

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

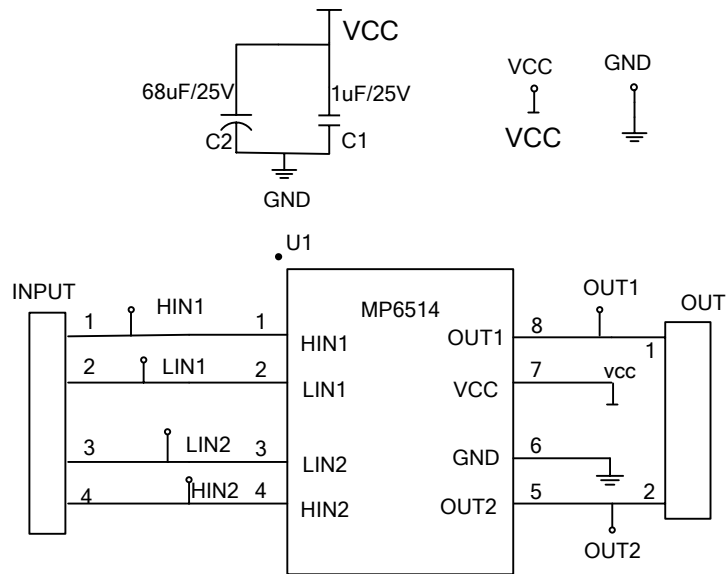


Figure 1 .Schematic of EVB

EV6514-G-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacture	Manufacture_PN
1	C1	1 μ F/25V	Ceramic Capacitor; 25V;X7R;0805	0805	muRata	GRM21BR71E105KA99L
1	C2	68 μ 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

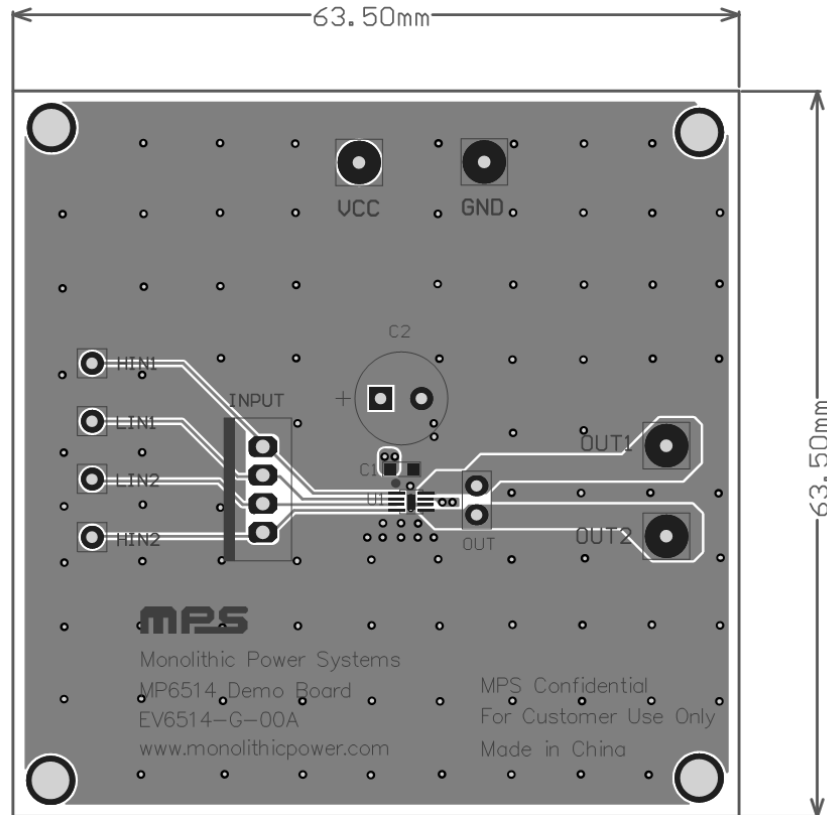


Figure 3 .Top Layer

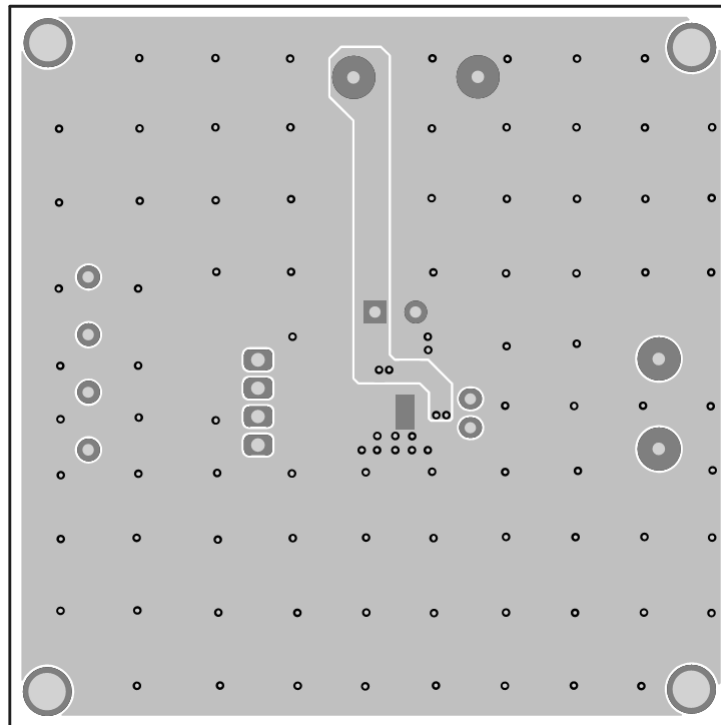


Figure 4 .Bottom Layer

QUICK START GUIDE

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

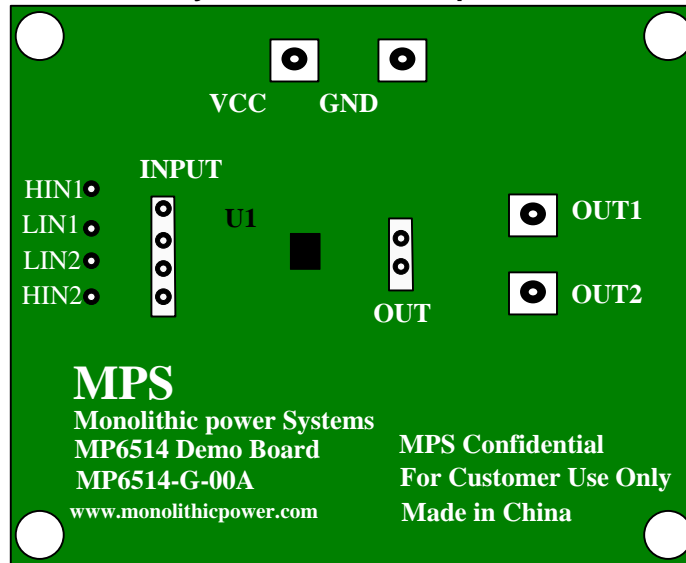


Figure 5. Input and Output Terminals of EV6514-G-00A

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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