



Shaoxing Yuli Semiconductor CO., LTD

绍兴宇力半导体有限公司



## U2181C Data Sheet

V 1.2

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# High Current IO+/- 2.0/2.5A HALF-BRIDGE DRIVER

## General Description

The U2181C Fully operated to +600V is high voltage, high speed power MOSFET and IGBT driver with dependent high and low side referenced output channels.

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 600 volts.

## Product Summary

|                            |              |
|----------------------------|--------------|
| V <sub>OFFSET</sub>        | 600V max     |
| I <sub>O+/-</sub>          | 2.0 A / 2.5A |
| V <sub>CC</sub>            | 5V - 20V     |
| t <sub>on/off</sub> (typ.) | 200 & 180ns  |
| Work Tem                   | -40 ~125°C   |

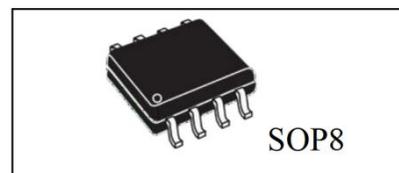
## Key Features

- Floating channel designed for bootstrap operation
- Fully operational to +600V
- Tolerant to negative transient voltage dV/dt immune
- Gate drive supply range from 5 to 20V
- Undervoltage lockout
- 3.3V, 5V and 15V input logic compatible
- Matched propagation delay for both channels

## Applications

- Home appliances
- Industrial applications and drives
- DC, AC, PMDC and PMAC motors
- Induction heating
- HVAC

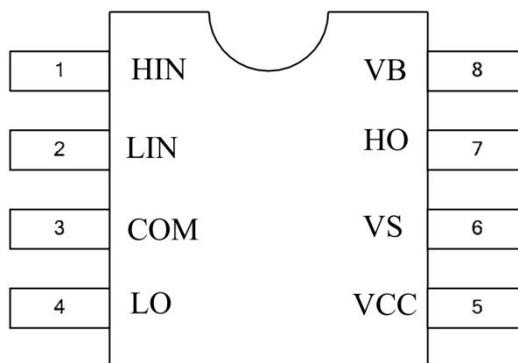
## Packages



## Products Information

| Base Part Number | Package Type | Standard OUT |      | V <sub>OFFSET</sub> | Logic Control |
|------------------|--------------|--------------|------|---------------------|---------------|
|                  |              | IO+          | IO-  |                     |               |
| U2181C           | SOP8         | 2.0A         | 2.5A | 600V                | HIN & LIN     |

