Shaoxing Yuli Semiconductor CO.,LTD

绍 兴 宇 力 半 导 体 有 限 公 司

U4315/6 Data Sheet

V 1.1

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High Current IO+/- 0.25/0.4A 3-PHASE BRIDGE DRIVER

General Description

The U4315/6 are high voltage, high speed power MOSFET and IGBT drivers with three independent high and low side referenced output channels for 3- phase applications. Proprietary HVIC technology enables ruggedized monolithic construction. Logic inputs are compatible with CMOS or LSTTL outputs, down to 3.3V logic. A current trip function which terminates all six outputs can be derived from an external current sense resistor. An enable function is available to terminate all six outputs simultaneously. An open-drain FAULT signal is provided to indicate that an overcurrent or undervoltage shutdown has occurred. Overcurrent fault conditions are cleared automatically after a delay programmed externally via an RC network connected to the RCIN input. The output drivers feature a high pulse current buffer stage designed for minimum driver cross-conduction. Propagation delays are matched to simplify use in high frequency applications. The floating channels can be used to drive N-channel power MOSFETs or IGBTs in the high side configuration which operates up to 600 V.

Key Features

- Floating channel designed for bootstrap operation Fully operational to +600 V
- Tolerant to negative transient voltage
- Gate drive supply range from 10 V to 20 V
- Undervoltage lockout for all channels
- Over-current shutdown turns off all six drivers
- Independent 3 half-bridge drivers
- Matched propagation delay for all channels
- Cross-conduction prevention logic
- Low side output out of phase with inputs. High side outputs out of phase
- 3.3 V logic compatible
- Lower di/dt gate drive for better noise immunity
- Externally programmable delay for automatic fault clear
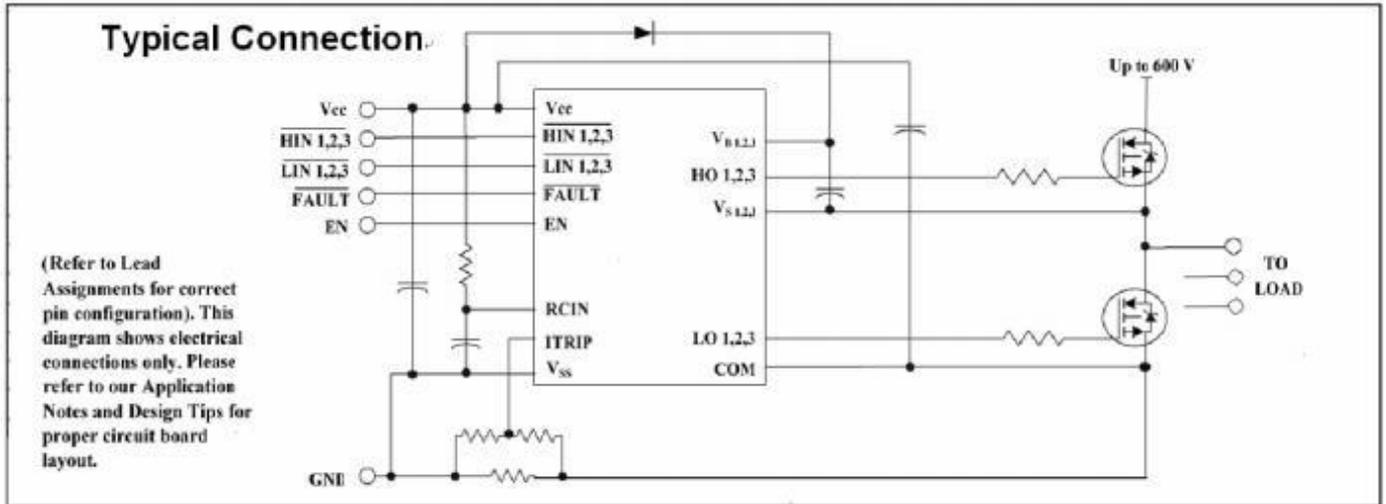- All parts are LEAD-FREE

