



Shaoxing Yuli Semiconductor CO., LTD

绍兴宇力半导体有限公司



U3115C Data Sheet

V 1.3

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Half-bridge of power MOSFET/IGBT Drive

General Description

The U3115C Fully operated to +350V 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 350 volts.

Product Summary

V _{OFFSET}	350V
I _{O+/-}	1.0A / 1.2A
V _{CCon/off} (typ.)	4.5V & 4.2V
V _{Bon/off} (typ.)	5V & 4.9V
t _{on/off} (typ.)	450 & 150ns
Deadtime (typ.)	300 ns
Work Tem	-40 ~125°C

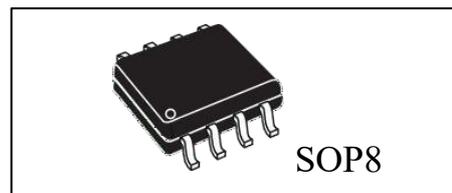
Key Features

- Integrated bootstrap Diode⁽¹⁾
- Floating channel designed for bootstrap operation
- Fully operational to +350V
- 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
- Cross-conduction prevention logic
- Matched propagation delay for both channels

Applications

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

Packages

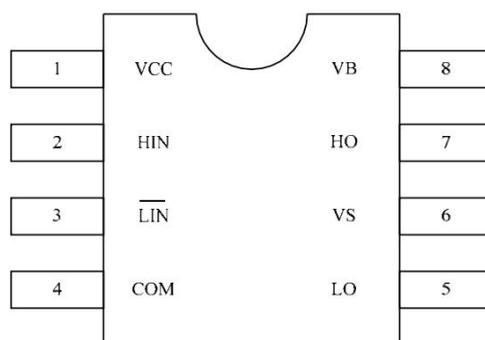


Product information

Base Part Number	Package Type	Standard OUT		V _{OFFSET}	Logic Control
		IO+	IO-		
U3115C	SOP8	1.0A	1.2A	350V	HIN & $\overline{\text{LIN}}$

Note: (1) When using internal diode bootstrap power supply, please match the capacitor and MOS, and fully test and verify

