

# Absorptive 0.1-40GHz Coaxial SP4T Switch

## Features

- Ultra Wide Band Operation 0.1-40GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request



## Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT  
Fiber Optics

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.1-18		18-40				GHz
Insertion Loss		4.5	6		6.0	7.0	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Isolation	70	75		65	70		dB
Input VSWR		2	3		2.5	3	: 1
Output VSWR		2	3		2.5	3	: 1
RF Input power			23			23	dBm
DC Power Dissipation (CW)		0.85			0.85		W
0.1dB Compression P0.1dB		23			23		dBm
IIP3		55			50		dBm
Switching Speed	100						ns
Weight	1.06						Ounces
Impedance	50						Ω
Bias Current(+5V/-5V)	150/50						mA
Input /Output Connectors	2.92mm-Female						
Finish	Gold Plating						
Material	Aluminum						
Sealing	Hermetically Sealed (optional)						



### Absolute Maximum Ratings

Biasing	+5V ± 10%/-5V ± 10%
---------	---------------------

### Environmental Specifications

Operational Temperature	-40°C ~ +85°C (Case Temperature)
Storage Temperature	-50°C ~ +105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Uncontrolled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

### Ordering Information

Part No.	Description
DBSA0400104000A	SP4T 0.1-40GHz PIN Diode Switch

### Outline Drawing:

All Dimensions in mm (inches)

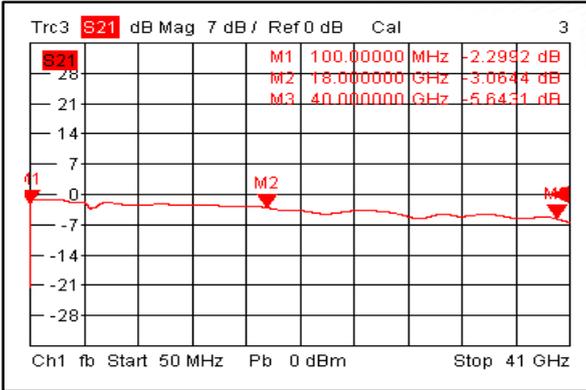
The drawing shows a top view and a side view of the switch. The top view includes dimensions: 52 [2.05] total width, 48 [1.89] distance between the two control pins (C2 and C1), and 10 [0.39] distance between the two signal pins (J1 and J2). Pin labels include GND, C2, C1, J0, -5V, +5V, J4, J3, J2, and J1. A 2-Ø 2.8 [0.11] THRU hole is indicated. The side view shows a height of 9.5 [0.37] and a distance of 2 [0.08] from the top surface to the center of the thru hole. A distance of 3 [0.12] is shown from the bottom surface to the center of the thru hole. The bottom view shows a distance of 6.5 [0.26] from the left edge to the center of the thru hole, and a distance of 13 [0.51] between the two signal pins (J3 and J2). A distance of 39 [1.54] is shown between the two signal pins (J3 and J1).

**Truth Table**

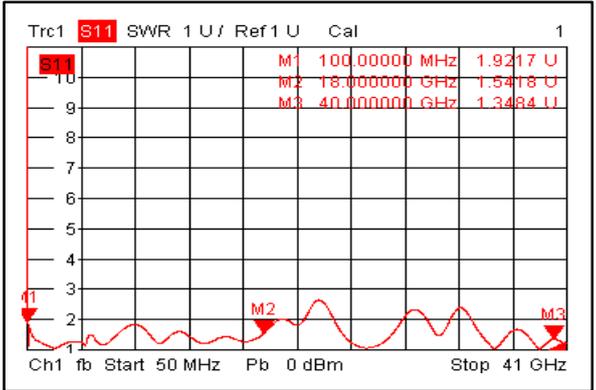
TTL Control Voltage THRESHOLD	Low(0)=0~0.8V	
	High(1)=2.8~5V	
Control Input TTL	Signal Path State	
C2	C1	
0	0	J0-J1
0	1	J0-J2
1	0	J0-J3
1	1	J0-J4
Control Pin Customization available upon request		



