

## HPS Series

## 30 – 2000MHz 75W SPDT RF Switch

### Features

- Frequency Range: 30 - 2000MHz
- Insertion Loss: 1.5dB
- Isolation: 70dB (Mid Band)
- Maximum P<sub>in</sub> TX: 75W; RX: 25W
- DC Power 1: +5V/200mA,
- DC Power 2: +28V/200mA
- Asymmetric Design
- SMA Connector

### Picture



### Description

HPS-2000 is a 75W Single Pole Double Throw (SPDT) Asymmetric High Power RF Silicon PIN Diode Switch designed for frequency range from 30MHz to 2000MHz.

### Electrical Specifications @ +25 °C, 50 Ω System, DC1=+5V, DC2=+28V

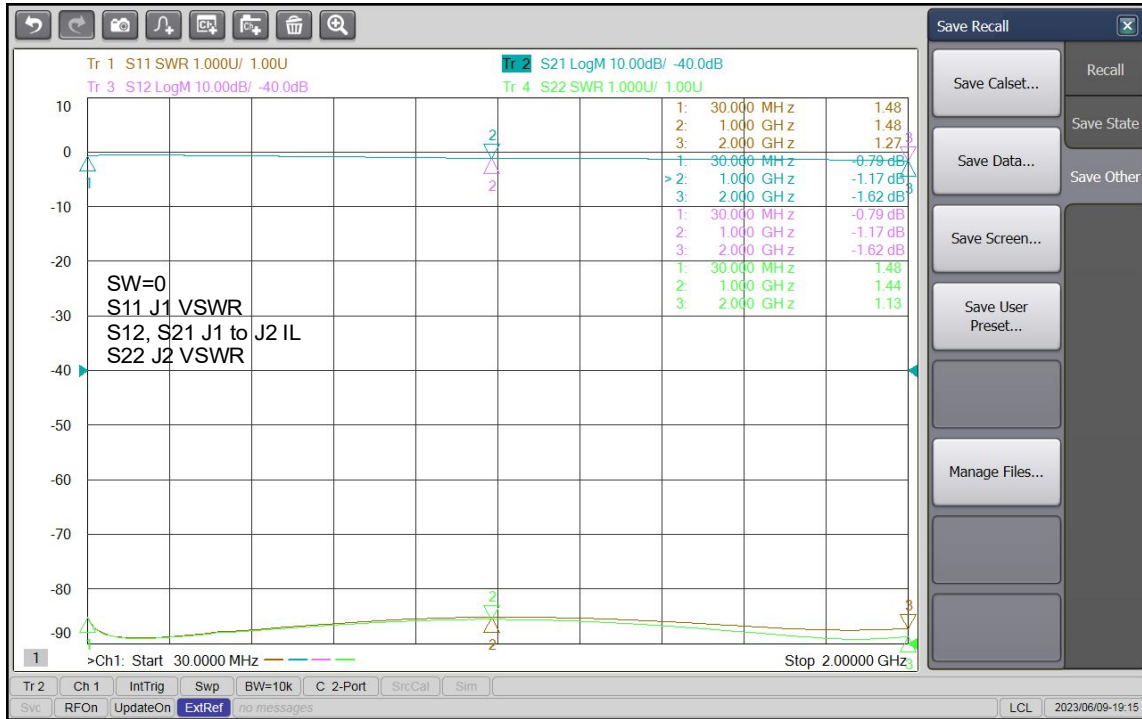
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	30		2000
Insertion Loss	dB		1.5	2.0
Isolation (J1 to J2, J1 to J3)	dB	50	70	
Isolation (J2 to J3)	dB	50	70	
VSWR			1.5:1	1.8:1
Maximum Input P <sub>in</sub> (J2 to J1)	W		75	
P <sub>in</sub> (J1 to J3)	W		25	
Switching Time J1-J3 to J1-J2	μs		15	
J1-J2 to J1-J3	μs		2	
Control Voltage T/R SW (HCMOS)	V	0		5
DC Power Supply 1	V		5	
Supply Current 1	mA		100 - 160	200
DC Power Supply 2	V		28	
Supply Current 2	mA		90 - 170	200

