



EV6518-F-00A

1.5A, 35V Bipolar Stepper Motor Driver Evaluation Board

DESCRIPTION

The EV6518-F-00A is an evaluation board for the MP6518GF, a stepper motor driver with a built-in micro-stepping translator.

It operates from a supply voltage range of 8V to 35V and can deliver motor current up to 1.5A. It can drive a bipolar stepper motor in full-, half-, quarter-, and eighth- step modes by setting the MS3, MS2, MS1. The input control signals and reference voltage for the MP6518GF are applied through the connector or generated on board.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Units
Input Voltage	V _{IN}	8 - 35	V
Maximum Output Current	I _{OUT}	1.5	A
Decay Mode	Automatic Decay		

FEATURES

- Wide 8V to 35V Input Voltage Range
- Up to 1.5A Programmable Output Current
- Full-, Half-, Quarter-, and Eighth- Step modes
- Adjustable Mixed Decay Ratio or Automatic Decay
- OCP, OVP, and OTP
- Fault Indication Output

APPLICATIONS

- Printers
- General Bipolar Stepper Drivers

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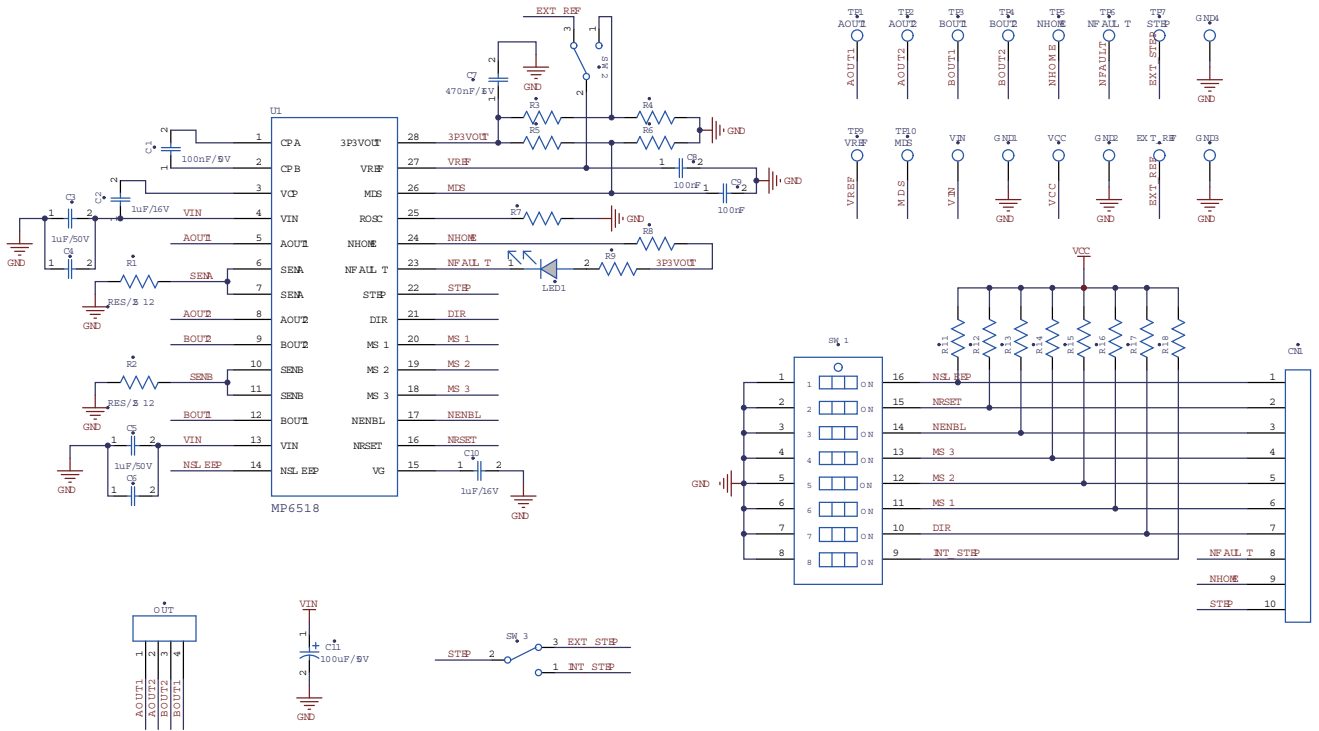
EV6518-F-00A EVALUATION BOARD



(L x W x H) 2.54" x 2.54" x 0.4"
(6.35cm x 6.35cm x 1cm)

