

**Absorptive 0.1-50GHz Coaxial SP4T Switch**
**Features**

- Ultra Wide Band Operation 0.1-50GHz
- 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	0.1-18		18-43.5		43.5-50					GHz
Insertion Loss		3.3	4.0		5.0	6.0		5.5	6.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ °C
Isolation	60	70		45	55		40	55		dB
Input VSWR		1.8	2.5		2.5	3		2	2.5	: 1
Output VSWR		1.8	2.5		2.5	3		2	2.5	: 1
RF Input power			23			23			23	dBm
DC Power Dissipation		0.15			0.15			0.15		W
0.1dB Compression Point (P0.1dB )		23			23			23		dBm
IIP3		45			43			43		dBm
Switching Speed	100 Max.									ns
Weight	1.2 Max.									Ounces
Impedance	50									Ω
Bias Current(+5V/-15V)	120/50 Max.									mA
Input /Output Connectors	2.4mm-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (optional)									

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**Absolute Maximum Ratings**

Biasing	+5V ± 10%/-15V ± 10%
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Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

**Ordering Information**

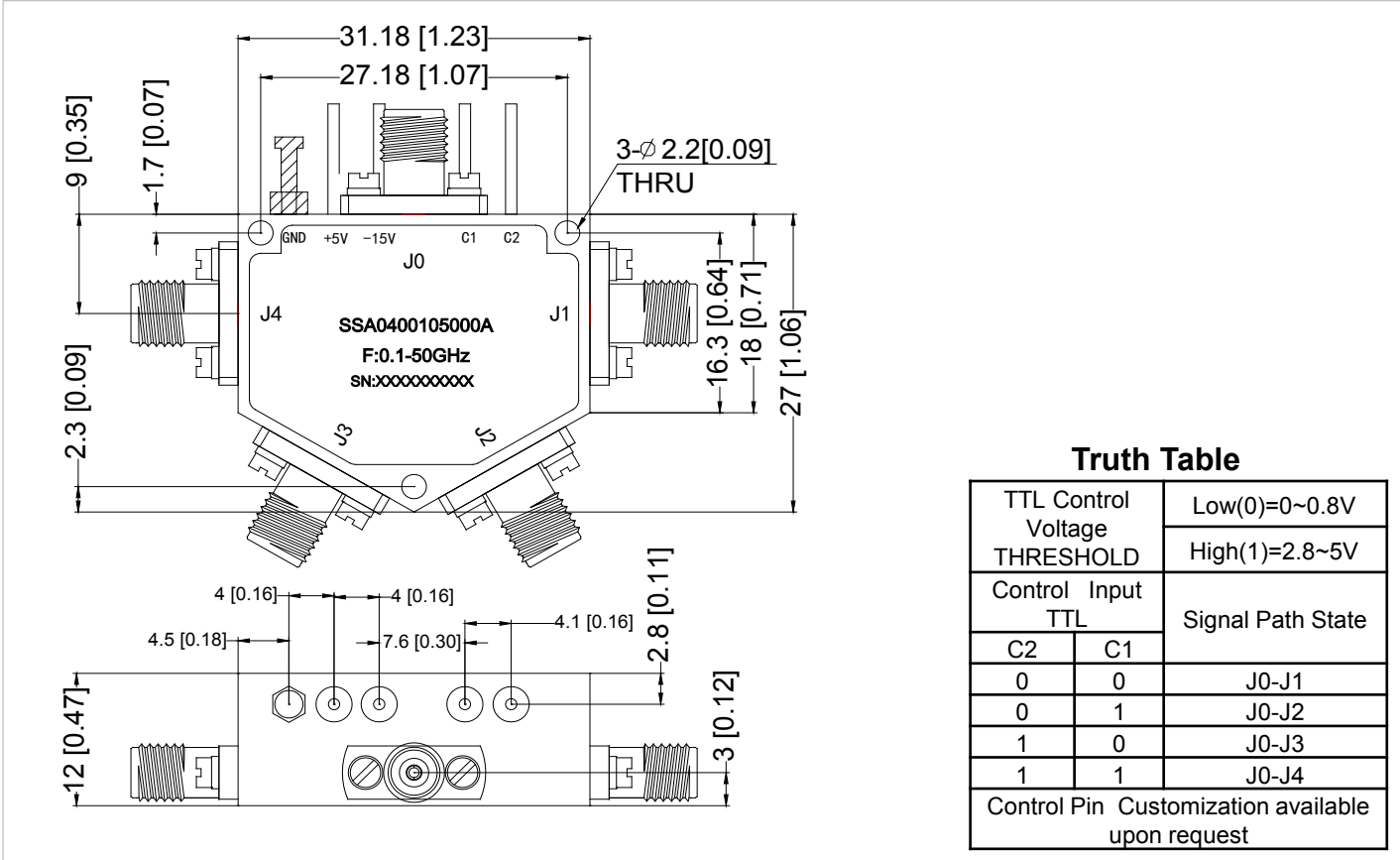
Part No.	Description
DBSA0400105000A	SP4T 0.1-50GHz PIN Diode Switch

