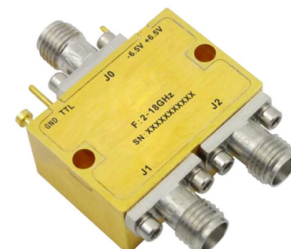


# Absorptive 2-18GHz Coaxial SP2T Switch

## Features

- Wide Band Operation 2-18GHz
- 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                        | 2-8                            |       |      | 8-12 |       |      | 12-18 |       |      | GHz     |
| Insertion Loss                         |                                | 1.6   | 1.8  |      | 2.2   | 2.4  |       | 2.7   | 3.0  | dB      |
| Insertion Loss Temperature Coefficient |                                | 0.003 |      |      | 0.003 |      |       | 0.003 |      | dB/ ° C |
| Isolation                              | 65                             | 70    |      | 60   | 65    |      | 60    | 65    |      | dB      |
| Input VSWR                             |                                | 1.6   | 2    |      | 1.6   | 2    |       | 1.6   | 2    | : 1     |
| Output VSWR                            |                                | 1.6   | 2    |      | 1.6   | 2    |       | 1.6   | 2    | : 1     |
| RF Input Power (CW)                    |                                |       | 30   |      |       | 30   |       |       | 30   | dBm     |
| DC Power Dissipation                   |                                | 0.4   |      |      | 0.4   |      |       | 0.4   |      | W       |
| 0.1dB Compression Point (P0.1dB)       |                                | 30    |      |      | 30    |      |       | 30    |      | dBm     |
| IIP3                                   |                                | 55    |      |      | 55    |      |       | 55    |      | dBm     |
| Switching Speed                        | 100                            |       |      |      |       |      |       |       |      | ns      |
| Weight                                 | 0.65 Max.                      |       |      |      |       |      |       |       |      | ounces  |
| Impedance                              | 50                             |       |      |      |       |      |       |       |      | Ω       |
| Bias Current ( +6.5V / -6.5V )         | 80 / 50 Max.                   |       |      |      |       |      |       |       |      | mA      |
| Input / Output Connectors              | SMA-Female                     |       |      |      |       |      |       |       |      |         |
| Finish                                 | Gold Plated                    |       |      |      |       |      |       |       |      |         |
| Material                               | Aluminum                       |       |      |      |       |      |       |       |      |         |
| Sealing                                | Hermetically Sealed (Optional) |       |      |      |       |      |       |       |      |         |



### Absolute Maximum Ratings

|         |                                 |
|---------|---------------------------------|
| Biasing | +6.5V $\pm$ 10%/-6.5V $\pm$ 10% |
|---------|---------------------------------|

### Ordering Information

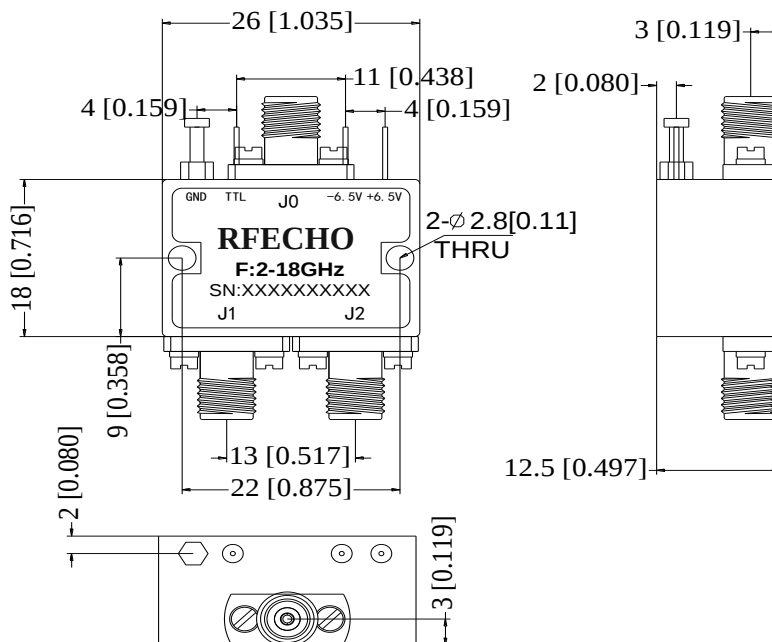
| Part No.        | Description                      |
|-----------------|----------------------------------|
| DBSA0202001800B | SP2T 2-18GHz<br>PIN Diode Switch |

### Environmental Specifications

|                         |                                                                                  |
|-------------------------|----------------------------------------------------------------------------------|
| Operational Temperature | -40°C~+85°C                                                                      |
| 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)

