



Reflective Coaxial SP2T Switch 0.001 - 75GHz



Features

- Ultra Wide Band Operation 0.001-75GHz
- Fast Switching Speed
- Low Insertion Loss and High Isolation

Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement

Electrical Specifications, $T_A = +25\text{ }^\circ\text{C}$, $V_{dd} = +5\text{V} / -5\text{V}$, $TTL = 0 / +5\text{V}$

| Description | PN: RFSP2TR0075G | | | | | | | | | |
|--|---|-------|------|---------|-------|------|-------|-------|------|----------|
| | SP2T Reflective Switch | | | | | | | | | |
| | Low Power Cold Switching | | | | | | | | | |
| Parameter | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Units |
| Frequency Range | 0.001-26.5 | | | 26.5-40 | | | 40-75 | | | GHz |
| Insertion Loss | | 3.5 | 4.8 | | 4.8 | 6.0 | | 6.0 | 7.5 | dB |
| Insertion Loss Temperature Coefficient | | 0.003 | | | 0.003 | | | 0.003 | | dB/°C |
| Isolation | 30 | 35 | | 26 | 30 | | 27 | 30 | | dB |
| Input VSWR | | 2.0 | 2.5 | | 2.0 | 2.5 | | 2.0 | 2.5 | :1 |
| Output VSWR | | 2.0 | 2.5 | | 2.0 | 2.5 | | 2.0 | 2.5 | :1 |
| RF Input Power (CW) | | | 15 | | | 15 | | | 15 | dBm |
| DC Power Dissipation | | 0.5 | | | 0.5 | | | 0.5 | | W |
| 0.1dB Compression Point (Po.1dB) | | 15 | | | 15 | | | 15 | | dBm |
| IIP3 | | 45 | | | 45 | | | 45 | | dBm |
| Switching Speed | | 400 | 500 | | 400 | 500 | | 400 | 500 | ns |
| Weight | 0.6 Max. | | | | | | | | | ounces |
| Impedance | 50 | | | | | | | | | Ω |
| Bias Current (+5V / -5V) | 80/50 Max. | | | | | | | | | mA |
| Input / Output Connectors | 1.85mm – Female (Standard) 1.0mm – Female (Optional) | | | | | | | | | |
| Finish | Gold Plated | | | | | | | | | |
| Material | Aluminum | | | | | | | | | |
| Sealing | Hermetically Sealed (Optional) | | | | | | | | | |

Reflective Coaxial Single Pole Double Throw Switch 0.001 - 75GHz



Absolute Maximum Ratings

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

Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

| Part No. | ECCN | Description |
|--------------|-------|-----------------------------------|
| RFSP2TR0075G | EAR99 | SP2T 0.001-75GHz PIN Diode Switch |

Environmental Specifications and Test Standards

| Parameter | Standard | Description |
|----------------------------------|---------------|---|
| Operational Temperature | MIL-STD-39016 | -45°C~+85°C (Case Temperature) |
| Storage Temperature | | -50°C~+125°C |
| Thermal Shock | | 1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles) |
| Random Vibration | | Acceleration Spectral Density 6 (m/s) Total 92.6 RMS |
| Electrical & Temperature Burn In | | Temperature +85°C for 72 Hours |
| Shock | | 1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction). |
| Altitude | | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min) |
| Hermetically Sealed (Optional) | MIL-STD-883 | MIL-STD-883 (For Hermetically Sealed Units) |

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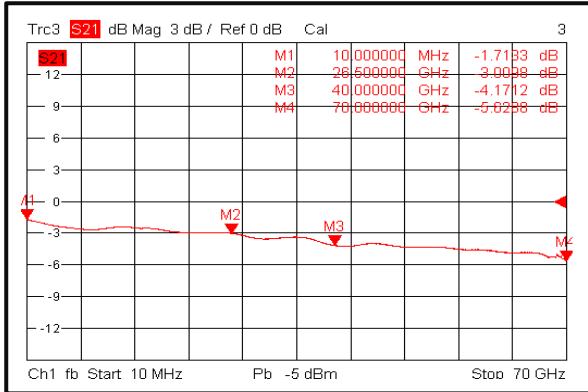


