



EV6528-R-00A

5V to 60V, H-Bridge Gate Driver Evaluation Board

DESCRIPTION

The EV6528-R-00A is an evaluation board for the MP6528GR, an H-bridge gate driver.

The EV6528-R-00A operates from a supply voltage of up to 60V. It is configured to drive two half-bridges consisting of four N-channel power MOSFETs. The driving control signals are generated by the external controller, such as MCU, FPGA, etc.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	5 – 60	V
OC_REF Voltage	V_{OC_REF}	0.125 – 2.4	V
VCC Voltage	V_{CC}	3.3 or 5	V

FEATURES

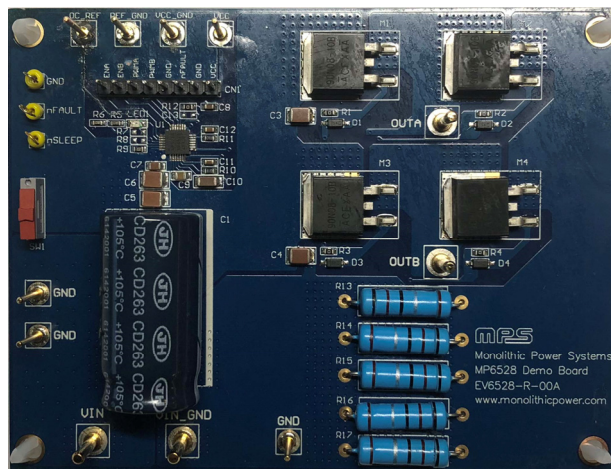
- Wide 5V to 60V Input Voltage Range
- Programmable OCP Threshold
- Support 100% Duty Cycle Operation
- OCP, OTP
- Fault Indication Output

APPLICATIONS

- DC Brush Motors
- Automotive Actuators
- Power Converters
- Gate Openers

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EV6528-R-00A EVALUATION BOARD



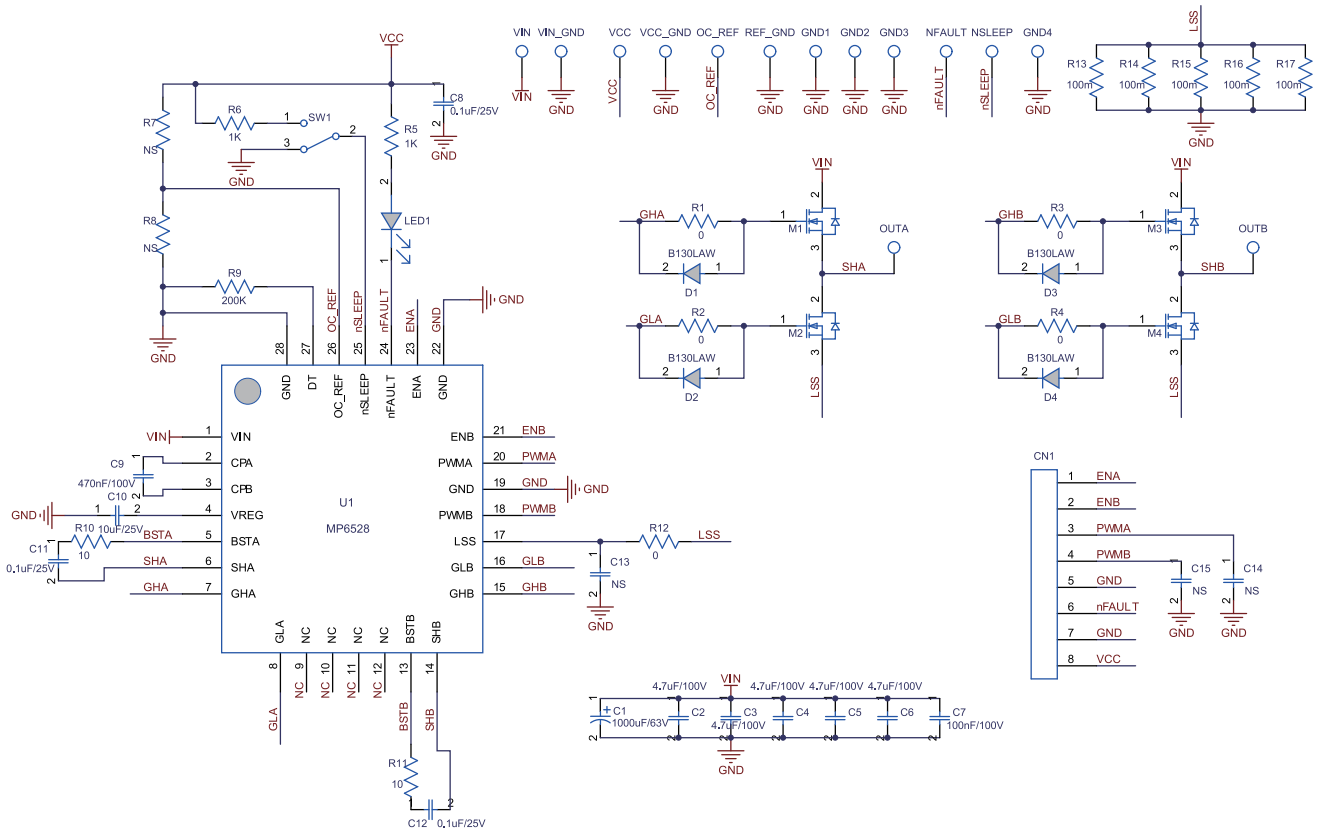
(L x W) 4.1" x 3.1" (10.3cm x 7.8cm)

