



# TF2007U

## Half-Bridge Gate Driver

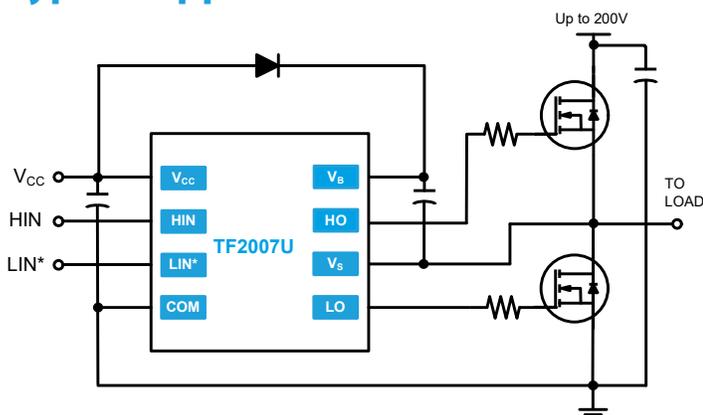
### Features

- Floating high-side driver in bootstrap operation to 200V
- Drives two N-channel MOSFETs or IGBTs in a half bridge configuration
- Designed for enhanced performance in noisy motor applications
- 290mA source/600mA sink output current capability
- Outputs tolerant to negative transients
- Internal dead time of 420ns to protect MOSFETs
- Wide low side gate driver supply voltage: 10V to 20V
- Logic input (HIN and LIN\*) 3.3V capability
- Schmitt triggered logic inputs
- Undervoltage lockout for  $V_{CC}$  (logic and low side supply)
- Extended temperature range: -40°C to +125°C

### Applications

- Motor Controls
- DC-DC Converters
- AC-DC Inverters
- Motor Drives

### Typical Application



### Description

The TF2007U is a high voltage, high speed gate driver capable of driving N-channel MOSFETs and IGBTs in a half bridge configuration. TF Semiconductors's high voltage process enables the TF2007U high side to switch to 200V in a bootstrap operation.

The TF2007U logic inputs are compatible with standard TTL and CMOS levels (down to 3.3V) to interface easily with controlling devices. The driver outputs feature high pulse current buffers designed for minimum driver cross conduction. TF2007U has a fixed internal deadtime of 420ns (typical).

The TF2007U is offered in a SOIC-8(N) package and operates over an extended -40 °C to +125 °C temperature range.



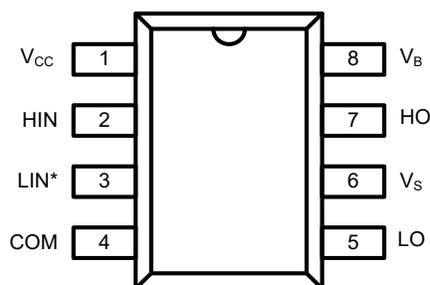
SOIC-8(N)

### Ordering Information

Year Year Week Week

PART NUMBER	PACKAGE	PACK / Qty	MARK
TF2007U-TAU	SOIC-8(N)	Tube / 100	YYWW TF2007U
TF2007U-TAH	SOIC-8(N)	T&R / 2500	Lot ID

## Pin Diagrams



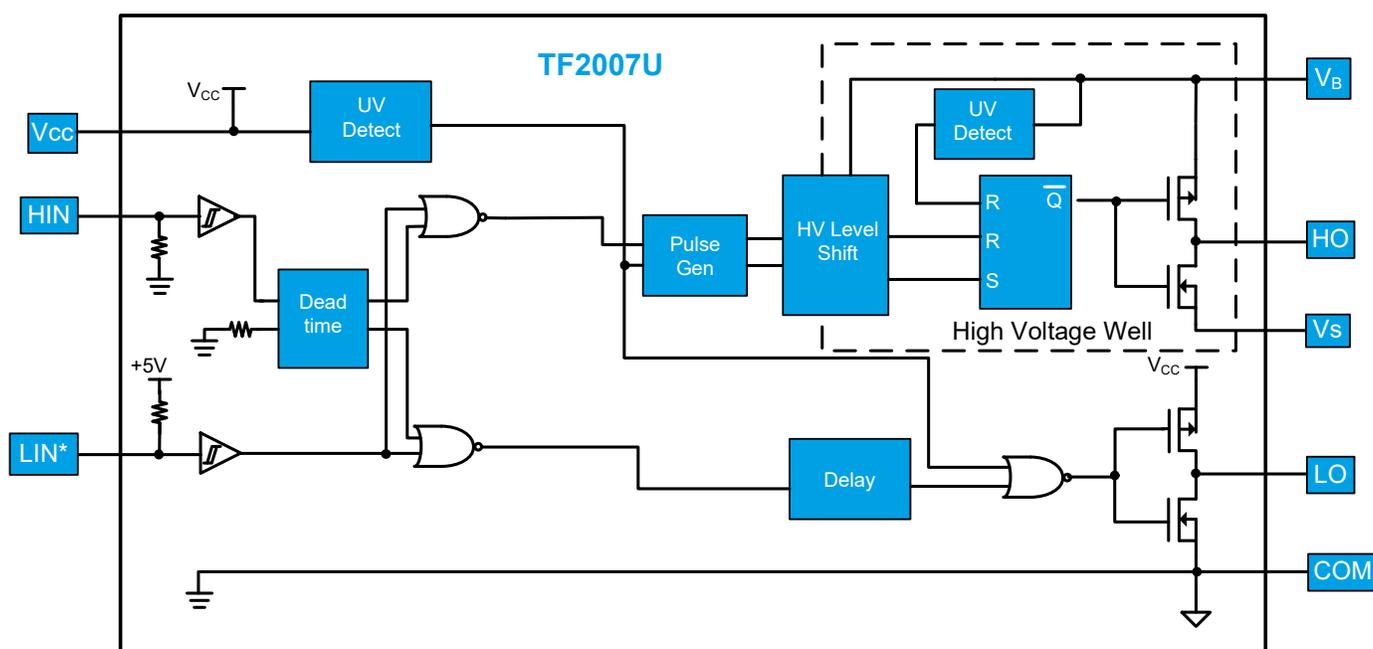
Top View: SOIC-8

TF2007U

## Pin Descriptions

PIN NAME	PIN NUMBER	PIN DESCRIPTION
$V_{CC}$	1	Logic and low side supply
HIN	2	Logic input for high-side gate driver output in phase with HO
LIN*	3	Logic input for low-side gate driver output out of phase with LO
COM	4	Low-side and logic return
LO	5	Low-side gate drive output
$V_S$	6	High-side floating supply return
HO	7	High-side gate drive output
$V_B$	8	High-side floating supply

## Functional Block Diagram





## Revision History

Rev.	Change	Owner	Date
1.0	First release, AI datasheet	D. Walton	12/5/2022

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