

# M/A-COM GaAs SP4T Switch, 5 - 2000 MHz

V 3.00

SW-262

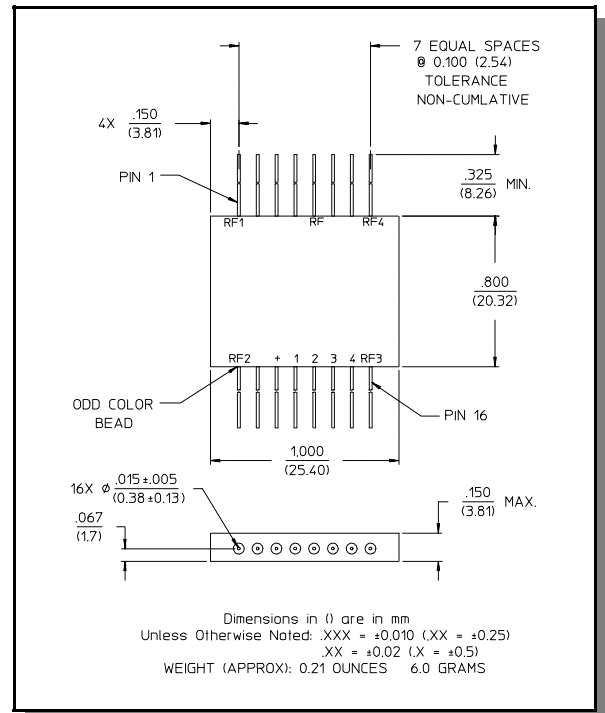
## Features

- Low Insertion Loss, 1.0 dB Typical
- Fast Switching Speed, 20 nS Typical
- Ultra Low DC Power Consumption, 0.3 mA Typical
- Integral TTL Driver

## Description

M/A-COM's SW-262 is a hermetic SP4T switch that features ultralow DC power consumption. SW-262 is operated with a single +5V bias. Due to the use of GaAs MMICs the switch features fast switching speed and high intercept points. The switch is packaged in a metal flatpack, and is available with screening upon request. This switch is ideal for industrial and military applications where high reliability is required.

## FP-17



## Electrical Specifications: $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ <sup>1</sup>

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss	—	5 - 2000 MHz	dB	—	—	2.2
		5 - 1000 MHz	dB	—	—	1.4
		5 - 500 MHz	dB	—	—	1.2
VSWR	—	5 - 2000 MHz	Ratio	—	—	2.5:1
		5 - 1000 MHz	Ratio	—	—	1.5:1
		5 - 500 MHz	Ratio	—	—	1.3:1
Isolation	—	5 - 2000 MHz	dB	35	—	—
		5 - 1000 MHz	dB	37	—	—
		5 - 500 MHz	dB	42	—	—
Impedance	—	—	Ohms	—	50	—
Trise, Tfall	10% to 90% / 90% to 10% RF	—	ns	—	7	—
Ton, Toff	50% CTL to 90/10% RF	—	ns	—	20	—
Transients	In-Band	—	mV	—	80	—
1 dB Compression	Input Power	500 - 2000 MHz	dBm	—	+27	—
		50 MHz	dBm	—	+21	—
IP <sub>2</sub>	For two-tone input power up to +13 dBm	500 - 2000 MHz	dBm	—	+68	—
		50 MHz	dBm	—	+60	—
IP <sub>3</sub>	For two-tone input power up to +13 dBm	500 - 2000 MHz	dBm	—	+46	—
		50 MHz	dBm	—	+40	—

1. All specifications apply when operated with bias voltages of +5 VDC and 50 Ohm impedance at all RF ports.

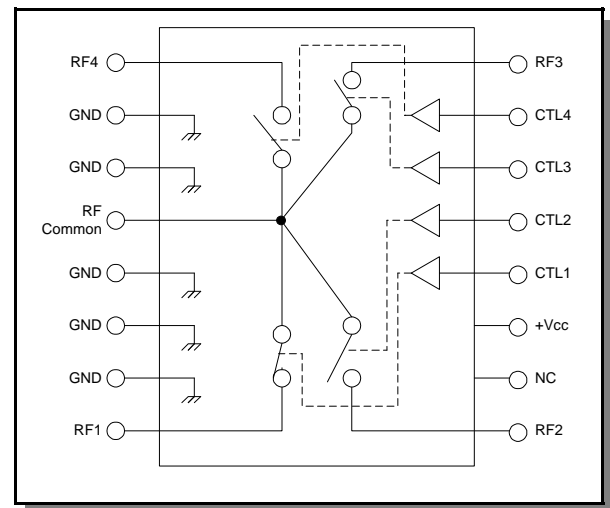
Electrical Specifications:  $T_A = -55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  <sup>1</sup>

