

Product Overview

FAN3224TU_F085: Low-Side Gate Drivers, Dual 4-A High-Speed

For complete documentation, see the data sheet.

The FAN3223-25 family of dual 4 A gate drivers is designed to drive N-channel enhancement-mode MOSFETs in low-side switching applications by providing high peak current pulses during the short switching intervals. The driver is available with either TTL or CMOS input thresholds. Internal circuitry provides an under-voltage lockout function by holding the output LOW until the supply voltage is within the operating range. In addition, the drivers feature matched internal propagation delays between A and B channels for applications requiring dual gate drives with critical timing, such as synchronous rectifiers. This also enables connecting two drivers in parallel to effectively double the current capability driving a single MOSFET.

The FAN322X drivers incorporate MillerDrive™ architecture for the final output stage. This bipolar-MOSFET combination provides high current during the Miller plateau stage of the MOSFET turn-on / turn-off process to minimize switching loss, while providing rail-to-rail voltage swing and reverse current capability.

The FAN3223 offers two inverting drivers and the FAN3224 offers two non-inverting drivers. Each device has dual independent enable pins that default to ON if not connected. In the FAN3225, each channel has dual inputs of opposite polarity, which allows configuration as non-inverting or inverting with an optional enable function using the second input. If one or both inputs are left unconnected, internal resistors bias the inputs such that the output is pulled LOW to hold the power MOSFET OFF.

Features

- Industry-Standard Pinouts
 - 4.5-V to 18-V Operating Range
 - 5-A Peak Sink/Source at $V_{DD} = 12\text{ V}$
 - 4.3-A Sink / 2.8-A Source at $V_{OUT} = 6\text{ V}$
 - Choice of TTL or CMOS Input Thresholds
 - Three Versions of Dual Independent Drivers:
 - -Dual Inverting + Enable (FAN3223)
 - -Dual Non-Inverting + Enable (FAN3224)
 - -Dual-Inputs (FAN3225)
 - Internal Resistors Turn Driver Off If No Inputs
 - MillerDrive™ Technology
 - 12-ns / 9-ns Typical Rise/Fall Times (2.2-nF Load)
 - Under 20-ns Typical Propagation Delay Matched within 1 ns to the Other Channel
- For more features, see the data sheet

Applications

- Switch-Mode Power Supplies
- High-Efficiency MOSFET Switching
- Synchronous Rectifier Circuits
- DC-to-DC Converters
- Motor Control

Part Electrical Specifications

Product	Compliance	Status	Type	Number of Drivers	V_{in} Max (V)	V_{CC} Max (V)	Drive Source/Sink Typ (mA)	Rise Time (ns)	Fall Time (ns)	t_p Max (ns)	Package Type
FAN3224TUMX-F085	AEC Qualified PPAP Capable Pb-free Halide free	Active	MOSFET	2	-	18	5000	12	9	34	SOIC-8

For more information please contact your local sales support at www.onsemi.com.

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