

5-A Peak, High Frequency, Dual Low-Side Driver

1. Description

The MD18624 high-frequency gate driver is designed to drive both low-side N-Channel MOSFETs with maximum control flexibility of independent inputs.

Each channel can source and sink 5A peak current along with rail-to-rail output capability. Less than 10ns rise and fall time with 2.2nF load decrease the switching loss of MOSFET.

MD18624 has 11ns rising and falling propagation delay which allows the systems operating at high frequency with less delay matching variations. These delays are very suited for applications requiring dual-gate drivers with critical timing, such as synchronous rectifiers. When connecting two channels in parallel to increase current-drive capability, intelligent stack detection circuit is implemented to add extra 5ns dead-time between the two channels to avoid shoot through current without adding external series resistor.

The inputs can handle -10V to 20V PWM, which increases robustness against ringing from gate transformer and/or parasitic inductance of long routing traces. The input PINs thresholds are fixed and independent of the VDD supply voltage. The MD18624 is offered in 3x3 DFN-8, SOP-8, EMSOP-8 packages

2. Typical Applications

- Power Supplies for Telecom, Datacom, and 48V to 72V Battery Powered Systems
- Switch-Mode Power Supplies
- Motor Control, Solar Power

3. Features

- 4.5V to 26V VDD Operating Range, 28V ABS MAX
- Input Pins Can Tolerate -10V to +26V, and are Independent of Supply Voltage Range
- Operating Switching Frequency up to 1MHz
- 5-A Source and Sink Output Peak Currents
- Less than 10ns Rise and Fall Time with 2.2nF Load
- Fast Propagation Delay (11ns Typical)
- Excellent Propagation Delay Matching (1ns Typical)
- TTL and CMOS Compatible Inputs
- Symmetrical Undervoltage Lockout for Channel A and Channel B
- Industry-standard-compatible Pinout
- Available in 3x3 DFN-8, SOP-8, EMSOP-8 Packages
- Specified from -40°C to 140°C

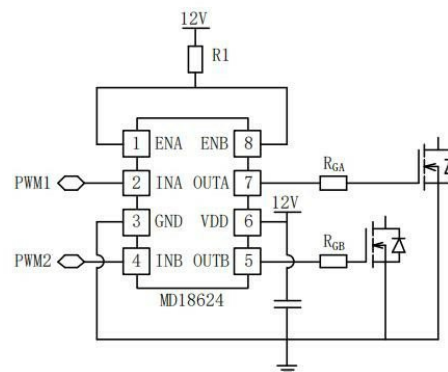


Figure 1. Typical Application Diagram