

## DESCRIPTION

The EV6514-G-00A is an evaluation board for the MP6514. The MP6514 is an H-bridge motor driver that consists of four N-channel power MOSFETs, which can drive two DC motors in a single-ended connection with separate controls for the high-side or low-side MOSFETs. The motor can be connected to either the supply or GND.

It operates from a supply voltage range of 2.5V to 14V and can deliver motor current up to 0.6A.

The input control signals for the MP6514 are applied through the connector.

## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	$V_{CC}$	2.5-14	V
Maximum Output Current	$I_{OUT}$	0.6	A

## FEATURES

- Wide 2.5V to 14V Input Voltage Range
- 0.6A peak driver current
- Half-H-bridge motor drive
- OCP, OVP, and OTP

## APPLICATIONS

- Toys
- Consumer Products
- Medical Devices

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## EV6514-G-00A EVALUATION BOARD



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

Board Number	MPS IC Number
EV6514-G-00A	MP6514

### EVALUATION BOARD SCHEMATIC

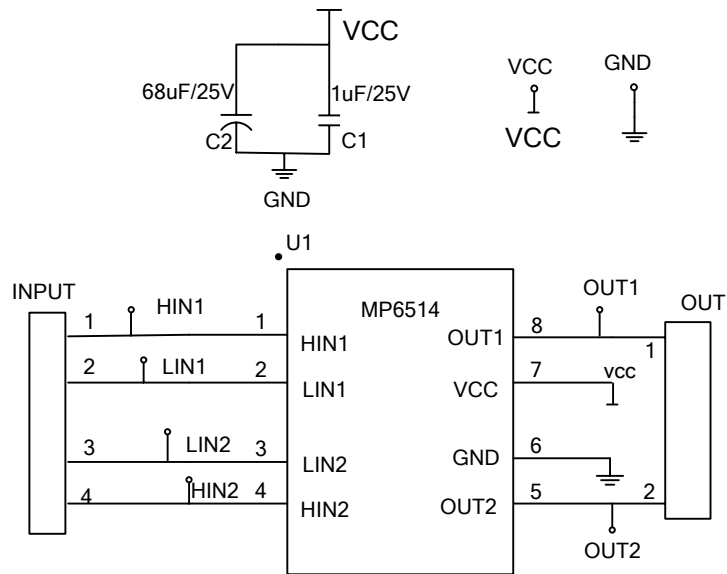


Figure 1 .Schematic of EVB

**EV6514-G-00A BILL OF MATERIALS**

Qty	Ref	Value	Description	Package	Manufacture	Manufacture_PN
1	C1	1 $\mu$ F/25V	Ceramic Capacitor; 25V;X7R;0805	0805	muRata	GRM21BR71E105KA99L
1	C2	68 $\mu$ F/25V	Ceramic Capacitor;25V	DIP	Panasonic	EEU-FCIH680
4	GND, OUT1, OUT2, VCC	1.0MM	Connector;	DIP	Any	
1	HIN1, HIN2, LIN1, LIN2	4PIN	2.54MM Connector	DIP	Any	
1	AOUT	2PIN	2.54MM Connector	DIP	Any	
1	INPUT	4PIN	2.54MM Connector'	DIP	Any	
1	U1	MP6514	MPS H-Bridge Motor Driver	QFN2*2	MPS	MP6514GGU

