

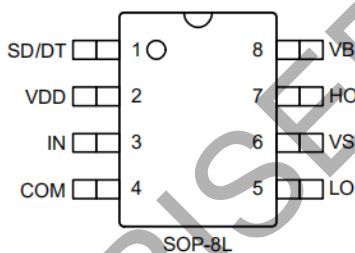
## GENERAL DESCRIPTION

The NT2105B is a single-chip half-bridge gate driver for N-channel MOSFET or IGBT. The HVIC and latch immune CMOS technologies enable ruggedized monolithic construction.

The NT2105B integrates a UVLO circuit to prevent malfunction when  $V_{DD}$  or  $V_{BS}$  is lower than the specified threshold voltages. The logic inputs are CMOS/TTL compatible down to 3.3V logic for easy interfacing with microcontroller/DSP.

The output drivers feature a high pulse current buffer stage designed for minimum driver cross-conduction. The floating channel can be used to drive an N-channel power MOSFET or IGBT in the high side configuration which operates up to 600 volts. The high current and low output voltage drop features make this device suitable for controlling direct injection actuators and for use in many automotive DC-DC converter and motor control applications.

## PIN CONFIGURATIONS



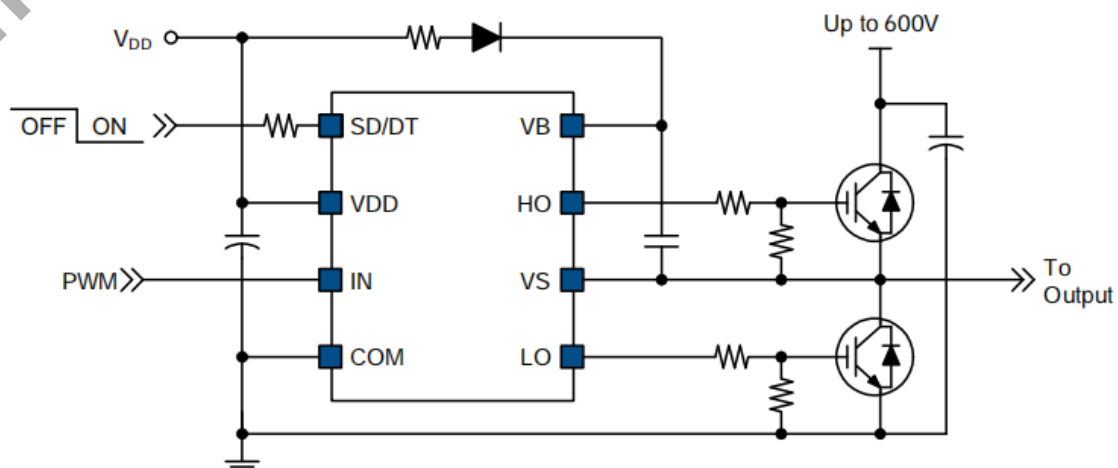
## FEATURES

- Floating Channel Designed for Bootstrap Operation
- Fully Operational to +600V
- Tolerant to Negative Transient Voltage
- 50kV/us dV/dt Immune
- Gate Driver Supply Range from 10V to 20V
- 3.3V, 5V CMOS/TTL Inputs with Hysteresis
- Cross-Conduction Prevention Logic
- Matched Propagation Delay for Both Channels
- Adjustable Dead Time
- Low Side Output in Phase with PWM Input
- RoHS Compliant and Halogen-Free SOP-8L Package

## APPLICATIONS

- Advanced Fuel Injection Systems
- Automotive High Voltage DC-DC Converters
- Starter/Alternator
- Electric Power Steering
- Motor Controls (Fans, Compressors)
- MOSFET-and IGBT High Side Driver Applications

## TYPICAL APPLICATION CIRCUIT



**FUNCTIONAL PIN DESCRIPTION**

Pin No.	Pin Name	Pin Function
1	SD/DT	Logic input for shutdown and dead time setting input.
2	VDD	Low side and logic fixed supply
3	IN	Logic input for high and low side gate driver outputs (HO and LO), in phase with LO
4	COM	Low side return
5	LO	Low side gate drive output
6	VS	High side floating supply return
7	HO	High side gate drive output
8	VB	High side floating supply

**ORDERING INFORMATION**

Order Number	Package	Top Marking
NT2105BSA8	SOP-8L	NT2105B

**Note:** Erised products are compatible with the current IPC/JEDEC J-STD-020 requirement. They are halogen-free, RoHS compliant and 100% matte tin (Sn) plating that are suitable for use in SnPb or Pb-free soldering processes.

**FUNCTIONAL BLOCK DIAGRAM**
