

HPS Series

20 – 600MHz 75W SPDT RF Switch

Features

- Frequency Range: 20 - 600MHz
- Insertion Loss: 0.4dB
- Isolation: 40dB
- Maximum P_{in} TX: 75W; RX: 25W
- DC Power 1: +5V/100mA,
- DC Power 2: +28V/120mA
- Asymmetric Design
- SMA Connector

Picture



Description

HPS-100 is a 75W Single Pole Double Throw (SPDT) Asymmetric High Power RF Silicon PIN Diode Switch designed for frequency range from 20MHz to 600MHz.

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

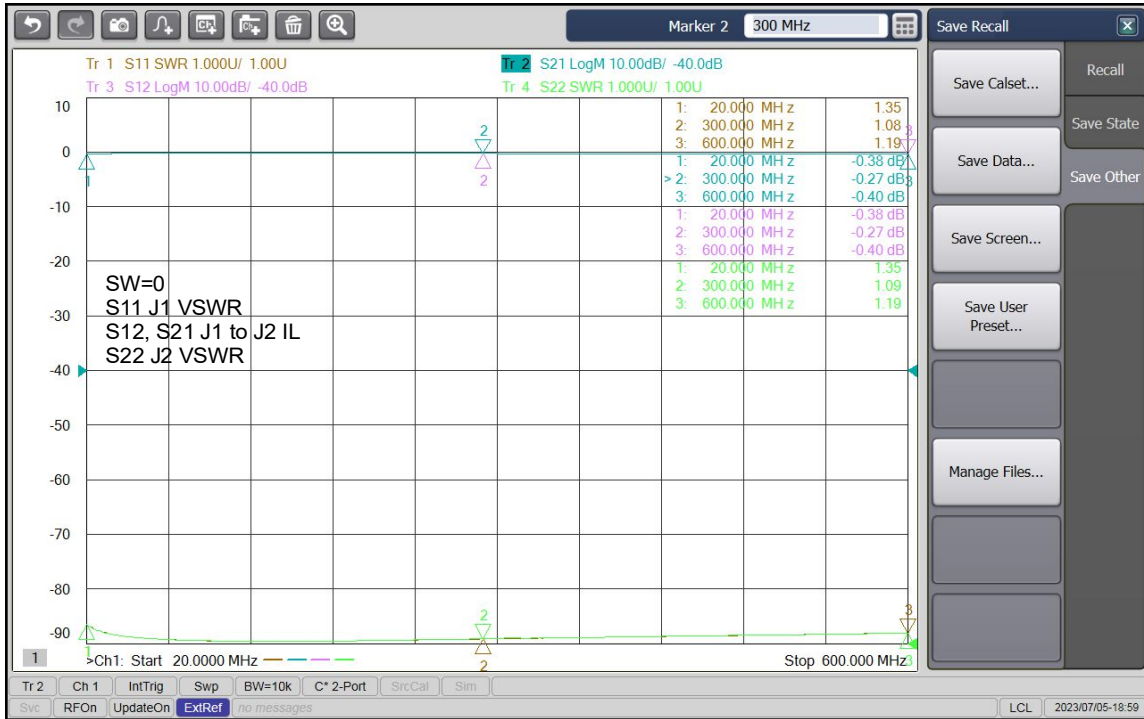
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	20		600
Insertion Loss	dB		0.4	0.6
Isolation (J1 to J2, J1 to J3)	dB	35	40	
Isolation (J2 to J3)	dB	35	40	
VSWR			1.4:1	1.7:1
Maximum Input P _{in} (J2 to J1)	W		75	
P _{in} (J1 to J3)	W		25	
Switching Time J1-J3 to J1-J2	μs		15	
J1-J2 to J1-J3	μs		2	
Control Voltage T/R SW (HCMOS)	V	0		5
DC Power Supply 1	V		5	
Supply Current 1	mA		50 - 70	100
DC Power Supply 2	V		28	
Supply Current 2	mA		0 - 90	120

