

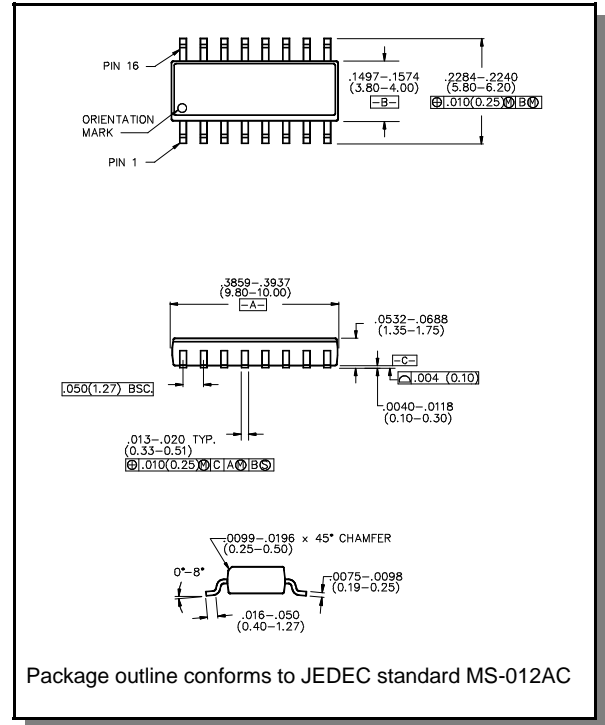
Features

- High Speed CMOS Technology
- Complementary Positive Voltage Outputs for driving series and shunt FETS
- TTL Inputs
- Low Power Dissipation
- Plastic SOIC Package for SMT Applications
- Tape and Reel Packaging Available
- Low Output Impedance for Driving Capacitive Circuits

Description

M/A-COM's DR65-0008 is a Quad channel driver used to translate TTL control inputs into gate voltages for Positive Voltage, GaAs FET microwave switches and attenuators. High speed analog CMOS technology is utilized to achieve low power dissipation at moderate to high speeds, encompassing most microwave switching applications.

SO-16



Guaranteed Operating Ranges

| Parameter | Test Conditions ¹ | Units | Min | Typ | Max |
|-----------------|---------------------------------|-------|-----|-----|-----|
| V _{CC} | Positive DC Supply Voltage | V | 4.5 | 5.0 | 5.5 |
| T _A | Operating Ambient Temperature | °C | -40 | +25 | +85 |
| I _{OH} | DC Output Current - Source | mA | 30 | — | — |
| I _{OL} | DC Output Current - Sink | mA | -30 | — | — |
| Trise, Tfall | Maximum Input Rise or Fall Time | nS | — | — | 500 |

1. All voltages are relative to GND

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|------------------------------|--------------------------------|
| V _{CC} | -.5V to +6.0 V |
| V _{IN} ² | -.5V to V _{CC} + .5 V |
| V _{OUT} | 0.0V to V _{CC} |
| Storage Temperature | -65°C to +150°C |

2. Standard CMOS TTL interface, latch-up will occur if logic signal is applied prior to power supply.

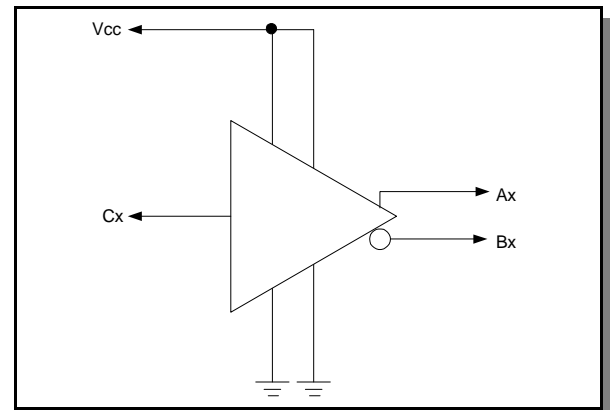
Truth Table

| Input | Outputs | |
|----------------|-----------------|-----------------|
| C _x | A _x | B _x |
| 0 | GND | V _{CC} |
| 1 | V _{CC} | GND |

