

1 Features

- Typical 5-A peak source and sink drive current
- Input and enable pins capable of handling -10 V
- Wide VDD operating range from 4.5 V to 30 V with UVLO
- Split output configuration
- Inverting and noninverting Inputs
- Hysteretic-logic thresholds for high noise immunity
- Fast propagation delay (20-ns typical)
- TTL and CMOS Compatible Inputs
- UVLO and over-temperature protection
- SOT-23 package

2 Applications

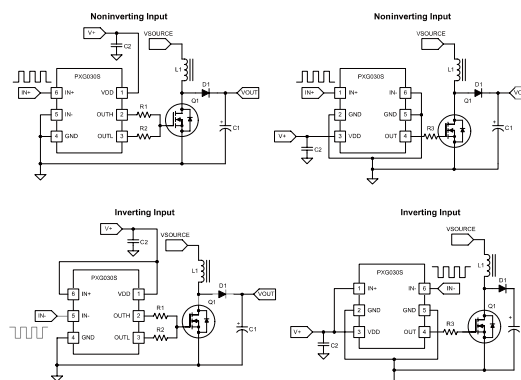
- Switched-mode power supplies (SMPS)
- Power factor correction (PFC) circuits
- DC/DC converter
- Motor drives
- Pulse transformer driver
- Solar power supplies

3 Description

The PXG030S is a single-channel, high-speed, low-side gate driver that effectively drives MOSFET, IGBT, SiC, and GaN power switches. PXG030S has a typical peak drive strength of 5-A, which reduces rise and fall times of the power switches, lowers switching losses, and increases efficiency. The device's fast propagation delay (20-ns typical) yields better power stage efficiency by improving the deadtime optimization, pulse width utilization, control loop response, and transient performance of the system. PXG030S can handle -10 V at its inputs, which improves robustness in systems with moderate ground bouncing. The inputs are independent of supply voltage and can be connected to most controller outputs for maximum control flexibility. The drive strength is independently adjustable for the pull-up and pull-down edges by connecting external resistors between the gate and OUTH and OUTL, respectively.

The PXG030S also features undervoltage lockout (UVLO) for improved system robustness. The driver features undervoltage lockout (UVLO) and over-temperature protection (OTP) to ensure the device is not damaged in overload or fault conditions.

Typical (Simplified) System Diagram



Simplified Application Diagram