J1 is RFC Port, J2, J3 Not Interchangeable

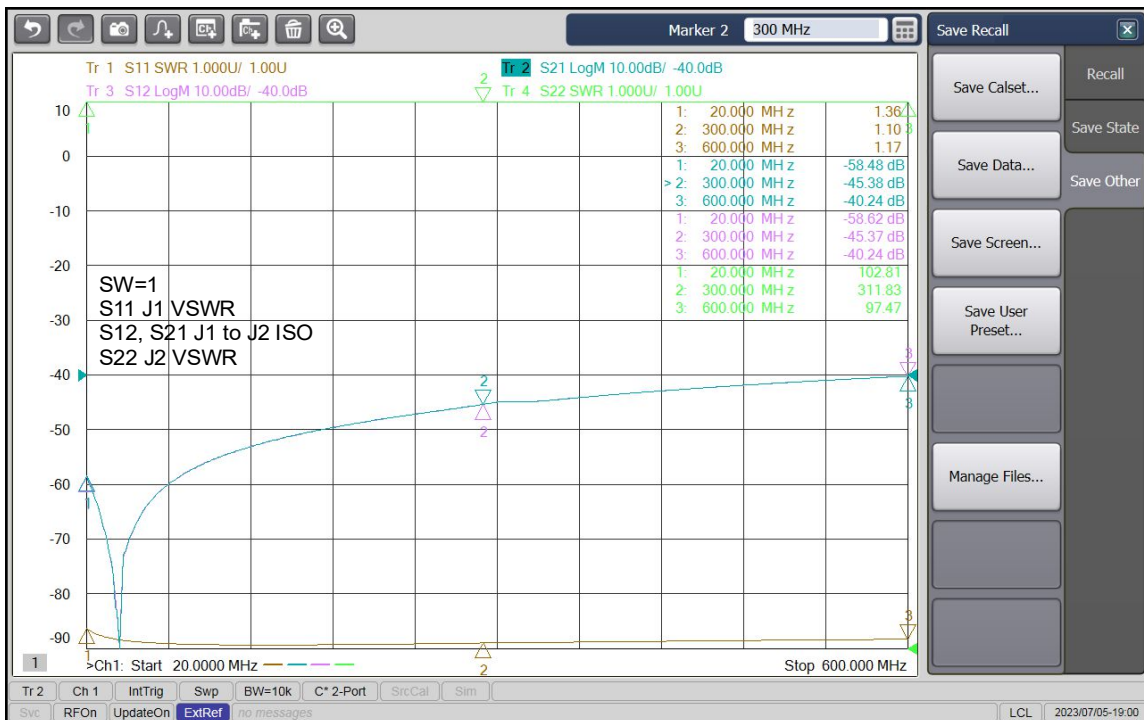
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Insertion Loss Path J1-J2, SW=0



