



# Single Driver for GaAs FET Switches and Attenuators

V 1.00

DR65-0109

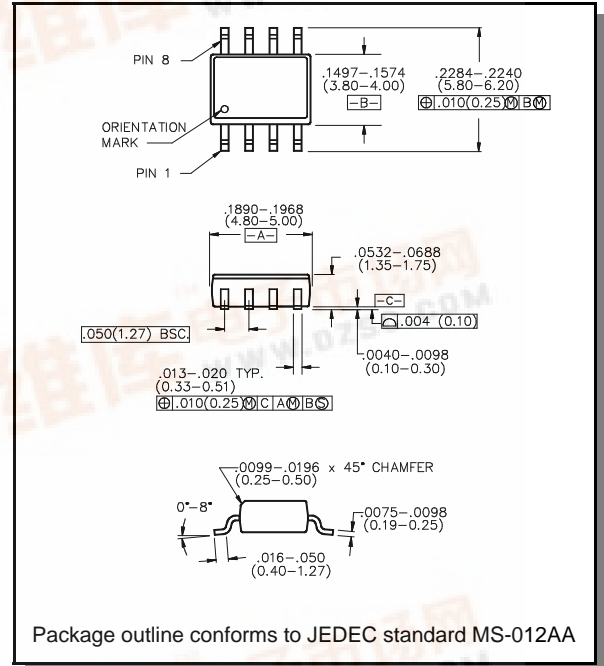
## Features

- High Speed CMOS Technology
- Complementary Outputs
- Positive Voltage Control
- Low Power Dissipation
- Plastic SOIC Package for SMT Applications
- Tape and Reel Packaging Available

## Description

M/A-COM's DR65-0109 is a Single channel driver used to translate TTL control inputs into complementary gate voltages for 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-8



## Guaranteed Operating Ranges

Symbol	Parameter <sup>1</sup>	Unit	Min	Typical	Max
V <sub>CC</sub>	Positive DC Supply Voltage	V	4.5	5.0	5.5
V <sub>EE</sub>	Negative DC Supply Voltage	V	-5.5	-5.0	-4.5
V <sub>CC</sub> -V <sub>EE</sub>	Positive to Negative Supply Range	V	9.0	10.0	11.0
T <sub>A</sub>	Operating Ambient Temperature	°C	-40	+25	+85
I <sub>OH</sub>	DC Output Current - HIGH	mA	—	—	-1.0
I <sub>OL</sub>	DC Output Current - LOW	mA	—	—	1.0
T <sub>rise</sub> , T <sub>fall</sub>	Maximum Input Rise or Fall Time	nS	—	—	500

1. All voltages are relative to GND

## Absolute Maximum Ratings

Parameter	Absolute Maximum
V <sub>CC</sub>	- .5V to + 6.0 V
V <sub>EE</sub>	- 6.0 V to - .5 V
V <sub>CC</sub> - V <sub>EE</sub>	12 V
V <sub>IN</sub> <sup>2</sup>	V <sub>CC</sub> + .5 V
V <sub>OUT</sub>	V <sub>EE</sub> - .5 V
Storage Temperature	-65°C to +150°C

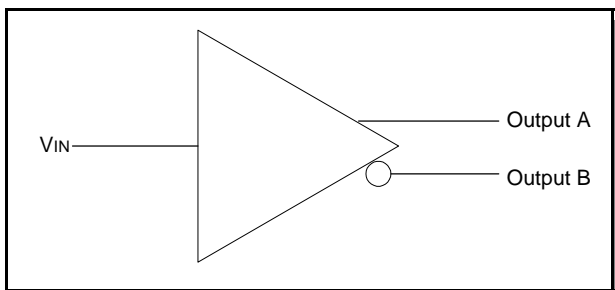
## Truth Table

Input	Outputs	
V <sub>IN</sub>	A	B
0	V <sub>EE</sub>	GND
1	GND	V <sub>EE</sub>

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



Logic Diagram



Pin Configuration

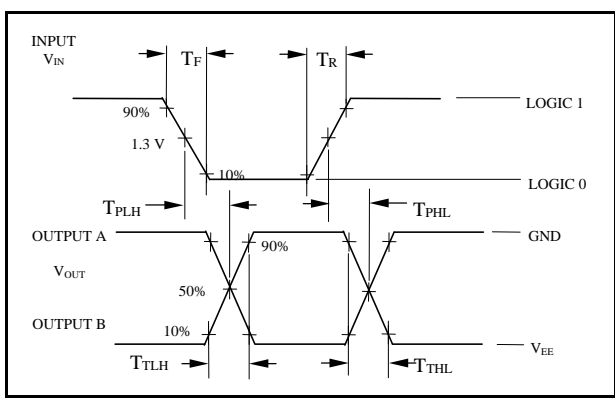
PIN	Function
1	V <sub>CC</sub>
2	V <sub>IN</sub>
3	GND
4	GND
5	GND
6	Output A
7	Output B
8	V <sub>EE</sub>

AC & DC Characteristics Over Guaranteed Operating Range

Symbol	Parameter	Test Conditions	Units	Min	Typ	Max
V <sub>IH</sub>	Input HIGH Voltage	Guaranteed HIGH Input Voltage	V	2.0	—	-
V <sub>IL</sub>	Input LOW Voltage	Guaranteed LOW Input Voltage	V	-	—	0.8
V <sub>OH</sub>	Output HIGH Voltage	I <sub>OH</sub> = -1 mA	V <sub>EE</sub> = Max	V	- 0.1	—
V <sub>OL</sub>	Output LOW Voltage	I <sub>OL</sub> = 1 mA	V <sub>EE</sub> = Max	V	—	V <sub>EE</sub> + 0.1
I <sub>IN</sub>	Input Leakage Current	V <sub>IN</sub> = V <sub>CC</sub> or GND	V <sub>EE</sub> = Min	µA	-1.0	0
I <sub>CC</sub>	Quiescent Supply Current	V <sub>CC</sub> = Max	V <sub>EE</sub> = Min V <sub>IN</sub> = V <sub>CC</sub> or GND	µA	—	—
T <sub>PHL</sub> , T <sub>PLH</sub>	Propagation Delay	Guaranteed -40° C to + 85° C	nS	—	—	50
T <sub>THL</sub> , T <sub>TLH</sub>	Output Transition Time	Guaranteed -40° C to + 85° C	nS	—	—	25
	Delay Skew, Output A to Output B	Guaranteed -40° C to + 85° C	nS	—	—	8

See Switching Wave Forms for the definition of the switching terms.  
Supplies must be by-passed with .01 µF Capacitors.

Switching Waveforms



Ordering Information

Part Number	Package
DR65-0109	Bulk Packaging
DR65-0109TR	Tape & Reel (1,000 pieces per 7" reel)

Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
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- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020