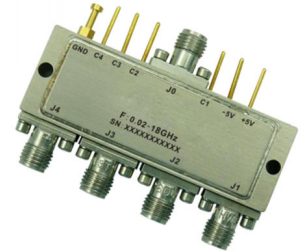




# Hermetically Sealed Absorptive Coaxial SP4T Switch 0.02 - 18GHz

## Features

- Ultra Wide Band Operation 0.02-18GHz
- 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.	Min.	Typ.	Max.	Units
Frequency Range	0.02-6			6-12			12-18			GHz
Insertion Loss		2.4	2.8		3.1	3.5		4.3	4.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ ° C
Isolation	60	80		60	75		60	65		dB
Output to Output Port Isolation	60	80		60	75		60	65		dB
Input VSWR		1.6	2.0		1.5	2.0		1.5	2.0	: 1
Output VSWR		1.6	2.0		1.5	2.0		1.5	2.0	: 1
RF Input Power (CW)			30			30			30	dBm
DC Power Dissipation		1			1			1		W
0.1dB Compression Point (P0.1dB)		30			30			30		dBm
IIP3		47			45			45		dbm
Switching Speed		100	250		100	250		100	250	ns
Weight	1.18typ. 1.25max.									Ounces
Impedance	50 +/-10									Ω
Bias Current (+5V/-5V)	160/50									mA
Input / Output Connectors	SMA-Female									
Finish	Nickel Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Laser Welded)									



### Absolute Maximum Ratings

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

### Ordering Information

Part No.	Description
DBSA0400021800C	SP4T 0.02-18GHz PIN Diode Switch

### 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 Un-controlled 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

### Outline Drawing:

All Dimensions in mm (inches)

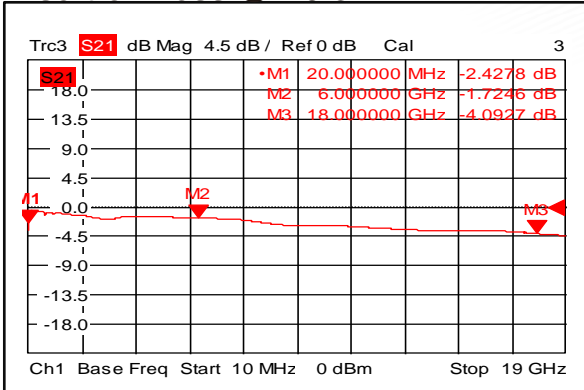
The drawing shows a rectangular component with a top view and a side view. The top view labels include GND, C4, C3, C2, J0, C1, -5V, +5V, J4, J3, J2, and J1. The side view shows a through-hole with a diameter of 2-Ø2.8 [0.11]. Dimensions are provided in mm and inches.

TTL Control Voltage THRESHOLD					Low(0)=0~0.8V
					High(1)=2.8~5V
Control Input TTL					Signal Path State
c1	c2	c3	c4		
0	0	0	0	NC	
0	1	1	1	J0-J1	
1	0	1	1	J0-J2	
1	1	0	1	J0-J3	
1	1	1	0	J0-J4	
1	1	1	1	OFF	

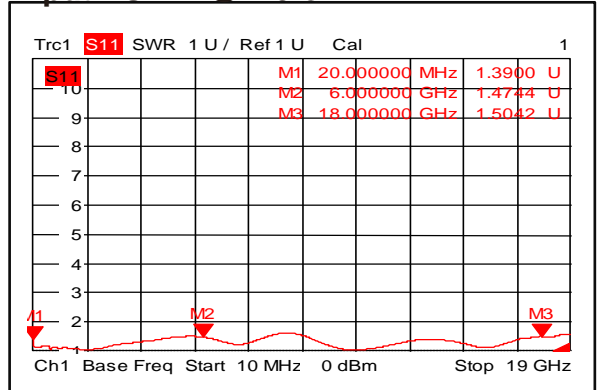
Control Pin Customization available upon request