**Environmental Specifications**

Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +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

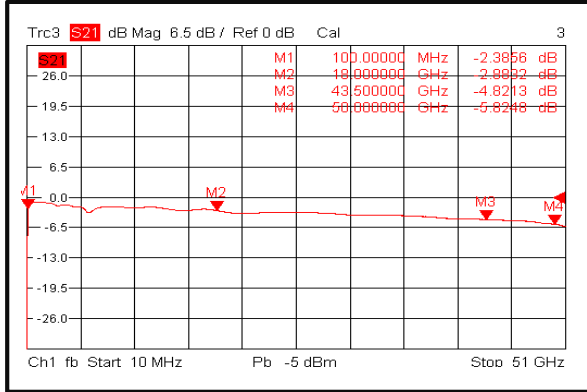
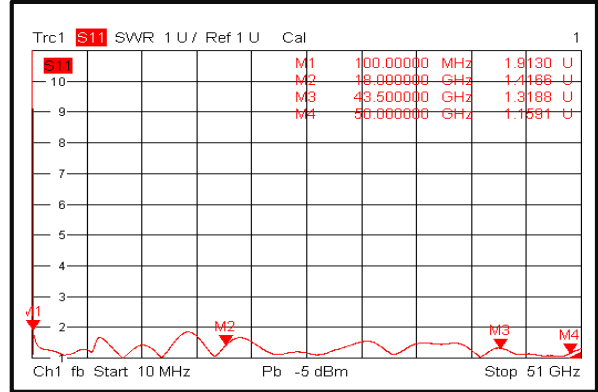
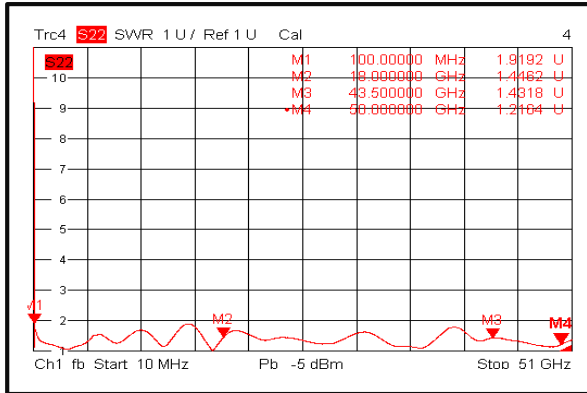
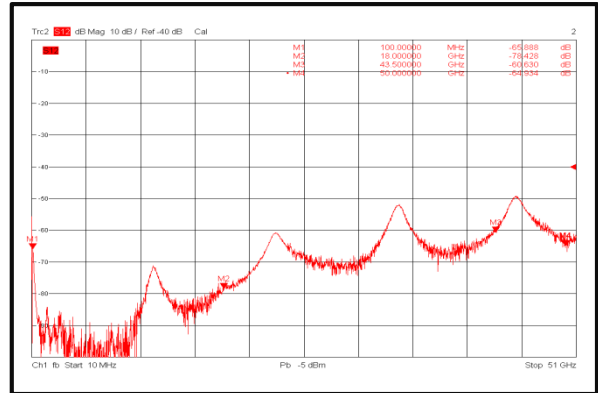
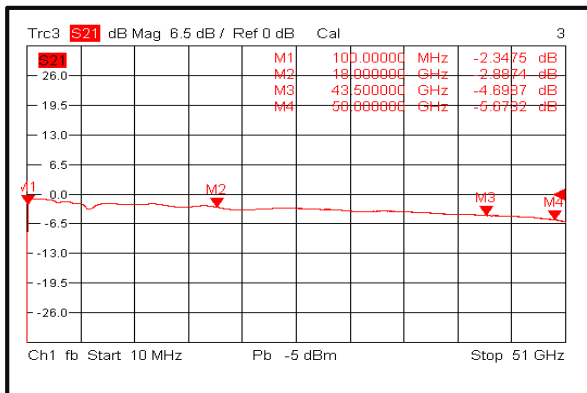
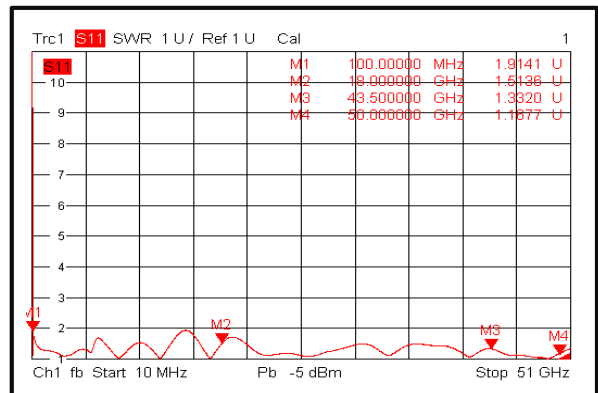
**Outline Drawing:**

