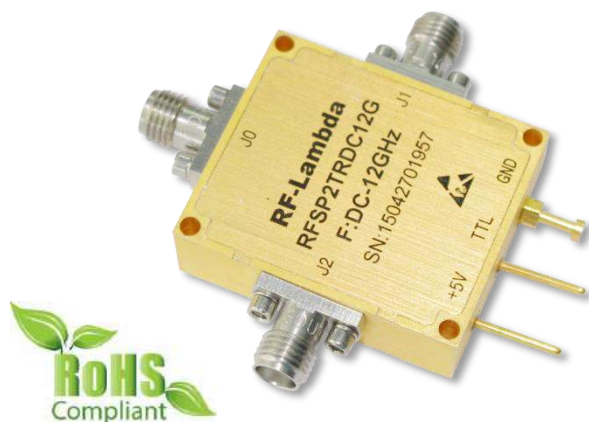


## Reflective DC-12GHz Coaxial SP2T Switch



### Features

- Wide Band Operation DC-12GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Temperature Range -45°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.

Electrical Specifications, TA = +25° C, Vdd = +5V, TTL = 0/ +5V

| Description                            | PN: RFSP2TRDC12G               |       |      |     |       |     |        |
|--|--------------------------------|-------|------|-----|-------|-----|--------|
|  | SP2T Reflective Switch         |       |      |     |       |     |        |
|  | High Power Cold Switching      |       |      |     |       |     |        |
| Parameters                             | Min                            | Typ.  | Max  | Min | Typ.  | Max | Units  |
| Frequency Range (Note 1)               | DC-6                           |       | 6-12 |     |       |     | GHz    |
| Insertion Loss                         |                                | 1.2   | 1.5  |     | 1.8   | 2   | dB     |
| Insertion Loss Temperature Coefficient |                                | 0.003 |      |     | 0.003 |     | dB/°C  |
| Isolation                              | 30                             | 32    |      | 20  | 23    |     | dB     |
| Input VSWR                             |                                | 1.8   | 2    |     | 1.8   | 2   | ratio  |
| Output VSWR (ON State)                 |                                | 1.8   | 2    |     | 1.8   | 2   | ratio  |
| Output VSWR (OFF State)                | 5                              |       |      | 5   |       |     | ratio  |
| Power Dissipation (CW)                 |                                | 5     |      |     | 5     |     | W      |
| IM3                                    |                                | 53    |      |     | 53    |     | dBc    |
| Max RF Input power (CW) (Note 2)       |                                |       | 20   |     |       | 20  | W      |
| 0.1dB Compression Po.1dB               |                                | 40    |      |     | 37    |     | dBm    |
| Switching Speed                        |                                |       | 100  |     |       | 100 | ns     |
| Weight                                 | 1.23                           |       |      |     |       |     | ounces |
| Impedance                              | 50                             |       |      |     |       |     | Ω      |
| Biasing(+5V)                           | 100                            |       |      |     |       |     | mA     |
| Input /Output Connector                | SMA-Female(Standard)           |       |      |     |       |     |        |
| Finishing                              | Gold Plating                   |       |      |     |       |     |        |
| Material                               | Aluminum                       |       |      |     |       |     |        |
| Seal                                   | Hermetically Sealed (optional) |       |      |     |       |     |        |

#### Notes:

1. The part does not have DC blocks however it does not require blocking capacitors. The input and output connections do not have any DC voltage and can be connected to DC ground through a short or resistive load.
2. Please note that below 100MHz the power handling capability is reduced by 6dB and the NF will increase above IL.

**Absolute Maximum Ratings**

|                           |             |
|---------------------------|-------------|
| Biasing                   | +5.5V       |
| TTL Control Voltage       | 0~0.8V/2~5V |
| Operating Temperature(°C) | -45 ~ +85   |
| Storage Temperature(°C)   | -50 ~ +125  |

**Environmental Specifications**

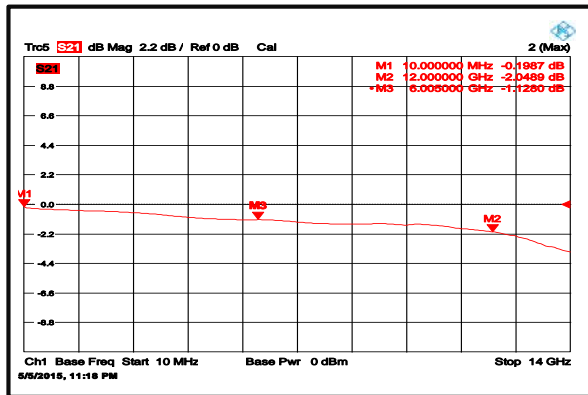
|                              |   |
|------------------------------|---|
| Operational Temperature (°C) | -45 ~ +85   |
| Storage Temperature (°C)     | -50 ~ +125  |
| Altitude                     | 30,000 ft. (Epoxy Seal Controlled environment)<br>60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional) |
| Vibration                    | 25g rms (15 degree 2KHz) endurance, 1 hour per axis   |
| Humidity                     | 100% RH at 35C, 95%RH at 40°C   |
| Shock                        | 20G for 11msc half sin wave, 3 axis both directions   |