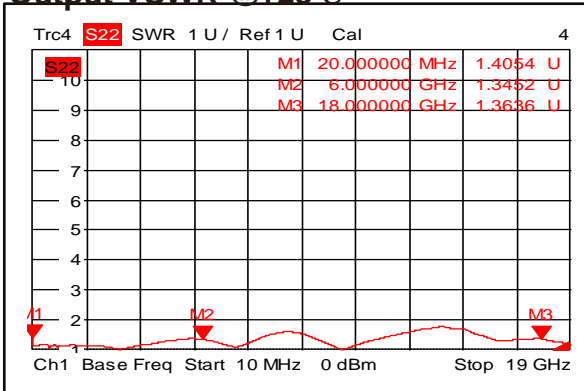
### Insertion Loss @+25°C



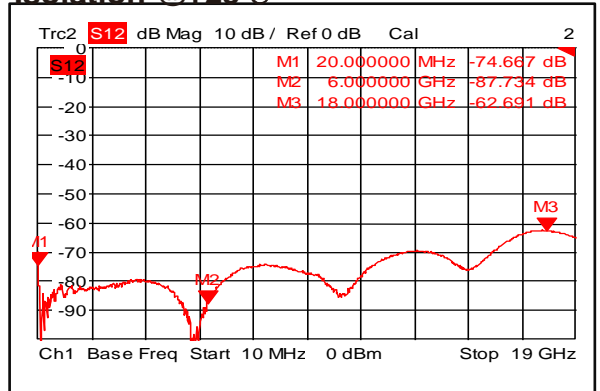
### Input VSWR @+25°C



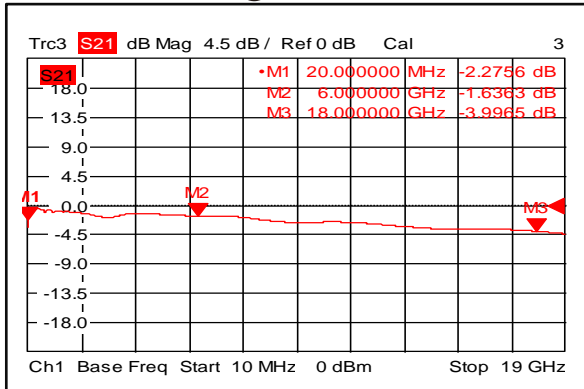
### Output VSWR @+25°C



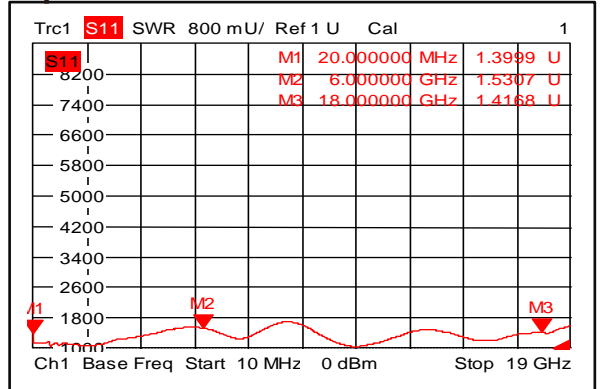
### Isolation @+25°C



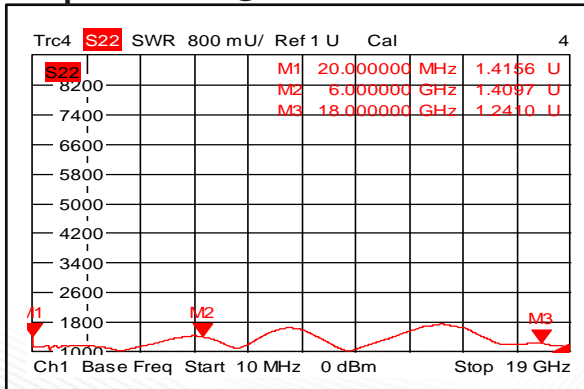
### Insertion Loss @-40°C



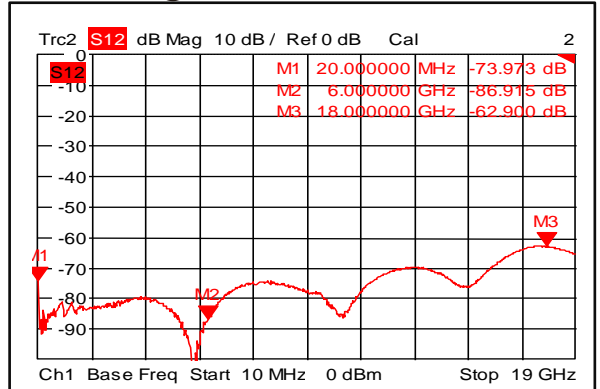
### Input VSWR @-40°C



### Output VSWR @-40°C

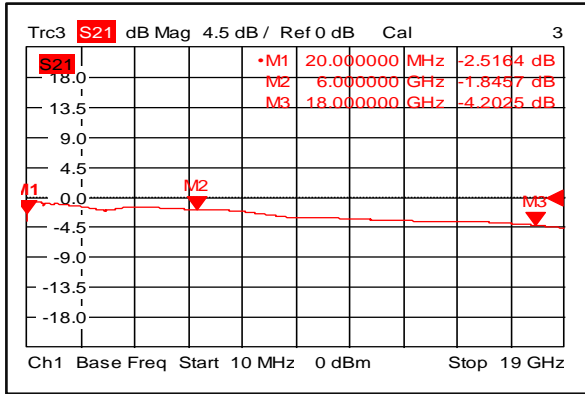