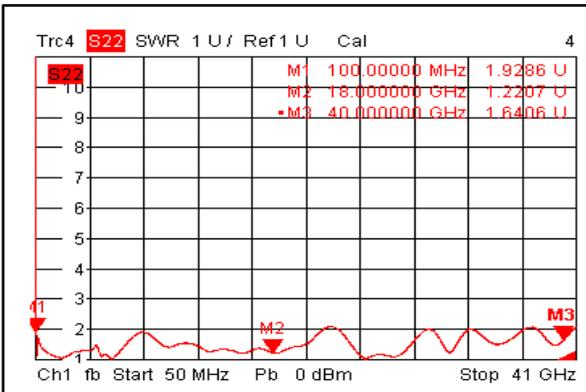
### Insertion Loss @+25°C



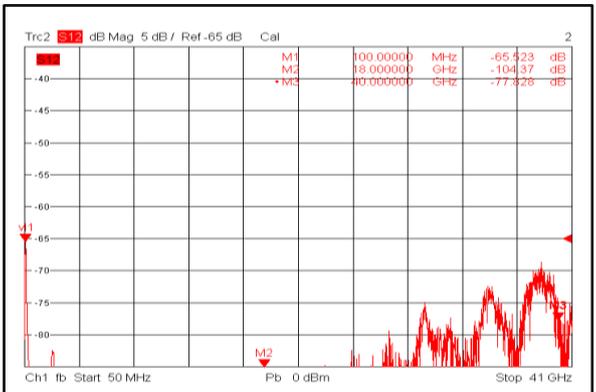
### Input VSWR @+25°C



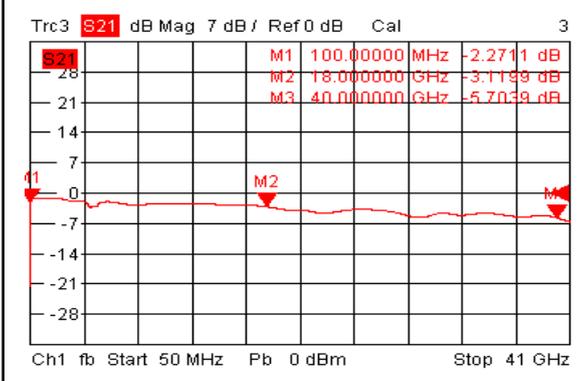
### Output VSWR @+25°C



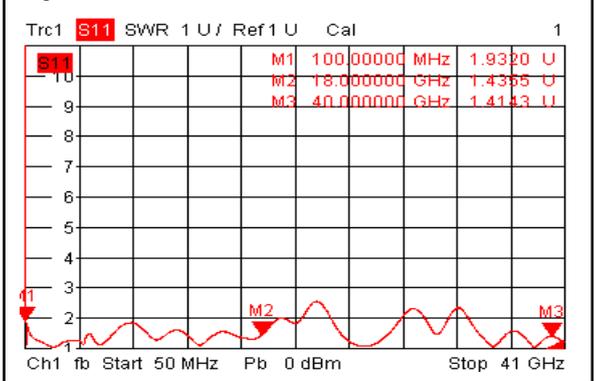
### Isolation @+25°C



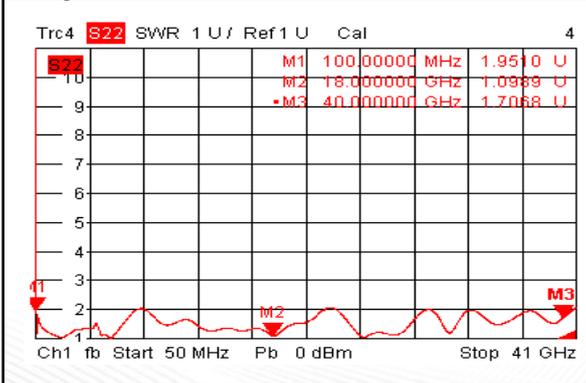
### Insertion Loss @-40°C



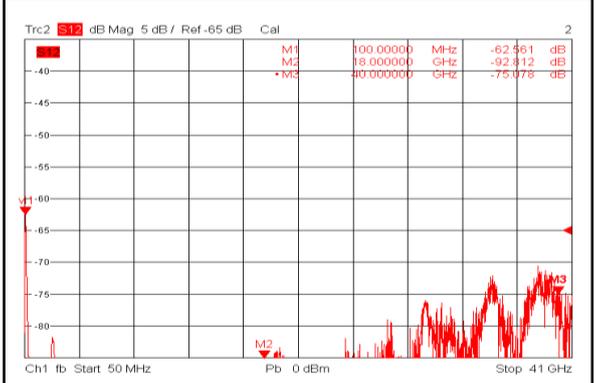