**Ordering Information**

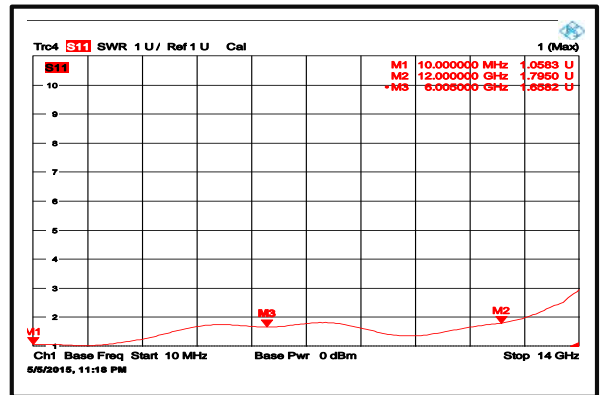
| Part No      | ECCN  | Description              |
|--------------|-------|--------------------------|
| RFSP2TRDC12G | EAR99 | SP2T DC-12GHz GaN Switch |

**Typical Performance Plots**

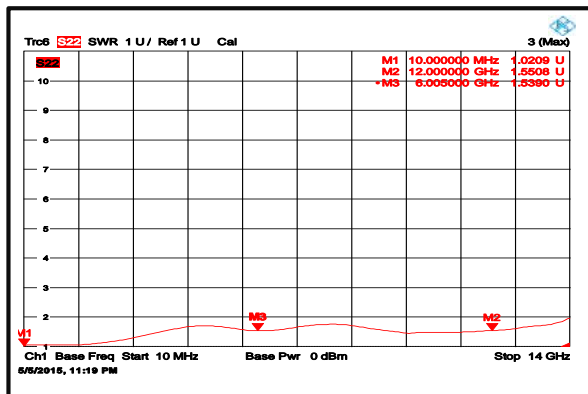
**Insertion Loss**



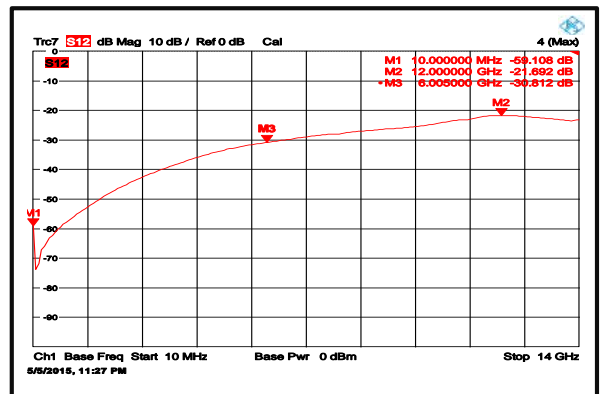
**Input VSWR**



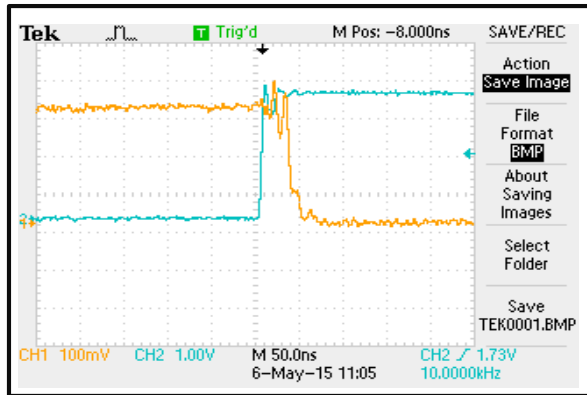
**Output VSWR**



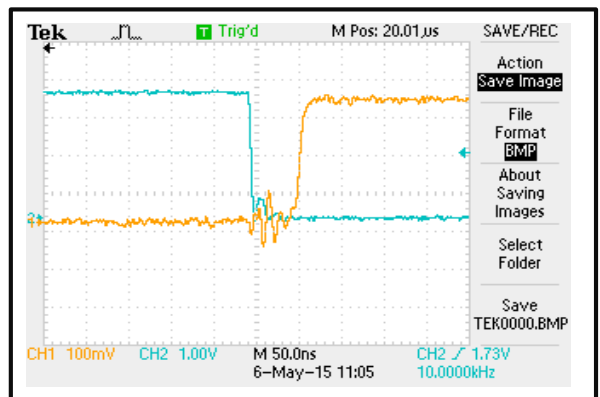
**Isolation**



Turn off Switching Speed



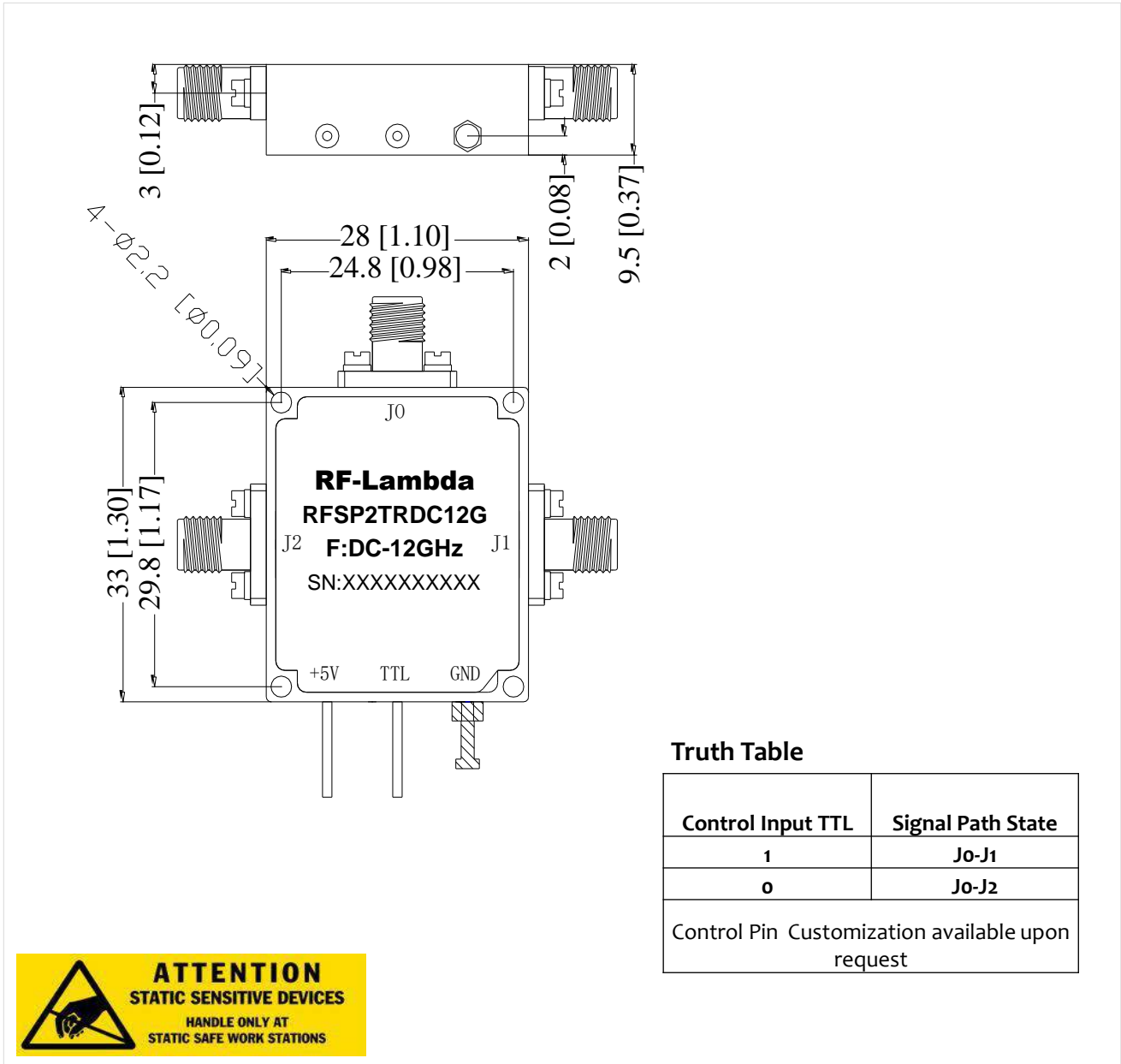
Turn on Switching Speed



Reflective Coaxial Single Pole Double Throw Switch DG-12GHz

**Outline Drawing:**

All Dimensions in mm (inches)



**Reflective Coaxial Single Pole Double Throw Switch DC-12GHz**

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## Reflective 2-4GHz Coaxial SP2T Switch



### Features

- Wide Band Operation 2-4GHz
- TTL compatible driver include
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Temperature Range -45°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.

Reflective Coaxial Single Pole Double Throw Switch 2-4GHz

Electrical Specifications, TA = +25° C, With Vdd = +28V, & VCTL = 0/ +5V

| Description                            | PN: RFSP2TR0204GH                |      |     |        |
|--|----------------------------------|------|-----|--------|
|  | SP2T Reflective Switch           |      |     |        |
|  | Low Power Cold Switching         |      |     |        |
| Parameters                             | Min                              | Typ. | Max | Units  |
| Frequency Range                        | 2~4                              |      |     | GHz    |
| Insertion Loss                         |                                  | 1.2  | 1.5 | dB     |
| Insertion Loss Temperature Coefficient |                                  | 0.01 |     | dB/°C  |
| Isolation                              | 50                               |      |     | dB     |
| Input VSWR                             |                                  | 1.4  | 1.5 | ratio  |
| Output VSWR (ON State)                 |                                  | 1.4  | 1.5 | ratio  |
| Output VSWR (OFF State)                | 18                               |      |     | ratio  |
| Power Dissipation (CW)                 |                                  | 15   |     | W      |
| 1dB Compression P1dB                   |                                  | 46   |     | dBc    |
| IM3                                    |                                  | 55   |     | dBm    |
| Switching Speed                        |                                  |      | 1   | us     |
| Weight                                 | 1.3                              |      |     | ounces |
| Impedance                              | 50                               |      |     | Ω      |
| Biasing(+28V)                          | 100                              |      |     | mA     |
| Input /Output Connector                | SMA-Female/SMA-Female (Standard) |      |     |        |
| Finishing                              | Gold Plating                     |      |     |        |
| Material                               | Aluminum                         |      |     |        |
| Seal                                   | Hermetically Sealed ( optional ) |      |     |        |

