

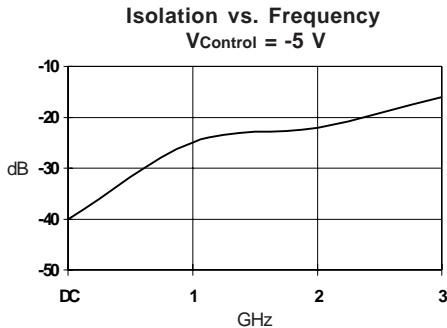
## Product Description

Stanford Microdevices' SSW-308 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, 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 $T_a = 25C$

Symbol	Parameters: Test Conditions: $Z_0 = 50 \text{ ohms}$		Units	Min.	Typ.	Max.
Ins	Insertion Loss	$f = 0.05-1.0 \text{ GHz}$	dB		0.6	0.9
		$f = 1.00-2.0 \text{ GHz}$	dB		0.9	1.3
		$f = 1.00-3.0 \text{ GHz}$	dB		1.2	
Isol	Isolation	$f = 0.05-1.0 \text{ GHz}$	dB	20	25	
		$f = 1.00-2.0 \text{ GHz}$	dB	17	22	
		$f = 1.00-3.0 \text{ GHz}$	dB		16	
VSWRon	Input & Output VSWR (low loss state)	$f = 0.05-1.0 \text{ GHz}$		-	1.2:1	
		$f = 1.00-2.0 \text{ GHz}$		-	1.4:1	
		$f = 1.00-3.0 \text{ GHz}$		-	1.7:1	
$P_{1dB}$	1dB Compression at 0.5-2.0GHz	$V = -8V$	dBm		+31	
		$V = -5V$	dBm		+28	
$IP_3$	Third Order Intercept	$V = -8V$	dBm		+50	
		$V = -5V$	dBm		+47	
$I_D$	Device Current		uA		35	
IsW	Switching Speed 50% control to 10%/90% RF		nsec		3	

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## SSW-308

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



### Product Features

- Fast Switching Speed : 3nsec
- High Linearity : +47dBm IP3
- Ultra Low DC Power Consumption
- Low Insertion Loss : 0.7dB at 1GHz
- 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	-45Cto +85C
Storage Temperature	-65C to +150C
Thermal Resistance	20 deg C/W

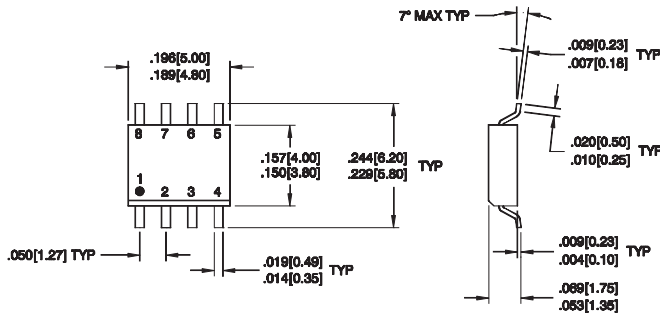
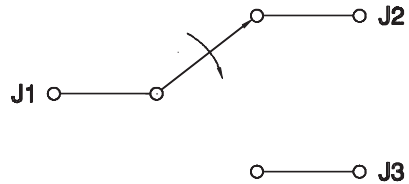
### Truth Table

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

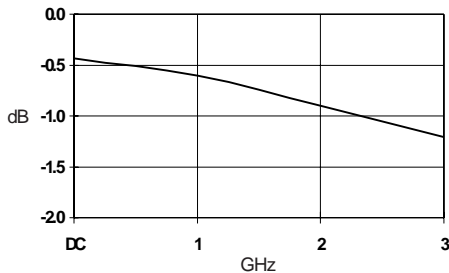
### Pin Out

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

### Switch Schematic



Insertion Loss vs. Frequency  
V<sub>Control</sub> = -5 V



On Port VSWR vs. Frequency  
V<sub>Control</sub> = -5 V