### PRINTED CIRCUIT BOARD LAYOUT

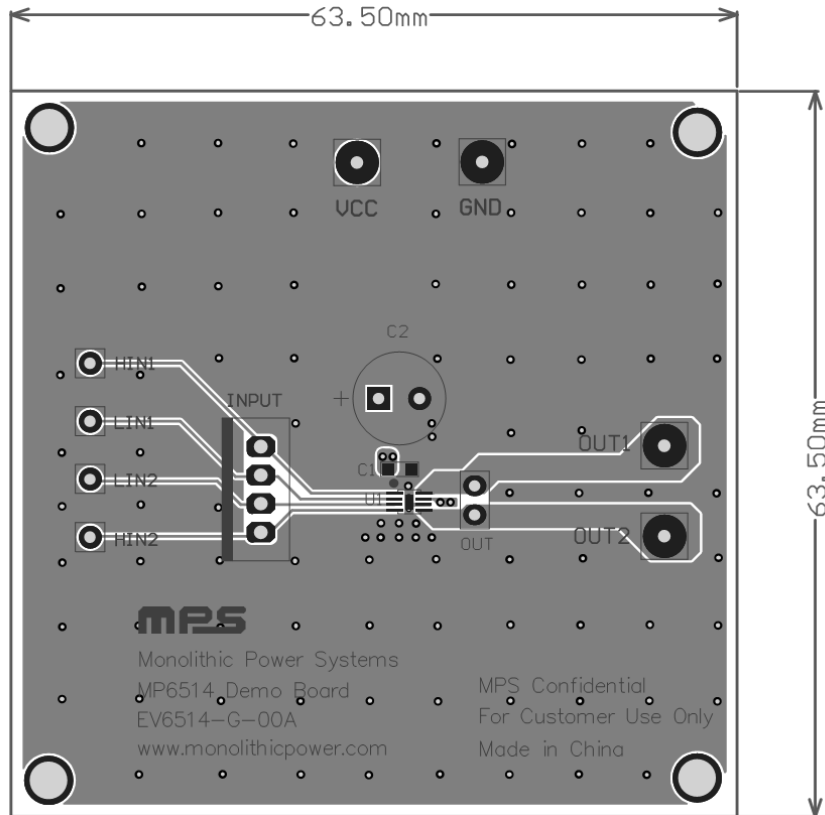


Figure 3 .Top Layer

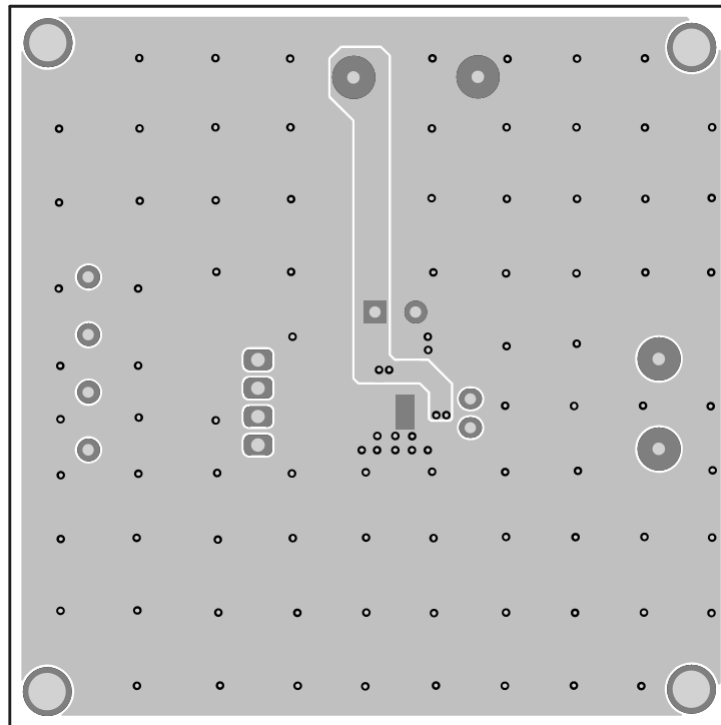


Figure 4 .Bottom Layer

## QUICK START GUIDE

This board is set up from the factory for 2.5V to 14V operation.

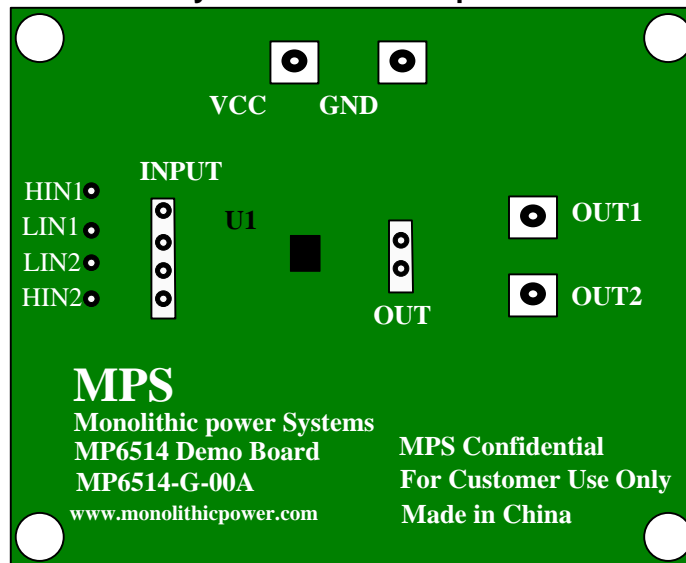


Figure 5. Input and Output Terminals of EV6514-G-00A

### 1. Applications

This evaluation board can be used to control two single-phase DC motor, recommended supply voltage is range from 2.5V to 14V, and the maximum drive current is up to 0.6A for one channel.

### 2. Input logic

The MP6514 can drive two DC motors in a single-ended connection with separate controls for the high-side or low-side MOSFETs. The motor can be connected to either the supply or GND.

If all input pins (HIN1, HIN2, LIN1, and LIN2) remain at a low level within a certain time, then the MP6514 enters a low-power sleep mode. In this state, all unnecessary internal circuitry is powered down.

Table 1 shows the logic for the MP6514:

HIN(X)	LIN(X)	OUT(X)	FunctionMotor toSupply	FunctionMotor toGND
L	L	Z	Coast (sleep)	Coast (sleep)
L	H	L	Drive	Brake
H	L	H	Brake	Drive
H	H	L	Coast	Coast

### 3. Setup Condition

- Preset power supply of 2.5V to 14V between on VCC and GND terminal.
- The connector INPUT/HIN(X) / LIN(X) should be connected to input signals, and refer above table to find the corresponding control logic.
- The connector OUT1 and OUT2 should be connected to the motor winding terminals. one winding should be connected to OUT1/OUT2, while the other should be connected to VCC/GND.
- Turn on power supply.

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