**Absolute Maximum Ratings**

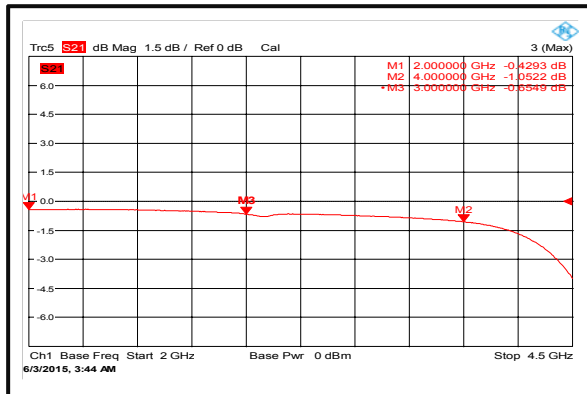
|                           |             |
|---------------------------|-------------|
| Biassing                  | +28V        |
| TTL Control Voltage       | 0~0.8V/2~5V |
| RF Input power            | +47dBm      |
| Operating Temperature(°C) | -45 ~ +85   |
| Storage Temperature(°C)   | -50 ~ +125  |

**Ordering Information**

| Part No       | ECCN  | Description                  |
|---------------|-------|------------------------------|
| RFSP2TR0204GH | EAR99 | SP2T 2-4GHz PIN Diode Switch |

**Typical performance plots**

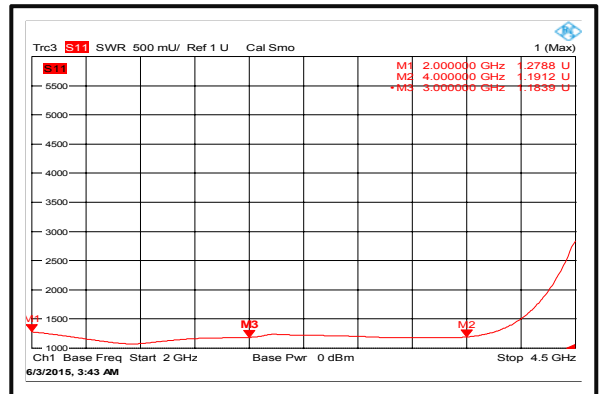
**Insertion Loss**



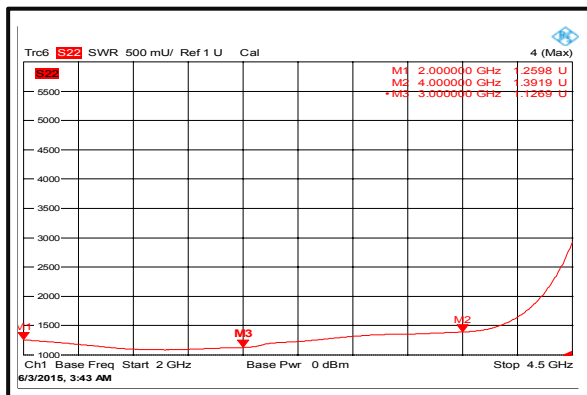
**Environment specifications**

|                              |   |
|------------------------------|---|
| Operational Temperature (°C) | -45 ~ +85   |
| Storage Temperature (°C)     | -50 ~ +125  |
| Altitude                     | 30,000 ft. (Epoxy Seal Controlled environment)<br>60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) ( Optional ) |
| Vibration                    | 25g rms (15 degree 2KHz) endurance, 1 hour per axis   |
| Humidity                     | 100% RH at 35c, 95%RH at 40°C   |
| Shock                        | 20G for 11msc half sin wave, 3 axis both directions   |

