

Features

- Frequency Range: DC~12GHz
- Isolation: -48dB Typ.
- Insertion loss: -0.8dB Typ.
- Control Voltage: 0/+5V
- Die Size: 1.4mm×1.25mm×0.1mm

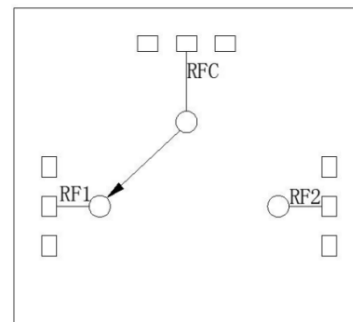
General Description

SAC3202A is a general-purpose broadband high isolation reflective GaAs pHEMT SPDT switch in bare die. The switch offers over 48 dB isolation and less than 0.8 dB insertion loss over operation frequency. It's fast switching speed and compact size make this SPDT is ideal for a lot of critical applications. The switch operates using complementary positive control voltage logic lines of 0/+5V.

Typical Applications

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

Functional Diagram



Electrical Performance

$T_A = +25^\circ\text{C}$, Control Voltage=0/+5V, $Z_0 = 50\Omega$ System

Parameter	Freq.	Min.	Typ.	Max.	Units
Insertion Loss	DC~12GHz	—	-0.8	—	dB
Isolation	DC~12GHz	—	-48	—	dB
VSWR RFC	DC~12GHz	—	1.2	—	:1
VSWR RF1, RF2(ON)	DC~12GHz	—	1.2	—	:1
Input P ₁ dB	DC~12GHz	—	25	—	dBm
Input IP ₃	DC~12GHz	—	42	—	dBm
Switching Speed	DC~12GHz	—	30	—	ns

Absolute Maximum Ratings

RF Input power	+27dBm	Operating Temperature	-55°C~+85°C
Control Voltage Range	0~5.5V	Storage Temperature	-65°C~+150°C
ESD Sensitivity (HBM)	Class 1A	Channel Temperature	150°C

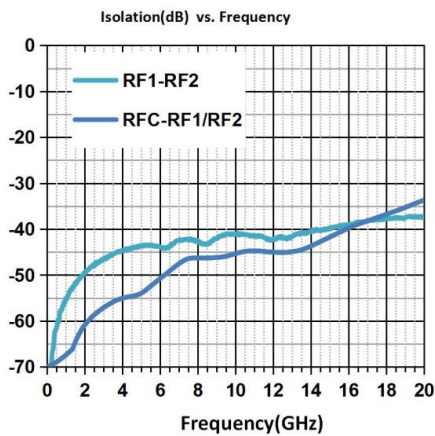
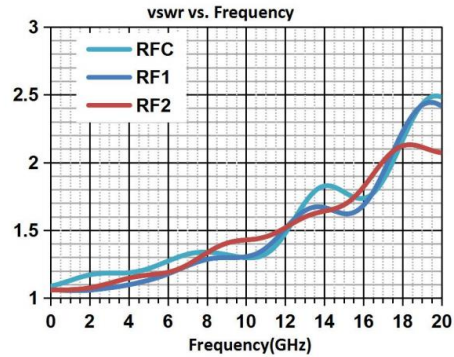
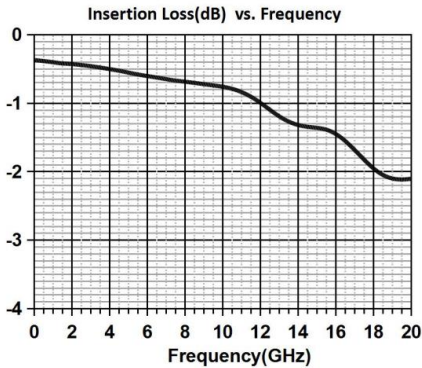
Logic Voltage

State	Bias
LOW	0~0.5V
HIGH	3.5~5.5V

Truth Table

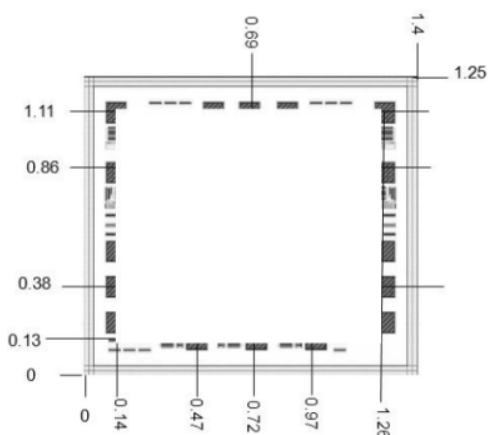
Control Input	Signal Path State	
	RFC-RF1	RFC-RF2
LOW	ON	OFF
HIGH	OFF	ON

Typical Performance Curve

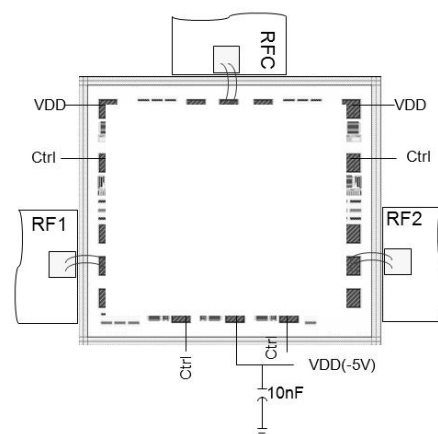


Die Outline

(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.