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
+Vcc	—	—	V	4.75	5.0	5.25
Logic "0"	Sink Current is 20 $\mu\text{A}$ Max. CTL1 through CTL4	—	V	0.0	—	0.8
Logic "1"	Source Current is 20 $\mu\text{A}$ Max. CTL1 through CTL4	—	V	2.0	-	5.0
Icc	$4.75 \leq V_{cc} \leq 5.25\text{V}$	—	mA	—	0.3	1

## Truth Table

Control Input				Condition of Switch			
"1" = TTL High "0" = TTL Low				RF Common to Each RF Port			
CTL1	CTL2	CTL3	CTL4	RF1	RF2	RF3	RF4
1	0	0	0	On	Off	Off	Off
0	1	0	0	Off	On	Off	Off
0	0	1	0	Off	Off	On	Off
0	0	0	1	Off	Off	Off	On

## Schematic

Absolute Maximum Ratings <sup>2</sup>

Parameter	Absolute Maximum
Max Input Power 0.05 GHz 0.5 - 2.0 GHz	+27 dBm +34 dBm
+Vcc	+7.0V
Logic Values	-0.5 to +Vcc +0.5V
Operating Temperature	-55°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.

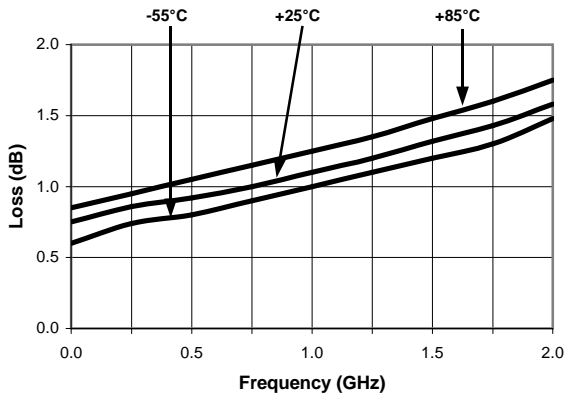
Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
- Asia/Pacific: Tel.+81-44-844-8296, Fax +81-44-844-8298
- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

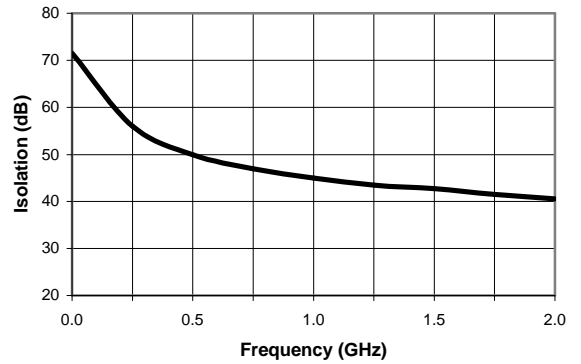
Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

Typical Performance Curves

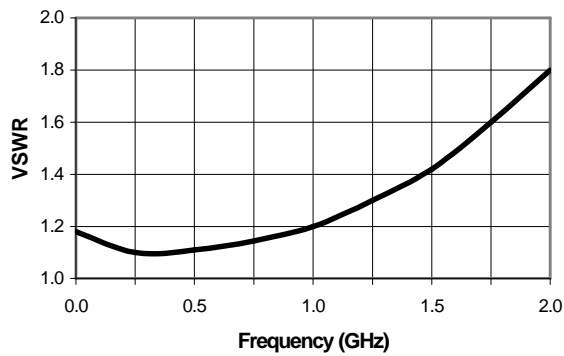
Insertion Loss



Isolation



VSWR



Ordering Information

Part Number	Package
SW-262 PIN	FP-17

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