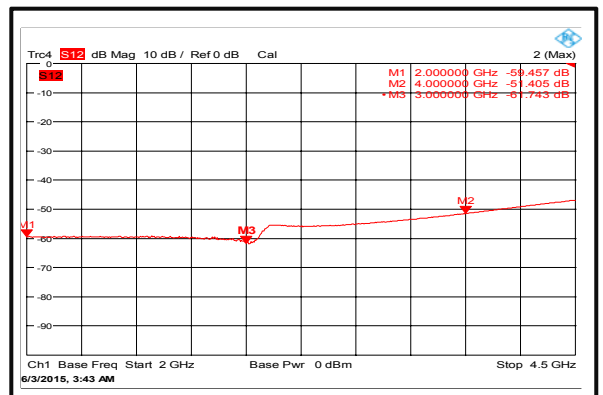
**Input VSWR**



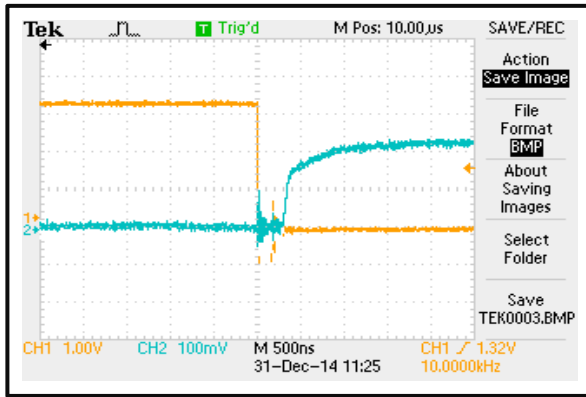
**Output VSWR**



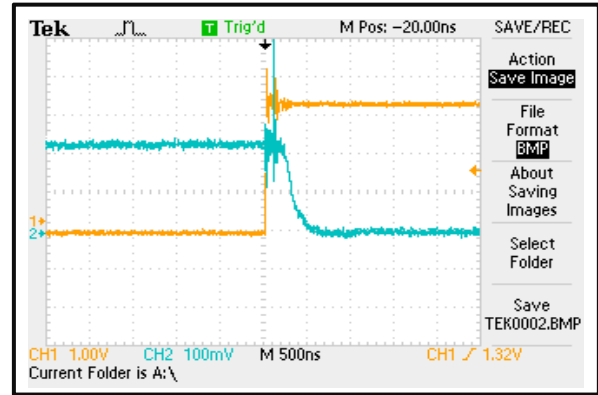
**Isolation**



Switching Speed



Switching Speed



**Outline Drawing:**  
All Dimensions in mm (inches)

| Control Input TTL | Signal Path State |
|-------------------|-------------------|
| 0                 | J0-J1             |
| 1                 | J0-J2             |

Control Pin Customization available upon request

Reflective Coaxial Single Pole Double Throw Switch 2-4GHz

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## Reflective DC-18GHz Coaxial SP2T Switch



### Features

- Wide Band Operation DC-18GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Temperature Range -45°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.

Electrical Specifications, TA = +25° C, Vdd = +5V, TTL = 0/ +5V

| Description                            | PN: RFSP2TRDC18G                 |       |      |      |       |     |       |       |     |        |
|--|----------------------------------|-------|------|------|-------|-----|-------|-------|-----|--------|
|  | SP2T Reflective Switch           |       |      |      |       |     |       |       |     |        |
|  | High Power Cold Switching        |       |      |      |       |     |       |       |     |        |
| Parameters                             | Min                              | Typ.  | Max  | Min  | Typ.  | Max | Min   | Typ.  | Max | Units  |
| Frequency Range (Note 1)               | DC-6                             |       |      | 6-12 |       |     | 12-18 |       |     | GHz    |
| Insertion Loss                         |                                  | 0.8   | 1.0  |      | 1.2   | 1.5 |       | 1.7   | 2.3 | dB     |
| Insertion Loss Temperature Coefficient |                                  | 0.003 |      |      | 0.003 |     |       | 0.003 |     | dB/°C  |
| Isolation                              | 40                               | 45    |      | 30   | 35    |     | 23    | 25    |     | dB     |
| Input VSWR                             |                                  | 1.1   | 1.13 |      | 1.6   | 1.7 |       | 1.6   | 2   |        |
| Output VSWR                            |                                  | 1.15  | 1.2  |      | 1.7   | 1.8 |       | 1.6   | 2   |        |
| Max RF Input power (CW) (Note 2)       |                                  |       | 10   |      |       | 10  |       |       | 10  | W      |
| Power Dissipation (CW)                 |                                  | 1.5   |      |      | 2     |     |       | 3.5   |     | W      |
| 0.1dB Compression Point                |                                  | 37    |      |      | 36    |     |       | 35    |     | dBm    |
| IIP3                                   |                                  | 50    |      |      | 50    |     |       | 50    |     | dBm    |
| Switching Speed                        |                                  |       | 50   |      |       | 50  |       |       | 50  | ns     |
| Weight                                 | 1.5                              |       |      |      |       |     |       |       |     | ounces |
| Impedance                              | 50                               |       |      |      |       |     |       |       |     | Ω      |
| Bias Current (+5V)                     | 100                              |       |      |      |       |     |       |       |     | mA     |
| Input /Output Connector                | SMA-Female/SMA-Female (Standard) |       |      |      |       |     |       |       |     |        |
| Finishing                              | Gold Plating                     |       |      |      |       |     |       |       |     |        |
| Material                               | Aluminum                         |       |      |      |       |     |       |       |     |        |
| Seal                                   | Hermetically Sealed (optional)   |       |      |      |       |     |       |       |     |        |

#### Notes:

1. The part does not have DC blocks however it does not require blocking capacitors. The input and output connections do not have any DC voltage and can be connected to DC ground through a short or resistive load.
2. Please note that below 100MHz the power handling capability is reduced by 6dB and the NF will increase above 1L.



