

Photovoltaic MOSFET Driver in Compact SOP-4 Package

AEC-Q102 Qualified MOSFET Driver With Integrated Turn-Off Circuit Allows Fast Switching Times



ADVANTAGE



VOMDA1271 Automotive Grade photovoltaic MOSFET driver features a turn-off circuit, combines industry's fastest switching times and highest open circuit output voltage of 8.5 V

MARKETS AND APPLICATIONS



MOBILITY

- Automotive electrification (e-Powertrain)
- Transportation
- Agricultural equipment



ENERGY SECTOR

- Storage

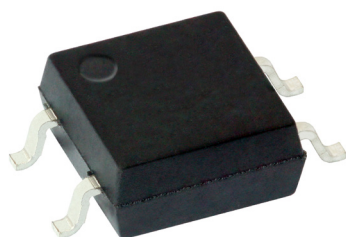


INDUSTRIAL

- Automation
- Infrastructure

KEY PRODUCT FEATURES

- ✓ Integrated turn-off circuit enables a turn-off time of 0.7 ms typical, the fastest for a MOSFET driver in the SOP-4 footprint, turn-on time of 0.05 ms is twice as fast as competing devices
- ✓ No external power supply needed.
- ✓ Optically isolated and high isolation voltage of 3750 V.
- ✓ Wide operating temperature range: -40 °C to +125 °C.



RESOURCES





ADDITIONAL BENEFITS

- To generate the higher voltages needed to drive IGBTs and SiC MOSFETs, two VOMDA1271 optocouplers can be used in series
- The driver enables to create custom solid-state relays to replace legacy electromechanical relays in next-generation vehicles to increase reliability, lower costs, and save space

The optically isolated VOMDA1271 features an AlGaAs infrared LED (IRLED), which emits light that is absorbed by a photovoltaic gate array, generating the voltage used to turn on a MOSFET. This construction simplifies designs and lowers costs by eliminating the need for an external power supply. For even greater design flexibility, the device can be driven by a microcontroller's GPIO pin.

Market Applications

Pre-charge circuits, wall chargers, and battery management systems (BMS) for electric (EV) and hybrid electric (HEV) vehicles.

Application Schematic