Pin Assignments

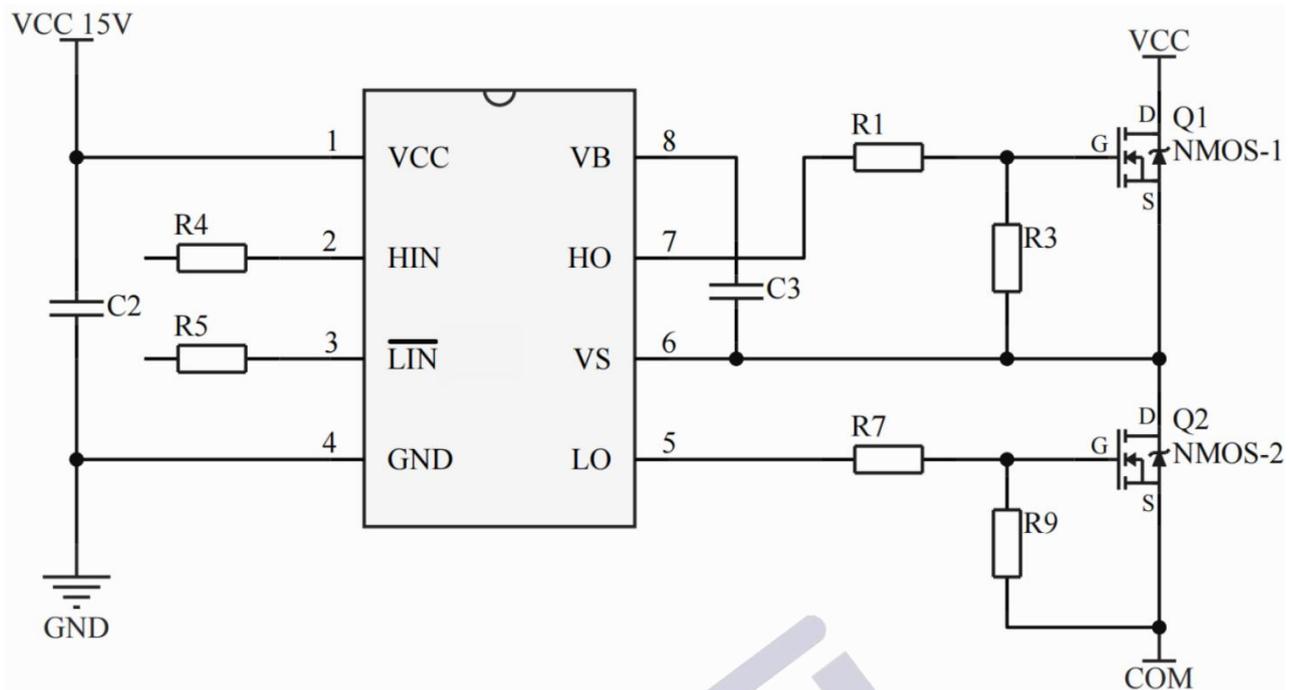


U3115C

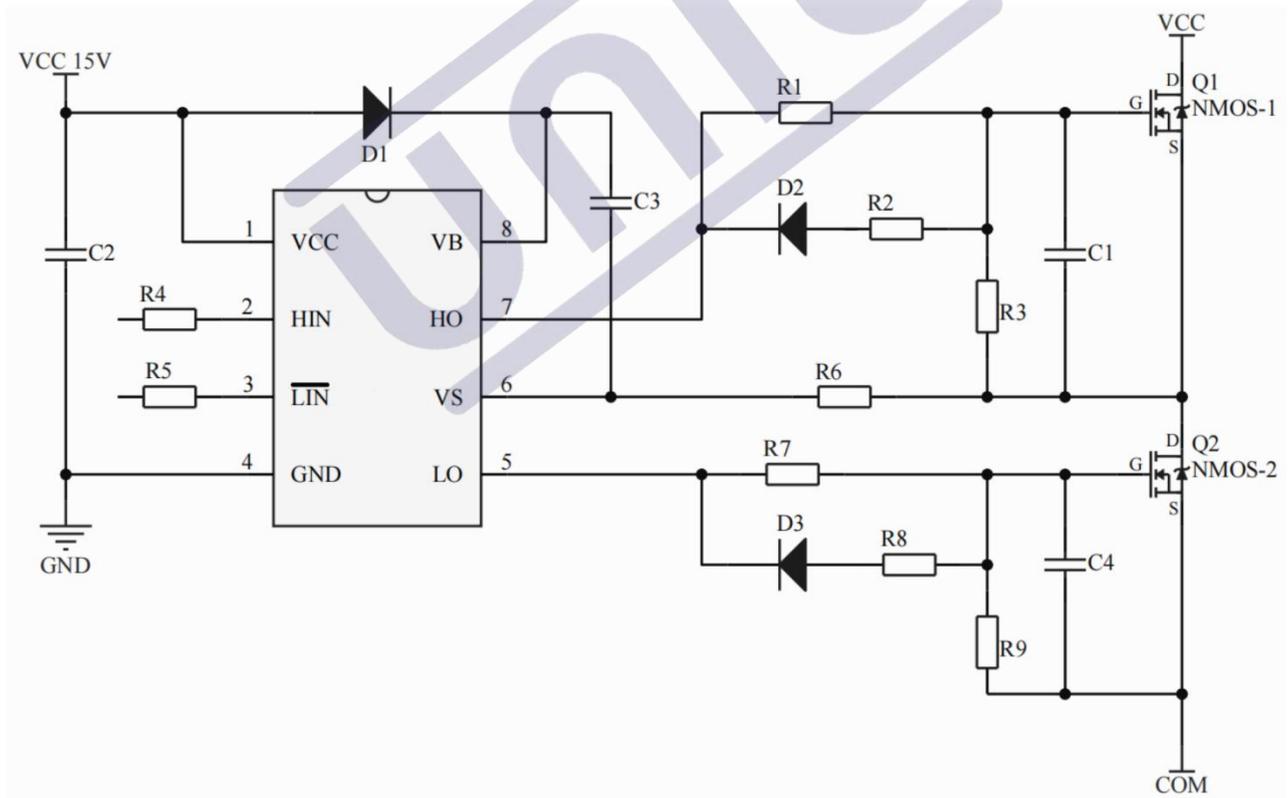
Pin Function

Number	Symbol	Type	Description
1	VCC	P	Low side and logic fixed supply
2	HIN	I	High side driver logic input (active high)
3	$\overline{\text{LIN}}$	I	Low side driver logic input (active low)
4	COM	P	Low side return
5	LO	O	Low side gate drive output
6	VS	P	High side floating supply return
7	HO	O	High side gate drive output
8	VB	P	High side floating supply

