



New Product Announcement

DGD0579U

100V High-Frequency Gate Driver Raises System Power Efficiency While Saving Board Space

The DGD0579U high-side and low-side gate driver is designed for driving two external N-channel MOSFETs in a half-bridge configuration, commonly used in motor control and DC-DC power delivery applications such as cordless power tools, e-bikes, battery chargers and inverters.

Designed to provide well matched and minimal propagation delays, the DGD0579U facilitates high-frequency switching, enabling the use of smaller associated system components; this improves board space utilization and flexibility for compact designs.

The DGD0579U easily interfaces with TTL and CMOS levels (down to 3.3V), typically found on MCU's and PWM controllers. Providing high current output (1.5A source / 2.5A sink), minimizes MOSFET switching time and thereby increases system efficiency.

The DGD0579U features integrated protection for the connected MOSFETs, which includes cross conduction prevention logic and undervoltage lockout (UVLO), reducing component count and improving system reliability.

An internal bootstrap diode further optimizes available board space.

The DGD0579U is packaged in the compact W-DFN3030-10 with 0.75mm low-profile height and 3mm x 3mm footprint.



The Diodes Advantage

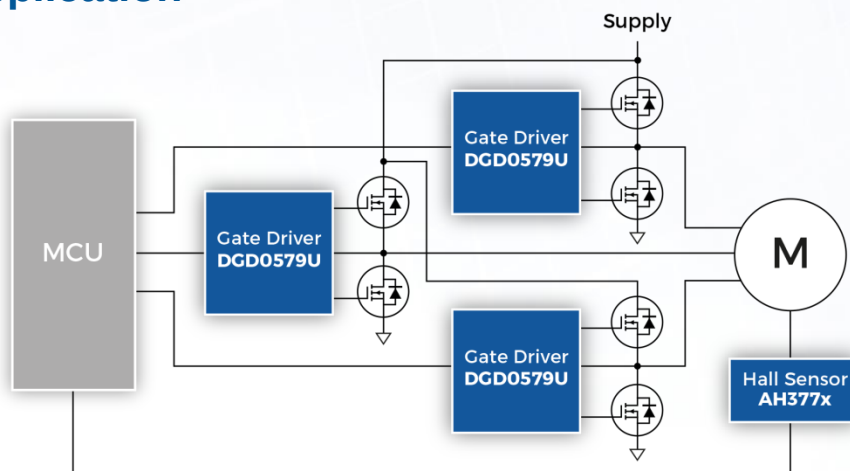
The DGD0579U provides a compact, high-performance solution for half-bridge driving applications

- **High frequency switching**
Uses smaller associated components for compact designs
- **Cross conduction prevention logic and UVLO**
Integrated output protection improves system reliability
- **Internal bootstrap diode**
Improves board space utilization and reduces BoM cost
- **Small form factor**
Reduces system design size
- **Ultra-low standby current (<1μA)**
Improves running times in battery applications

Applications

- Power delivery
- DC-DC converters
- Inverters
- Motor control
- Portable appliances
- Cordless power tools

Typical Application



3-Phase BLDC Motor Control

High-side and Low-side Gate Drivers in W-DFN3030

Product	Inputs	Offset voltage (Max.) (V)	Output current (Typ.)		Turn-on/ off delay (Typ.)		Turn-on/ off time(Typ.)		Package
			I _{o+} (A)	I _{o-} (A)	t _{ON} (ns)	t _{oF} (ns)	t _R (ns)	t _F (ns)	
DGD0579U	HIN, LIN, EN	100	1.5	2.5	65	58	19	15	W-DFN3030-10
DGD05473		50	1.5	2.5	20	23	16	12	W-DFN3030-10

@T_A = +25°C

Cross Reference

Part	Texas Instruments®	Monolithic Power Systems Inc®
DGD0579UFN-7	LM5108DRCR*	MP1907GQ-Z*

*Pin Equivalent; Electrical specifications are not identical

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Ordering Information

Orderable Part Number	Package	Size (Typ.) (mm)	Packing	
			Quantity	Carrier
DGD0579UFN-7	W-DFN3030-10 (Type TH)	3 x 3 x 0.75	3000	7" Reel (8mm tape)