

2.5A 2 PHASE MICRO-STEPPING STEPPER MOTOR DRIVER

2 Phase stepping motor driver is a tiny board based on STK682-010 hybrid IC from on semiconductor can delivery current up to 2.5Amp and supply up to 32V DC. It has multiple micro-stepping Full step, 1/2th Step, 1/4th Step, 1/8th Step, 1/16th Step, 1/32th Step, 1/64th Step, 1/128th Step. PR1 trimmer potentiometer is provided to set the decay, 3.5V Slow Decay, 1.1V to 3.1V Mixed Decay, 0.8V-1V Fast Decay, and PR2 Trimmer Potentiometer provided to set the Current. Chopping frequency set to 83.3 KHz with help of capacitor C5 100PF. Micro-Stepping can be set with help of jumper J1, J2, J3. U2 provides 5V DC for logic circuit. All input signals can be feed through CN3. This board is default enable since the enable pin has pull-up, short enable pin to GND to disable the board. The board required Step pulse and direction signal to operate the motor. IC has built in automatic half current functions to reduce the vibrations & current while motor is in static mode. Refer table for Micro-Stepping setup. IC required heat sink.

Features

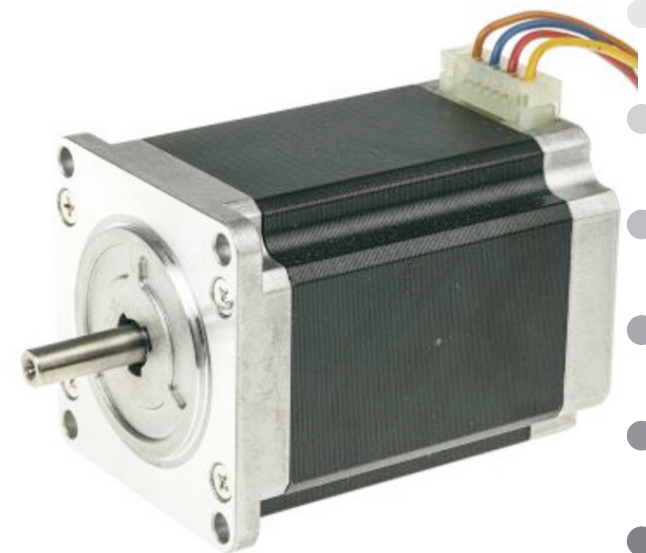
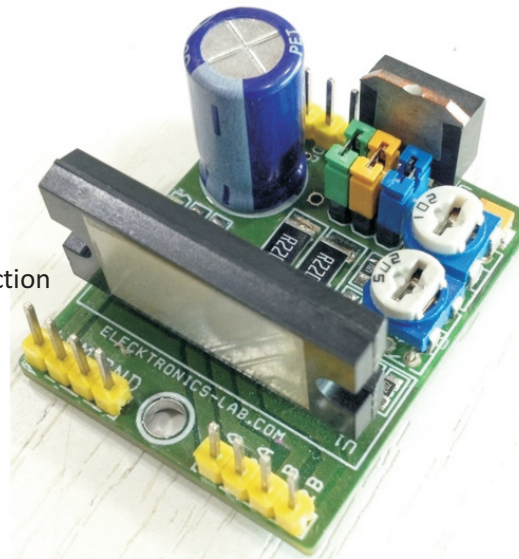
- Supply Voltage Range 9-32V DC
- Motor Load 2.5A Continues
- On Board LM317 Regulator For 5V DC Logic Supply
- J1, J2, J3 Jumpers for Micro-Stepping
- PR2 Current Adjust Trimmer Potentiometer
- PR1 FDT Adjust Trimmer Potentiometer To Adjust Decay
- Built In Automatic Half Current Maintenance energizing function
- Built in Over Current Protection Circuit (Within IC)
- Built Thermal Shutdown Circuit (Within IC)

Connections

- PR2 Current Adjust
- PR1 Decay Adjust
- CN2 Bipolar Stepper Motor
- CN1 DC Supply In 9-32V
- CN3 Signal Input
- D1 Power LED
- CN1-Pin 1 VCC(5V), Pin 2 Direction, Pin 3 Clock Pulse , Pin 4 Enable, Pin 5 GND

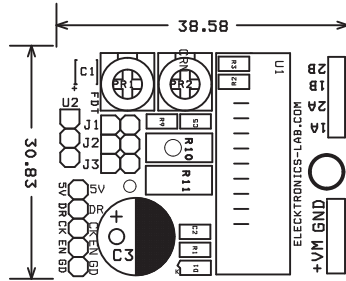
Applicatins

- **CNC Routers**
- **3D Printers**
- **Copier machines**
- **Printers**

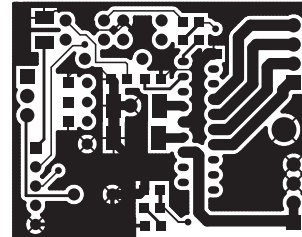


BOM			
SR.	QNTY.	REF	DESC.
1	1	CN1	4 PIN HEADER CONNECTOR
2	1	CN2	4 PIN HEADER CONNECTOR
3	1	CN3	5 PIN HEADER CONNECTOR
4	1	C1	10uF/16V SMD 1210
5	3	C2,C4,C6	0.1uF SMD 0805
6	1	C3	470uF/50V
7	1	C5	100PF SMD 0805
8	1	D1	LED SMD 0805
9	1	J1	JUMPER
10	1	J2	JUMPER
11	1	J3	JUMPER
12	1	PR1	5K PRESET
13	1	PR2	1K PRESET
14	2	R1,R7	470E SMD 0805
15	5	R2,R4,R5,R6,R8	10K SMD 0805
16	1	R3	2K SMD 0805
17	1	R9	1K2 SMD 0805
18	2	R10,R11	0.2E/2W SMD 2512
19	1	R12	680E SMD 0805
20	1	R13	220E SMD 0805
21	1	U1	STK682-010-E
22	1	U2	LM317T

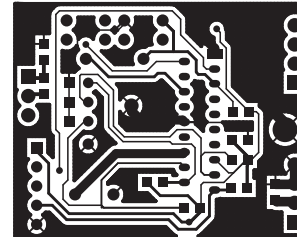
Micro-Stepping			
J3	J2	J1	Mode (Excitation)
Close	Close	Close	Full Step
Close	Close	Open	1/2 th Step
Close	Open	Close	1/4 th Step
Close	Open	Open	1/8 th Step
Open	Close	Close	1/16 th Step
Open	Close	Open	1/32 th Step
Open	Open	Close	1/64 th Step
Open	Open	Open	1/128 th Step



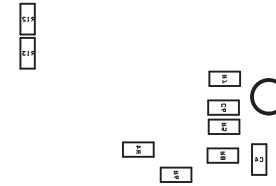
SILK SCREEN TOP



TOP



BOTTOM



SILK SCREEN BOTTOM