RF-LAMBDA

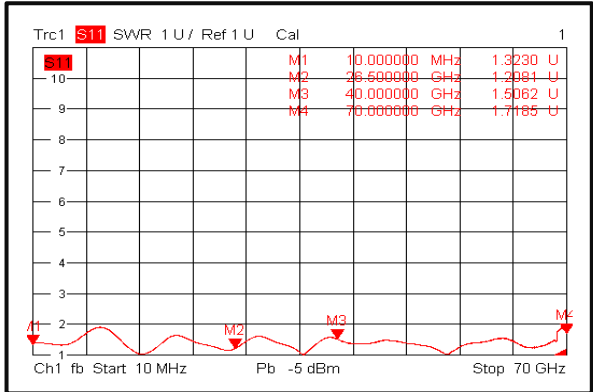
LEADER OF RF BROADBAND SOLUTIONS

RFSP2TR0075G

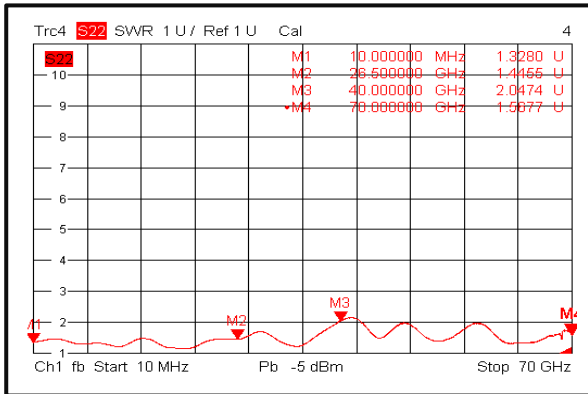
Typical Performance Plots Insertion Loss @+25°C



