

Description

The TF21844M 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 TF21844M's high side to switch to 600V in a bootstrap operation.

The TF21844M 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. Programmable dead time, by an external resistor, provides more system level flexibility.

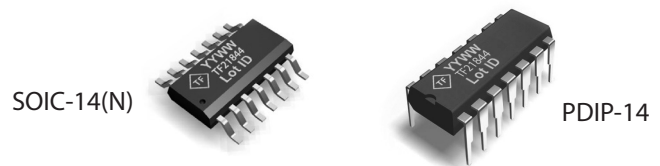
The TF21844M is offered in PDIP-14 and SOIC-14(N) packages. It operates over an extended -40 °C to +125 °C temperature range.

Features



- Floating high-side driver in bootstrap operation to 600V
- Drives two N-channel MOSFETs or IGBTs in a half-bridge configuration
- 1.4A source / 1.8A sink output current capability
- Outputs tolerant to negative transients
- Programmable dead time to protect MOSFETs
- Wide low-side gate driver supply voltage: 10V to 20V
- Wide logic supply voltage offset voltage: -5V to 5V
- Logic input (IN and SD*) 3.3V capability
- Schmitt triggered logic inputs with internal pull down
- Undervoltage lockout for high and low side drivers
- Extended temperature range:-40°C to +125°C

Applications

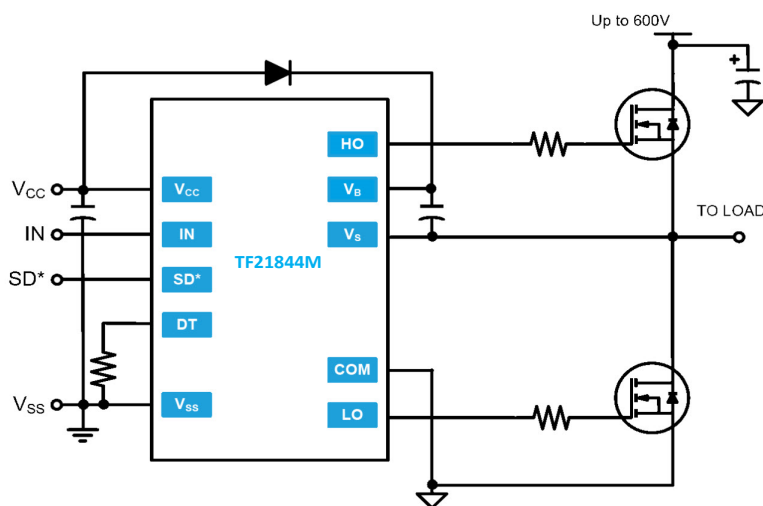
- DC-DC Converters
- AC-DC Inverters
- Motor Controls
- Class D Power Amplifiers



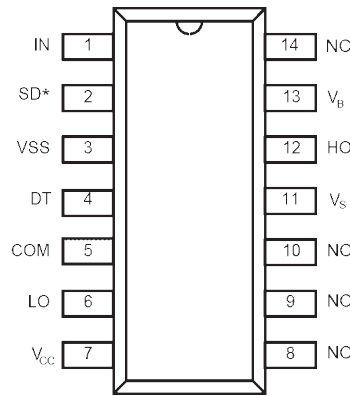
Ordering Information

PART NUMBER	PACKAGE	PACK / Qty	MARK
			Year Year Week Week
TF21844M-TUU	SOIC-14(N)	Tube / 50	 YYWW TF21844M Lot ID
TF21844M-TUH		T&R / 2500	
TF21844M-3BS	PDIP-14	Tube / 25	 YYWW TF21844M Lot ID

Typical Application



Pin Diagrams



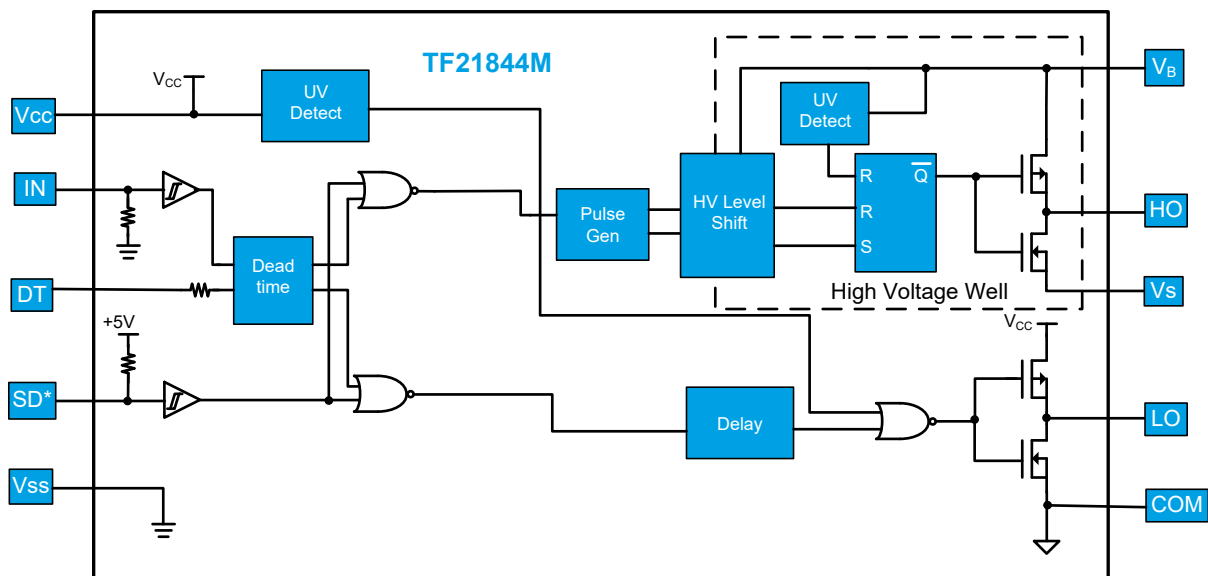
Top View: PDIP-14, SOIC-14

TF21844M

Pin Descriptions

PIN NAME	PIN DESCRIPTION
IN	Logic input for high-side and low-side gate driver outputs (HO and LO), in phase with HO (referenced to VSS).
SD*	Logic input for shutdown (referenced to VSS), enabled low.
V _{SS}	Logic ground
DT	Programmable deadtime lead, referenced to VSS.
COM	Low-side return
LO	Low-side gate drive output
V _{CC}	Low-side and logic fixed supply
V _B	High-side floating supply
HO	High-side gate drive output
V _S	High-side floating supply return

Functional Block Diagram



Revision History

Rev.	Change	Owner	Date
1.0	First release, final datasheet	D. Walton	1/25/2024

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