

Product Overview

FOD8314: 1.0 A Output Current, Gate Drive Optocoupler in Stretched Body SOP 6-Pin

For complete documentation, see the data sheet.

The FOD8314 series is a 1.0 A output current gate drive optocoupler, capable of driving medium-power IGBT/MOSFETs. It is ideally suited for fast-switching driving of power IGBT and MOSFET used in motor-control inverter applications, and high-performance power systems.

The FOD8314 series utilizes stretched body package to achieve 8 mm creepage and clearance distances (FOD8314T), and optimized IC design to achieve reliably high-insulation voltage and high-noise immunity.

The FOD8314 series consists of an Aluminum Gallium Arsenide (AlGaAs) Light-Emitting Diode (LED) optically coupled to an integrated circuit with a high-speed driver for push-pull MOSFET output stage. The device is housed in a stretched body, 6-pin, small outline, plastic package.

Features

- FOD8314T - 8 mm Creepage and Clearance Distance, and 0.4 mm Insulation Distance to Achieve Reliable and High-Voltage Insulation
- 1.0 A Output Current Driving Capability for Medium-Power IGBT/MOSFET
 - Use of P-Channel MOSFETs at Output Stage Enables Output Voltage Swing Close to Supply Rail
- 20 kV/μs Minimum Common Mode Rejection
- Wide Supply Voltage Range: 15 V to 30 V
- Fast Switching Speed Over Full Operating Temperature Range
 - 500 ns Maximum Propagation Delay
 - 300 ns Maximum Pulse Width Distortion
- Under-Voltage Lockout (UVLO) with Hysteresis
- Extended Industrial Temperature Range: -40°C to 100°C
- Safety and Regulatory Approvals:
 - UL1577, 5,000 VACRMS for 1 Minute
 - DIN EN/IEC60747-5-5, 1,140 V Peak Working Insulation Voltage

Applications

- AC and Brushless DC Motor Drives
- Industrial Inverter
- Uninterruptible Power Supply
- Induction Heating
- Isolated IGBT/Power MOSFET Gate Drive

Part Electrical Specifications

Product	Compliance	Status	I_{FLH} (Max) (mA)	I_{DDL}, I_{DDH} (Max) (mA)	I_{OL}, I_{OH} (Min) (A)	t_{PHL}, t_{PLH} (Max) (ns)	PWD (Max) (ns)	V_{UVLO} (Typ) (V)	V_{UVLO-} (Typ) (V)	CMR (Min) (kV/μs)	V_{ISO} (Min) (V)	T_{OPR} (Min) (°C)	T_{OPR} (Max) (°C)	Package Type
FOD8314	Pb-free	Active	7.5	5	1	500	300	12.7	11.2	20	5000	-40	100	SOIC-6
FOD8314R2	Pb-free	Active	7.5	5	1	500	300	12.7	11.2	20	5000	-40	100	SOIC-6
FOD8314T	Pb-free	Active	7.5	5	1	500	300	12.7	11.2	20	5000	-40	100	SOIC6W
FOD8314TR2	Pb-free	Active	7.5	5	1	500	300	12.7	11.2	20	5000	-40	100	SOIC6W
FOD8314TR2V	Pb-free	Active	7.5	5	1	500	300	12.7	11.2	20	5000	-40	100	SOIC6W

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

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