J1 is RFC Port, J2, J3 Not Interchangeable

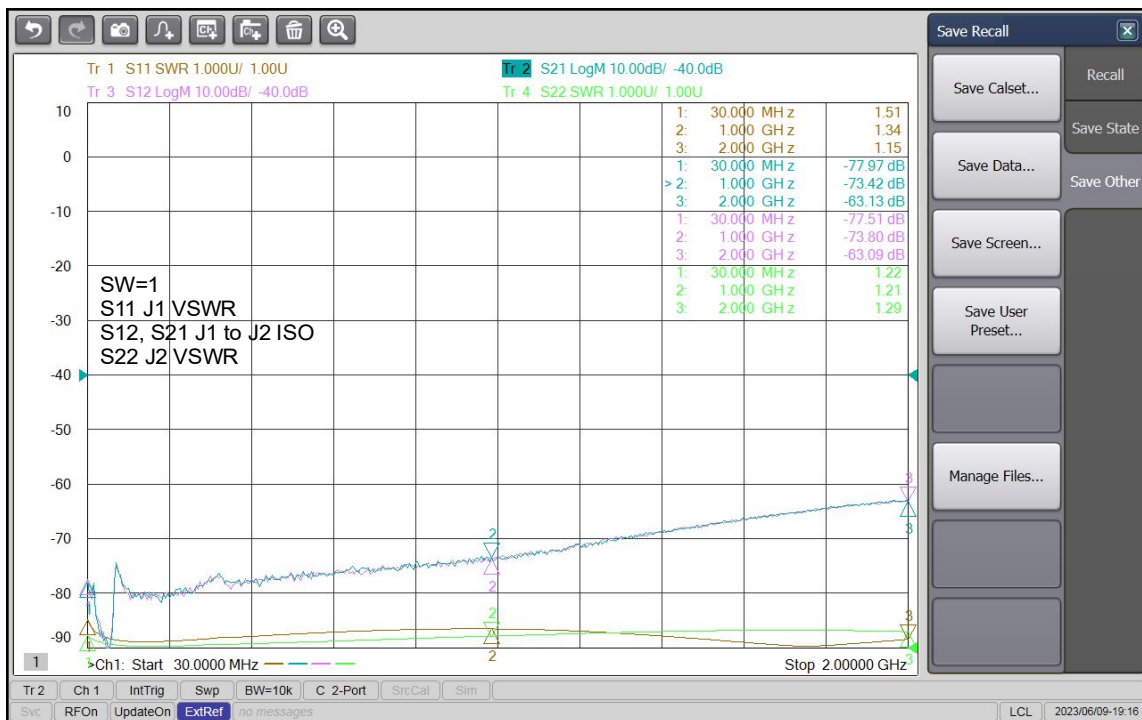
**HPS Series**

**30 – 2000MHz 75W SPDT RF Switch**

**Insertion Loss Path J1-J2, SW=0**



**Isolation Path J1-J2, SW=1**



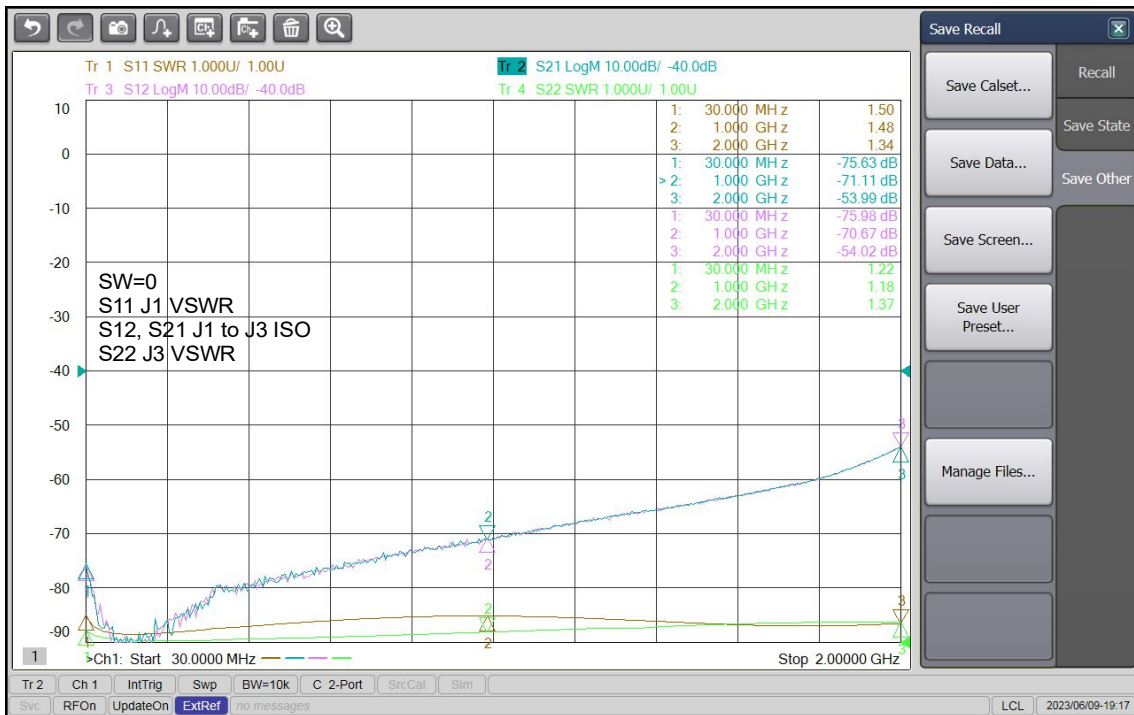
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**Insertion Loss Path J1-J3, SW=1**