**Absolute Maximum Ratings**

|                           |             |
|---------------------------|-------------|
| Biasing                   | +5.5V       |
| TTL Control Voltage       | 0~0.8V/2~5V |
| Operating Temperature(°C) | -45 ~ +85   |
| Storage Temperature(°C)   | -50 ~ +125  |

**Ordering Information**

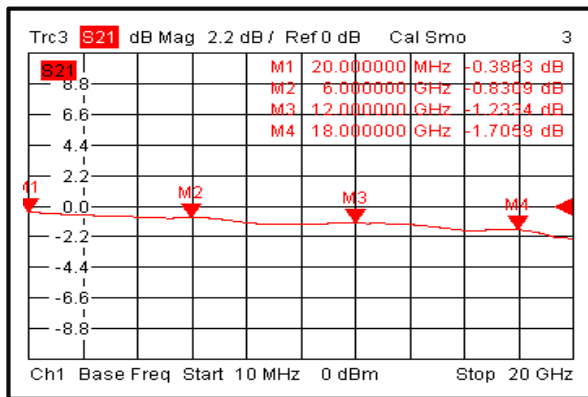
| Part No      | ECCN  | Description              |
|--------------|-------|--------------------------|
| RFSP2TRDC18G | EAR99 | SP2T DC-18GHz GaN Switch |

**Environmental Specifications**

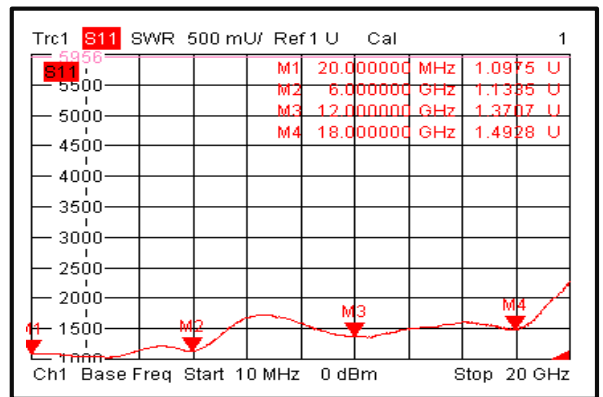
|                              |   |
|------------------------------|---|
| Operational Temperature (°C) | -45 ~ +85   |
| Storage Temperature (°C)     | -50 ~ +125  |
| Altitude                     | 30,000 ft. (Epoxy Seal Controlled environment)<br>60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional) |
| Vibration                    | 25g rms (15 degree 2KHz) endurance, 1 hour per axis   |
| Humidity                     | 100% RH at 35c, 95%RH at 40°C   |
| Shock                        | 20G for 11msc half sin wave, 3 axis both directions   |

