

# M/A-COM SPDT PIN Diode Driver

V 5.00

DR65-0003

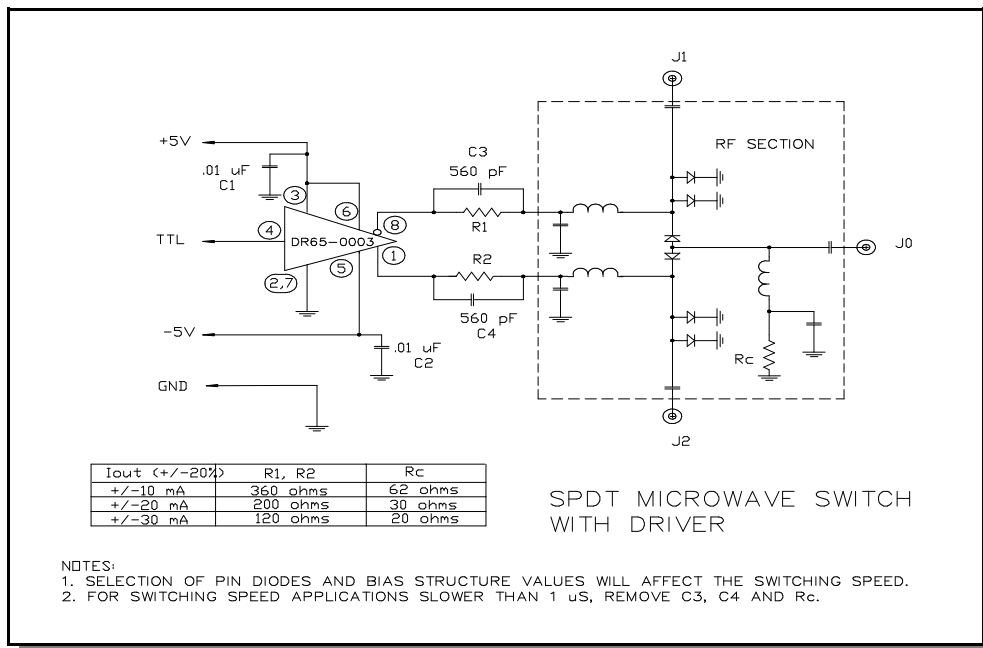
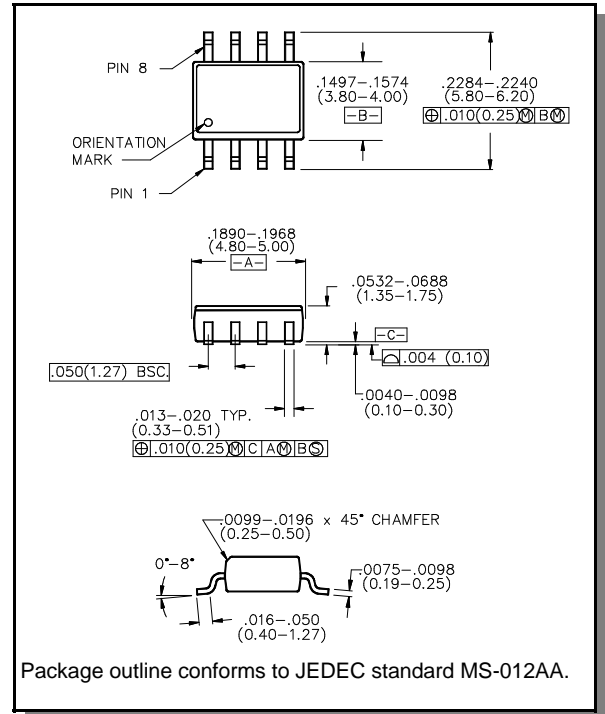
## Features

- Moderate Speed, CMOS Technology (25 nS)
- Complementary Outputs
- High Drive Current Capability ( $\pm 50$  mA)
- Low Current Consumption
- Plastic SOIC Body for SMT Applications
- Tape and Reel Packaging Available

## Description

M/A-COM's DR65-0003 is a SPDT driver used to interface between TTL logic signals and PIN diode based microwave switches. High-speed analog CMOS technology is used to achieve low power consumption at moderate speeds. Low output resistances allow it to develop high output current spikes to ensure fast switching speeds. The complementary output stages are structured so it can be used as an inverting or non-inverting driver for SPST switches, or as a single input, complementary driver for SPDT switches. The monolithic die is packaged in a SO-8, plastic surface mount package and is available in tape and reel packaging for high volume applications. The DR65-0003 is ideally suited for driving M/A-COM's line of HMIC switches.

