

High Frequency Switch, DC - 3.0 GHz

V 1.00

MASWSS0005

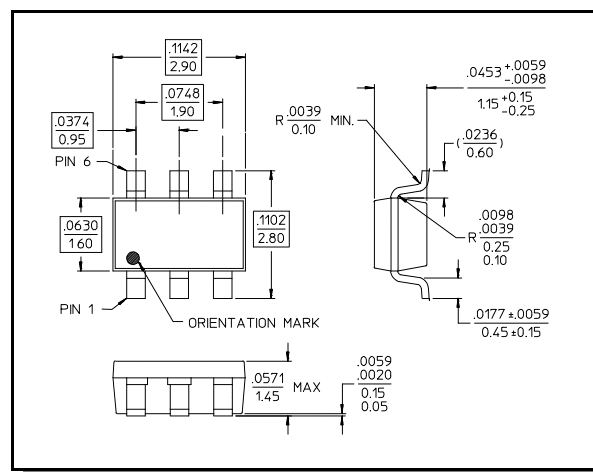
Features

- Low Insertion Loss: 0.3 dB Typical @ 2.4 GHz
- Moderate Isolation: 21 dB @ 2.4 GHz
- Low Power Consumption < 5 μ A @ 2.5V
- Low Cost Plastic SOT-26 Package

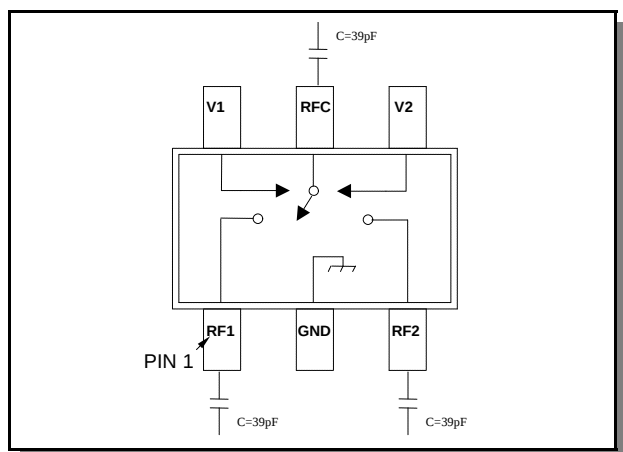
Description

The MASWSS0005 is a GaAs MMIC SPDT switch in a low cost SOT-26 surface mount plastic package. This part is ideal for low power, low loss requirements in the all systems operating up to 3 GHz, including PCS, GSM, CDS, XM Radio, Blue Tooth, and other Rx chain applications.

SOT-26



Functional Schematic



Pin Configuration

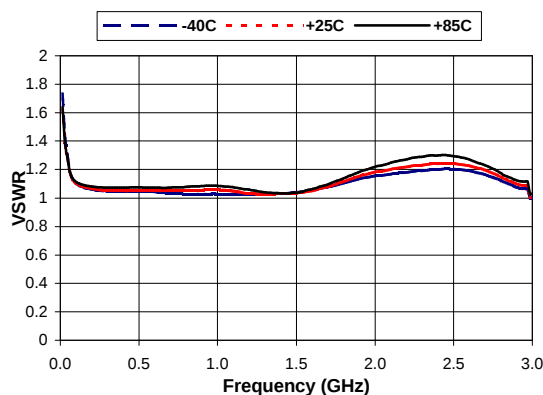
Pin No.	Function	Description
1	RF1	RF Port 1
2	GND	Ground
3	RF2	RF Port 2
4	V2	Control 1
5	RFC	RF Input
6	V1	Control 2

Electrical Specifications: $T_A = 25^{\circ}\text{C}$, $Z_0 = 50\text{ Ohms}$

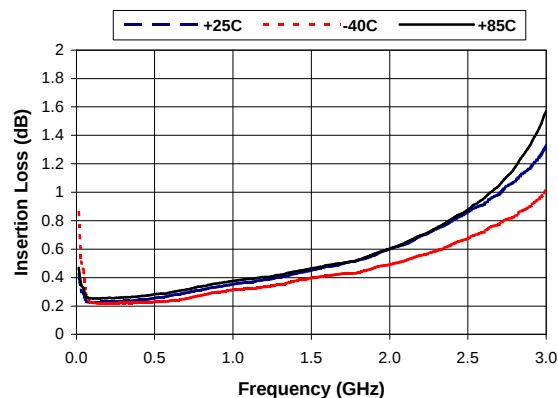
Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss	—	DC - 2.5 GHz 2.5 - 3.0 GHz	dB dB	— —	0.3 0.5	0.4 0.6
Isolation	—	DC - 2.5 GHz	dB	20	21	—
Return Loss	—	DC - 2.5 GHz	dB	20	23	—
IP2	Two Tone +5 dBm, 5 MHz Spacing	—	dBm	—	62	—
IP3	Two Tone +5 dBm, 5 MHz Spacing	—	dBm	—	45	—
P1 dB	$V_c = 0.2\text{V}/2.5\text{V}$ $V_c = 0.2\text{V}/5.0\text{V}$	— —	dBm dBm	— —	24 33	— —
Trise, Tfall	10% to 90% RF and 90% to 10% RF	—	nS	—	35	—
Ton, Toff	—	—	nS	—	40	—
Transients	—	—	mV	—	10	—

Typical Performance Curves

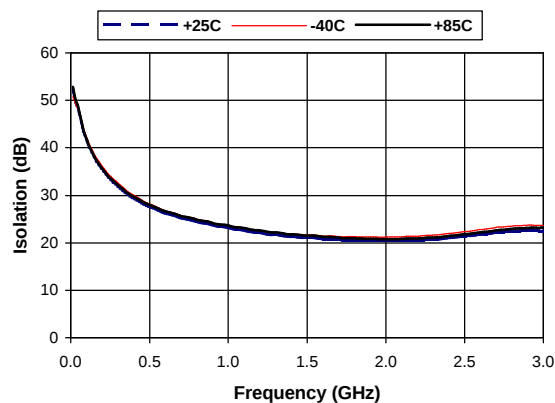
VSWR vs. Frequency over Temperature



Insertion Loss vs. Frequency over Temperature



Isolation vs. Frequency over Temperature



Absolute Maximum Ratings

Parameter	Absolute Maximum
Max Input Power	
3V Control	+32 dBm
5V Control	+34 dBm
Operating Voltage	+8.5V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

Truth Table

Mode (Control)	Control V1	Control V2	RFC-RF1	RFC-RF2
Positive ¹	0 ± 0.2V	+2.5 to +5V	On	Off
	+2.5 to +5V	0 ± 0.2V	Off	On

Ordering Information

Part Number	Package
MASWSS0005	Bulk Packaging
MASWSS0005TR	Tape and Reel (1K Reel)
MASWSS0005-SMB	Units Mounted on Sample Board

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■ 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

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