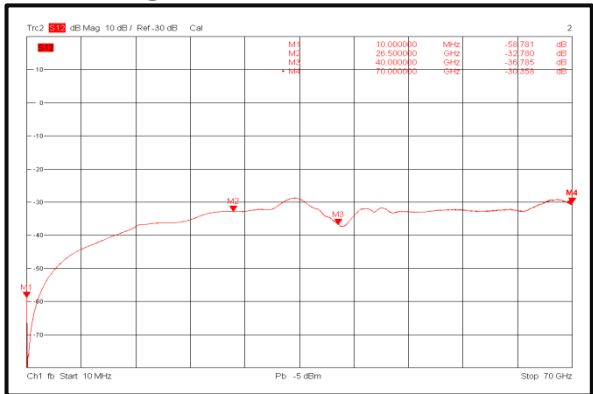
Input VSWR @+25°C



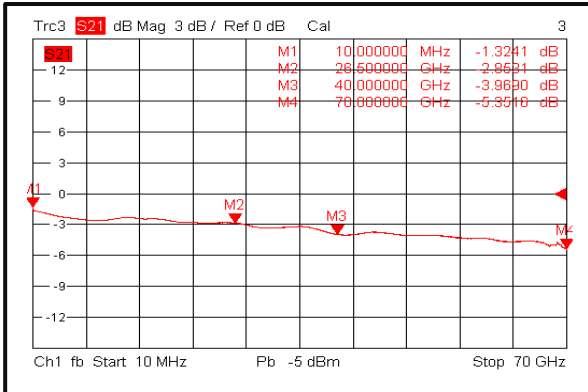
Output VSWR @+25°C



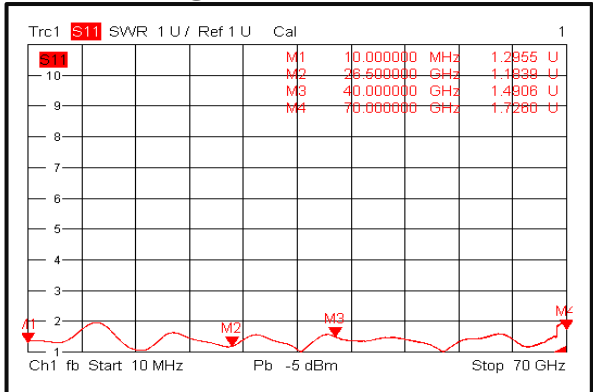
Isolation @+25°C



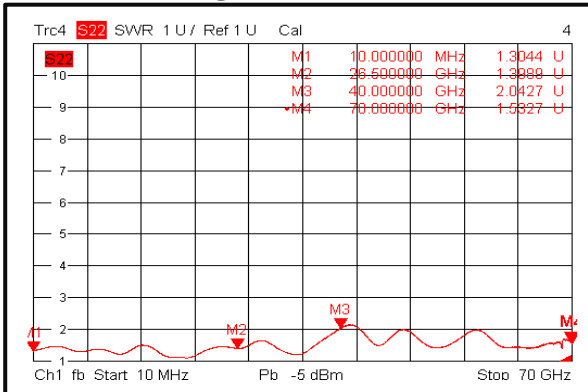
Insertion Loss @-45°C



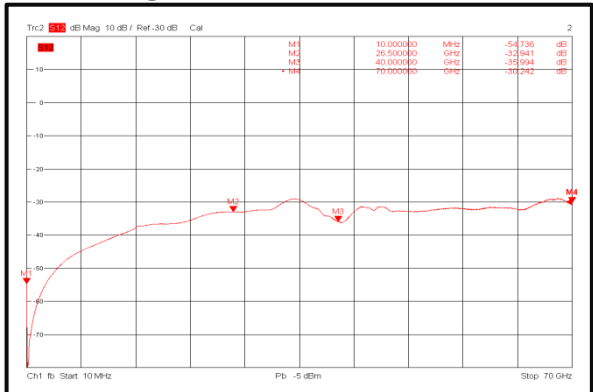
Input VSWR @-45°C



Output VSWR @-45°C



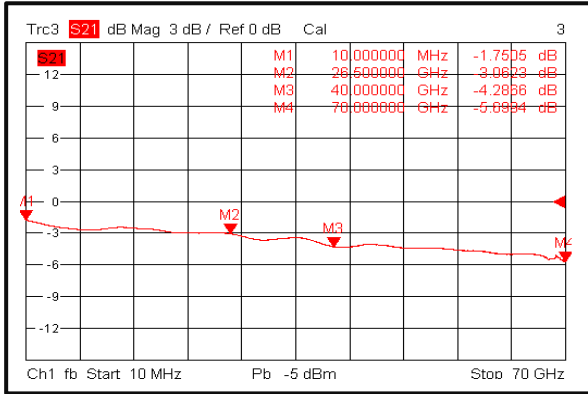
Isolation @-45°C



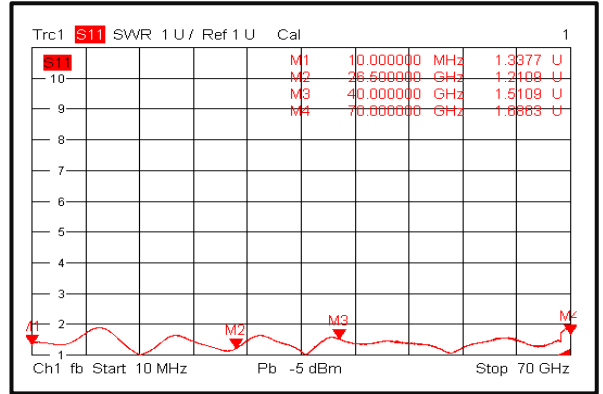
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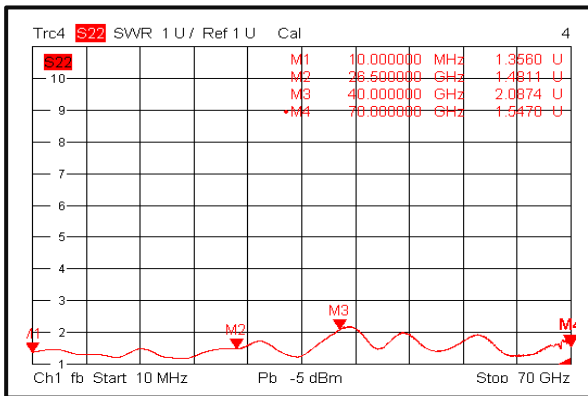
Insertion Loss @+85°C



