# 0.05 to 20 GHz SP4T Reflective RF Switch Datasheet

Product ID: SW00025 Model: S4TR-50M200E4B

- SP4T Reflective RF Switch
- Wideband Operation
- Low Insertion Loss: 4 dB Max.
- Fast Switching
- TTL Control

## Electrical Specifications

| Description | Units | Minimum | Typical | Maximum |
|---|---|---|---|---|
| Frequency Range | GHz | 0.05 | | 20 |
| Maximum Input Power | W | | | 0.1 |
| Insertion Loss | dB | | | 4 |
| VSWR | : 1 | | | 2.5 |
| Isolation | dB | 65 | | |
| Switching Time | ns | | | 150 |
| Supply Current @ +5 V | mA | | 150 | |
| Supply Current @ -5 V | mA | | 50 | |
| Control Interface | | | PIN | |
| Control Type | | | TTL | |
| Impedance | Ω | | 50 | |
| Operating Temperature | °C | -45 | | +85 |

## Note

- Measured at +25 °C, 50 Ω system, sea level, unless otherwise noted.
- Switching time is measured from 50% of the TTL control transition to 90% RF for turn-on and 10% RF for turn-off.
- Rise / fall time is measured from 10% to 90% RF and from 90% to 10% RF, respectively.


Tel : +86-28-8705 7896
E-mail : info@bodemw.com
Add : Chengdu 610000 CHINA
Website : www.bodemw.com

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## Mechanical Specifications

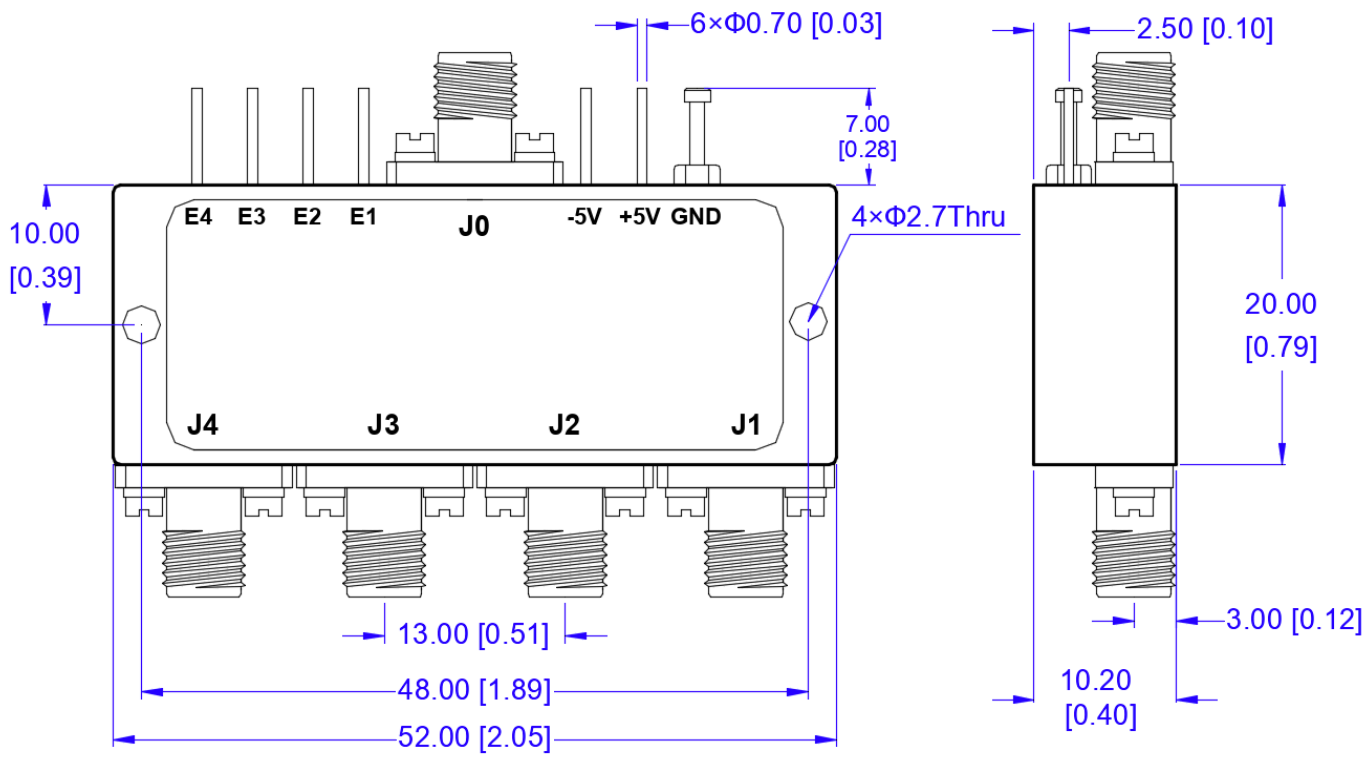
| | |
|---|---|
| Dimensions (L×W×H) | 52*20*10.2 mm |
| RF Input Connector | SMA-Female Stainless Steel |
| RF Output Connectors | SMA-Female Stainless Steel |
| Weight | 40 g |
| Finish | Gold Plated |
| Environment | Nominal |
| RoHS / REACH Compliant | √ |

