

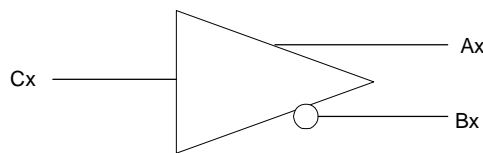
## Features

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

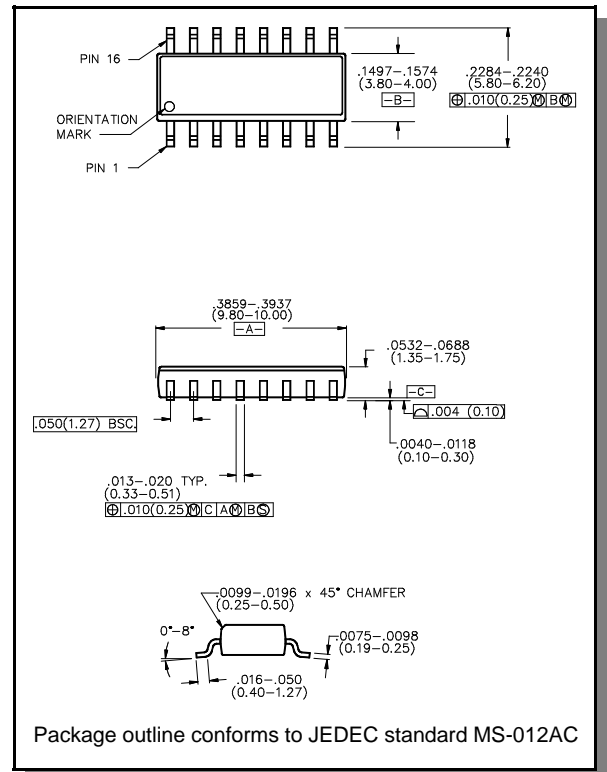
## Description

M/A-COM's DR65-0001 is a Quad channel driver used to translate TTL control inputs into 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.

## Logic Diagram



## SO-16



## 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
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
$V_{CC}$	- .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
Operating Temperature	-40°C to +85°C

**Pin Configuration**

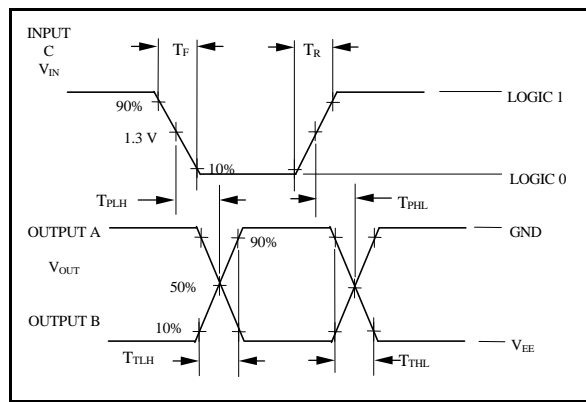
PIN	Function	PIN	Function
1	A3	9	C2
2	B3	10	C1
3	A4	11	GND
4	B4	12	GND
5	$V_{EE}$	13	A1
6	$V_{CC}$	14	B1
7	C4	15	A2
8	C3	16	B2

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

**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	$I_{OH} = -1 \text{ mA}$ $V_{EE} = \text{Max}$	V	- 0.1	—	-
$V_{OL}$	Output LOW Voltage	$I_{OL} = 1 \text{ mA}$ $V_{EE} = \text{Max}$	V	—	—	$V_{EE} + 0.1$
$I_{IN}$	Input Current	$V_{IN} = V_{CC}$ or GND $V_{EE} = \text{Min}$	$\mu\text{A}$	-10	0	10
$I_{CC}$	Quiescent Supply Current	$V_{CC} = \text{Max}$ $V_{EE} = \text{Min}$ $V_{IN} = V_{CC}$ or GND	$\mu\text{A}$	—	—	400
$\Delta I_{CC}$	Additional Supply Current, per TTL Input pin	$V_{CC} = \text{Max}$ $V_{IN} = V_{CC} - 2.1V$	mA	—	—	1.0
$T_{PHL}, T_{PLH}$	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

**Switching Waveforms**



**Truth Table**

Input	Outputs	
$C_x$	$A_x$	$B_x$
0	$V_{EE}$	GND
1	GND	$V_{EE}$

**Ordering Information**

Part Number	Package
DR65-0001	Bulk Packaging
DR65-0001TR	Tape & Reel (1K Reel)

**Notes:**

See Switching Wave Forms for the definition of the switching terms. Supplies must be by-passed with .01  $\mu\text{F}$  Capacitors. Unused inputs must be tied to Ground

Specifications subject to change without notice.

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