Applications

- 3-phase motor driver
- DC - AC inverter

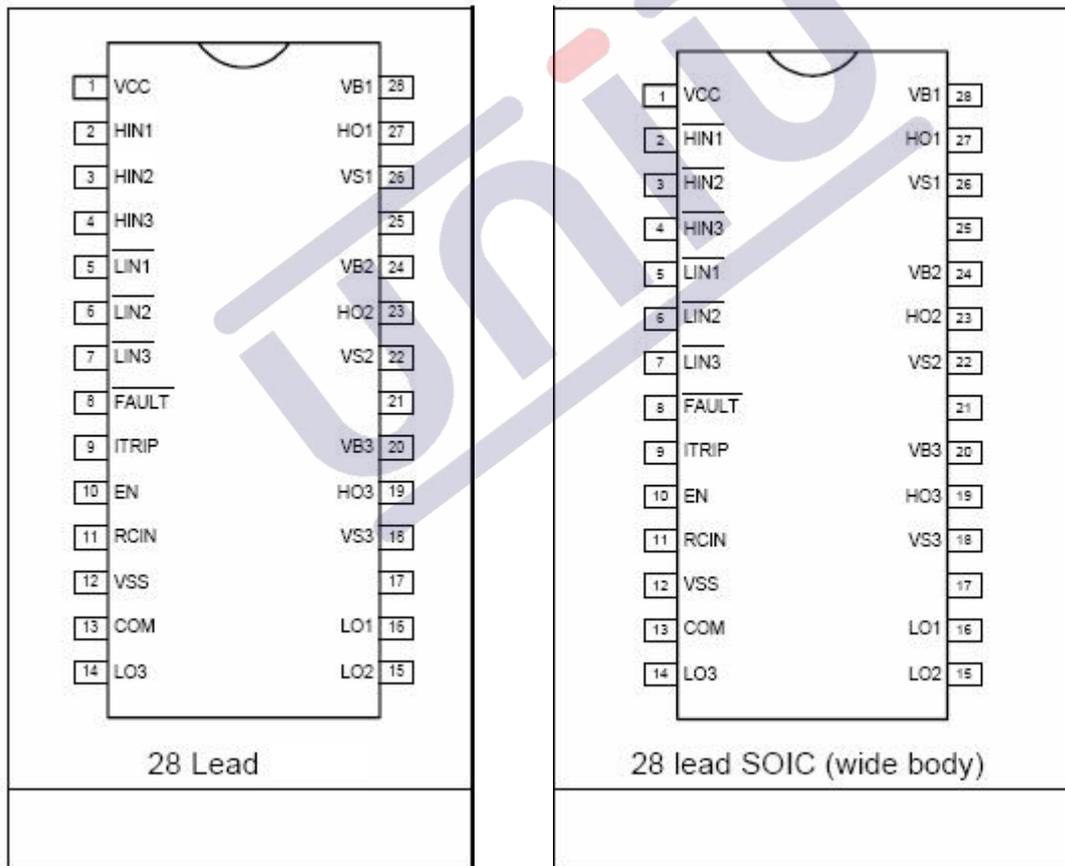## Package

28-Lead SCIC(W)

Product Summary

V_{OFFSET}	600V max
I_O+/-	0.25 A / 0.4A
VOUT	10~20V
VCC$_{on/off}$(typ.)	8V & 9V
Deadtime(typ.)	200ns
Work Tem	-40 ~125 ℃

Typical Application

Packages

28-lead SOIC

28 Lead

28 lead SOIC (wide body)

The Input/Output logic timing diagram is shown in figure 1. For proper operation the device should be used within the recommended conditions. All voltage parameters are absute referenced to COM. The VS offset rating is tested with all supplies biased at 15V differential

1、Version Record

Date	Rev.	Description
2022/10/19	1.0	First Release
2023/02/01	1.1	Layout Adjustment

2、Contact

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