All Dimensions in mm (inches)  
Housing Tolerances ±0.1 (0.004)



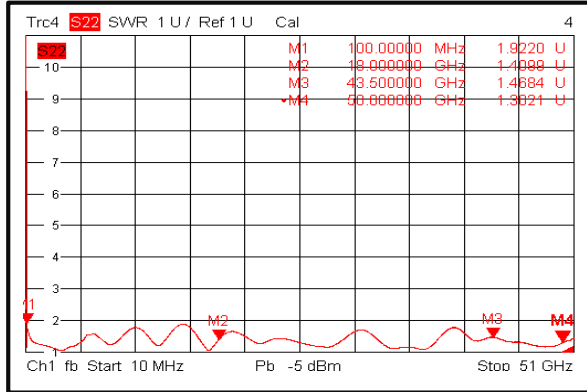
**Truth Table**

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		

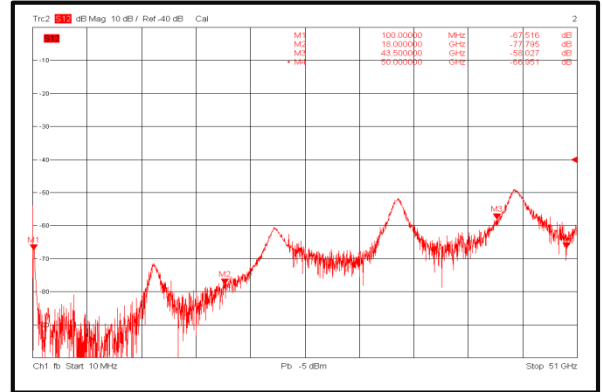
**Absorptive 0.1-50GHz Coaxial SP4T Switch**
**Insertion Loss @+25°C**

**Input VSWR @+25°C**

**Output VSWR @+25°C**

**Isolation @+25°C**

**Insertion Loss @-40°C**

**Input VSWR @-40°C**


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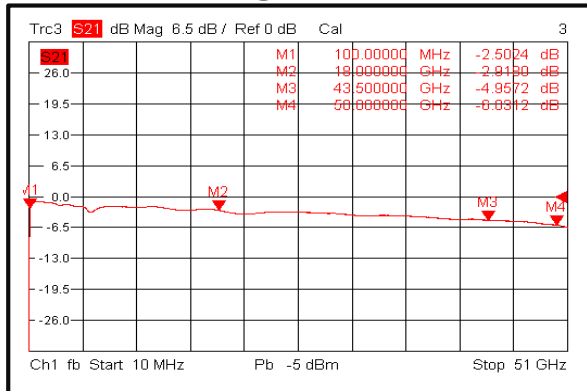
**Output VSWR @-40°C**



