MIC4426/7/8

Dual 1.5A-Peak Low-Side MOSFET Drivers

Features

- Bipolar/CMOS/DMOS Construction
- Latch-Up Protected to >500 mA Reverse Current
- 1.5A-Peak Output Current
- 4.5V to 18V Operating Range
- Low Quiescent Supply Current
  - 4 mA at Logic 1 Input
  - 400 µA at Logic 0 Input
- Switches 1000 pF in 25 ns
- Matched Rise and Fall Times
- 7Ω Output Impedance
- <40 ns Typical Delay
- Logic-Input Threshold Independent of Supply Voltage
- Logic-Input Protection to –5V
- 6 pF Typical Equivalent Input Capacitance
- 25 mV Max. Output Offset from Supply or Ground
- Replaces MIC426/7/8 and MIC1426/7/8
- Dual inverting, dual non-inverting, and inverting/non-inverting configurations
- ESD Protection

Applications

- MOSFET Driver
- Clock Line Driver
- Coax Cable Driver
- Piezoelectric Transducer Driver

General Description

The MIC4426/4427/4428 family are highly reliable dual low-side MOSFET drivers fabricated on a BiCMOS/DMOS process for low power consumption and high efficiency. These drivers translate TTL or CMOS input logic levels to output voltage levels that swing within 25 mV of the positive supply or ground. Comparable bipolar devices are capable of swinging only to within 1V of the supply. The MIC4426/7/8 is available in three configurations: dual inverting, dual non-inverting, and one inverting plus one non-inverting output.

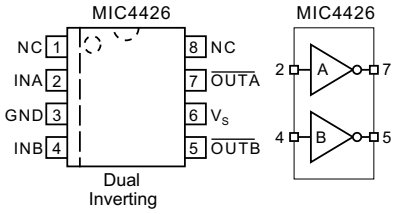
The MIC4426/4427/4428 are pin-compatible replacements for the MIC426/427/428 and MIC1426/1427/1428 with improved electrical performance and rugged design. They can withstand up to 500 mA of reverse current (either polarity) without latching and up to 5V noise spikes (either polarity) on ground pins.

Primarily intended for driving power MOSFETs, MIC4426/7/8 drivers are suitable for driving other loads (capacitive, resistive, or inductive) that require low-impedance, high peak current, and fast switching time. Other applications include driving heavily loaded clock lines, coaxial cables, or piezoelectric transducers. The only load limitation is that total driver power dissipation must not exceed the limits of the package.

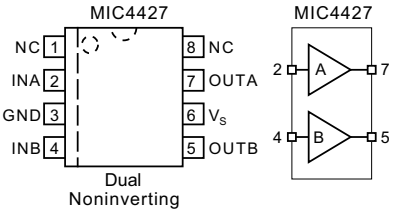
See MIC4126/4127/4128 for high power and narrow pulse applications.

Package Types

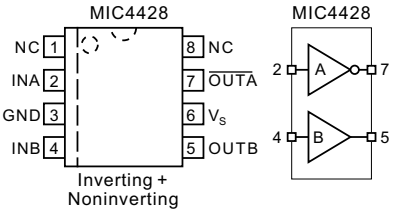
MIC4426
SOIC-8 (M)
MSOP-8 (MM)
PDIP-8 (N)
(Top View)



MIC4427
SOIC-8 (M)
MSOP-8 (MM)
PDIP-8 (N)
(Top View)



MIC4428
SOIC-8 (M)
MSOP-8 (MM)
PDIP-8 (N)
(Top View)



Functional Block Diagram