### Input VSWR @-40°C



### Output VSWR @-40°C

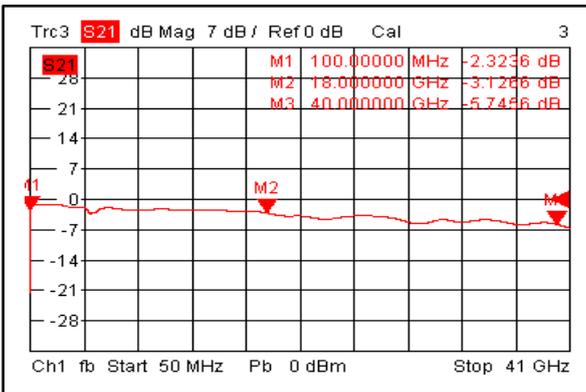


### Isolation @-40°C

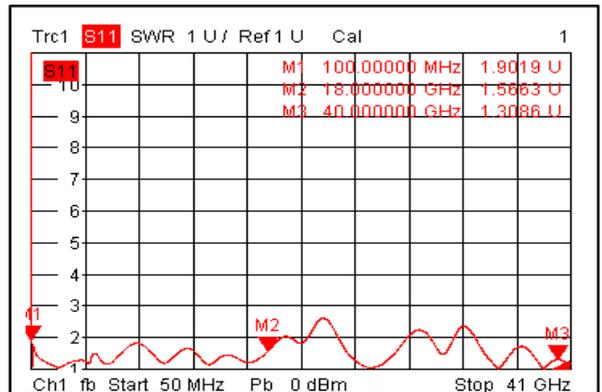




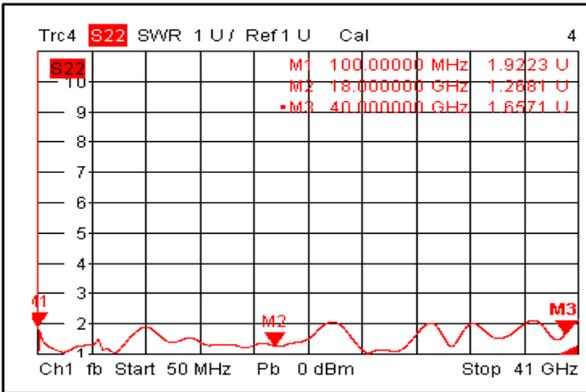
### Insertion Loss @+85°C



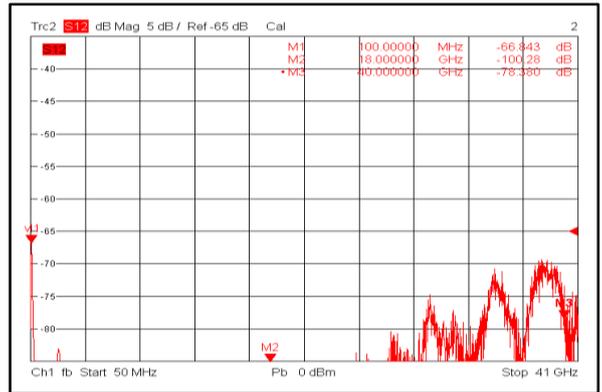
### Input VSWR @+85°C



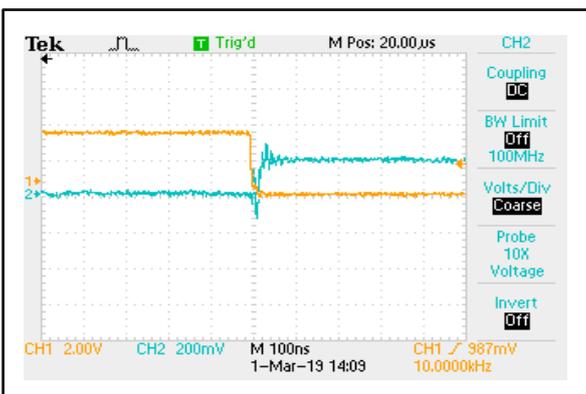
### Output VSWR @+85°C



### Isolation @+85°C



### Switching Speed



### Switching Speed