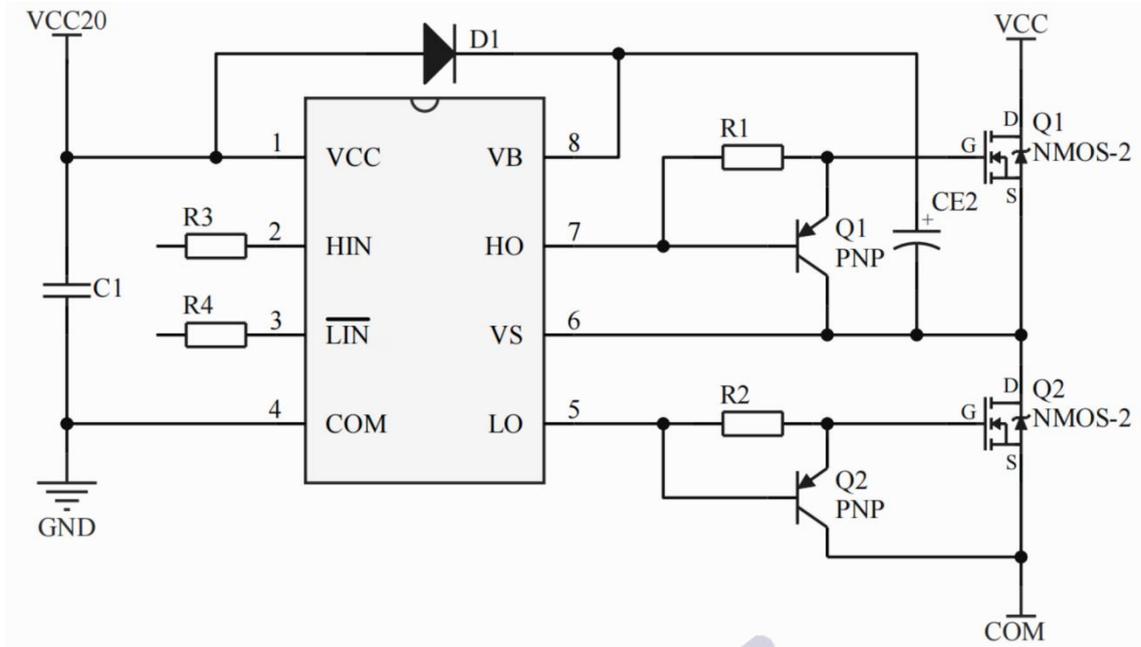
Typical Connection



Small power application



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 parameters

1、Version Record

Date	Rev.	Description
2020/04/19	1.0	First Release
2023/07/10	1.1	Optimization of Delay, Edge Time and Under Voltage Protection
2023/10/25	1.2	Add Built-in diode Application
2024/02/26	1.3	Split the U3115C and U3116C Specifications

2、Contact

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