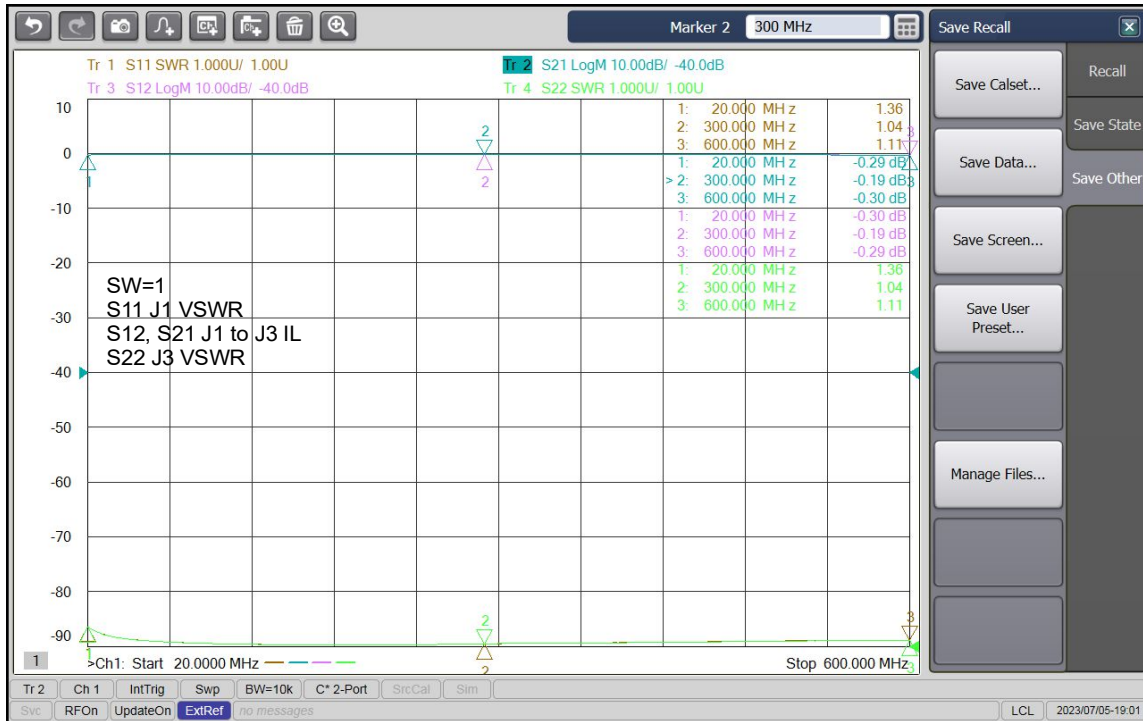
Isolation Path J1-J2, SW=1



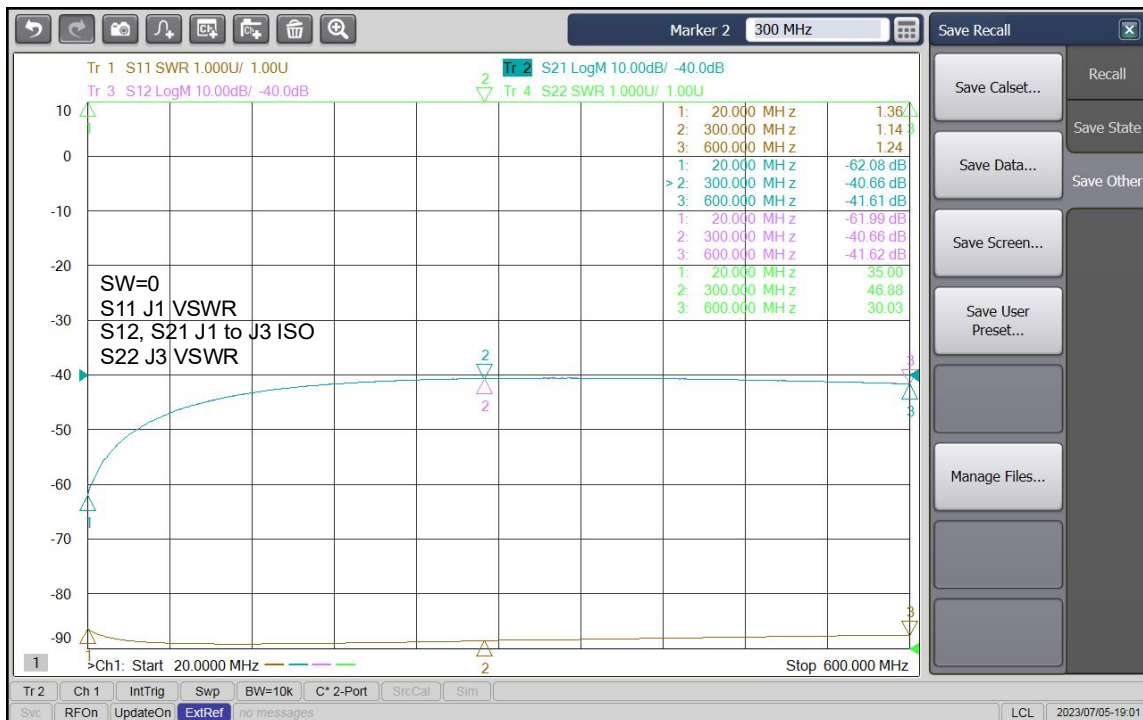
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Insertion Loss Path J1-J3, SW=1