**Typical Performance Plots**

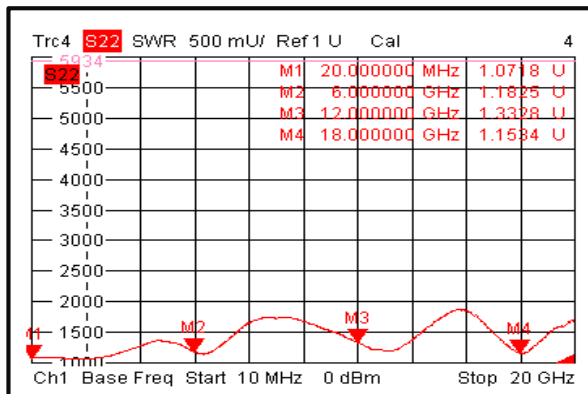
**Insertion Loss**



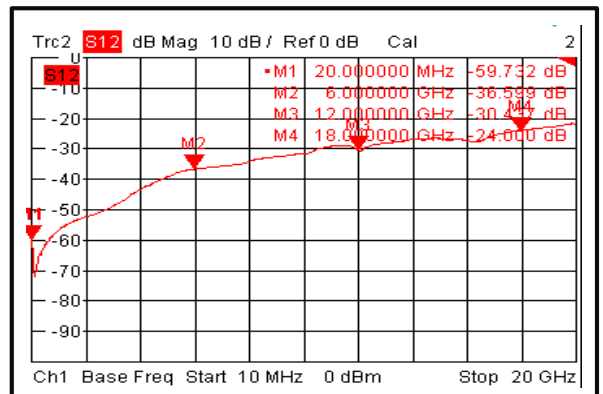
**Input VSWR**



**Output VSWR**

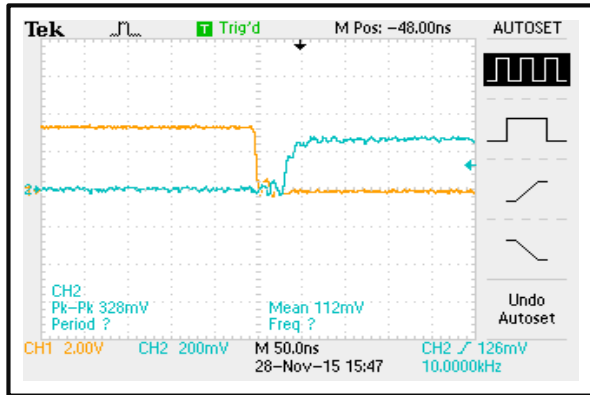


**Isolation**

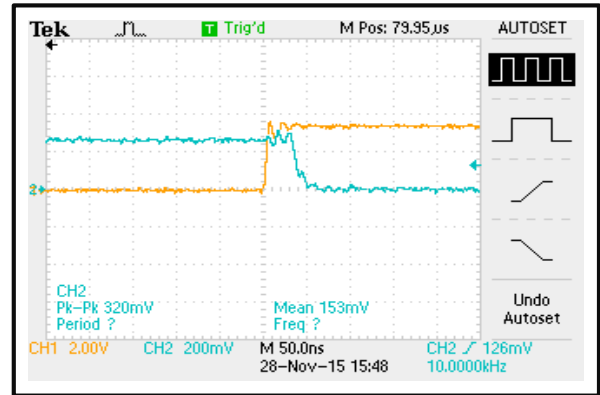


Reflective Coaxial Single Pole Double Throw Switch DC-18GHz

Switching Speed



Switching Speed



Reflective Coaxial Single Pole Double Throw Switch DC-18GHz

Outline Drawing:

All Dimensions in mm (inches)

| Control Input TTL | Signal Path State |
|-------------------|-------------------|
| 1                 | J0-J1             |
| 0                 | J0-J2             |

Control pin customization available upon request

**ATTENTION**  
 STATIC SENSITIVE DEVICES  
 HANDLE ONLY AT  
 STATIC SAFE WORK STATIONS

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## Reflective 0.5-6GHz Coaxial SP2T Switch



### Features

- Wide Band Operation 0.5-6GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Temperature Range -45°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.

Electrical Specifications, TA = +25° C, Vdd = +5V, TTL = 0/ +5V

| Description   | PN: RFSP2TR5M06G             |       |     |     |       |     |        |
|---|------------------------------|-------|-----|-----|-------|-----|--------|
|   | SP2T Reflective Switch       |       |     |     |       |     |        |
|   | High Power Hot Switching     |       |     |     |       |     |        |
| Parameters  | Min                          | Typ.  | Max | Min | Typ.  | Max | Units  |
| Frequency Range   | 0.5-3                        |       |     | 3-6 |       |     | GHz    |
| Insertion Loss  |                              | 1.1   | 1.3 |     | 1.6   | 1.8 | dB     |
| Insertion Loss Temperature Coefficient                    |                              | 0.003 |     |     | 0.003 |     | dB/°C  |
| Isolation   | 40                           | 48    |     | 35  | 38    |     | dB     |
| Input VSWR  |                              | 1.4   | 1.6 |     | 1.4   | 1.6 |        |
| Output VSWR   |                              | 1.4   | 1.6 |     | 1.4   | 1.6 |        |
| RF Input Power (pulsed, 10% Duty Cycle, 20us pulse width) |                              |       | 100 |     |       | 100 | W      |
| DC Power Dissipation                                      |                              | 25    |     |     | 30    |     | W      |
| 0.1dB Compression Po.1dB (Pulsed)                         |                              | 50    |     |     | 50    |     | dBm    |
| IIP3  |                              | 50    |     |     | 50    |     | dBm    |
| Switching Speed   |                              |       | 100 |     |       | 100 | ns     |
| Weight  | 3.53                         |       |     |     |       |     | Ounces |
| Impedance   | 50                           |       |     |     |       |     | Ω      |
| Biasing(+5V)  | 100                          |       |     |     |       |     | mA     |
| Input /Output Connector                                   | N-Female                     |       |     |     |       |     |        |
| Finishing   | Gold Plating                 |       |     |     |       |     |        |
| Material  | Aluminum                     |       |     |     |       |     |        |
| Seal  | Hermetically Seal (optional) |       |     |     |       |     |        |

Absolute Maximum Ratings

|                           |             |
|---------------------------|-------------|
| Biasing                   | +5.5V       |
| TTL Control Voltage       | 0~0.8V/2~5V |
| Operating Temperature(°C) | -45 ~ +85   |
| Storage Temperature(°C)   | -50 ~ +125  |

Environmental Specifications

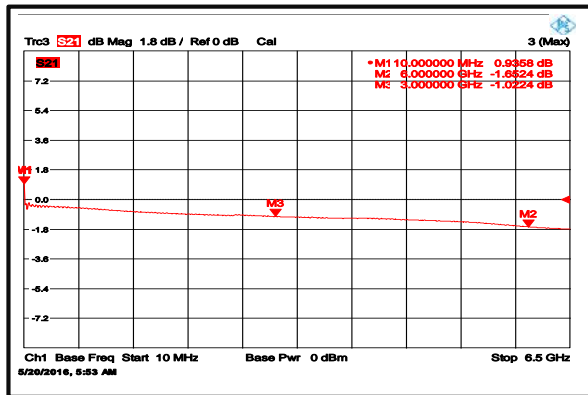
|                              |   |
|------------------------------|---|
| Operational Temperature (°C) | -45 ~ +85   |
| Storage Temperature (°C)     | -50 ~ +125  |
| Altitude                     | 30,000 ft. (Epoxy Seal Controlled environment)<br>60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional) |
| Vibration                    | 25g rms (15 degree 2KHz) endurance, 1 hour per axis   |
| Humidity                     | 100% RH at 35C, 95%RH at 40°C   |
| Shock                        | 20G for 11msc half sin wave, 3 axis both directions   |

