

SAC3218

GaAs MMIC SPDT Switch
0.5~3.0GHz

Rev 1.1

Features

- Frequency Range: 0.5~3.0GHz
- Isolation: 60dB
- Insertion Loss: 0.8dB
- Supply Voltage: +5.5V
- Nanosecond switch
- Die Size: 1.79mm×1.24mm×0.1mm

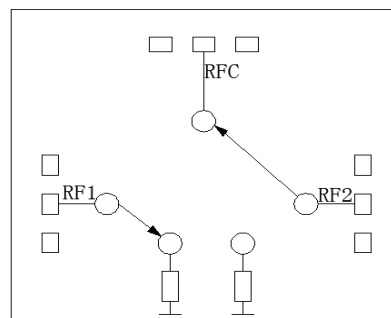
Typical Applications

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

General Description

The SAC3218 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 0.8dB 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	—	0.8	—	dB
Isolation	0.5~3.0GHz	—	-60	—	dB
RFC Return loss	0.5~3.0GHz	—	-20	—	dB
RF1,RF2 Return loss	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

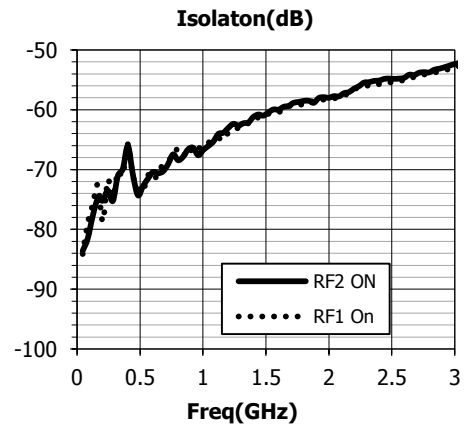
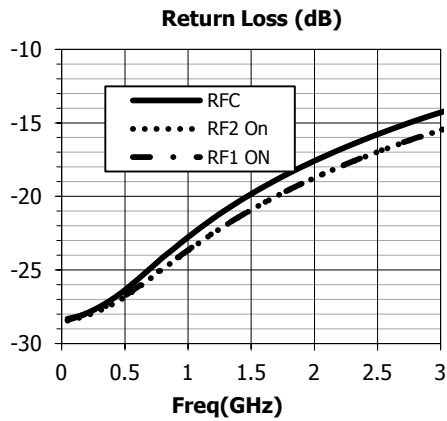
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Typical Performance Curve

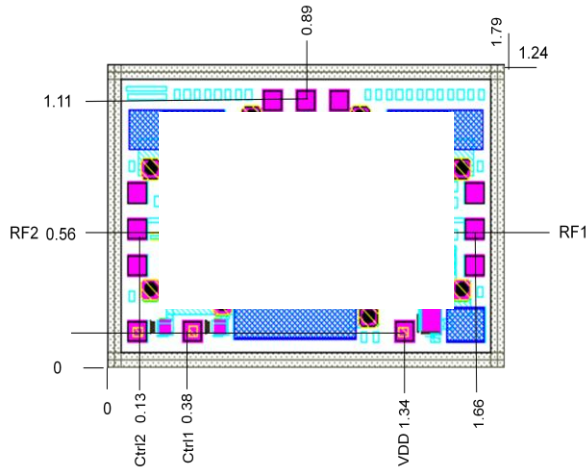


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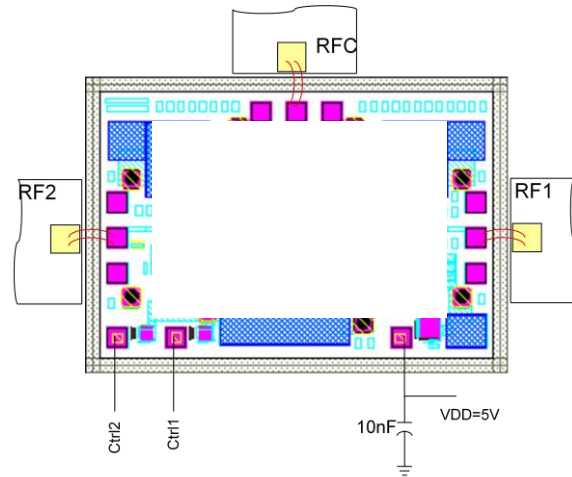
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Die Outline
(all dimensions in mm)



Assembly Diagram



Attention:

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