

# FAN7371

## High-Current High-Side Gate Drive IC

### Features

- Floating Channel for Bootstrap Operation to +600V
- 4A/4A Sourcing/Sinking Current Driving Capability
- Common-Mode dv/dt Noise Canceling Circuit
- 3.3V and 5V Input Logic Compatible
- Output In-phase with Input Signal
- Under- Voltage Lockout for  $V_{BS}$
- 25V Shunt Regulator on  $V_{DD}$  and  $V_{BS}$
- 8-Lead Small Outline Package (SOP)

### Applications

- High-Speed Gate Driver
- Sustaine Switch Driver in PDP Application
- Energy-Recovery Circuit Switch Driver in PDP Application
- High-Power Buck Converter
- Motor Drive Inverter

### Description

The FAN7371 is a monolithic high-side gate drive IC, which can drive high-speed MOSFETs and IGBTs that operate up to +600V. It has a buffered output stage with all NMOS transistors designed for high pulse current driving capability and minimum cross-conduction.

Fairchild's high-voltage process and common-mode noise canceling techniques provide stable operation of the high-side driver under high dv/dt noise circumstances. An advanced level-shift circuit offers high-side gate driver operation up to  $V_S = -9.8V$  (typical) for  $V_{BS} = 15V$ .

The UVLO circuit prevents malfunction when  $V_{BS}$  is lower than the specified threshold voltage.

The high-current and low-output voltage drop feature makes this device suitable for sustaine switch driver and energy recovery switch driver in the Plasma Display Panel application, motor drive inverter, switching power supply, and high-power DC-DC converter applications.

8-SOP



### Ordering Information

Part Number	Package	Operating Temperature Range	 Eco Status	Packing Method
FAN7371M <sup>(1)</sup>	8-SOP	-40°C ~ 125°C	RoHS	Tube
FAN7371MX <sup>(1)</sup>				Tape & Reel

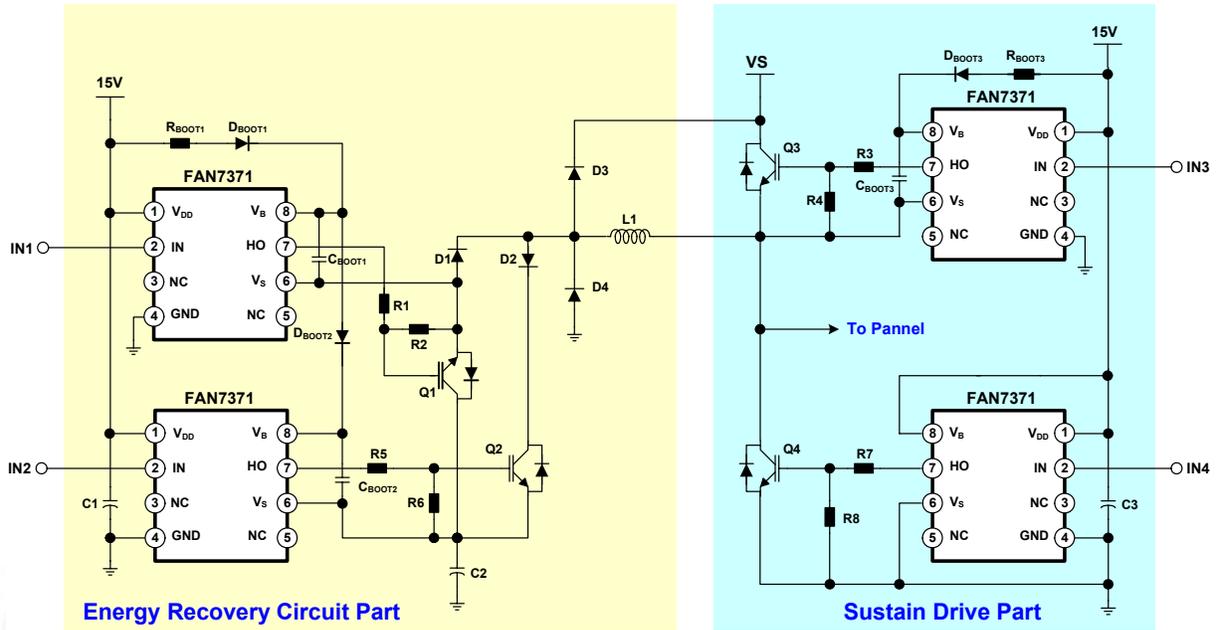
#### Note:

1. These devices passed wave soldering test by JESD22A-111.



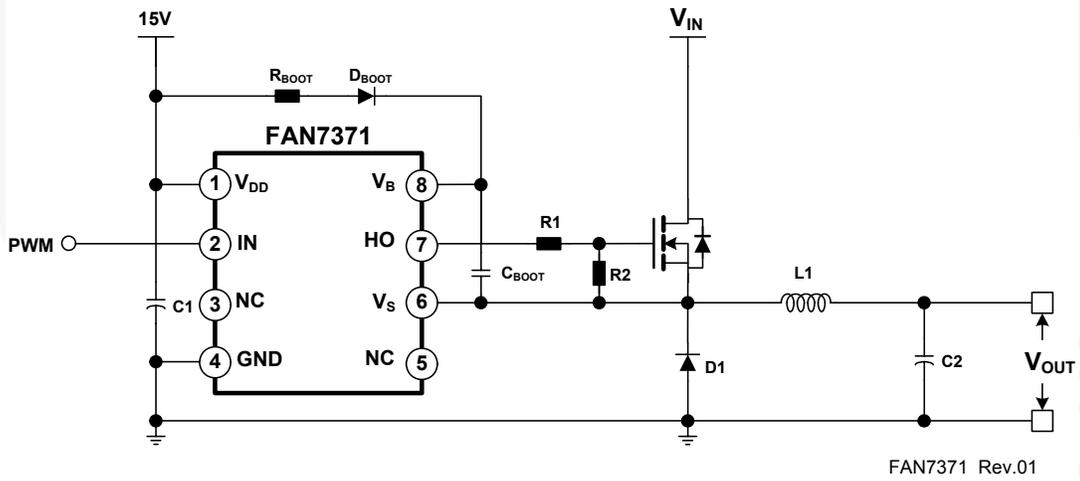
For Fairchild's definition of Eco Status, please visit: [http://www.fairchildsemi.com/company/green/rohs\\_green.html](http://www.fairchildsemi.com/company/green/rohs_green.html).

Typical Application Diagrams



FAN7371 Rev.03

Figure 1. Floated Bidirectional Switch and Half-Bridge Driver: PDP application



FAN7371 Rev.01

Figure 2. Step-Down (Buck) DC-DC Converter Application

### Internal Block Diagram

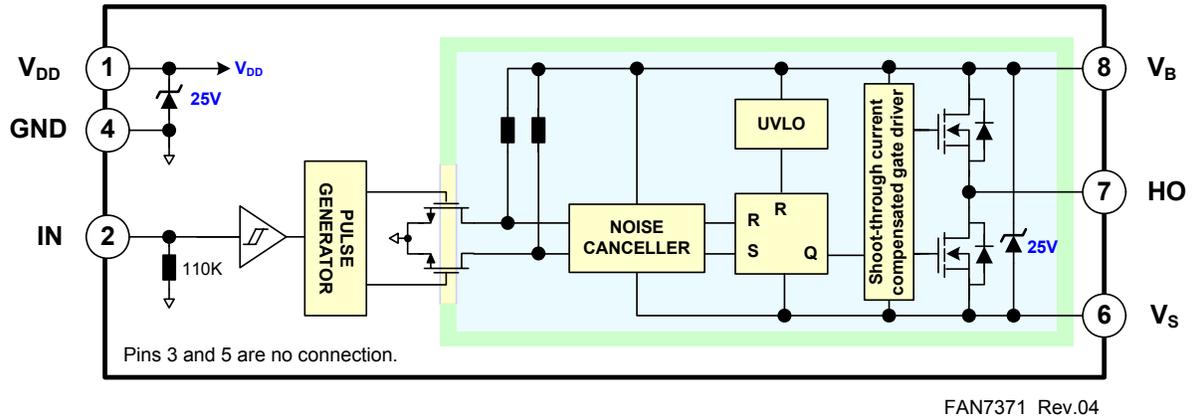


Figure 3. Functional Block Diagram

### Pin Configuration

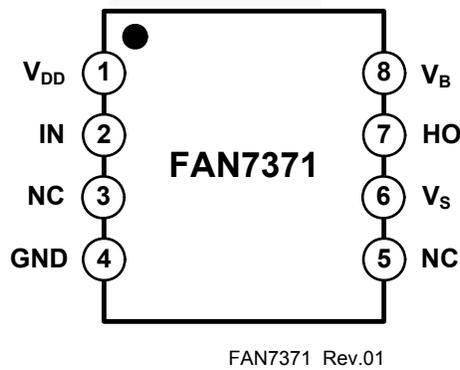


Figure 4. Pin Configuration (Top View)

### Pin Definitions

Pin #	Name	Description
1	V <sub>DD</sub>	Supply Voltage
2	IN	Logic Input for High-Side Gate Driver Output
3	NC	No Connection
4	GND	Ground
5	NC	No Connection
6	V <sub>S</sub>	High-Voltage Floating Supply Return
7	HO	High-Side Driver Output
8	V <sub>B</sub>	High-Side Floating Supply