

## DESCRIPTION

The EV6513-J-00A is an evaluation board for the MP6513GJ. Is a full-H-bridge motor driver used for driving reversible motors, which can drive one dc motor or one winding of a stepper motor or other loads.

It operates from a supply voltage range of 2.5V to 21V and can deliver motor current up to 0.8A.

The input control signals for the MP6513GJ are applied through the connector.

## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V <sub>CC</sub>	2.5-21	V
Maximum Output Current	I <sub>OUT</sub>	0.8	A

## FEATURES

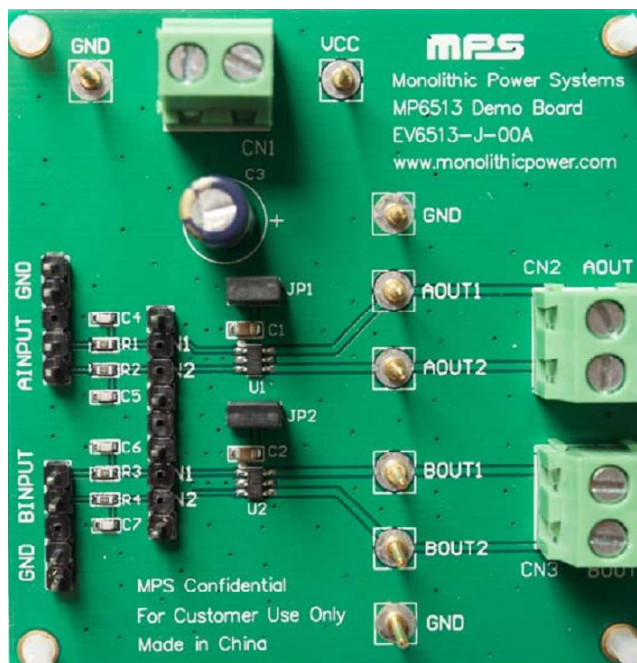
- Wide 2.5V to 21V Input Voltage Range
- 0.8A continuous driver current
- Full-H-bridge motor drive
- OCP, OVP, and OTP

## APPLICATIONS

- Cameras
- Toys
- Consumer Products
- Medical Devices

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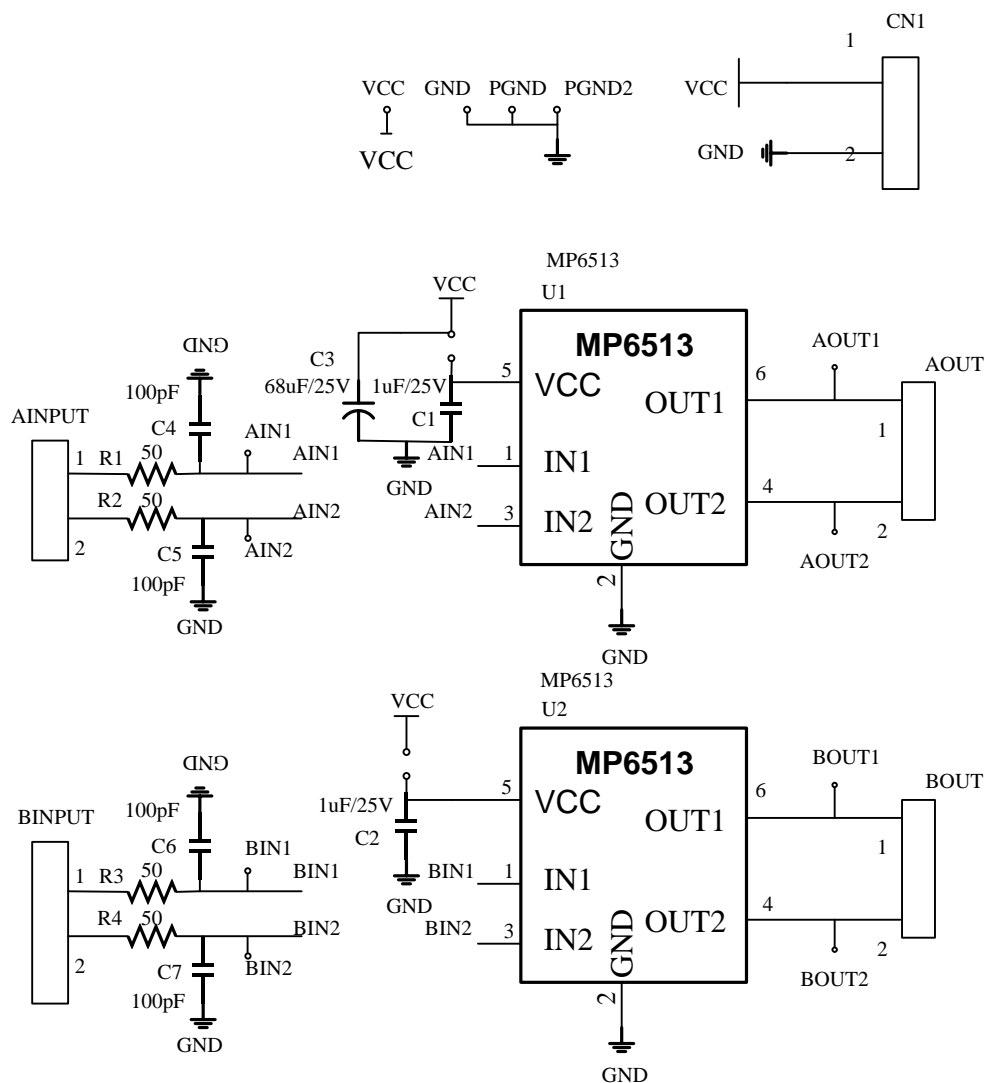
## EV6513GJ-00A EVALUATION BOARD



