



Shaoxing Yuli Semiconductor CO., LTD

绍兴宇力半导体有限公司



U1001 Data Sheet

V 1.1

版权归绍兴宇力半导体有限公司

Independent Single-Channel Gate Driver

General Description

The U1001 is high voltage, high speed power MOSFET and IGBT driver with dependent high and low side referenced output channels. Proprietary HVIC and latch immune CMOS technologies enable ruggedized monolithic construction. The logic input is compatible with standard CMOS or LSTTL output, down to 3.3V logic. The output drivers feature a high pulse current buffer stage designed for minimum driver cross-conduction. The floating channel can be used to drive an N-channel power MOSFET or IGBT in the high side configuration which operates up to 30 volts.

Key Features

- Floating channel designed for bootstrap operation
- Built IN SD Function
- Tolerant to negative transient voltage dV/dt immune
- Gate drive supply range from 2.8 to 30V
- Undervoltage lockout
- 3.3V, 5V input logic compatible
- Cross-conduction prevention logic
- Internally set deadtime
- High side output in phase with input
- Shut down input turns off both channels
- Matched propagation delay for both channels

Packages



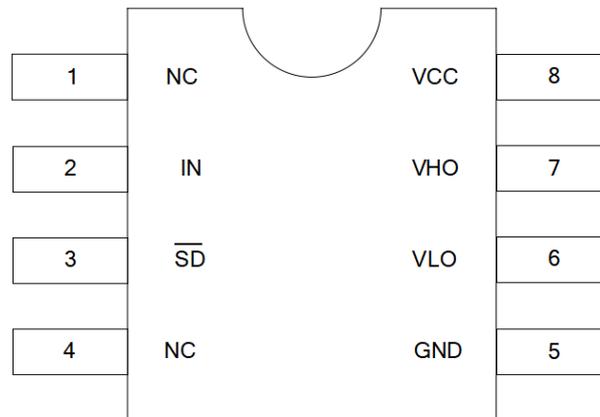
Product Summary

V _{OFFSET}	30V max
I _{O+/-}	1.2A / 1.5A
V _{CC}	8V ~ 30V
Work Tem	-40 ~125 °C

Products Information

Base Part Number	Package Type	Standard OUT		V _{OFFSET}	Logic Control
		IO+	IO-		
U1001	SOP8	1.2A	1.5A	30V	IN & $\bar{S}\bar{D}$

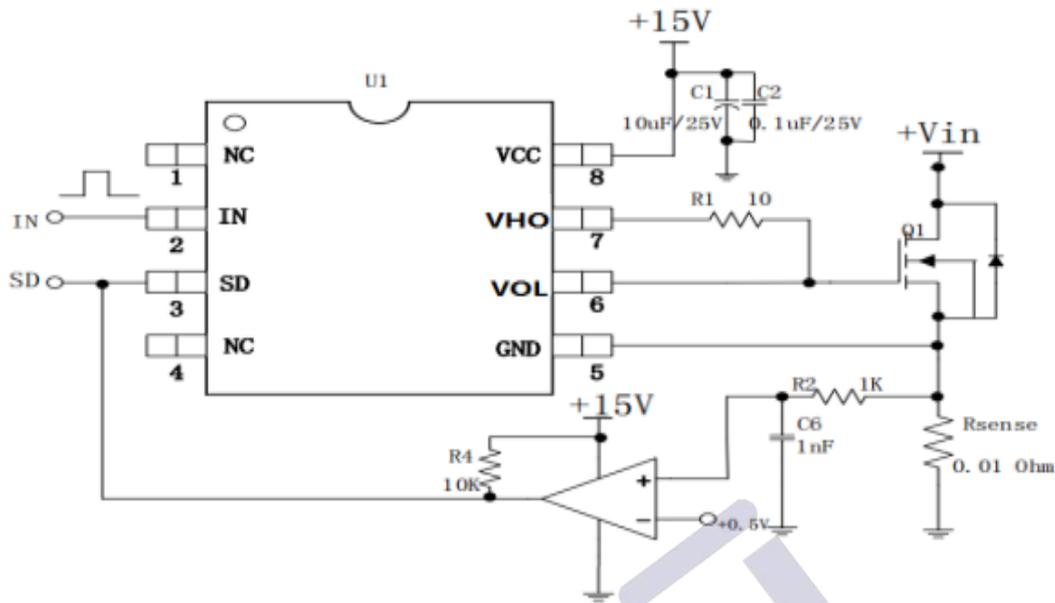
Pin Assignments



Pin Function

Number	Symbol	Description
8	VCC	Low side and logic fixed supply
2	IN	Logic input for high and low side gate driver outputs
3	$\overline{\text{SD}}$	Logic input for shutdown
5	COM	GND
6	VLO	Low side gate drive output
4	NC	
7	VHO	High side gate drive output
1	NC	

Typical Application



Absolute Maximum Ratings

Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur. All voltage parameters are absolute voltages referenced to COM. The thermal resistance and power dissipation ratings are measured under board mounted and still air conditions.