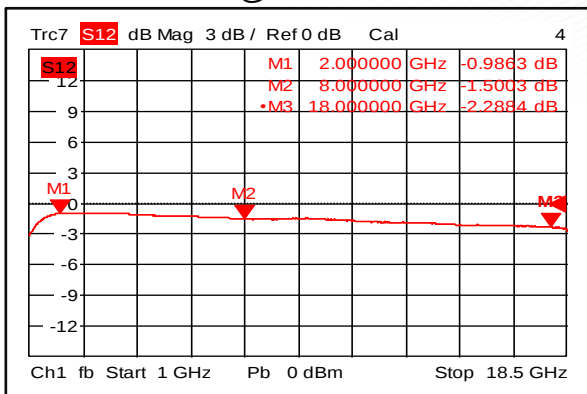


### Truth Table

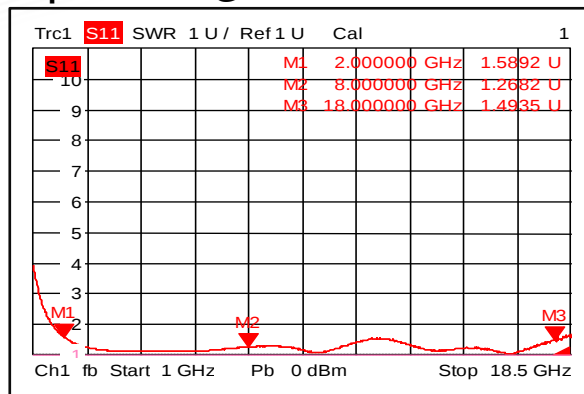
|                                                  |                   |
|--------------------------------------------------|-------------------|
| TTL Control Voltage THRESHOLD                    | Low(0)=0~0.8V     |
|                                                  | High(1)=2.8~5V    |
| Control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