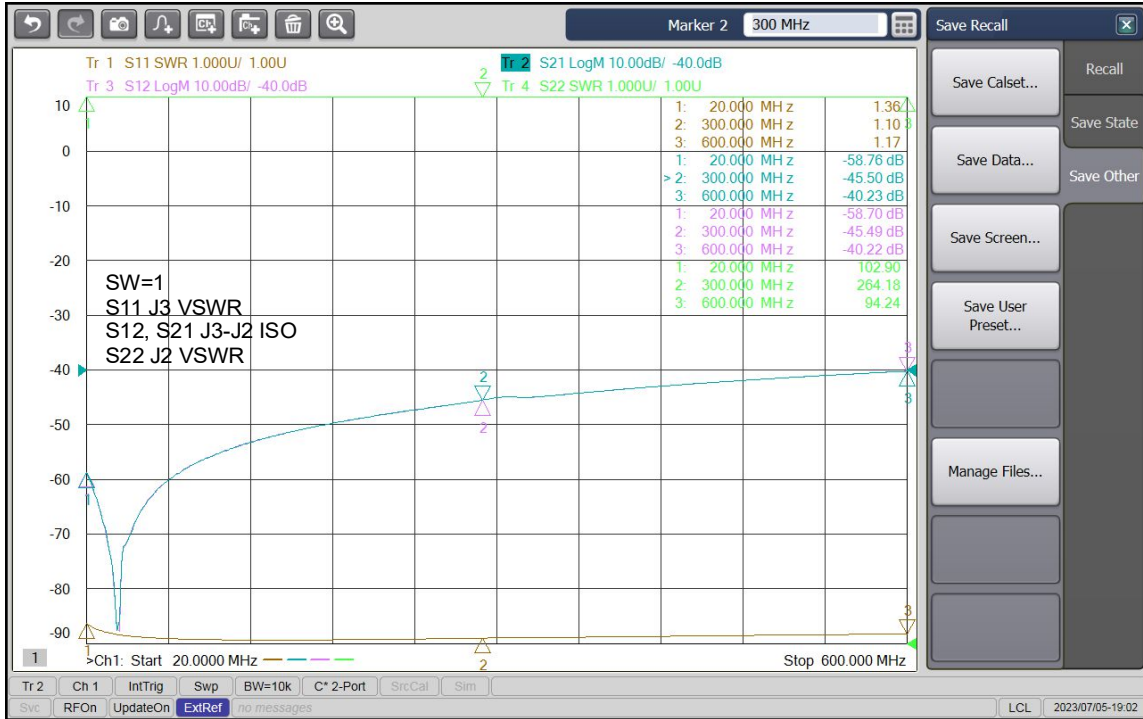
Isolation Path J1-J3, SW=0



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Isolation Path J3-J2, SW=1



Isolation Path J3-J2, 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



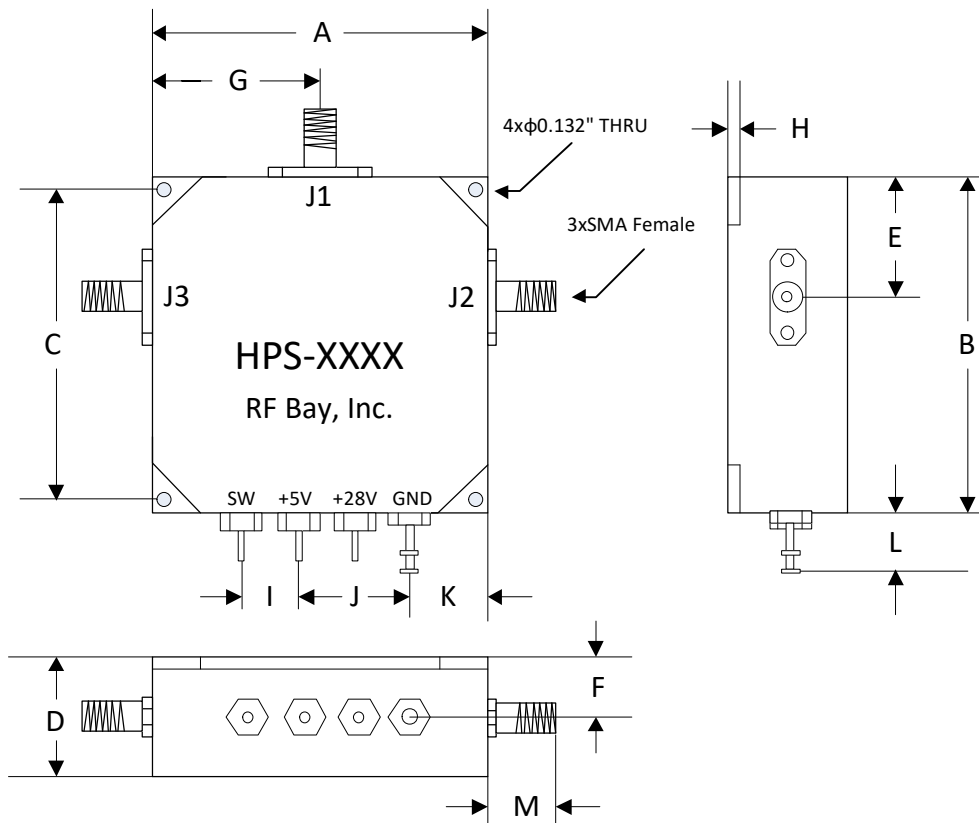
Warning and Caution:

- 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					