## Truth Table

| Control Input TTL | | | | Signal PathState |
|---|---|---|---|---|
| E4 | E3 | E2 | E1 | |
| 1 | 1 | 1 | 0 | J0-J1 |
| 1 | 1 | 0 | 1 | J0-J2 |
| 1 | 0 | 1 | 1 | J0-J3 |
| 0 | 1 | 1 | 1 | J0-J4 |

- TTL High (1): 2.8 to 5 V
- TTL Low (0): 0 to 0.8 V
- Low-Power Cold Switching

## CAD Drawing




Dimensions are in mm [Inches]
Tolerances: Outline drawing: ±0.2 [0.008]
Hole: ±0.2 [0.008]


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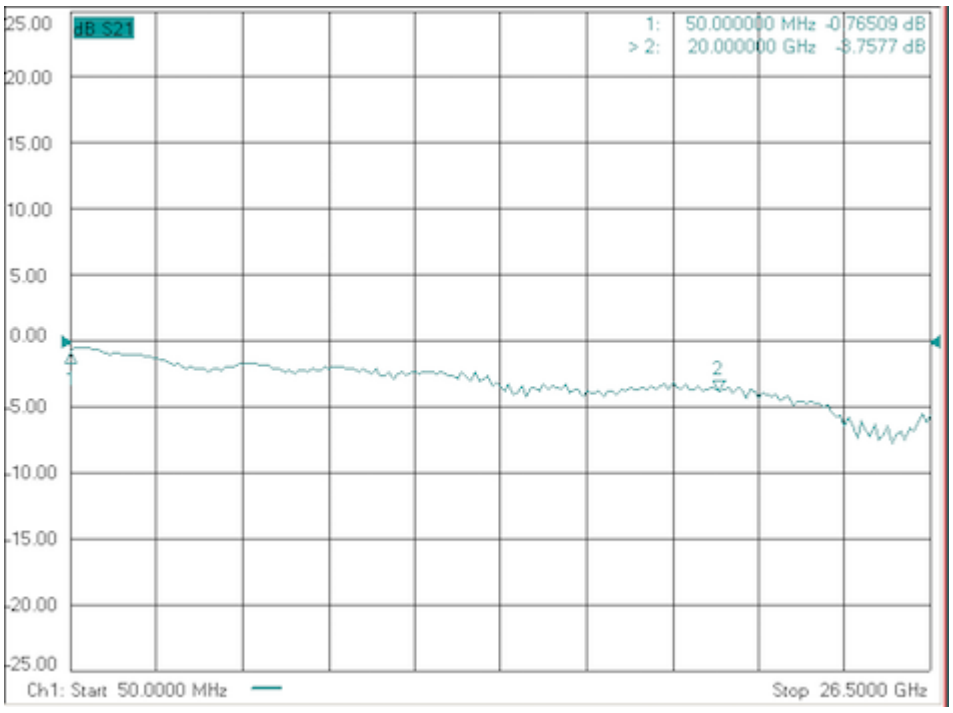
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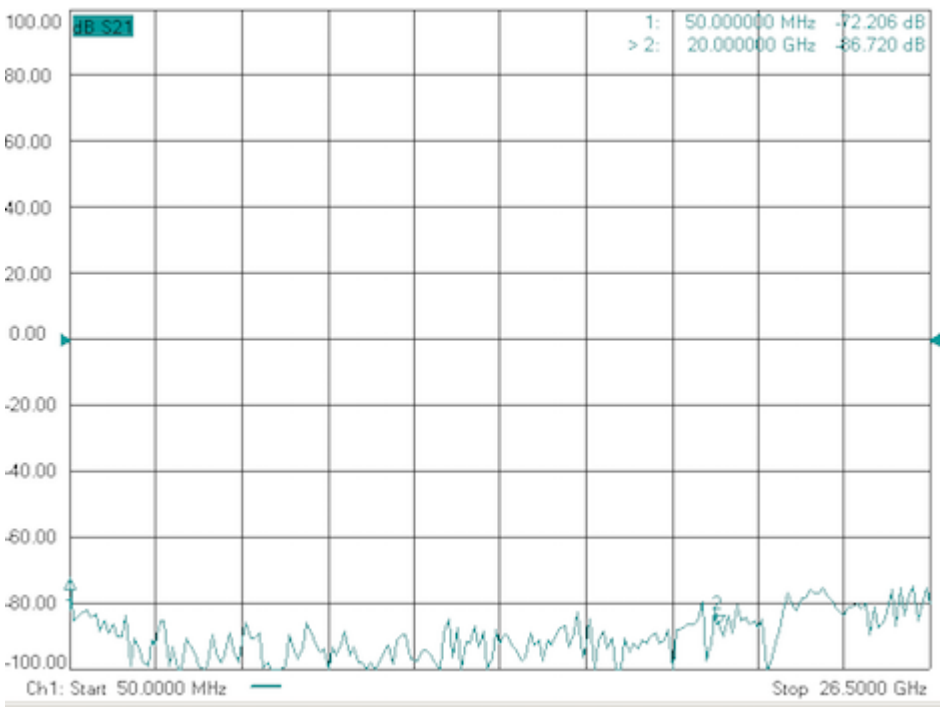
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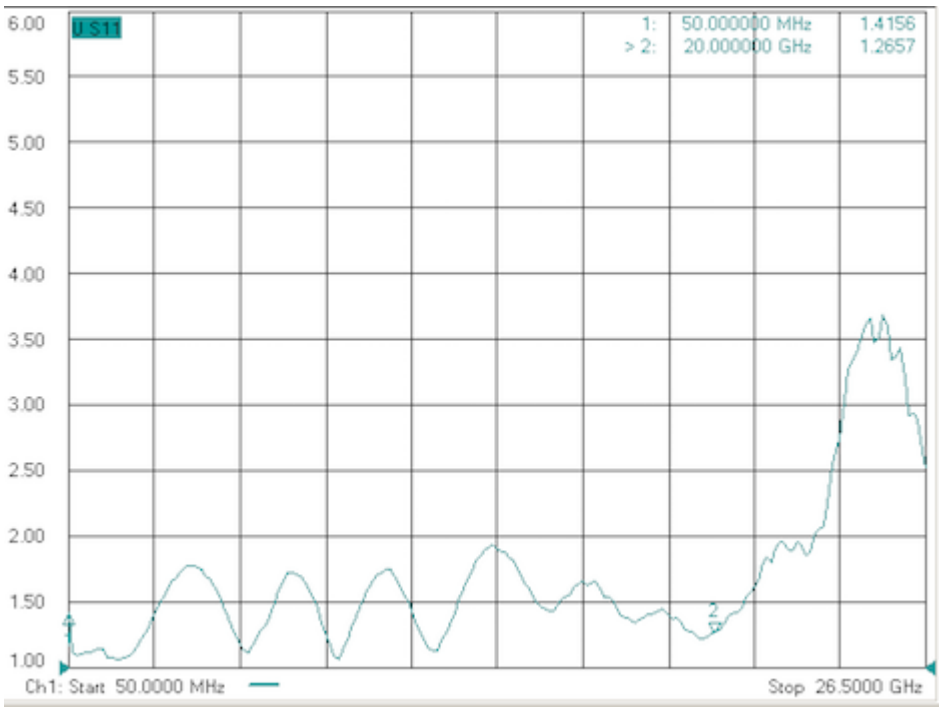
**J0 to J1 Insertion Loss**



