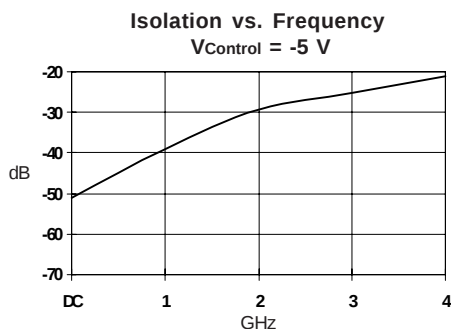


Product Description

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 $T_a = 25^\circ C$

Symbol	Parameters: Test Conditions		Units	Min.	Typ.	Max.
Ins	Insertion Loss	$f = 0.05-1.0 GHz$ $f = 1.0-2.0 GHz$ $f = 2.0-4.0 GHz$	dB dB dB		0.8 0.9 1.4	1.3 1.4
Isol	Isolation	$f = 0.05-1.0 GHz$ $f = 1.0-2.0 GHz$ $f = 2.0-4.0 GHz$	dB dB dB	30 22	40 35 25	
VSWRon	Input & Output VSWR (on or low loss state)	$f = 0.05-1.0 GHz$ $f = 1.0-2.0 GHz$ $f = 2.0-4.0 GHz$			1.15 1.25 1.50	
VSWRoff	Input & Output VSWR (off or isolated state)	$f = 0.05-1.0 GHz$ $f = 1.0-2.0 GHz$ $f = 2.0-4.0 GHz$			1.15 1.25 1.50	
P1dB	Output Power at 1dB Compression $f = 0.5-4.0 GHz$	$V = -5V$ $V = -8V$	dBm dBm		+26 +29	
TOIP	Third Order Intercept Point $f = 0.5-4.0 GHz$	$V = -5V$ $V = -8V$	dBm dBm		+45 +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

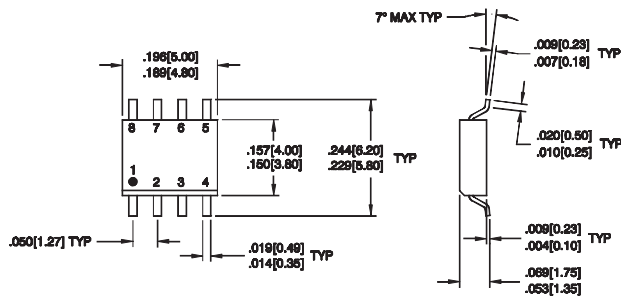
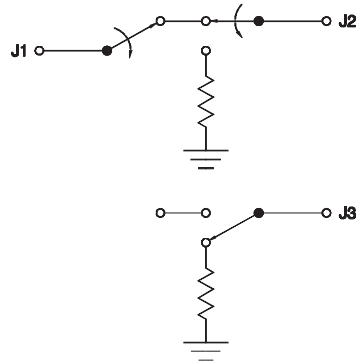
Truth Table

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

Pin Out

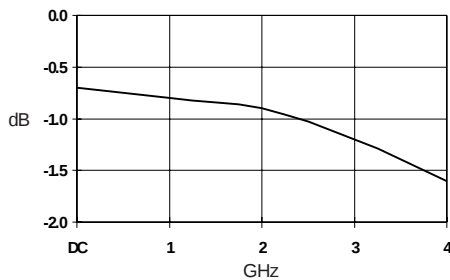
Pin	Function
1	GND
2	J1
3	GND
4	GND
5	J2
6	V1
7	V2
8	J3

Switch Schematic



Pin numbers shown for reference only, not marked on part

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



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