## Pin Assignments

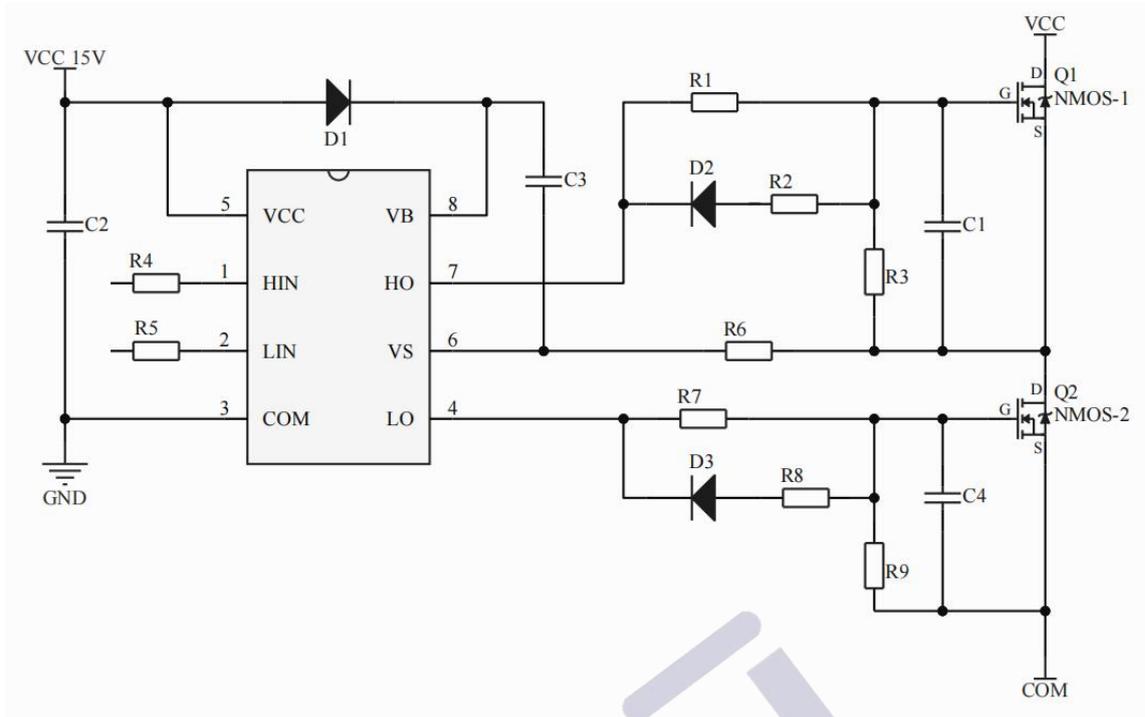


U2181C

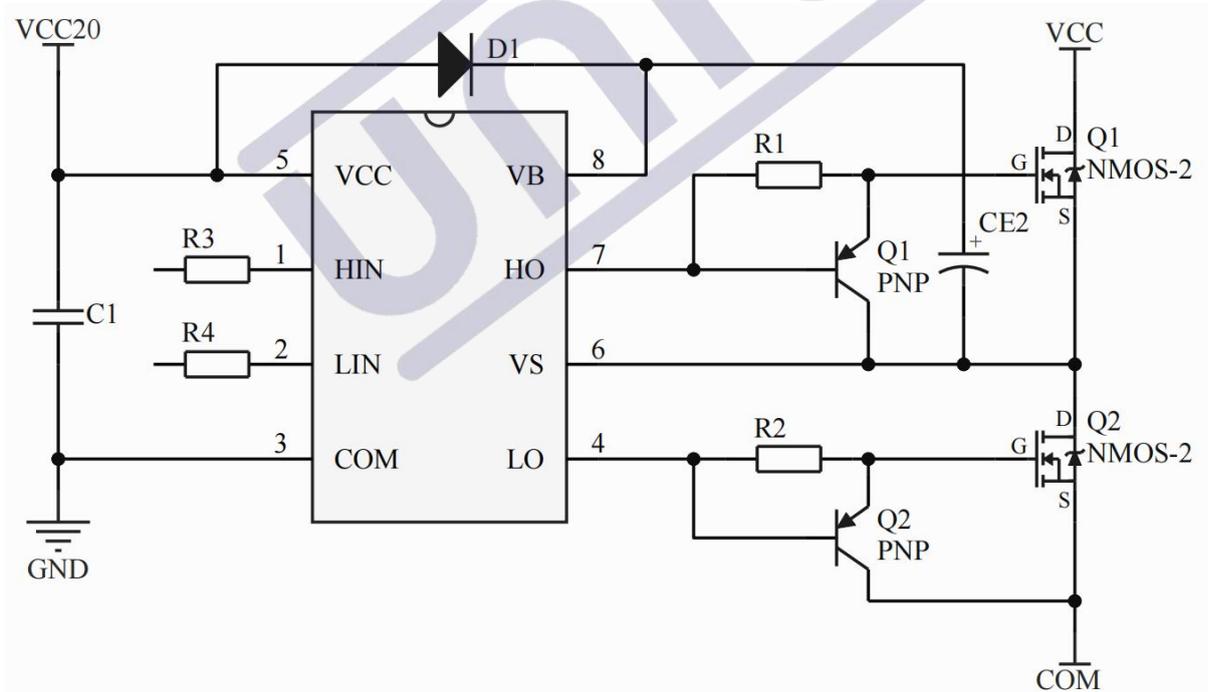
## Pin Function

| Number | Symbol | Type | Description  |
|--------|--------|------|--|
| 1      | HIN    | I    | Logic input for high side gate driver outputs (HO), in phase |
| 2      | LIN    | I    | Logic input for low side gate driver outputs (LO), in phase  |
| 3      | COM    | P    | Low side return  |
| 4      | LO     | O    | Low side gate drive output                                   |
| 5      | VCC    | P    | Low side and logic fixed supply                              |
| 6      | VS     | P    | High side floating supply return                             |
| 7      | HO     | O    | High side gate drive output                                  |
| 8      | VB     | P    | High side floating supply                                    |

### Typical Connection



Typical application



Much Big POWER application

**Note:** The above circuits and parameters are for reference only. The actual application circuit should be designed with the measured results in setting the paramete.

## 1、Version Record

| Date       | Rev. | Description          |
|------------|------|----------------------|
| 2018/04/19 | 1.0  | First Release        |
| 2021/11/04 | 1.1  | Layout Adjustment    |
| 2023/06/18 | 1.2  | Circuit Conditioning |
|            |      |                      |

## 2、Contact

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