Pin Configuration

| PIN | Function | PIN | Function |
|-----|-----------------|-----|-----------------|
| 1 | A3 | 9 | C2 |
| 2 | B3 | 10 | C1 |
| 3 | A4 | 11 | V _{CC} |
| 4 | B4 | 12 | GND |
| 5 | GND | 13 | A1 |
| 6 | V _{CC} | 14 | B1 |
| 7 | C4 | 15 | A2 |
| 8 | C3 | 16 | B2 |

Logic Diagram



AC & DC Characteristics Over Guaranteed Operating Range

| Symbol | Parameter | Test Conditions | Units | Min | Typ | Max |
|-------------------------------------|--|--|-------|-----------------------|-----|-------|
| V _{IH} | Input HIGH Voltage | Guaranteed HIGH Input Voltage | V | 2.0 | — | — |
| V _{IL} | Input LOW Voltage | Guaranteed LOW Input Voltage | V | — | — | 0.8 |
| V _{OH} | Output HIGH Voltage | I _{OH} = 1 mA | V | V _{CC} - 0.1 | — | — |
| V _{OL} | Output LOW Voltage | I _{OL} = -1 mA | V | — | — | .1 |
| I _{IN} | Input Leakage Current | V _{IN} = V _{CC} or GND | μA | -10.0 | 0 | +10.0 |
| I _{CC} | Quiescent Supply Current | V _{CC} = Max | μA | — | — | 400 |
| ΔI _{CC} | Additional Supply Current, per TTL Input pin | V _{CC} = Max | mA | — | — | 1.0 |
| T _{PHL} , T _{PLH} | Propagation Delay | Guaranteed -40° C to +85° C | nS | — | 30 | 50 |
| T _{THL} , T _{TLH} | Output Transition Time | Guaranteed -40° C to +85° C | nS | — | 10 | 25 |
| T _{SKEW} | Delay Skew, Output A to Output B | Guaranteed -40° C to +85° C | nS | — | — | 8 |
| R _{out} | Output Resistance | I _O = ±30 mA | Ω | — | 40 | — |

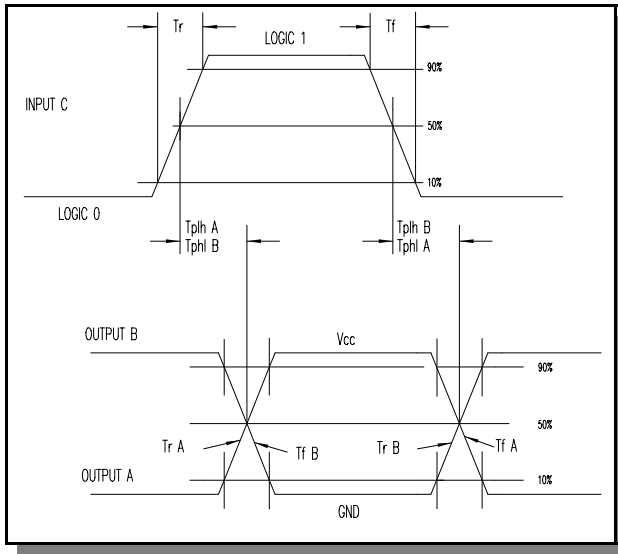
See Switching Wave Forms for the definition of the switching terms.
V_{CC} must be by-passed with .01 μF Capacitors.
Unused inputs must be tied to Ground

Specifications subject to change without notice.

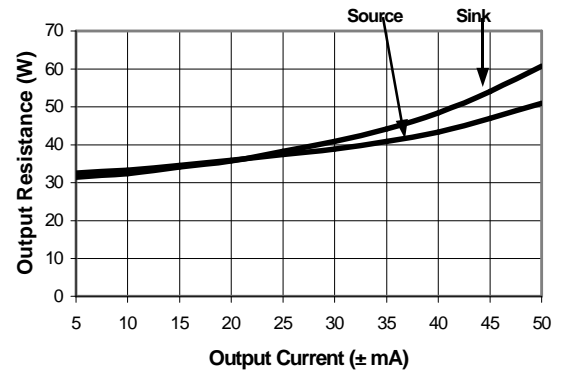
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- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

Visit www.macom.com for additional data sheets and product information.

Switching Waveforms



Output Impedance vs. Output Current



Ordering Information

| Part Number | Package |
|--------------|-----------------------|
| DR65-0008 | Bulk Packaging |
| DR65-0008-TR | Tape & Reel (1K Reel) |

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