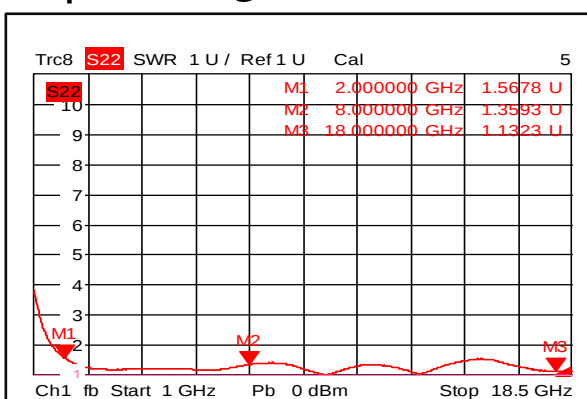
## Insertion Loss @+25°C



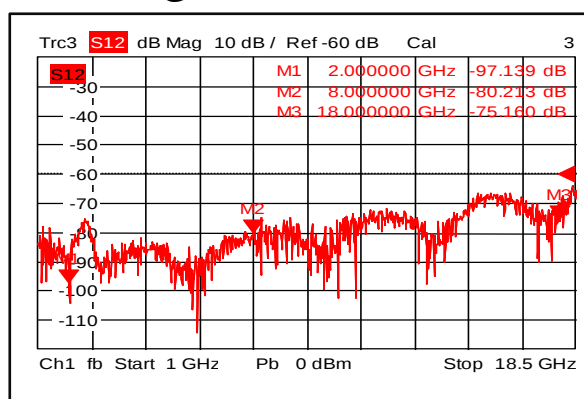
## Input VSWR @+25°C



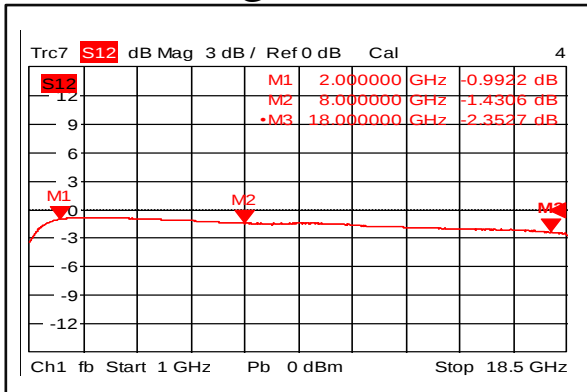
## Output VSWR @+25°C



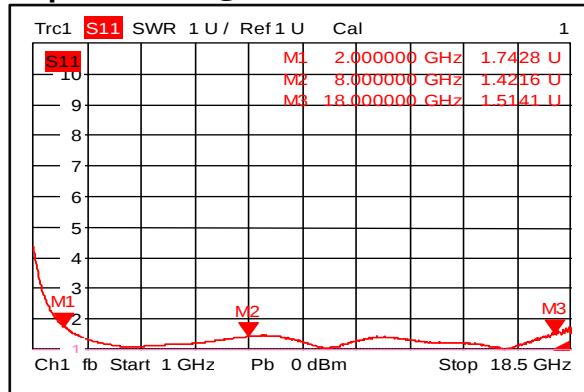
## Isolation @+25°C



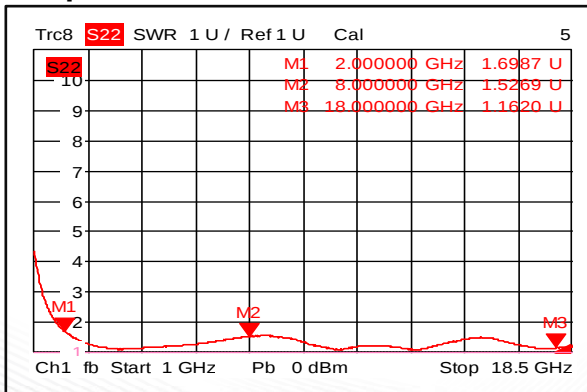
## Insertion Loss @-40°C



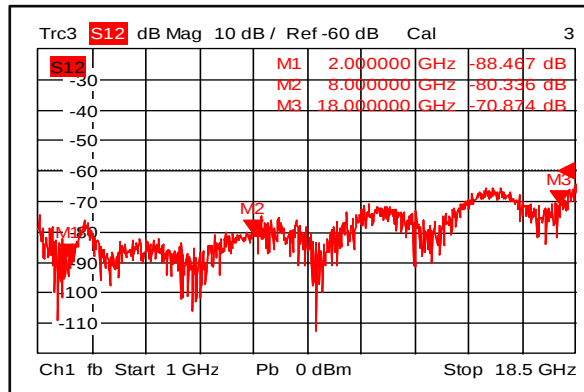
## Input VSWR @-40°C



## Output VSWR @-40°C

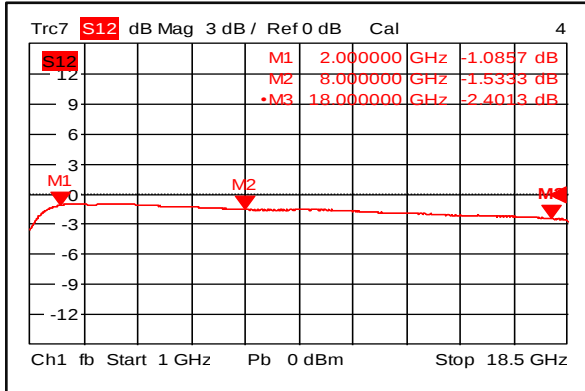


## Isolation @-40°C

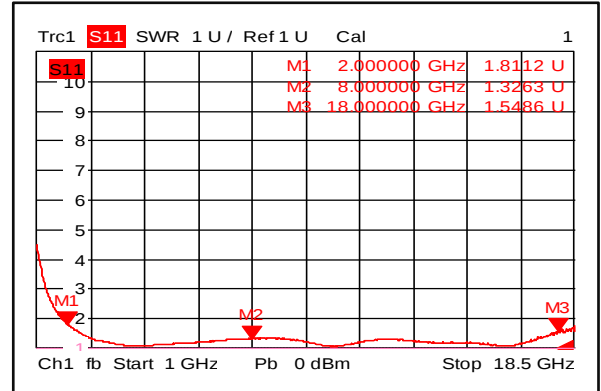




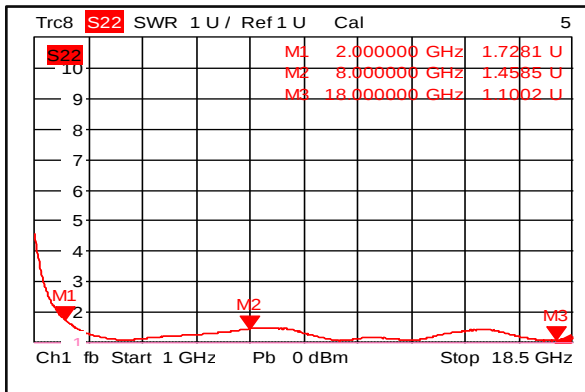
## Insertion Loss @+85°C



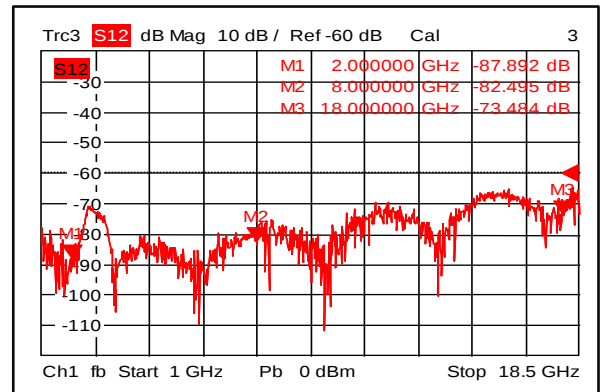
## Input VSWR @+85°C



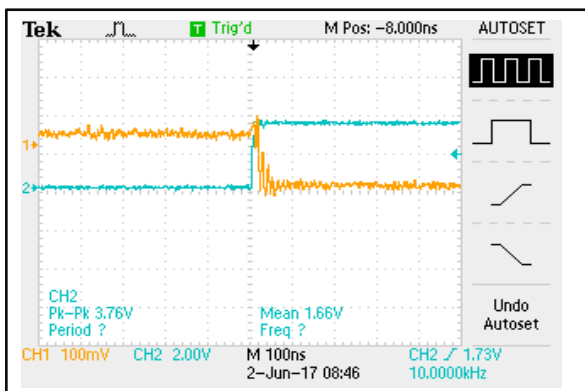
## Output VSWR @+85°C



## Isolation @+85°C



## Switching Speed



## Switching Speed