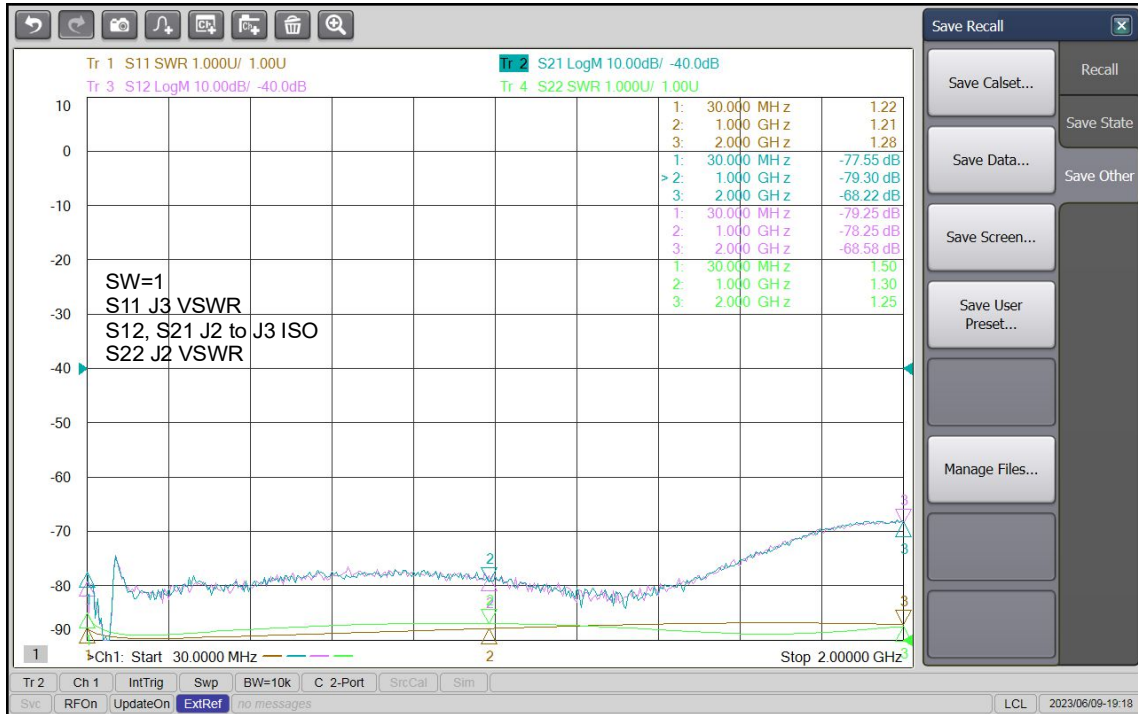
**Isolation Path J1-J3, SW=0**



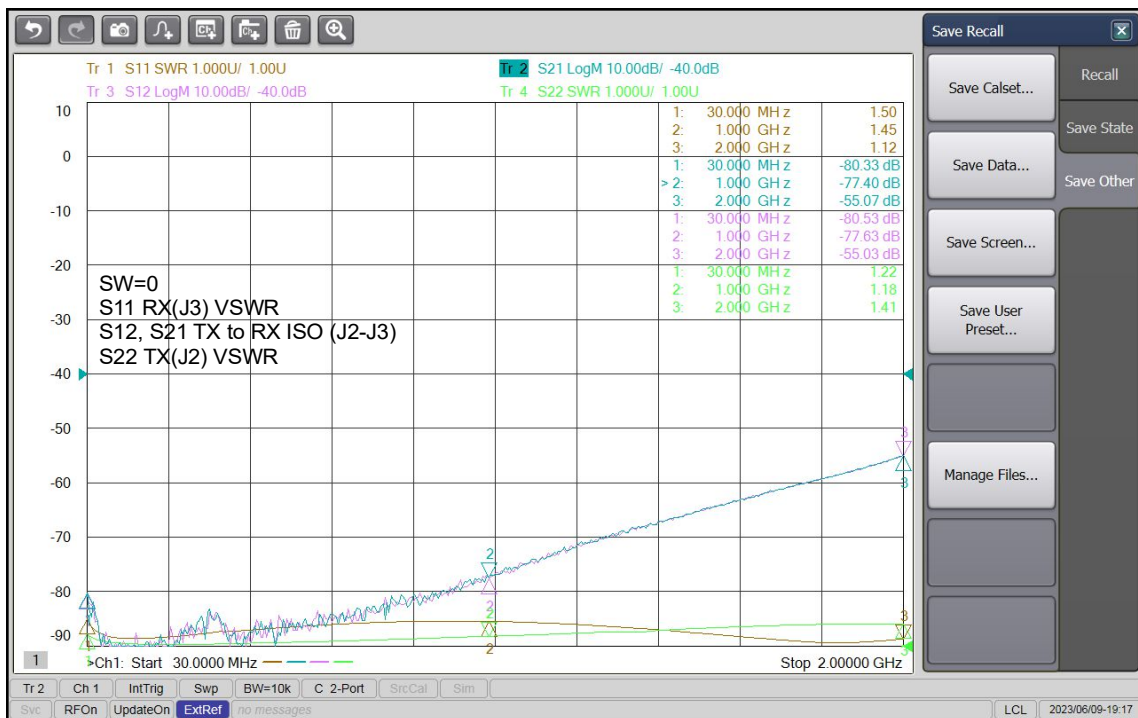
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**Isolation Path J2-J3, SW=1**



