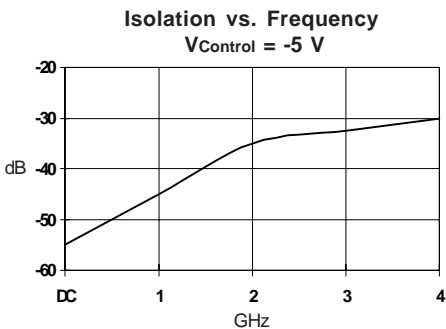


Product Description

Stanford Microdevices' SSW-508 is a high performance Gallium Arsenide Field Effect Transistor MMIC switch housed in a low-cost surface-mountable 8-pin small outline plastic package.

This single-pole, single-throw, non-reflective switch consumes less than 50uA and operates at -5V and 0V for control bias. P_{1dB} at -5V is +25dBm typical and can be increased to +28dBm with -8V supply.

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



SSW-508

DC-4 GHz GaAs MMIC SPST Switch



Product Features

- High Isolation : 40dB at 1GHz, 30dB at 2GHz
- Low DC Power Consumption
- Low Insertion Loss : 1.0dB at 2GHz
- Non-Reflective
- Low Cost Small Outline Plastic Package

Applications

- Analog/Digital Wireless Communications
- AMPS, PCS, DEC and GSM Bands

Electrical Specifications at Ta = 25C

Symbol	Parameters & Test Conditions: Z ₀ = 50 ohms V = -5 V		Units	Min.	Typ.	Max.
Ins.	Insertion Loss	f = 0.05-1.0 GHz	dB		0.8	1.2
		f = 1.00-2.0 GHz	dB		1.0	1.4
		f = 2.00-4.0 GHz	dB		1.2	
Isol.	Isolation	f = 0.05-1.0 GHz	dB	35	45	
		f = 1.00-2.0 GHz	dB	25	35	
		f = 2.00-4.0 GHz	dB		30	
VSW Ron	Input & Output VSWR (on or low loss state)	f = 0.05-2.0 GHz	-		1.3	
		f = 2.00-4.0 GHz	-		1.7	
VSW Roff	Input & Output VSWR (off or isolated state)	f = 0.05-2.0 GHz	-		1.3	
		f = 2.00-4.0 GHz	-		1.7	
P _{1dB}	1dB Compression at 2.0 GHz	V = -5V	dBm		+25	
		V = -8V	dBm		+28	
TOIP	Third Order Intercept Point	V = -5V	dBm		+44	
		V = -8V	dBm		+47	
ID	Device Current		uA		40	
Isw	Switching Speed 10% to 90% or 90% to 10%		nS		10	

The information provided herein is believed to be reliable at press time. Stanford Microdevices assumes no responsibility for inaccuracies or omissions. Stanford Microdevices assumes no responsibility for the use of this information, and all such information shall be entirely at the user's own risk. Prices and specifications are subject to change without notice. No patent rights or licenses to any of the circuits described herein are implied or granted to any third party. Stanford Microdevices does not authorize or warrant any Stanford Microdevices product for use in life-support devices and/or systems. Copyright 1999 Stanford Microdevices, Inc. All worldwide rights reserved.

SSW-508 DC-4 GHz GaAs MMIC SPST Switch

Absolute Maximum Ratings

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

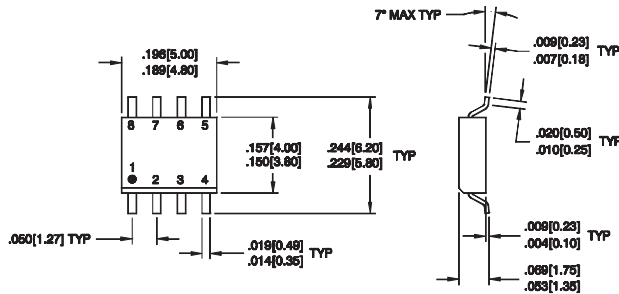
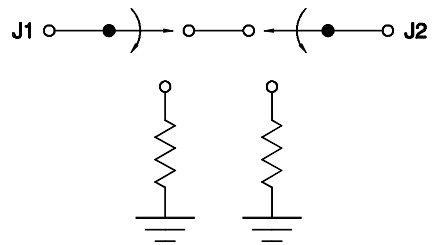
Truth Table

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

Pin Out

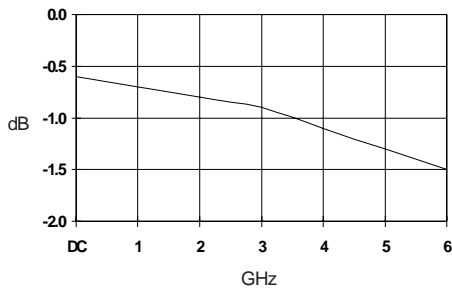
Pin	Function
1	J1
2	V1
3	V2
4	GND
5	J2
6	GND
7	GND
8	GND

Switch Schematic



Pin numbers shown for reference only, not marked on part

Insertion Loss vs. Frequency
V_{Control} = -5 V



On Port Input/Output VSWR vs. Frequency
V_{Control} = -5 V

