation ON prevention function
- Supports Schmitt input 2.5V high level input
- Incorporating a current detection resistor, motor current can be set using trimmer pot
- Enable pin can be used to cut output current while maintaining the excitation mode.
- PCB Dimensions 30.32MM x 44.04MM

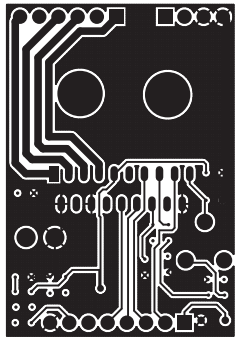

CN2
SIP8
1
2 A-
3 AB-
4 B-
5 BB-
6 ENB
7 FLT
8 GD
VCC
R2
8K2
PR1
5K
VRF
R8
560E
C3
0.1uF
R3
10K
ENB
C4
0.1uF
R4
0E
RST
C5
0.1uF
R5
470E
LED
D2
R6
470E
LED
D1
FLT


VCC
R1
220E
OUT
ADJ
IN
LM317 DPAK
U1
R7
680E
VM
C1
0.1uF
C2
470/50V
CN1
VM
VRF
VDD
NC
NC
NC
U2
STK672-740
BB
AB
B
A
RSTB
ENB
FLT1
SG
PG1
PG2
CN3
STP
C7
10uF
C6
0.1uF