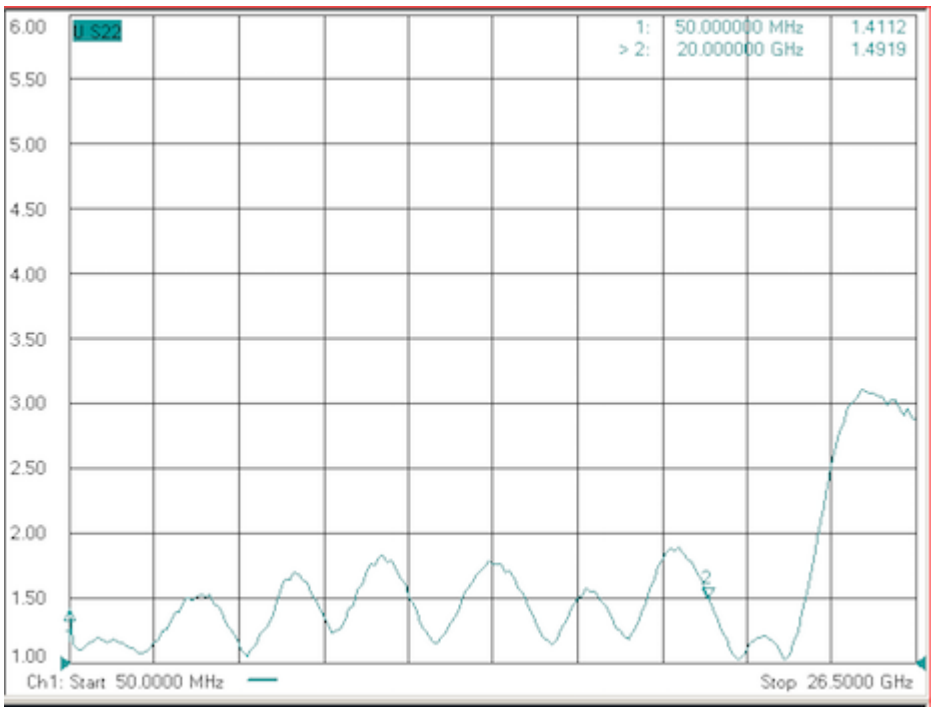

**J0 to J1 Isolation**



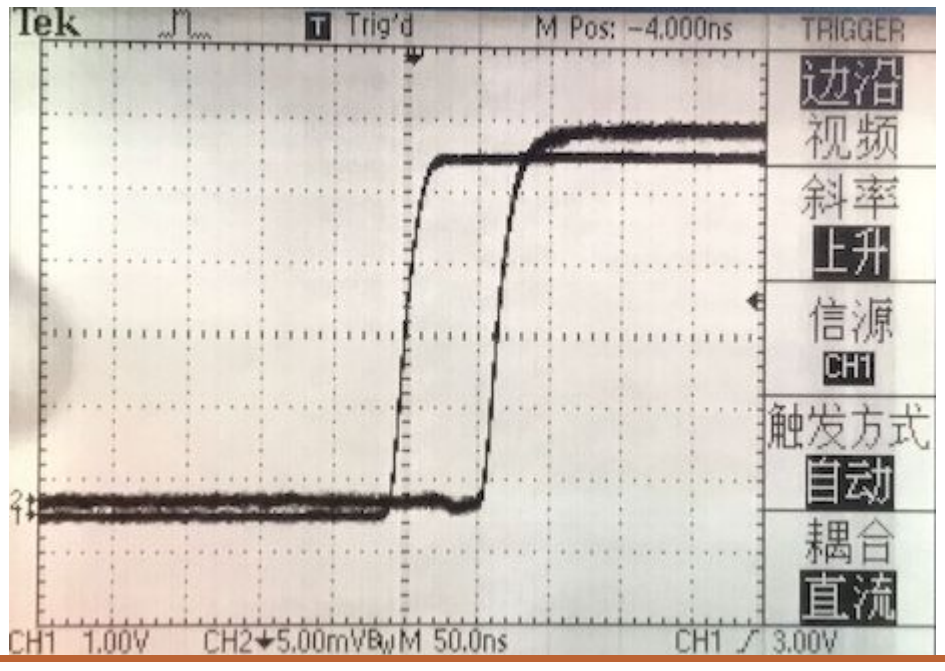

**J0 to J2 Insertion Loss**



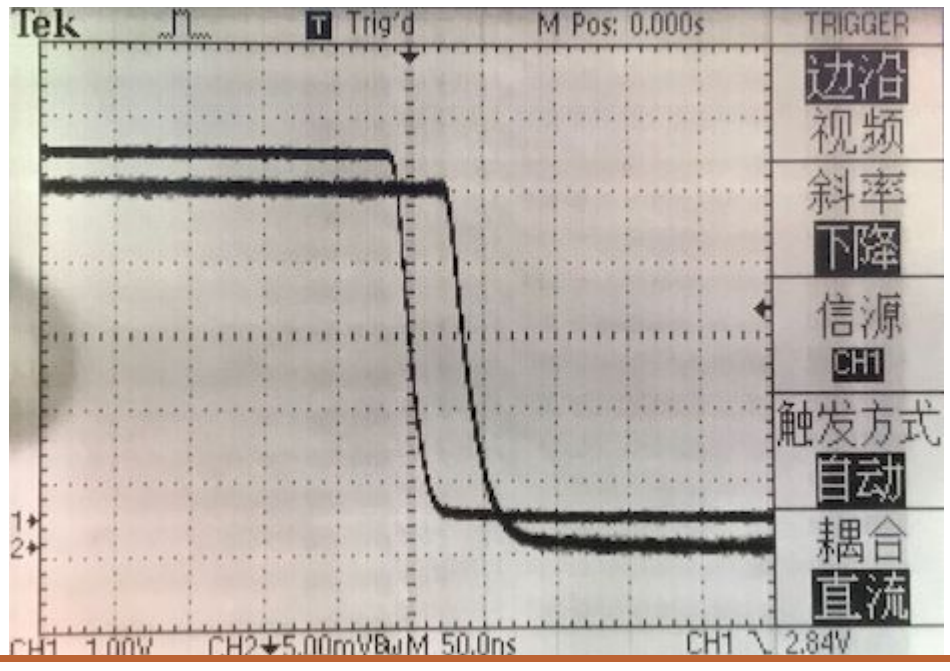

**J0 to J2 Isolation**




**Turn-On Switching Time**




**Turn-Off Switching Time**




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