**Isolation Path J2-J3, SW=0**



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### Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	DC1: +6V, DC2: +32V
RF Input Power	J2: 100W, J3: 35W
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

### Truth table

T/R SW Input	Signal Path State
High SW=1 (+5V)	J1 to J3
Low SW=0 (GND)	J1 to J2

### ESD Sensitive Material



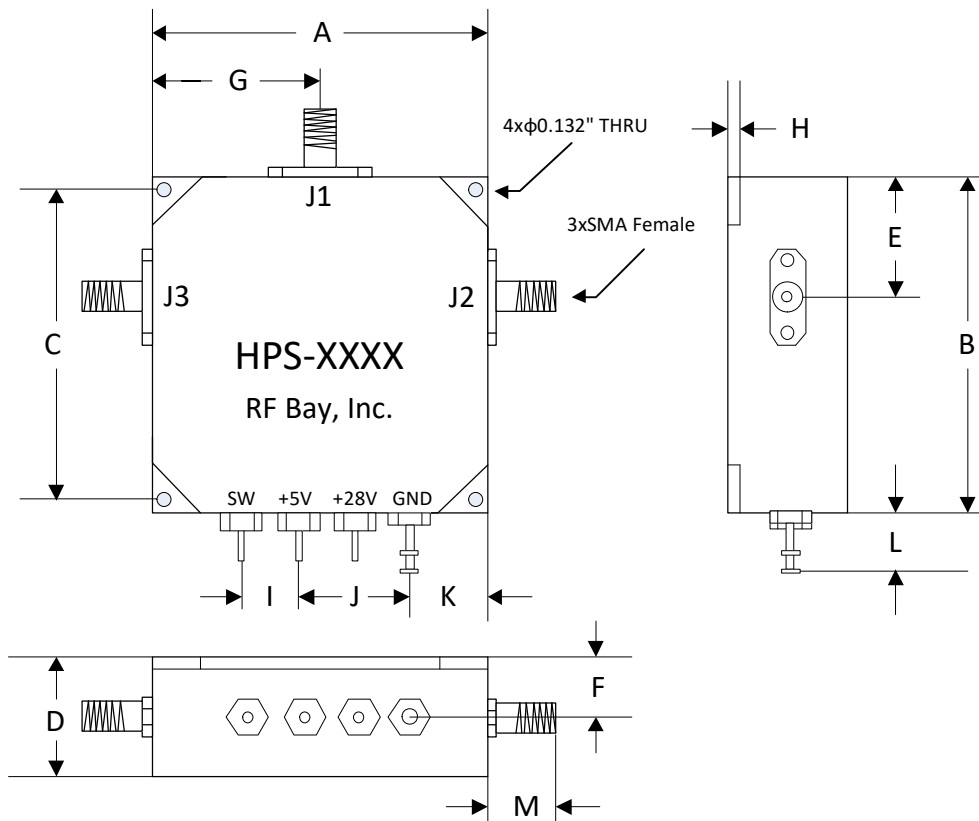
### Warning and Caution:

- 1) Adequate heatsink or mount HPS on a large size metal plate is highly recommended.
- 2) All 3 RF Ports must be connected to 50 Ohm system at all time.
- 3) Hot switch is not recommended.

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### Outline



	A	B	C	D	E	F	G	H	I
Inch	1.74	1.74	1.54	0.62	0.65	0.31	0.87	0.06	0.3
mm	44.2	44.2	39.12	15.75	16.5	7.87	22.1	1.52	7.62
	J	K	L	M					
Inch	0.6	0.42	0.38	0.365					
mm	15.24	10.67	9.65	9.27					