Symbol	Definition	Min.	Max.	Units
VHO	High side floating output voltage	-0.3	35	V
VCC	Low side and logic fixed supply voltage	-0.3	35	
VLO	Low side output voltage	-0.3	35	
VIN	Logic input voltage (IN)	-0.3	35	
SD	Logic input voltage (SD)	-0.3	7	
dVS/dt	Allowable offset supply voltage transient	—	50	V/ns
P _D	Package power dissipation @ TA ≤+25°C (8 lead SOIC)	—	0.625	W
R _{thJA}	Thermal resistance, junction to ambient (8 lead SOIC)	—	200	°C/W
T _J	Junction temperature	—	150	°C
T _S	Storage temperature	-55	150	
T _L	Lead temperature (soldering, 10 seconds)	—	300	

1、Version Record

Date	Rev.	Description
2018/04/19	1.0	First Release
2020/05/21	1.1	Change the Package

2、Contact

Shaoxing Yuli Semiconductor CO.,LTD

Shaoxing Address: 4th & 5th Floors, Building 45, CECEP Science and Technology Innovation Park, No. 25 Paodu Road, Doumen Subdistrict, Yuecheng District, Shaoxing City, Zhejiang Province, China

Telephone: 0575-85087896 (R&D Department)

Fax: 0575-88125157

E-mail: htw@uni-semic.com

Wuxi Address: Room 503, Building 1# (Comprehensive Building), China Electronics (Wuxi) Digital Chip City, No. 6 Xianfeng Middle Road, Xishan District, Wuxi City, Jiangsu Province, China

Telephone: 0510-85297939

E-mail: zh@uni-semic.com

Shenzhen Address: Room 410, Yonghui International Business Building, Baoyuan Road, Nanchang Community, Xixiang Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Telephone: 0755-84510976

E-mail: htw@uni-semic.com

Disclaimers:

1. Shaoxing Yuli Semiconductor Co., LTD., (referred to as "Yuli"), reserves the right to modify user manuals, application guidelines, etc., without prior notice. When purchasing, customers should obtain the latest version of our company's materials and verify whether the relevant information is up-to-date and complete. Before using the products, please carefully read the user manuals, application guides, and other relevant materials along with all precautions contained therein.

2. This product is intended for consumer electronics use and Yuli makes no guarantees as to the suitability of Yuli products for any particular purposes. The products must not be applied in any equipment or system whose manufacture, use, or sale is prohibited by applicable laws or regulations. If Yuli's products are utilized in such prohibited devices or systems, all risks associated with such applications shall be solely borne by the customer, and Yuli shall not be held liable for any consequences arising therefrom.

3. The applications of the products described in this document and related materials such as application guides are provided for illustrative reference only. The parameters provided in this document may and do vary in different applications, and the actual performance may change accordingly. Further evaluation, testing, and validation are required during use. Yuli disclaims all responsibility for any assistance provided in the application of its products or the design of customer products.

4. Customers must utilize the products within their valid storage period. If customers have any questions regarding the valid storage period of Yuli's products, please contact Yuli's sales personnel or customer service support immediately. Yuli shall not assume any responsibility for the use of products beyond their storage period.

5. Without the prior written consent of Yuli, the files and products shall not be disassembled, altered, modified, or copied.

6. When purchasing products, please verify the Yuli trademark and product specifications. For any inquiries, please contact Yuli for clarification. Third-party purchasers are advised to confirm whether the seller holds authorized credentials from Yuli and must contact our company prior to procurement to ensure the products are genuine Yuli-manufactured items.

7. When using or applying the products, customers must comply with all applicable laws and regulations, including but not limited to trade control regulations, etc. This product is designated for civilian electronic purposes. It must not be used in non-civilian fields.

8. Product improvement is an endless journey. Our company remains fully committed to delivering superior products to our customers!