Omnirel 205 Crawford St. Leominster, MA 01453 (978)534-5776 Fax(978)537-4246, www.omnirel.com

**OM9405SM**

# DUAL IGBT GATE DRIVER

For Driving IGBT Modules
600V and 1200V, 150A to 600A

## FEATURES

- Rugged Plug-In Package
- Built in Short Circuit Protection with Fault Output
- High CMRR Optocoupler
- CMOS/TTL Compatible Input Interface

## DESCRIPTION

This series of gate drivers are ideally suited for driving the CERMOD™ family of IGBT Power Modules, where small size, high performance and high reliability are required. Designed specifically for high power motor controls, inverters, switching power supplies, choppers and high energy pulse circuits in the aerospace, defense, transportation, industrial and medical equipment industries.

## ABSOLUTE MAXIMUM RATINGS (Tc=25°c unless otherwise noted)

| Characteristic | Symbol | Min. | Typ. | Max. | UNIT |
|---|---|---|---|---|---|
| Operating Temperature | $T_A$ | 0 | - | 85 | °C |
| Peak Output Current | $I_{O(PEAK)}$ | - | - | 8 | A |
| Logic Input Voltage | $V_{CC}$ | - | 5 | 5.25 | V |
| Total Gate Supply Voltage | $V_G$ | | | 35 | V |
| Gate Negative Supply Voltage | $-V_G$ | -10 | - | - | V |
| Fault Output current | $I_{FLT}$ | - | - | 8 | mA |
| Isolation Voltage | Vis | | | 2500 | VAC 1min |

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**ELECTRICAL CHARACTERISTICS: OM9405SM (Tc= 25°C unless otherwise specified)**

| Parameter | Test Condition | Min. | Typ. | Max | Unit |
|---|---|---|---|---|---|
| **SWITCHING CHARACTERISTICS** | | | | | |
| $t_{PLH}$ Signal to High Level Output Propagation Delay Time | $R_G$=2.5Ω, $C_G$=2200pF $f_{PWM}$=10kHz Duty=50% | 0.15 | 0.30 | 0.55 | µS |
| $t_{PHL}$ Signal to Low Level Output Propagation Delay Time | | 0.15 | 0.32 | 0.55 | µS |
| ($t_{PHL}$-$t_{PLH}$ ) Propagation Delay Difference Between Channels | | -0.4 | 0.4 | | µS |
| tr Rise Time | | | 0.15 | | µS |
| tf Fall Time | | | 0.15 | | µS |
| I CM I Output Common Mode Transient Immunity | $V_{CM}$=1500V | 15 | 25 | | kV/µS |
| $V_C$ Desat. (Collector) Threshold | | 6.5 | 7.0 | 7.5 | V |
| $V_{SIG}$ Logic Low Signal Voltage | | | | 0.8 | V |
| $V_{SIG}$ Logic High Signal Voltage | | 2.0 | | | V |
| $I_{SIG}$ Logic Low Current | $V_{IN}$=0.4V | -0.5 | -0.4 | | mA |
| $V_{UVLO+}$ UVLO Threshold Positive | $V_{OUT}$>5V | 11.5 | 13.0 | 13.6 | V |
| $V_{UVLO-}$ UVLO Threshold Negative | $V_{OUT}$<5V | | 11.8 | 12.4 | V |
| **SUPPLY VOLTAGES** | | | | | |
| $V_{CC}$ Logic Input Voltage (Recommended) | | 4.75 | 5 | 5.25 | V |
| $V_G$ Floating Gate Supply Voltage (Recommended) | | 30 | 32 | 35 | V |

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# MECHANICAL OUTLINE

## APPLICATION CIRCUIT