Board Number	MPS IC Number
EV6528-R-00A	MP6528GR

QUICK START GUIDE

1. Attach the input voltage ($5V \leq V_{IN} \leq 60V$) and input ground to the VIN and GND connectors respectively.
2. Attach the VCC voltage (3.3V or 5V) to the VCC connector and switch the SW1 to the position 1 (Bottom side) to enable the chip.
3. Attach the OC_REF voltage ($0.125V \leq V_{OC_REF} \leq 2.4V$) to the OC_REF connector to set the OCP threshold.
4. Attach the driving control signals generated by the external controller to the CN1 connector.

EVALUATION BOARD SCHEMATIC



EV6528-R-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Part Number
1	C1	1000uF	Electrolytic Cap. 63V	DIP	Jianghai	CD263-63V1000
5	C2, C3, C4, C5, C6	4.7μF	Ceramic Cap. 100V, X7S	1210	TDK	C3225X7S2A475K
1	C7	100nF	Ceramic Cap. 100V, X7R	0805	TDK	CGA4J2X7R2A104K
3	C8, C11, C12	100nF	Ceramic Cap. 25V, X8R	0603	Murata	GCM188R91E104KA37D
1	C9	470nF	Ceramic Cap. 100V, X7R	0805	Murata	GRM21BR72A474KA73L
1	C10	10μF	Ceramic Cap. 25V, X5R	1206	TDK	C3216X5R1E106K
3	C13, C14, C15	NS				
5	R1, R2, R3, R4, R12	0Ω	Film Resistor, 1%	0603	Yageo	RC0603FR-070RL
2	R5, R6	1kΩ	Film Resistor, 1%	0603	Yageo	RC0603FR-071KL
2	R7, R8	NS				
1	R9	200kΩ	Film Resistor, 1%	0603	Yageo	RC0603FR-07200KL
2	R10, R11	10Ω	Film Resistor, 1%	0603	Yageo	RC0603FR-0710RL
5	R13, R14, R15, R16, R17	100mΩ	Resistor, 1%, 2W	DIP	钰凌	
4	D1, D2, D3, D4		Schottky Diode, 30V, 1A	SOD-123	Diodes	B130LAW-7-F
4	M1, M2, M3, M4		N-channel MOSFET, 80V,90A, Qg=60nC, 11mOhm@Vgs=10V	TO-263	Analog Power	AM90N08-10B-T1-PE
1	LED1		LED. 红光	0805	佰鸿	2012SURC-11
1	SW1		Button	DIP	Würth	450301014042
1	CN1		8PIN. 2.54MM			61304011121
4	VIN, VIN_GND, OUTA, OUTB		2.0 公针			
7	VCC, VCC_GND, OC_REF, REF_GND, GND, GND, GND		1.0 公针			
3	NFAULT, NSLEEP, GND		Test Point			
1	U1		H-Bridge Gate Driver	QFN28 (4x4mm)	MPS	MP6528GR