Board Number	MPS IC Number
EV6518-F-00A	MP6518GF

EVALUATION BOARD SCHEMATIC



EV6518-F-00A BILL OF MATERIALS

Qty	RefDes	Value	Description	Package	Manufacturer	Manufacturer P/N
1	C1	100nF/50V	Ceramic Capacitor, 50V,X7R	0805	muRata	GRM21BR71H104KA01D
2	C8, C9	100nF/50V	Ceramic Capacitor, 50V,X7R	0603	muRata	GRM188R71H104KA93D
4	C3, C4, C5, C6	1uF/50V	Ceramic Capacitor, 50V,X7R	0805	muRata	GRM21BR71H105KA12L
2	C2, C10	1uF/16V	Ceramic Capacitor, 16V,X7R	0603	muRata	GRM188R71C105KA12D
1	C7	470nF/16V	Ceramic Capacitor, 16V,X7R	0603	muRata	GRM188R71C474KA88D
1	C11	100uF/50V	Electrolytic Capacitor, 50V;Electrolytic	DIP	Rubycon	50YXF100MEFC
2	R1, R2	100mΩ	Sense Resistor,1%	2512	CYNTEC	RL-3264-9-R100-FN
3	R3, R4, R6	NS		0603		
1	R7	196kΩ	Film Resistor,1%	0603	Yageo	RC0603FR-07196KL
1	R9	511Ω	Film Resistor,1%	0603	Yageo	RC0603FR-07511RL
10	R5, R8, R11, R12, R13, R14, R15, R16, R17, R18	10kΩ	Film Resistor,1%	0603	Yageo	RC0603FR-0710KL
1	LED1	BL-HUF35A-TRB	LED	0805	BRIGHT LED	BL-HUF35A-TRB
1	SW1		8-Bits Button	SMD	Wurth	418121270808
2	SW2, SW3		Button			SS-12D01EG4
1	U1	MP6518	Stepper Motor Driver	TSSOP-28 EP	MPS	MP6518GF
1	CN1		10-Bits/2.54mm Connector			
1	OUT		4-Bits/2.54mm Connector			

PRINTED CIRCUIT BOARD LAYOUT

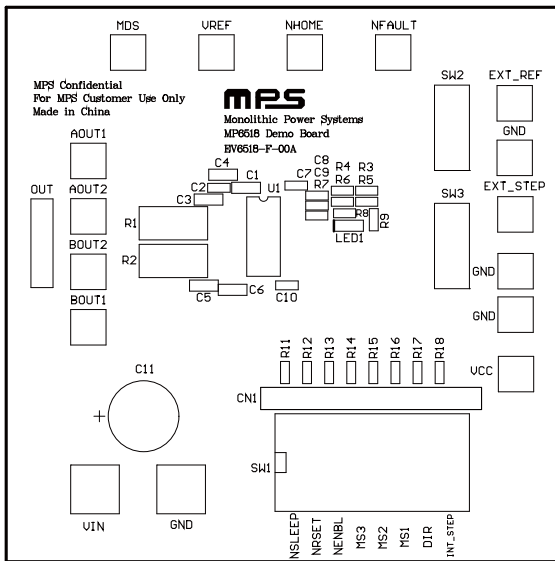


Figure 1: Top Silk Layer

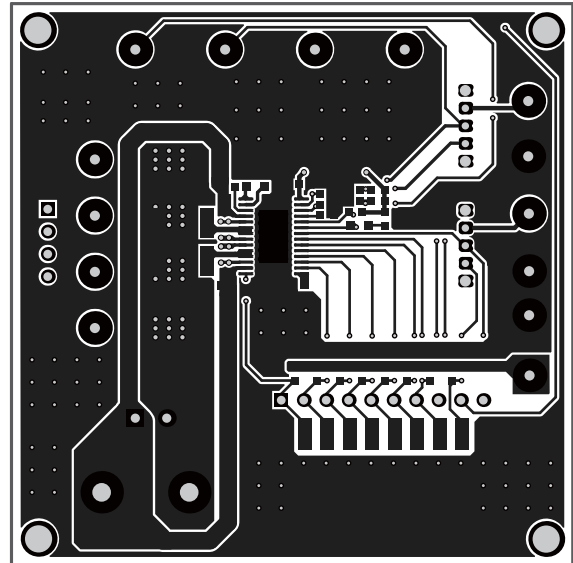


Figure 2: Top Layer

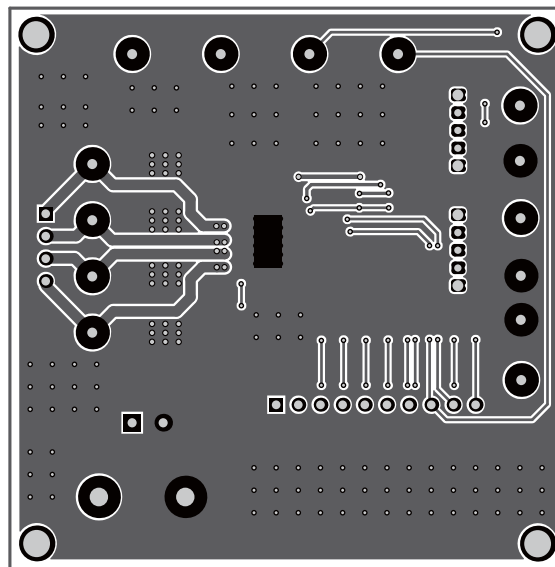


Figure 3: Bottom Layer

QUICK START GUIDE

1. Attach the input voltage ($8V \leq V_{IN} \leq 35V$) and input ground to the VIN and GND connectors respectively.
2. Switch the SW2 and SW3 to the position 3(Top side) to enable external reference voltage input from the EXT_REF connector and step signal input from the STEP connector respectively.
3. Attach the reference voltage ($0V \leq V_{REF} \leq 0.75V$) to the EXT_REF connector to set output current.
4. Attach the step signal to the EXT_STEP connector.
5. Input control and logic signal can be set either through the CN1 connector by the external MCU or through the SW1 by manual action. Manual action requires an external 5V Vcc voltage as a pull-up power supply.