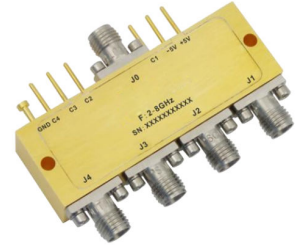




Absorptive 2-8GHz Coaxial SP4T Switch

Features

- Wide Band Operation 2-8GHz
- 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 | 2-4 | | 4-8 | | | | GHz |
| Insertion Loss | | 1.0 | 1.2 | | 1.8 | 2.2 | dB |
| Insertion Loss Temperature Coefficient | | 0.003 | | | 0.003 | | dB/ °C |
| Isolation | 80 | 85 | | 80 | 85 | | dB |
| Input VSWR | | 1.2 | 1.3 | | 1.2 | 1.5 | : 1 |
| Output VSWR | | 1.2 | 1.3 | | 1.2 | 1.5 | : 1 |
| RF Input power (CW) | 1 | | | 1 | | | W |
| Power Dissipation (CW) | | 0.3 | | | 0.4 | | W |
| 0.1dB Compression P0.1dB | | 30 | | | 30 | | dBm |
| IM3 | | 40 | | | 40 | | dBc |
| IIP3 | | 45 | | | 45 | | dBm |
| Switching Speed | | 100 | | | 100 | | ns |
| Weight | 1.13 | | | | | | ounces |
| Impedance | 50 | | | | | | Ω |
| Biasing(+5V/-5V) | 160/50 | | | | | | mA |
| Input /Output Connectors | SMA-Female | | | | | | |
| Finish | Gold Plated | | | | | | |
| Material | Aluminum | | | | | | |
| Seal | Hermetically Sealed (optional) | | | | | | |



Absolute Maximum Ratings

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

Ordering Information

| Part No. | Description |
|-----------------|------------------------------|
| DBSA0402000800A | SP4T 2-8GHz 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 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 |

Outline Drawing:

All Dimensions in mm (inches)

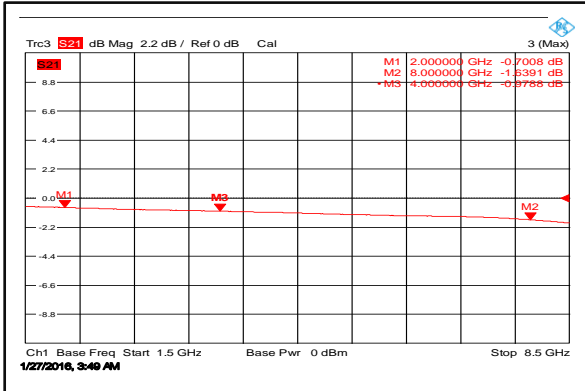
The drawing shows a rectangular component with dimensions: overall width 52 [2.05], internal width 48 [1.89], height 12.5 [0.49], and depth 18 [0.71]. Pin locations are marked: GND, C4, C3, C2, J0, C1, -5V, +5V, J4, J3, J2, J1. A side view shows a height of 2 [0.08] and a diameter of 2-Ø 2.8 [0.11] THRU. A distance of 13 [0.51] is shown between two bottom pins, and 39 [1.54] between two other bottom pins. A distance of 3 [0.12] is shown from the bottom edge to the start of the side view.

| TTL Control Voltage THRESHOLD | | | | Low(0)=0~0.8V | High(1)=2.8~5V |
|-------------------------------|----|----|----|-------------------|----------------|
| Control Input TTL | | | | Signal Path State | |
| C4 | C3 | C2 | C1 | Signal Path State | |
| 0 | 0 | 0 | 0 | NC | |
| 1 | 1 | 1 | 0 | J0-J1 | |
| 1 | 1 | 0 | 1 | J0-J2 | |
| 1 | 0 | 1 | 1 | J0-J3 | |
| 0 | 1 | 1 | 1 | J0-J4 | |
| 1 | 1 | 1 | 1 | OFF | |

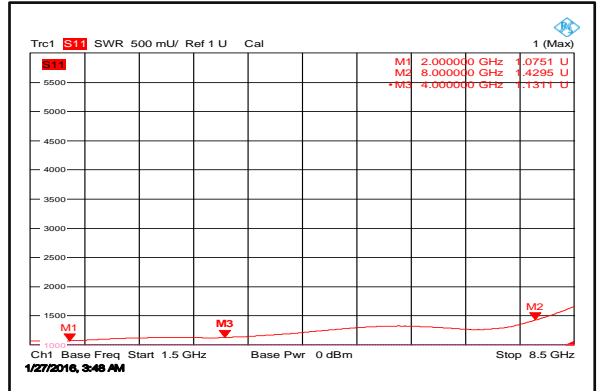
Control Pin Customization available upon request



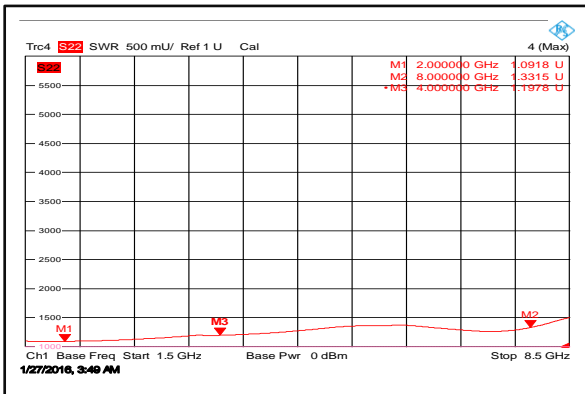
Insertion Loss



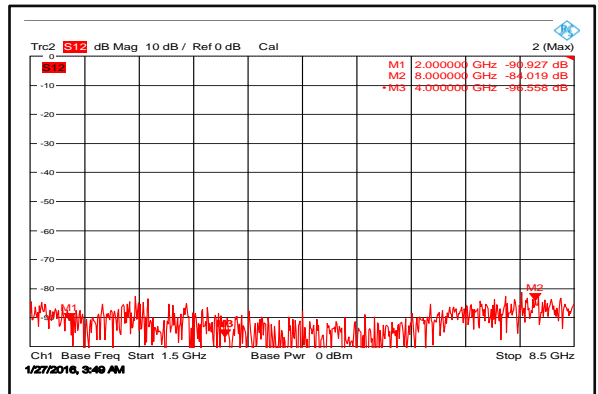
Input VSWR



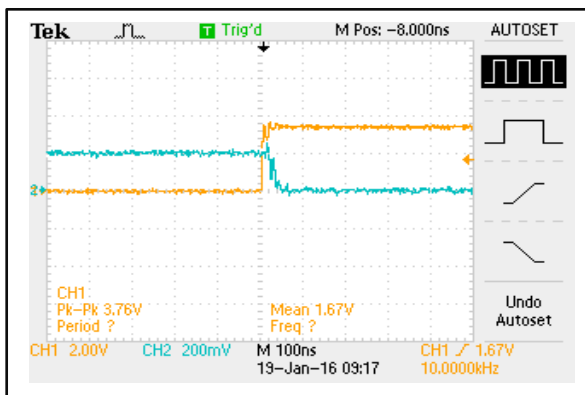
Output VSWR



Isolation



Turn on Switching Speed



Turn off Switching Speed