## SO-8



**Electrical Specifications,  $T_A = +25^\circ\text{C}$ ,  $+V_{cc} = +V_{dd} = +5.0\text{V} \pm 5\%$ ,  
 $-V_{ee} = -5.0\text{V} \pm 5\%$**

Parameter	Test Conditions	Units	Min	Typical	Max
Switching Speed <sup>1</sup>	Spike current into 10 ohm load 50 % TTL to 90% 10%-90%; 90%-10%	Delay	—	25	35
		Rt/Ft	—	2	5
PRF		50% duty cycle	MHz	DC	—
Output Voltage Drop, No Load	With reference to supply voltage	V	—	—	.25
DC Output Current	Load Dependant	mA	—	$\pm 30$	$\pm 50$
Peak Spike Output Current	Spiking Capacitor in Circuit	mA	—	$\pm 150$	$\pm 200$
Output Stage on Resistance	Positive Output FET, Qp Negative Output FET, Qn	$\Omega$ $\Omega$	— —	15 20	20 25
Quiescent Supply Currents	+5V	mA	—	—	1.0
	-5V	mA	—	—	.2
TTL Levels	Logic "0" @ 20 $\mu\text{A}$ sink current	V	0	—	.8
	Logic "1" @ 20 $\mu\text{A}$ source current	V	2.0	—	5.0
Package Dissipation	—	mW	—	—	200

1. Decoupling capacitors (.01  $\mu\text{F}$ ) are required on power supply lines.

**Absolute Maximum Ratings <sup>2</sup>**

Parameter	Absolute Maximum
+V <sub>cc</sub>	5.5V
+V <sub>dd</sub> must be = or < +V <sub>cc</sub>	+V <sub>cc</sub>
+V <sub>ee</sub>	-5.5V
TTL Input Voltage	-0.5 V to V <sub>cc</sub> +0.5V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +125°C

2. Operation of this device above any one of these parameters may cause permanent damage.

**Truth Table**

Logic Input (Pin 4)	N-I Out (Pin 1)	INV Out (Pin 8)
"0"	L	H
"1"	H	L

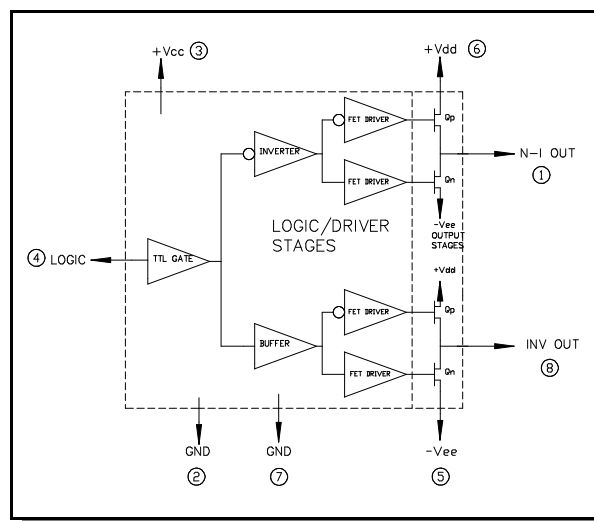
H: Iout is +Current  
 L: Iout is -Current

**Ordering Information**

Part Number	Package
DR65-0003	Bulk Packaging
DR65-0003TR	Tape & Reel (1K Reel)

**Pin Function Table**

Pin #	Function	Pin #	Function
1	N-I OUT	5	+V <sub>ee</sub>
2	GND	6	+V <sub>dd</sub>
3	+V <sub>cc</sub>	7	GND
4	LOGIC	8	INV OUT



Specifications subject to change without notice.

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