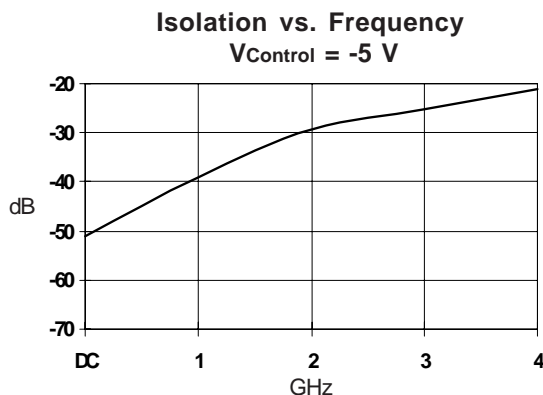


## Product Description

Stanford Microdevices' SSW-108 is a high performance Gallium Arsenide Field Effect Transistor MMIC switch housed in a low-cost surface-mountable small outline plastic package.

This single-pole, double-throw, non-reflective switch consumes less than 50uA and operates at -5V and 0V for control bias. Its high isolation and low insertion loss makes it ideal for T/R switching in analog and digital wireless communication systems.

The die is fabricated using 0.5 micron FET process with gold metallization and silicon nitride passivation to achieve excellent performance and reliability.



## Electrical Specifications at Ta = 25C

Symbol	Parameters: Test Conditions	Units	Min.	Typ.	Max.
Ins	Insertion Loss	f = 0.05-1.0 GHz		0.8	1.3
		f = 1.0-2.0 GHz	dB	0.9	1.4
		f = 2.0-4.0 GHz	dB	1.4	
Isol	Isolation	f = 0.05-1.0 GHz	dB	30	40
		f = 1.0-2.0 GHz	dB	22	35
		f = 2.0-4.0 GHz	dB		25
VSW Ron	Input & Output VSWR (on or low loss state)	f = 0.05-1.0 GHz		1.15	
		f = 1.0-2.0 GHz		1.25	
		f = 2.0-4.0 GHz		1.50	
VSW Roff	Input & Output VSWR (off or isolated state)	f = 0.05-1.0 GHz		1.15	
		f = 1.0-2.0 GHz		1.25	
		f = 2.0-4.0 GHz		1.50	
P1dB	Output Power at 1dB Compression f = 0.5-4.0 GHz	V = -5V	dBm	+26	
		V = -8V	dBm	+29	
TOIP	Third Order Intercept Point f = 0.5-4.0 GHz	V = -5V	dBm	+45	
		V = -8V	dBm	+48	
Id	Device Current		uA	40	
Isw	Switching Speed 50% control to 10% / 90% RF		nsec	3	

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## SSW-108

### DC-4 GHz High Isolation GaAs MMIC SPDT Switch



### Product Features

- High Isolation: 32dB at 2GHz
- Low DC Power Consumption
- Non-reflective
- Broadband Performance - True DC Operation
- Low Cost Small Outline Plastic Package

### Applications

- Analog/Digital Wireless System
- Spread Spectrum
- GPS

## SSW-108 DC-4 GHz Absorptive SPDT GaAs Switch

### Absolute Maximum Ratings

RF Input Power	2W Max>500MHz
Control Voltage	-10V
Operating Temperature	-45C to +85C
Storage Temperature	-65C to +150C
Thermal Resistance	20 deg C/W

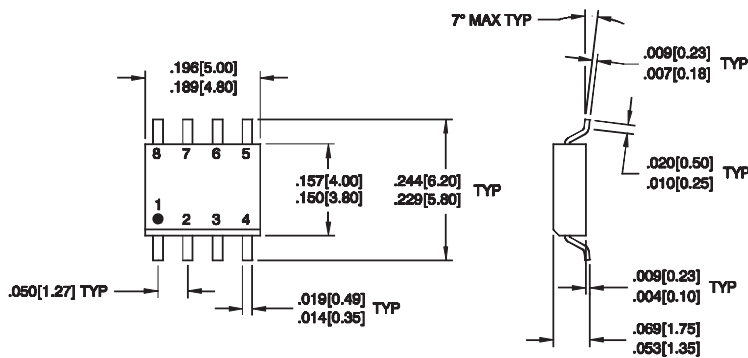
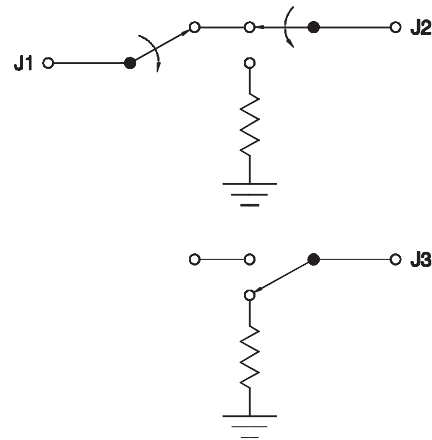
### Truth Table

V1	V2	J1-J2	J1-J3
0	-5	Low Loss	Isolation
-5	0	Isolation	Low Loss

### Pin Out

Pin	Function
1	GND
2	J1
3	GND
4	GND
5	J2
6	V1
7	V2
8	J3

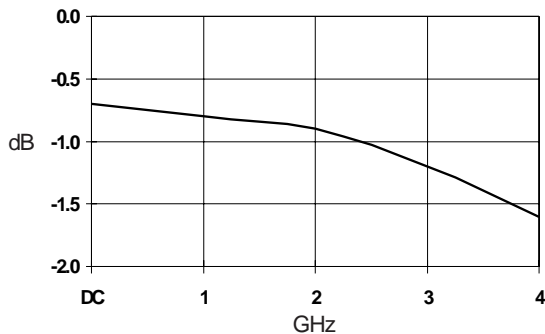
### Switch Schematic



Pin numbers shown for reference only, not marked on part

### Insertion Loss vs. Frequency

V<sub>Control</sub> = -5 V



### On Port Input/Output VSWR vs. Frequency

V<sub>Control</sub> = -5 V