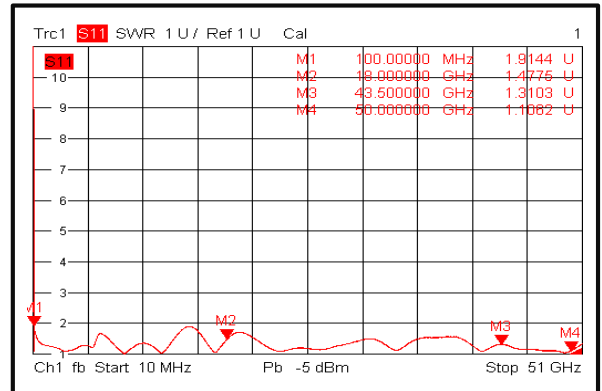
**Isolation @-40°C**



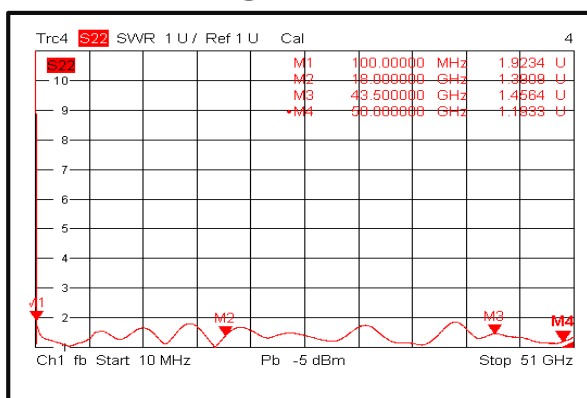
**Insertion Loss @+85°C**



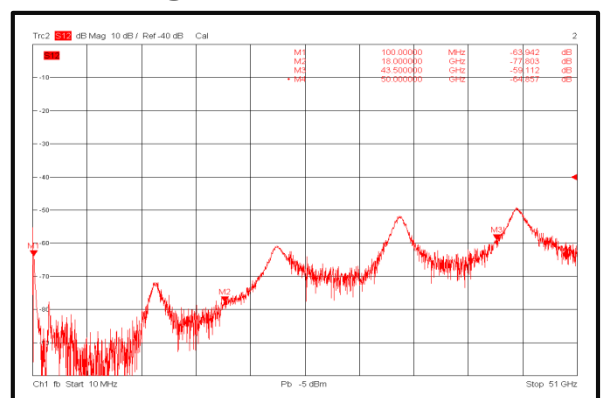
**Input VSWR @+85°C**



**Output VSWR @+85°C**

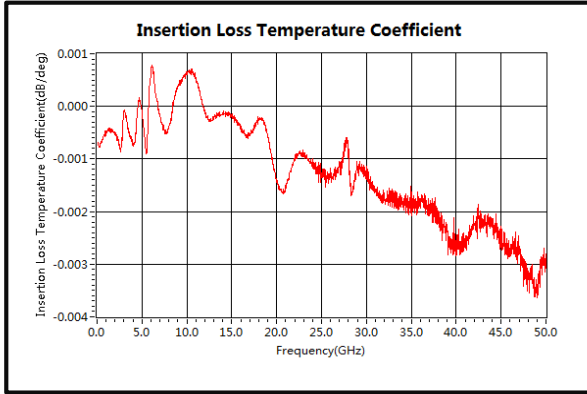


**Isolation @+85°C**

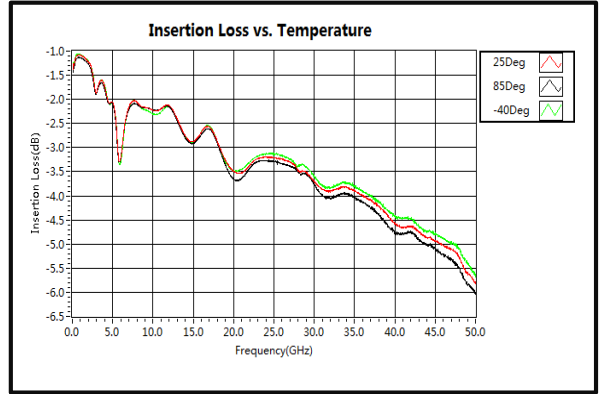


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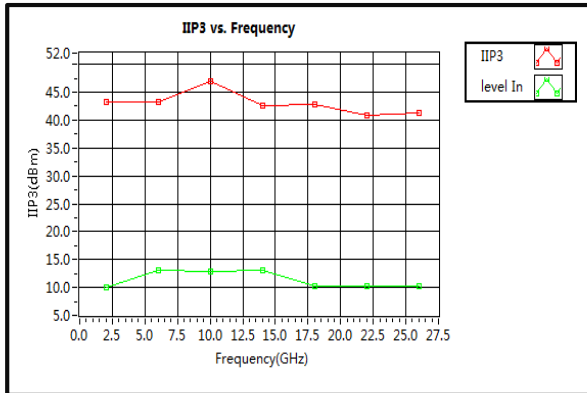
**Insertion Loss Temperature Coefficient**



**Insertion Loss vs. Temperature**



**IIP3**



**Switching Speed**



**Switching Speed**