PRINTED CIRCUIT BOARD LAYOUT

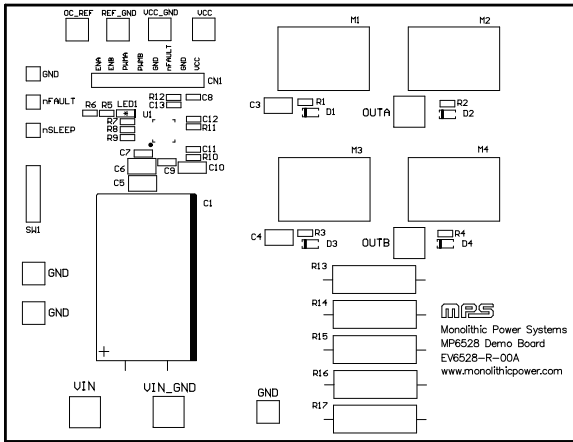


Figure 1: Top Silkscreen Layer

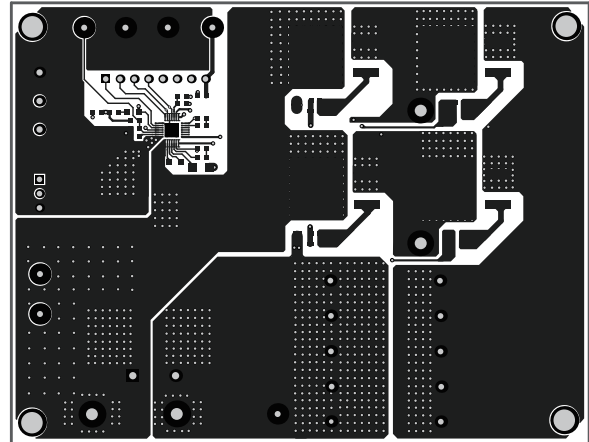


Figure 2: Top Layer

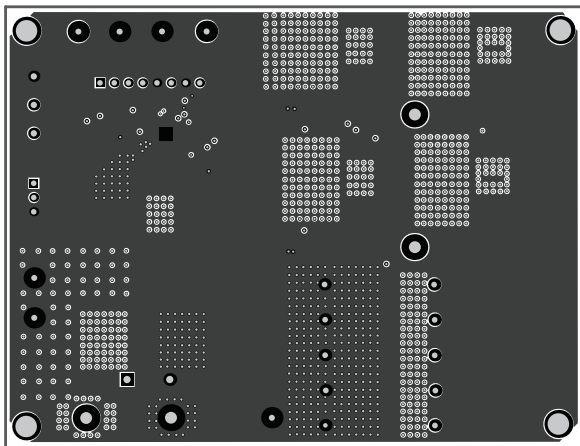


Figure 3: Inner 1

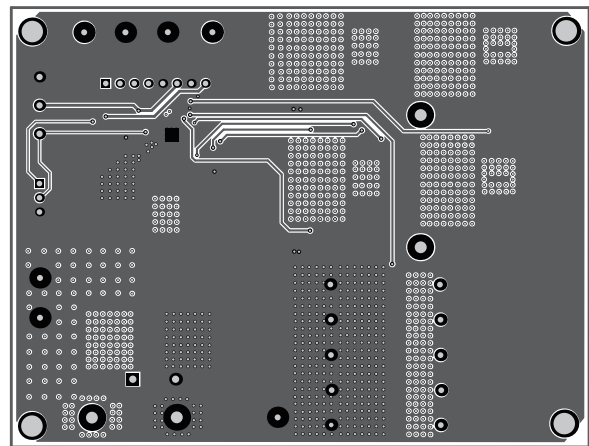


Figure 4: Inner 2

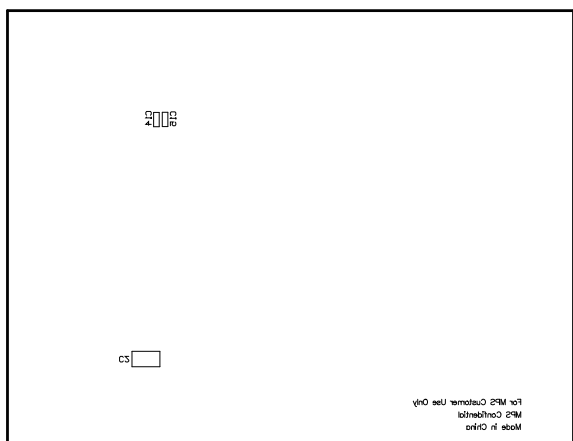


Figure 5: Bottom Silkscreen Layer

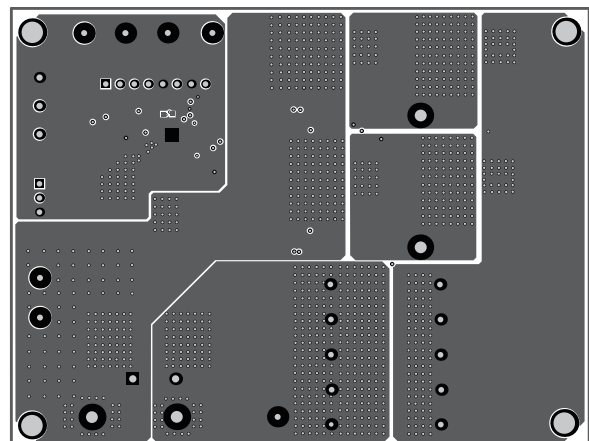


Figure 6: Bottom Layer

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