

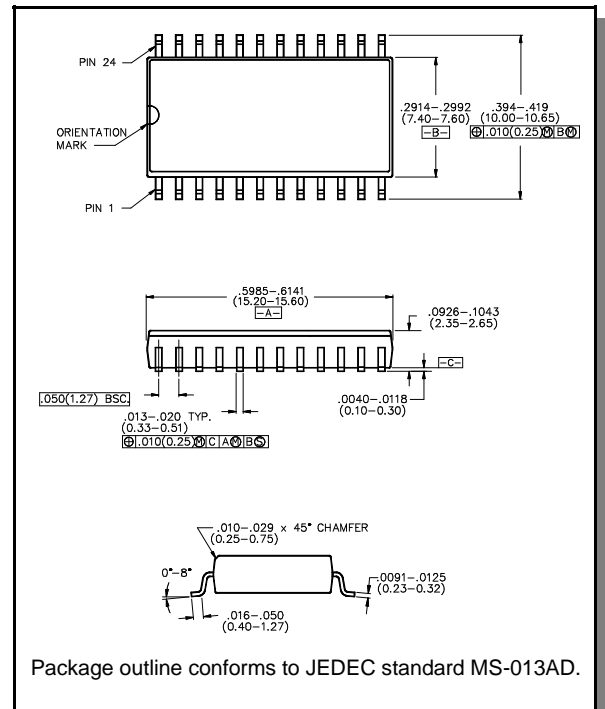
## Features

- Typical Isolation: 32 dB (2,000 MHz)
- Typical Insertion Loss: 2.0 dB (2,000 MHz)
- Integral ASIC TTL/CMOS Driver
- Plastic, 50 mil Pitch, SOW-24 Lead, Wide Body
- Low DC Power Consumption
- 50 Ohm Nominal Impedance
- Tape and Reel Packaging Available
- Test Boards Available

## Description

M/A-COM's SW65-0214 is a GaAs MMIC absorptive SP3T switch with an integral silicon ASIC driver. This device is in a 24-lead plastic package. This switch offers excellent broadband performance and repeatability from DC to 3 GHz, while maintaining low DC power dissipation. The SW65-0214 is ideally suited for wireless infrastructure applications. Also available in ceramic package with improved performance.

## SOW-24



## Electrical Specifications: $T_A = 25^\circ\text{C}$

Parameter	Test Conditions	Units	Min	Typical	Max
Insertion Loss	DC - 3.0 GHz	dB	—	2.0	2.3
Isolation (All arms off)	DC - 3.0 GHz	dB	30	32	—
VSWR	DC - 3.0 GHz	—	—	On 1.7:1	Off 2.2:1
$T_{\text{rise}}$	10%/90%, 90%/10% <sup>1</sup> 50% TTL to 90%/10% RF In-band (peak to peak)	nS	—	15	50
$T_{\text{fall}}$		nS	—	50	150
$T_{\text{on}}$ $T_{\text{off}}$ Transients		mV	—	50	150
1 dB Compression	.05 GHz	dBm	—	+20	—
	.5 - 3.0 GHz	dBm	—	+27	—
Input $IP_3$	Two tone inputs 0.05 GHz	dBm	—	+35	—
	up to +5 dBm 0.5 - 3.0 GHz	dBm	—	+46	—
$V_{CC}$	—	V	+4.5	+5.0	+5.5
$V_{EE}$	—	V	-8.0	-5.0	-4.75
$I_{CC}$	$V_{CC} = +5.0\text{V}$	mA	—	—	4
$I_{EE}$	$V_{EE} = -5.0\text{V}$	mA	—	—	-1
Logic "0"	$I_{in} = 20\mu\text{A max}$	V	0.0	—	0.8
Logic "1"	$I_{in} = 20\mu\text{A max}$	V	2.0	—	5.0

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

## Absolute Maximum Ratings <sup>2,3</sup>

Parameter	Absolute Maximum
Max. Input Power 0.05 GHz 0.5 - 3.0 GHz	+27 dBm +34 dBm
Bias Voltages V <sub>EE</sub> V <sub>CC</sub> Control Voltage <sup>4</sup>	-8.5V +5.5V -0.5V 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.
3. When the RF input is applied to the terminated port, the absolute maximum power is +30 dBm.
4. Standard CMOS TTL interface, latch-up will occur if logic signal is applied prior to power supply.

## Pin Configuration

Pin #	Function	Pin #	Function
1	RFC	13	C1
2	GND	14	C3
3	GND	15	GND
4	GND	16	GND
5	GND	17	GND
6	RF2	18	GND
7	GND	19	RF1
8	V <sub>EE</sub>	20	GND
9	GND	21	GND
10	V <sub>CC</sub>	22	RF3
11	GND	23	GND
12	C2	24	GND

## Truth Table

TTL Control Input			RF Common To:		
C1	C2	C3	RF1	RF2	RF3
1	0	0	On	Off	Off
0	1	0	Off	On	Off
0	0	1	Off	Off	On

## Ordering Information

Part Number	Package
SW65-0214	Bulk Packaging
SW65-0214TR	Tape and Reel (1K Reel)
SW65-0214-TB	Units Mounted on Test Board

Specifications subject to change without notice.

- **North America:** Tel. (800) 366-2266
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