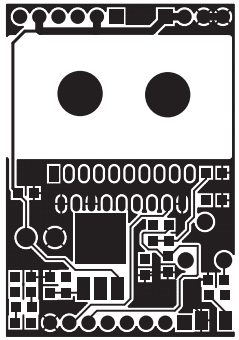
07005



SILK SCREEN TOP



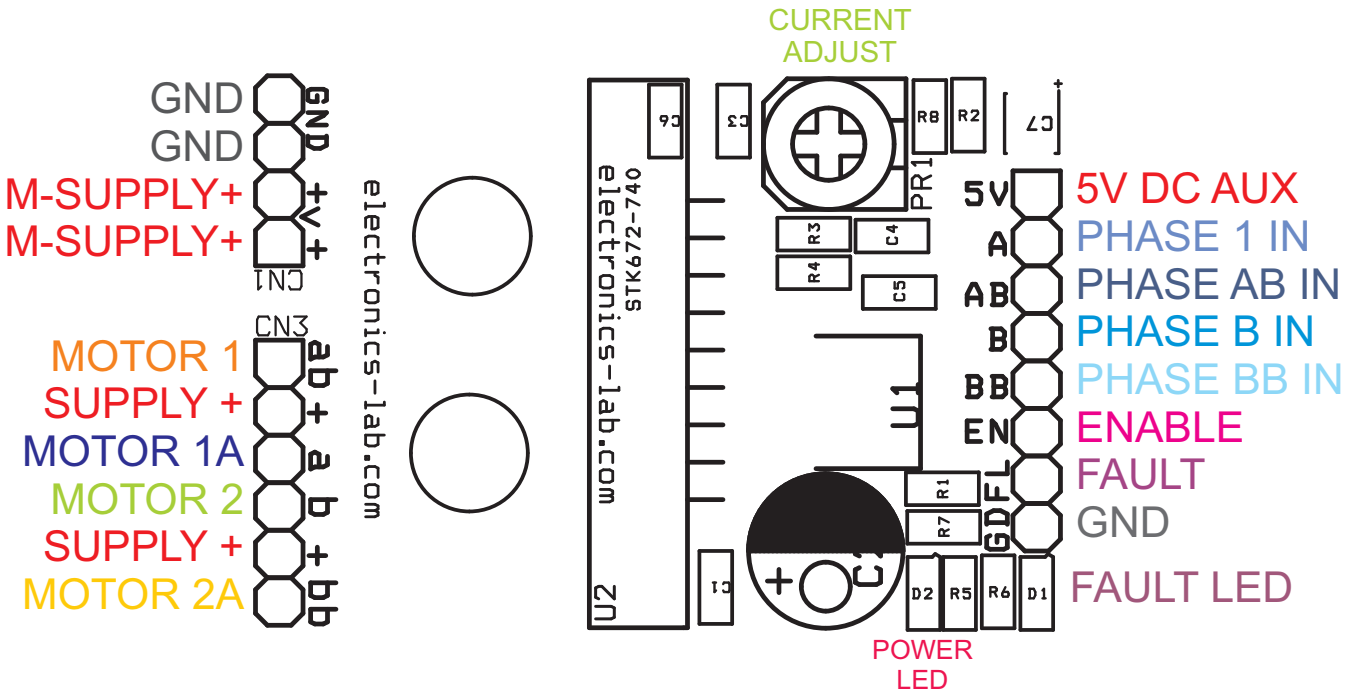
BOTTOM LAYER

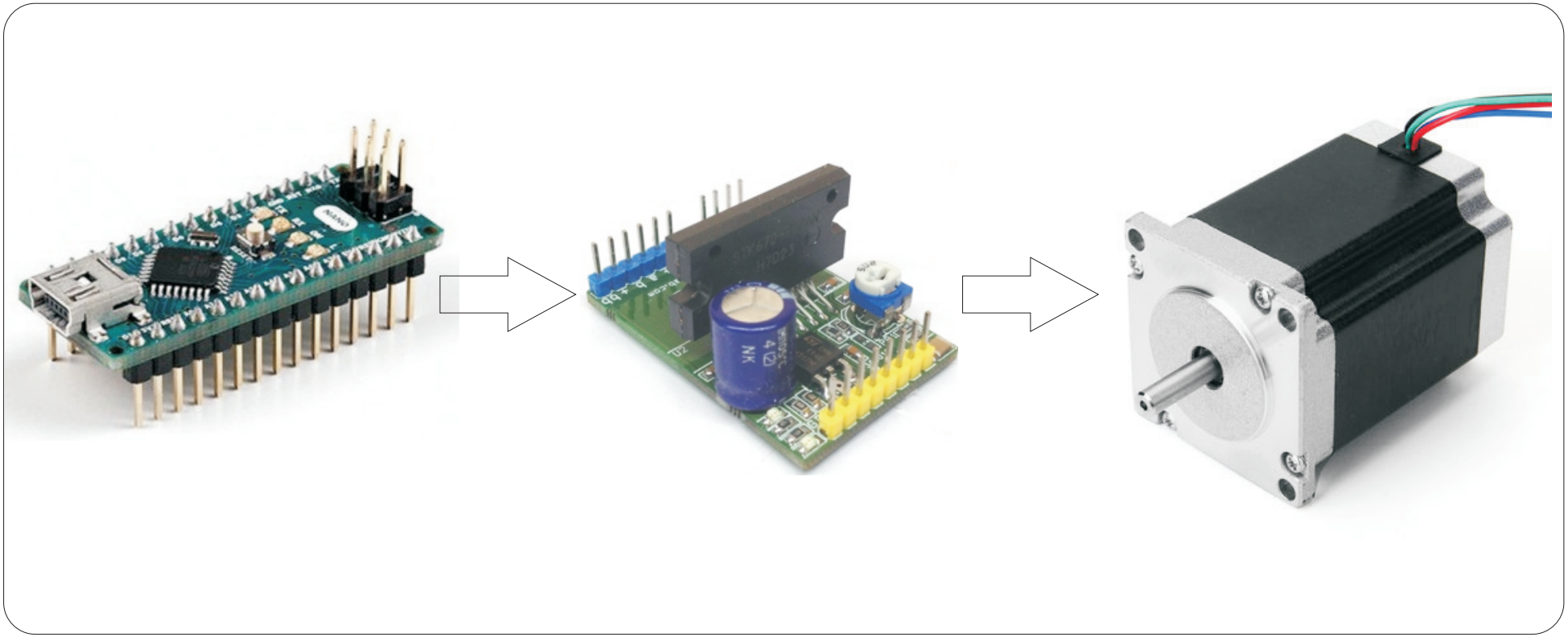


TOP LAYER

PCB DIMENSIONS 44.04MM X 30.32MM

BOM			
SR.	QNTY.	REF.	DESC.
1	1	CN1	4 PIN MALE HEADER CONNECTOR
2	1	CN2	8 PIN HEADER CONNECTOR
3	1	CN3	6 PIN MALE HEADER CONNECTOR
4	1	C1	470/50V
5	5	C2,C3,C4,C6,C8	0.1uF SMD 0805
6	1	C7	10uF SMD 1210
7	2	D2,D3	LED SMD 0805
8	1	PR1	5K SMD 0805
9	1	R1	8K2 SMD 0805
10	1	R6	10K SMD 0805
11	1	R7	0E SMD 0805
12	2	R8,R9	470E SMD 0805
13	1	R11	560E SMD 0805
14	1	R12	680E SMD 0805
15	1	R13	220E SMD 0805
16	1	U1	STK672-740
17	1	U2	LM317 SMD DPAK





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