

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.

For driving PIN diode devices, see M/A-COM Application Note AN3008.

Guaranteed Operating Ranges

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

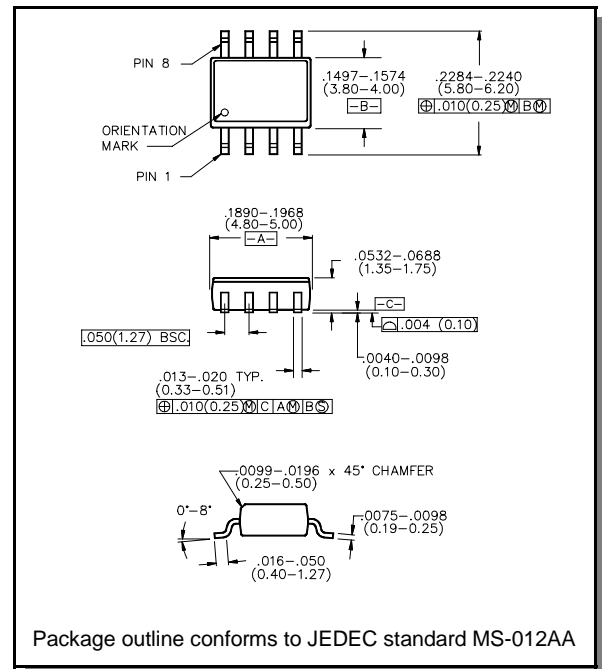
1. All voltages are relative to GND

Absolute Maximum Ratings

Parameter	Absolute Maximum
V _{CC}	-.5V to +6.0 V
V _{EE}	-6.0 V to -.5 V
V _{CC} - V _{EE}	12 V
V _{IN} ²	V _{CC} + .5 V
V _{OUT}	V _{EE} - .5 V
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.

SO-8

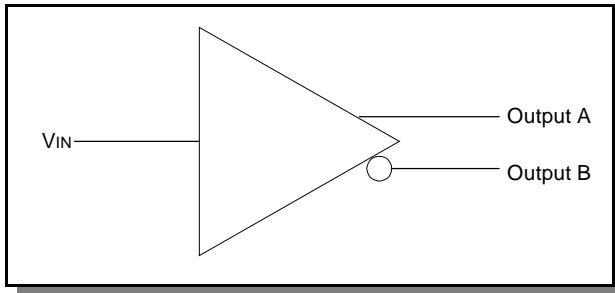


Package outline conforms to JEDEC standard MS-012AA

Truth Table

Input	Outputs	
V _{IN}	A	B
0	V _{EE}	GND
1	GND	V _{EE}

Logic Diagram



Pin Configuration

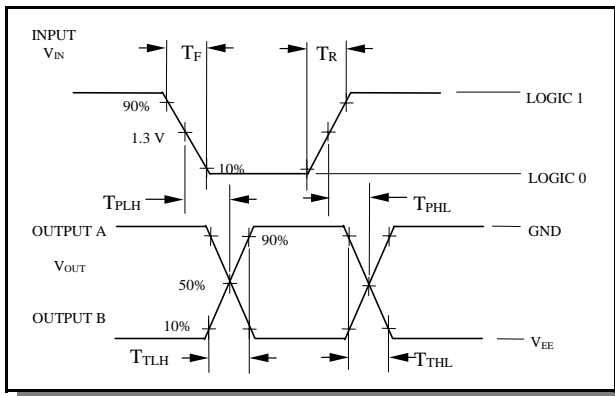
PIN	Function
1	V _{CC}
2	V _{IN}
3	GND
4	GND
5	GND
6	Output A
7	Output B
8	V _{EE}

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 _{EE} = Max	V	- 0.1	—	-
V _{OL}	Output LOW Voltage	I _{OL} = 1 mA V _{EE} = Max	V	—	—	V _{EE} + 0.1
I _{IN}	Input Leakage Current	V _{IN} = V _{CC} or GND V _{EE} = Min	μA	-1.0	0	1.0
I _{CC}	Quiescent Supply Current	V _{CC} = Max V _{EE} = Min V _{IN} = V _{CC} or GND	μA	—	—	400
T _{PHL} , T _{PLH}	Propagation Delay	Guaranteed -40° C to +85° C	nS	—	—	50
T _{THL} , T _{TLH}	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	1000 piece reel

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