### Isolation @-40°C

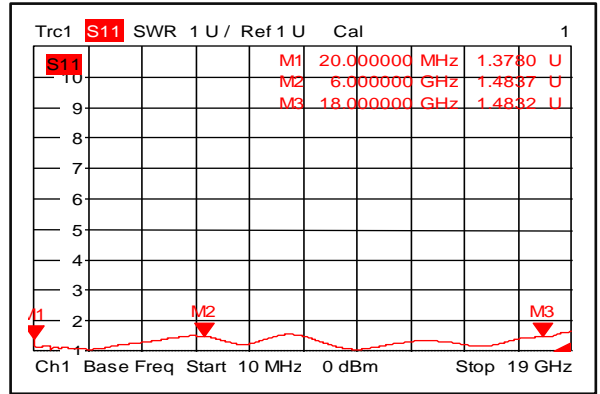




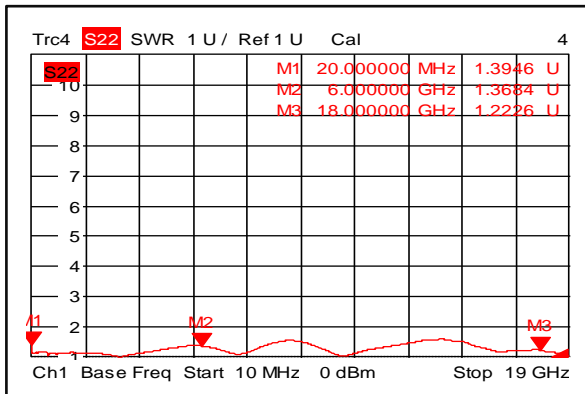
### Insertion Loss @+85°C



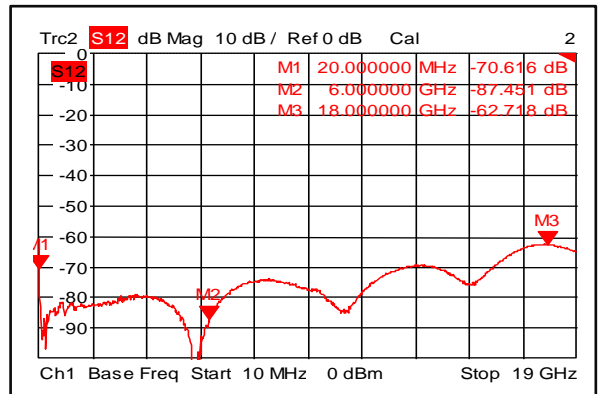
### Input VSWR @+85°C



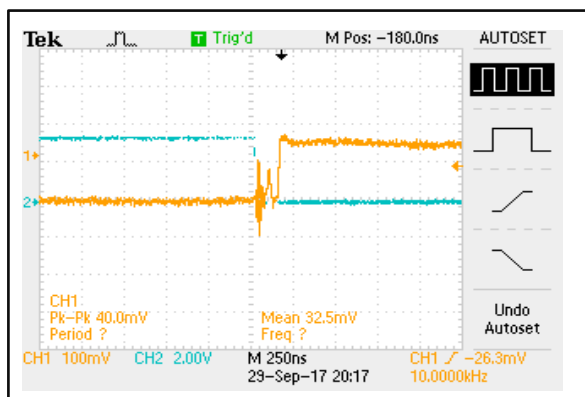
### Output VSWR @+85°C



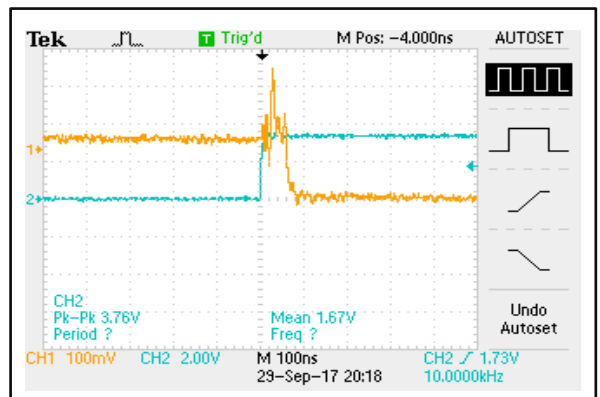
### Isolation @+85°C



### Switching Speed



### Switching Speed





**RFecho**  
A Gateway to RFWorld