(L x W x H) 6.35cm x 6.604cm x 1.8cm

Board Number	MPS IC Number
EV6513-J-00A	MP6513GJ

# EVALUATION BOARD SCHEMATIC

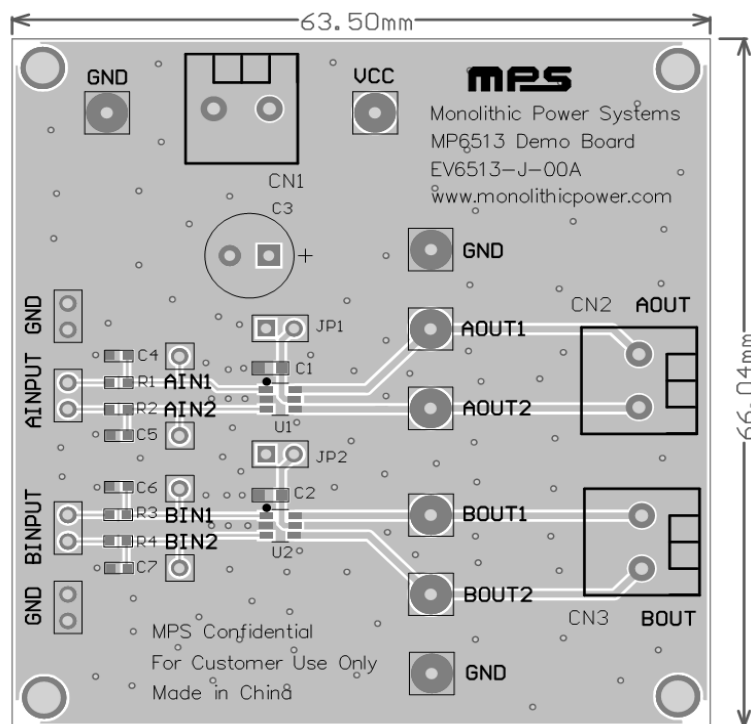


**Figure 1 .Schematic of EVB**

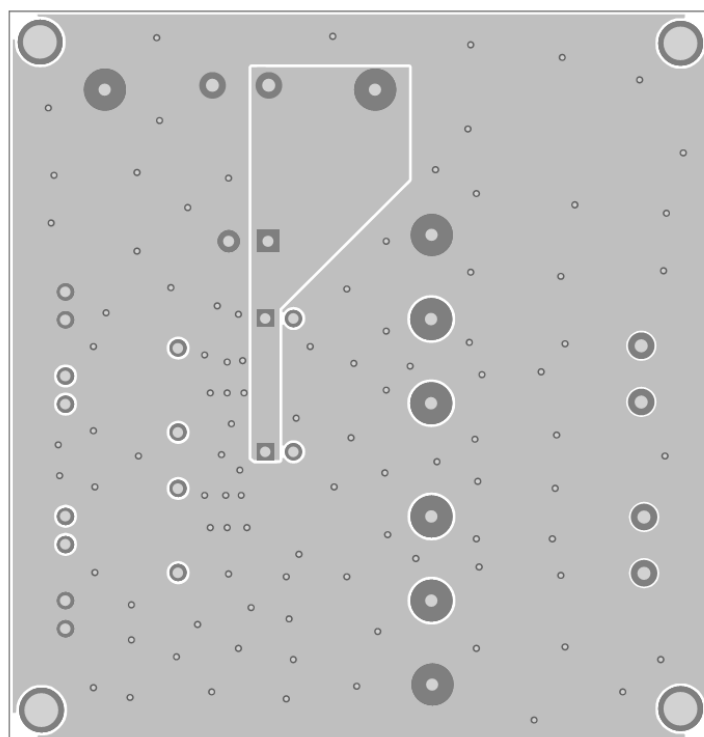
**EV6513-J-00A BILL OF MATERIALS**

Qty	Ref	Value	Description	Package	Manufacturer	Part Number
2	C1,C2	1 $\mu$ F/25V	Ceramic Capacitor; 25V;X7R	0805	muRata	GRM21BR71E105KA99L
1	C3	68 $\mu$ F/25V	Ceramic Capacitor;50V	DIP	Panasonic	EEU-FCIH680
4	C4,C5,C6,C7	100pF	Ceramic Capacitor; 50V;C0G;	0603	muRata	GRM1885C1H101JA01D
4	R1, R2, R3,R4	49.9	Film Resistor;1%	0603	Yageo	RC0603FR-071KL
3	CN1, CN2, CN3		CONN/2PIN/5.0 8MM	DIP		
2	AINPUT, BINPUT, AIN1, AIN2, BIN1, BIN2, GND	CONNECTOR	SIP 2.54mm * 40 PIN CONNECTOR	Radial	ANY	
2	JP1,JP2	CONNECTOR	SIP 2.54mm * 40 PIN CONNECTOR	Radial	ANY	
8	AOUT1, BOUT1, AOUT2, BOUT2, GND*3, VCC	TP	1mm GOLD PLATED TEST POINT	Radial	ANY	
2	U1,U2	MP6513GJ	MP6513GJ R5	FCTSOT 23-6	MPS	MP6513GJ

## PRINTED CIRCUIT BOARD LAYOUT



**Figure 2 .Top Layer**



**Figure 3 .Bottom Layer**

## QUICK START GUIDE

This board is set up from the factory for 2.5V to 21V operation.

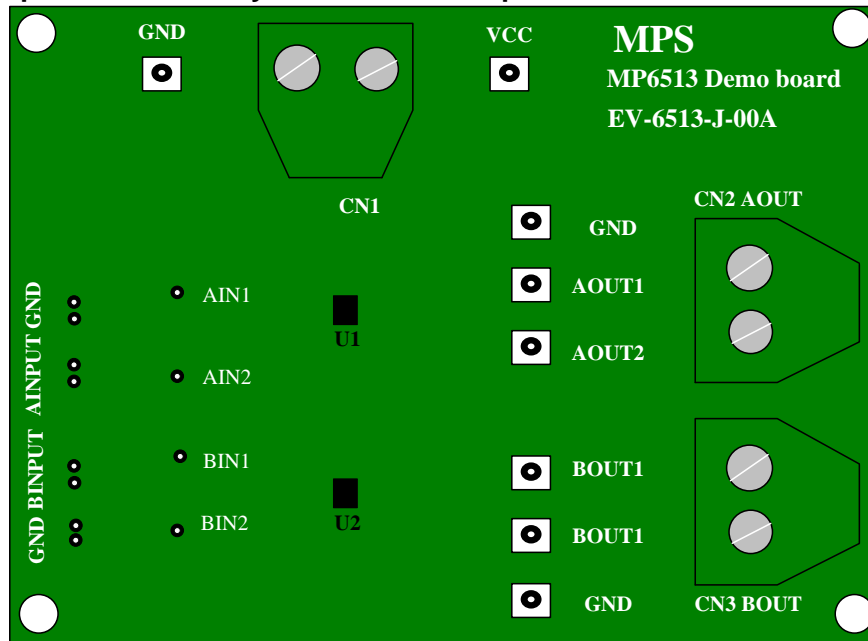


Figure 3. Input and Output Terminals of EV6513-J-00A

### 1. Applications

This evaluation board can be used to control two single-phase DC motor independently or a stepper motor by corresponding input signals. The recommended supply voltage is range from 2.5V to 21V, and the maximum drive current is up to 0.8A for one channel.

### 2. Input logic

The MP6513 is controlled using a PWM input interface, each output is controlled by a corresponding input pin.

The following truth table shows the control logic for MP6513:

IN1	IN2	OUT1	OUT2	Function (DC Motor)
L	L	Z	Z	Coast
L	H	L	H	Reverse
H	L	H	L	Forward
H	H	L	L	Brake

### 3. Setup Condition

- Preset power supply of 2.5V to 21V between VCC and GND pins on CN1 terminal.
- The connector AINPUT/BINPUT should be connected to input signals, and refer above table to find the corresponding control logic.
- The connector CN2/CN3 should be connected to the motor winding terminals. For a stepper motor, one winding should be connected to CN2(AOUT1/AOUT2), while the other should be connected to CN3(BOUT1/BOUT2).
- Turn on power supply.

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