



**TF Semiconductor
Solutions**

TF2190(4)M

High-Side and Low-Side Gate Driver

Features

- Floating high-side driver in bootstrap operation to 600V
- Drives two N-channel MOSFETs or IGBTs in a half-bridge configuration
- Output drivers capable of 4.5A/4.5A typ sink/source
- Logic input (HIN and LIN) 3.3V capability
- Schmitt triggered logic inputs with internal pulldown
- Undervoltage lockout for high and low-side drivers
- Extended temperature range: -40°C to +125°C

Description

The TF2190M is a high voltage, high speed gate driver capable of driving N-channel MOSFET's and IGBTs in a half-bridge configuration. TF Semi's high voltage process enables the TF2190M's high side to switch to 600V in a bootstrap operation under high dV/dt conditions.

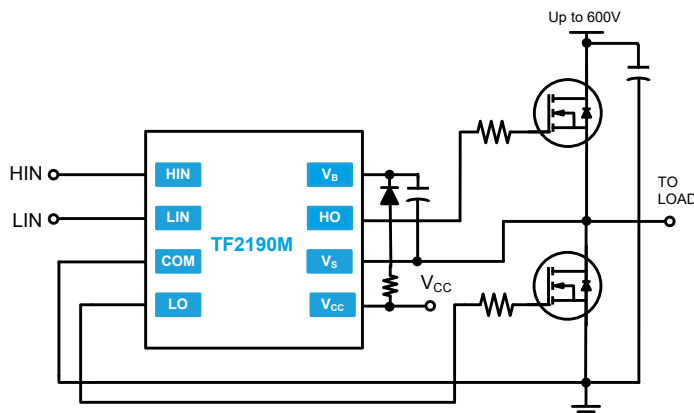
The TF2190M logic inputs are compatible with standard TTL and CMOS levels (down to 3.3V) to interface easily with controlling devices. The driver outputs feature high pulse current buffers designed for minimum driver cross conduction.

The TF2190M is offered in space saving 8-pin SOIC and the TF21904M in the 14-pin SOIC and operates over an extended -40°C to +125°C temperature range.

Applications

- Motor Controls
- DC-DC Converters
- AC-DC Inverters
- Class D Power Amplifiers

Typical Application



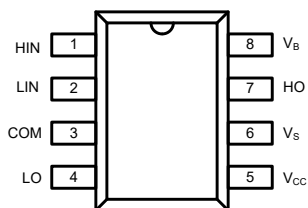
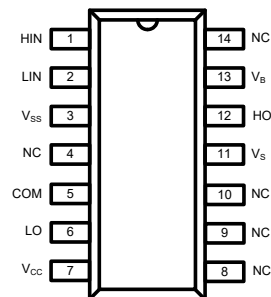
SOIC-8(N)



SOIC-14(N)

Ordering Information

PART NUMBER	PACKAGE	PACK / Qty	YearYear WeekWeek
			MARK
TF2190M-TAH	SOIC-8(N)	T&R / 2500	YYWW TF2190M Lot ID
TF21904M-TUH	SOIC-14(N)	T&R / 2500	YYWW TF21904M Lot ID

Pin Diagrams**Top View:** SOIC-8(N), TF2190M**Top View:** SOIC-14(N), TF21904M**Pin Descriptions**

PIN NAME	PIN DESCRIPTION
HIN	Logic input for high-side gate driver output, in phase with HO
LIN	Logic input for low-side gate driver output, in phase with LO
COM	Low-side and logic return
LO	Low-side gate drive output
V _{CC}	Low-side and logic fixed supply
V _S	High-side floating supply return
HO	High-side gate driver output
V _B	High-side floating supply
V _{SS}	Logic Ground (TF21904M only)



Revision History

Rev.	Change	Owner	Date
1.0	First release, datasheet	D. Walton	12/10/2022

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