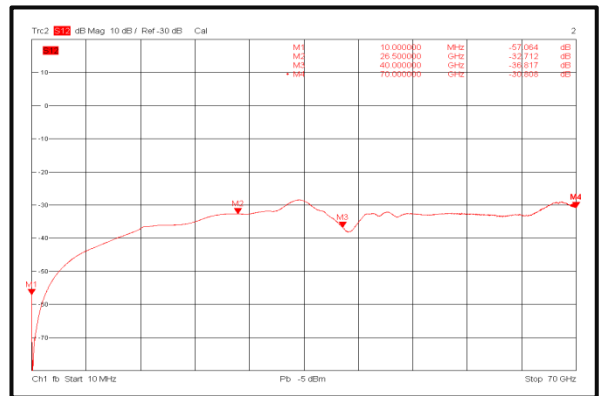
Input VSWR @+85°C



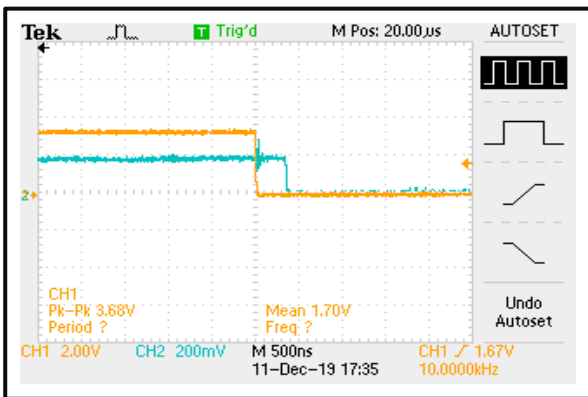
Output VSWR @+85°C



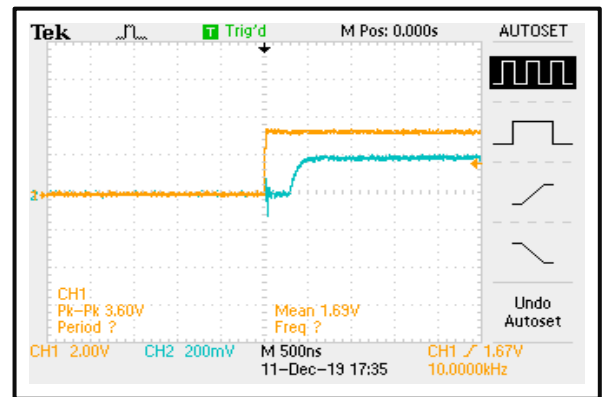
Isolation @+85°C



Switching Speed



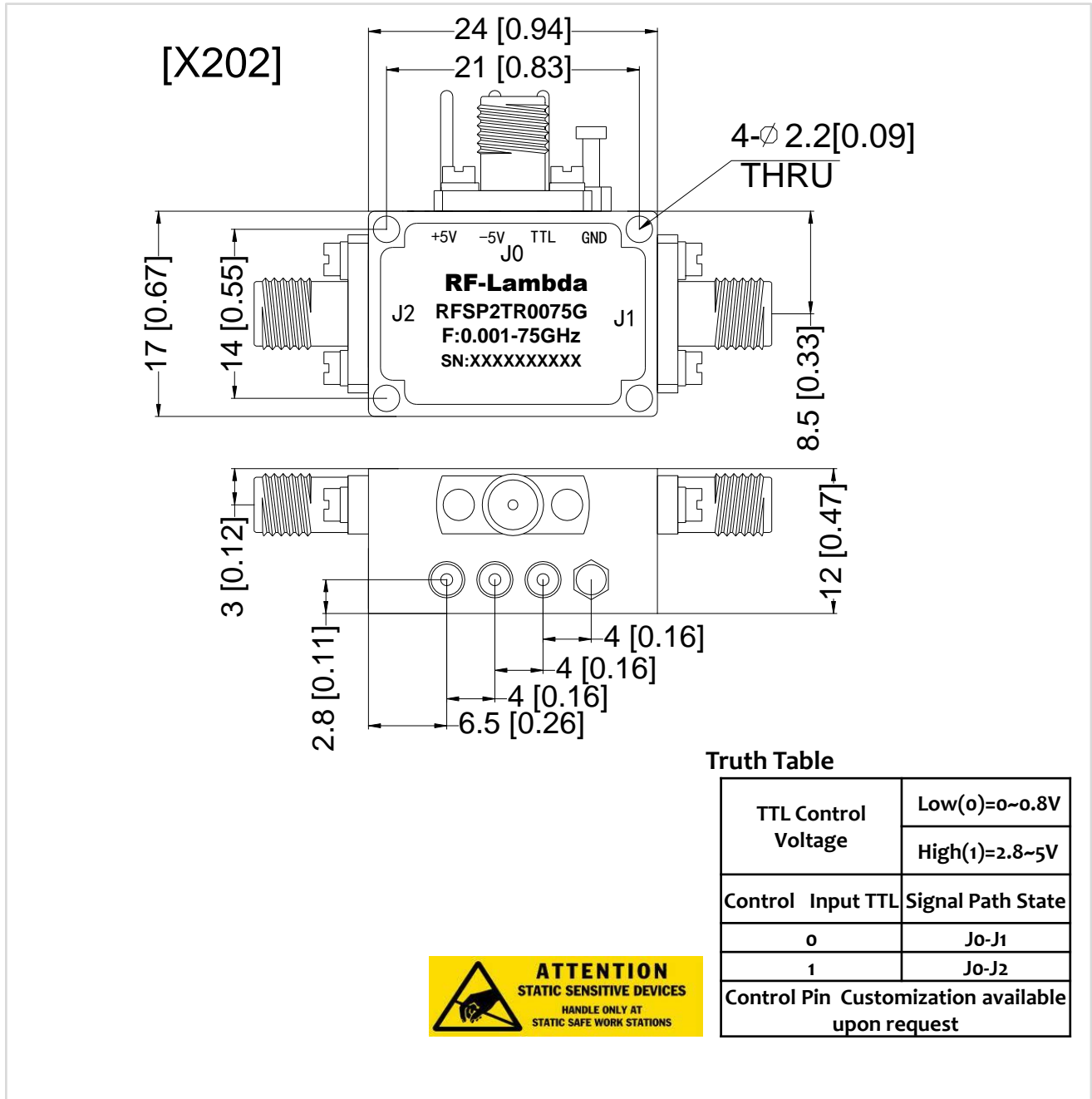
Switching Speed





Outline Drawing:

All Dimensions in mm [inches]



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Important Notice

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