

# SAC3218A

GaAs MMIC SPDT Switch  
0.5~3.0GHz

Rev 1.4

## Features

- Frequency Range: 0.5~3.0GHz
- Isolation: 70dB
- Insertion Loss: 0.6dB
- Supply Voltage: +5.5V
- Nanosecond switch
- Die Size: 1.73mm×1.21mm×0.1mm

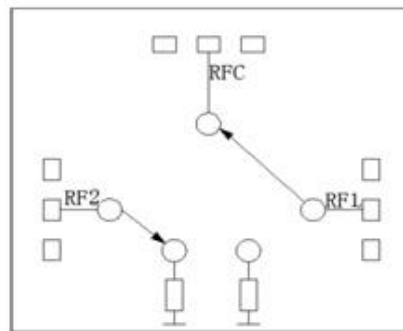
## Typical Applications

- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and Measurement
- Fiber Optics

## General Description

SAC3218A is a broadband non-reflective GaAs pHEMT SPDT MMIC chip. Covering 0.5~3.0GHz, the switch offers high isolation and low insertion loss. The switch features over 60dB isolation and 0.6dB insertion loss. The switch operates using complementary positive control voltage logic lines of 0/+5V.

## Functional Diagram



## Electrical Performance ( $T_A=+25^{\circ}\text{C}$ , Control Voltage = 0/+5V, $Z_0=50\Omega$ )

Parameter	Freq.	Min.	Typ.	Max.	Units
Insertion Loss	0.5~3.0GHz	—	0.6	—	dB
Isolation	0.5~3.0GHz	—	-70	—	dB
RF1,RF2,RFC Return loss(ON)	0.5~3.0GHz	—	-20	—	dB
RF1,RF2 Return loss(OFF)	0.5~3.0GHz	—	-21	—	dB

## Absolute Maximum Ratings

Input Power	+27dBm	Operating Temperature	-55°C~+85°C
Supply Voltage	+5.5V	Storage Temperature	-65°C~+150°C
Control Voltage Range	Low level : 0~0.5V		High level: 3.7~5.0V

## Truth Table

Ctrl1	Ctrl2	RF1	RF2
0	0	OFF	OFF
1	0	ON	OFF
0	1	OFF	ON
1	1	N/A	N/A

## SuperApex Corporation

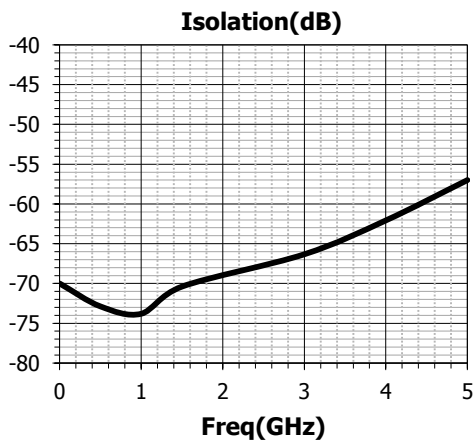
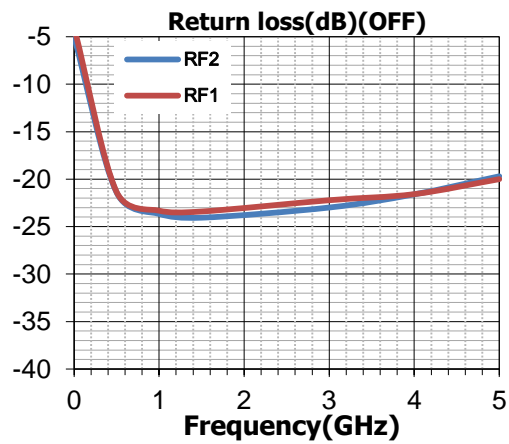
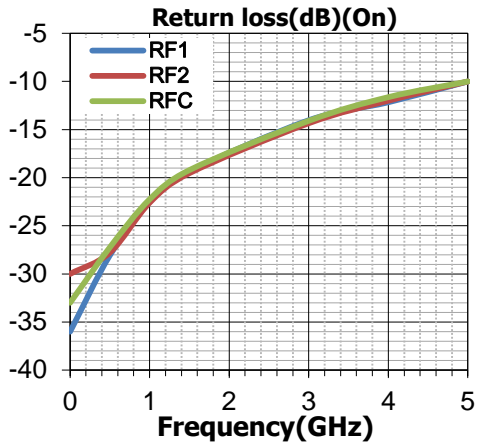
Address: 1580 S. Milwaukee Ave. Suite 405, Libertyville, IL 60048, USA  
 Tel: 1-847-573-9866, 1-847-505-8319  
 E-mail: sales@superapexco.com  
 Website: www.superapexco.com

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## Typical Performance Curve

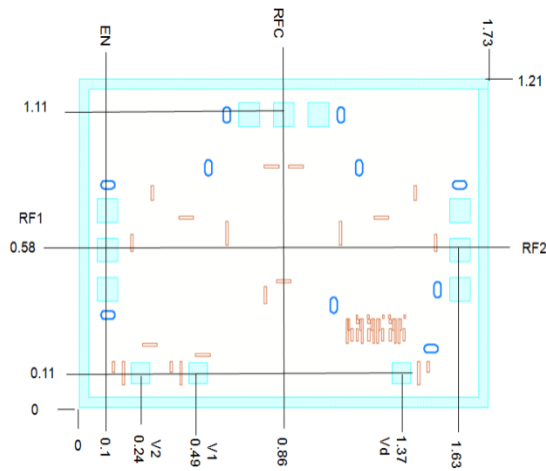


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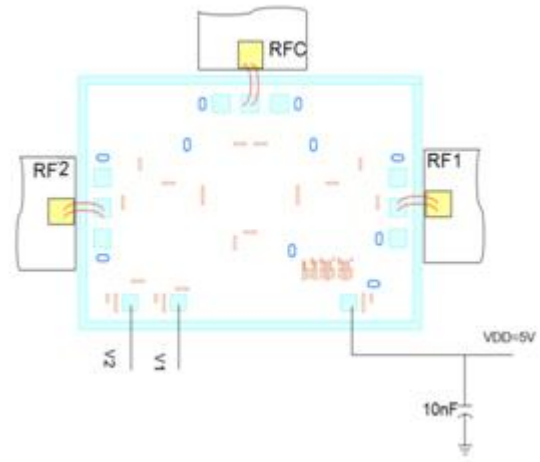
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**Die Outline**  
(all dimensions in mm)



**Assembly Diagram**



**Attention:**

GaAs MMIC devices are susceptible to damage from electrostatic discharge. Proper precautions should be observed during handling, assembly and test.