

GaAs SPDT Switch DC - 3.0 GHz

Rev. V2

Features

- Low Insertion Loss: 0.3 dB @ 900 MHz
- Low Current Consumption: <15 μ A @ +2.5 V
- Positive or Negative 2.5 to 8 V Control
- Lead-Free SOT-363 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of SW-437

Description

M/A-COM's MASWSS0166 is a GaAs monolithic switch in a lead-free SOT-363 surface mount plastic package. The MASWSS0166 is ideally suited for applications where very low power consumption, low insertion loss, very small size and low cost are required.

Typical applications are dual band systems that require switching between small signal components such as filter banks, single band LNA's and converters. The MASWSS0166 can be used in applications up to 0.25 Watts in systems such as cellular, PCS, DCS1800, GSM, CDMA, W-CDMA and other analog/digital wireless communications systems.

The MASWSS0166 is fabricated using a mature 0.5 micron GaAs PHEMT process. The process features full passivation for increased performance and reliability.

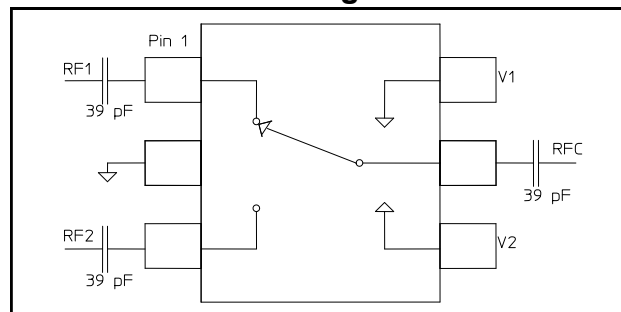
Absolute Maximum Ratings^{1,2}

Parameter	Absolute Maximum
Input Power (0.5-3.0 GHz) 3 V Control 5 V Control	+30 dBm +33 dBm
Operating Voltage	+8.5 Volts
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

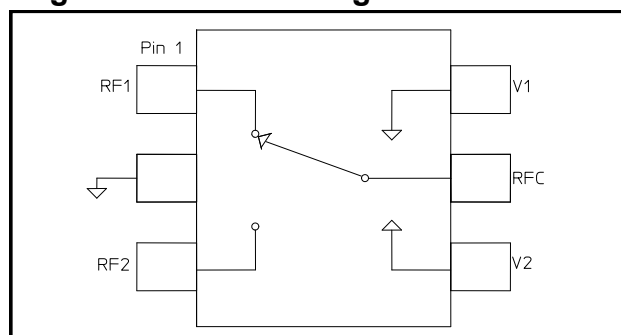
Functional Schematic:

Positive Control Voltage



Functional Schematic:

Negative Control Voltage



Pin Configuration

Pin No.	Function	Description
1	RF1	RF in/out
2	GND	RF Ground
3	RF2	RF in/out
4	V2	V Control 2
5	RFC	RF Common
6	V1	V Control 1

Ordering Information³

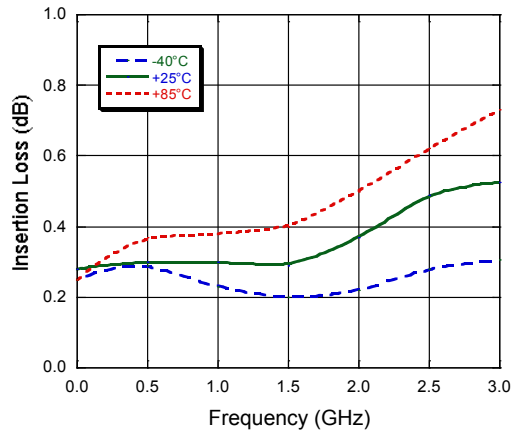
Part Number	Package
MASWSS0166	Bulk Packaging
MASWSS0166TR-3000	3000 piece reel
MASWSS0166SMB	Sample Test Board

3. Reference Application Note M513 for reel size information.

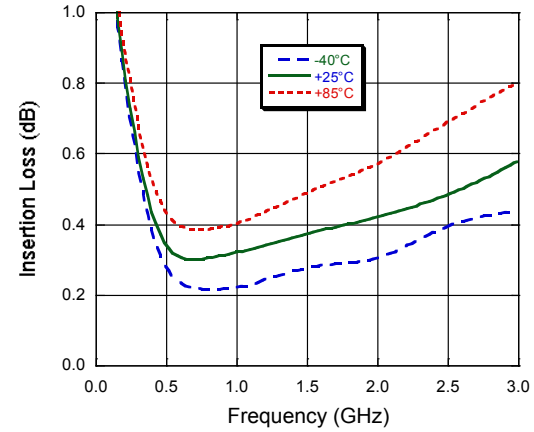
* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

Typical Performance Curves

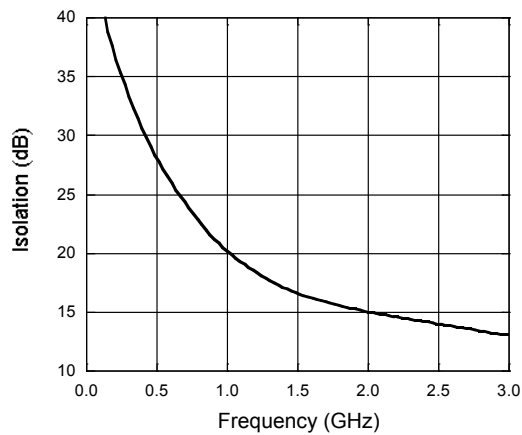
Insertion Loss (Negative Voltage Control)



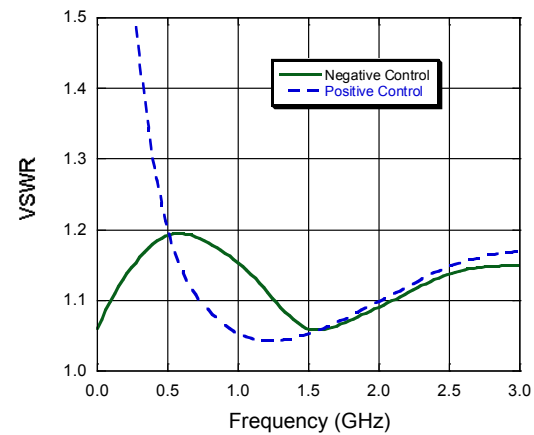
Insertion Loss (Positive Voltage Control)



Isolation



VSWR



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