



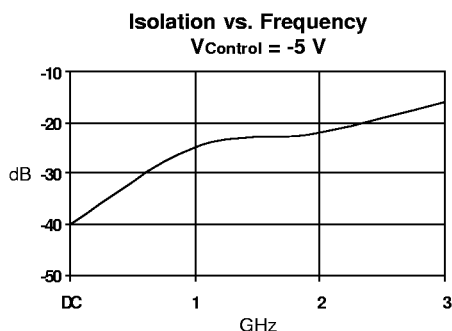
## Product Description

Stanford Microdevices' SSW-307 is a high performance Gallium Arsenide Field Effect Transistor MMIC switch housed in a low-cost surface-mountable miniature small outline plastic package.

This single-pole, double-throw, reflective switch consumes less than 40uA and operates with 0V/-5V control voltages. This switch can be used in both analog and digital wireless communication systems including AMPS, PCS, DECT, and GSM.

Typical output power at 1dB compression is +28dBm. 1dB output power over 1 watt may be achieved with higher control voltages.

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 = 25°C**

Symbol	Parameters: Test Conditions: Z <sub>0</sub> =50 ohms		Units	Min.	Typ.	Max.
Ins	Insertion Loss	f = 0.05-1.0GHz f = 1.00-2.0GHz f = 1.00-3.0GHz	dB dB dB		0.6 0.6 1.2	0.9 0.9
Isol	Isolation	f = 0.05-1.0GHz f = 1.00-2.0GHz f = 1.00-3.0GHz	dB dB dB	20 17	25 22 16	
VSWR <sub>on</sub>	Input & Output VSWR (low loss state)	f = 0.05-1.0GHz f = 1.00-2.0GHz f = 1.00-3.0GHz		- - -	1.2:1 1.4:1 1.7:1	
P <sub>1dB</sub>	1dB Compression at 0.5-2.0GHz	V = -8V V = -5V	dBm dBm		+31 +28	
IP <sub>3</sub>	Third Order Intercept	V = -8V V = -5V	dBm dBm		+50 +47	
I <sub>D</sub>	Device Current		uA		35	
I <sub>sw</sub>	Switching Speed 50% control to 10% /90% RF		nsec		3	

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## SSW-307

### DC-3 GHz Low Cost GaAs MMIC SPDT Switch



### Product Features

- Fast Switching Speed : 3nS
- High Linearity : +47dBm IP3
- Ultra Low DC Power Consumption
- Low Insertion Loss : 0.6dB at 2GHz
- Low Cost Small Outline Plastic Package

### Applications

- Digital Cellular
- Spread Spectrum

## SSW-308 DC-3 GHz GaAs MMIC SPDT 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

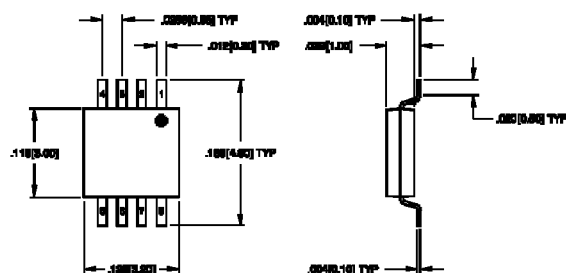
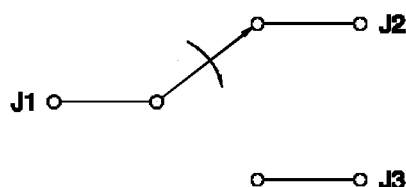
### Truth Table

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

### Pin Out

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

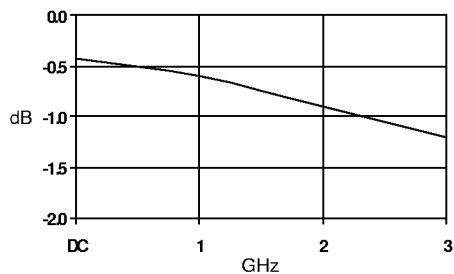
### Switch Schematic



Dimensions are in inches [mm]

### Insertion Loss vs. Frequency

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



### On Port VSWR vs. Frequency

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