Ordering Information

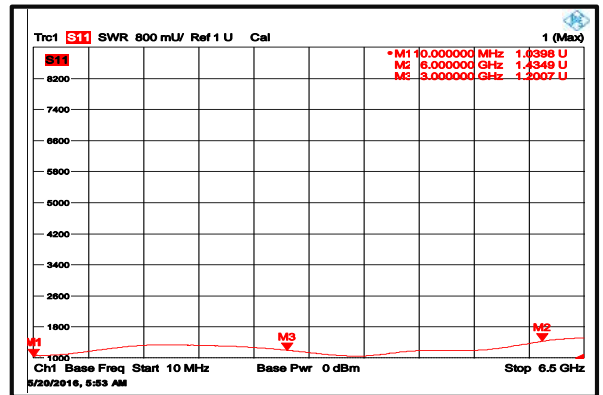
| Part No      | ECCN  | Description              |
|--------------|-------|--------------------------|
| RFSP2TR5M06G | EAR99 | SP2T 0.5-6GHz GaN Switch |

Typical Performance Plots

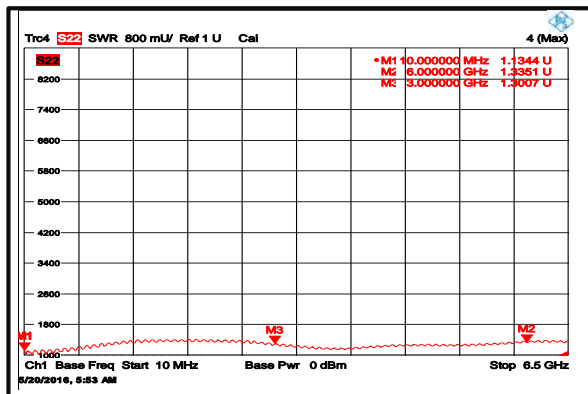
Insertion Loss



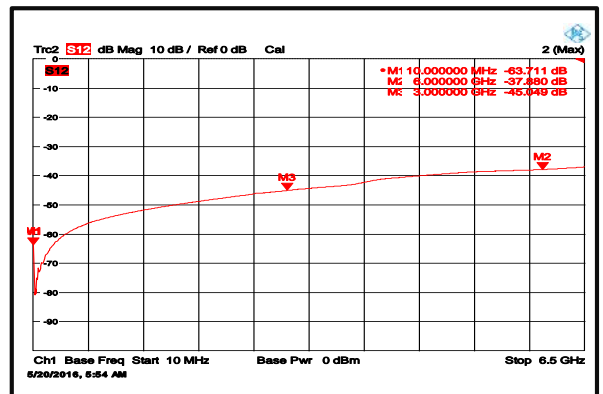
Input VSWR



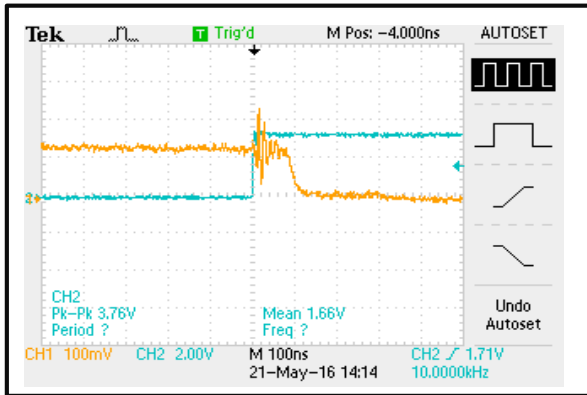
Output VSWR



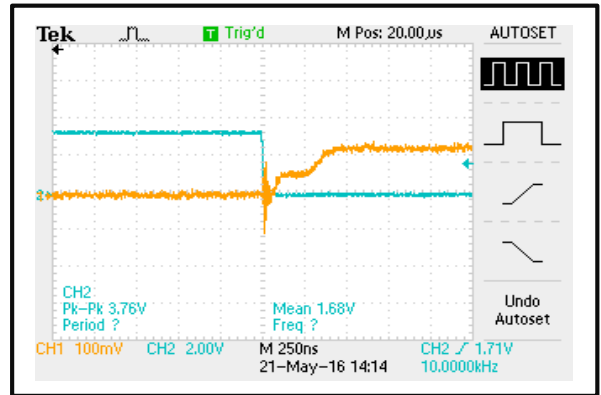
Isolation



Switching Speed

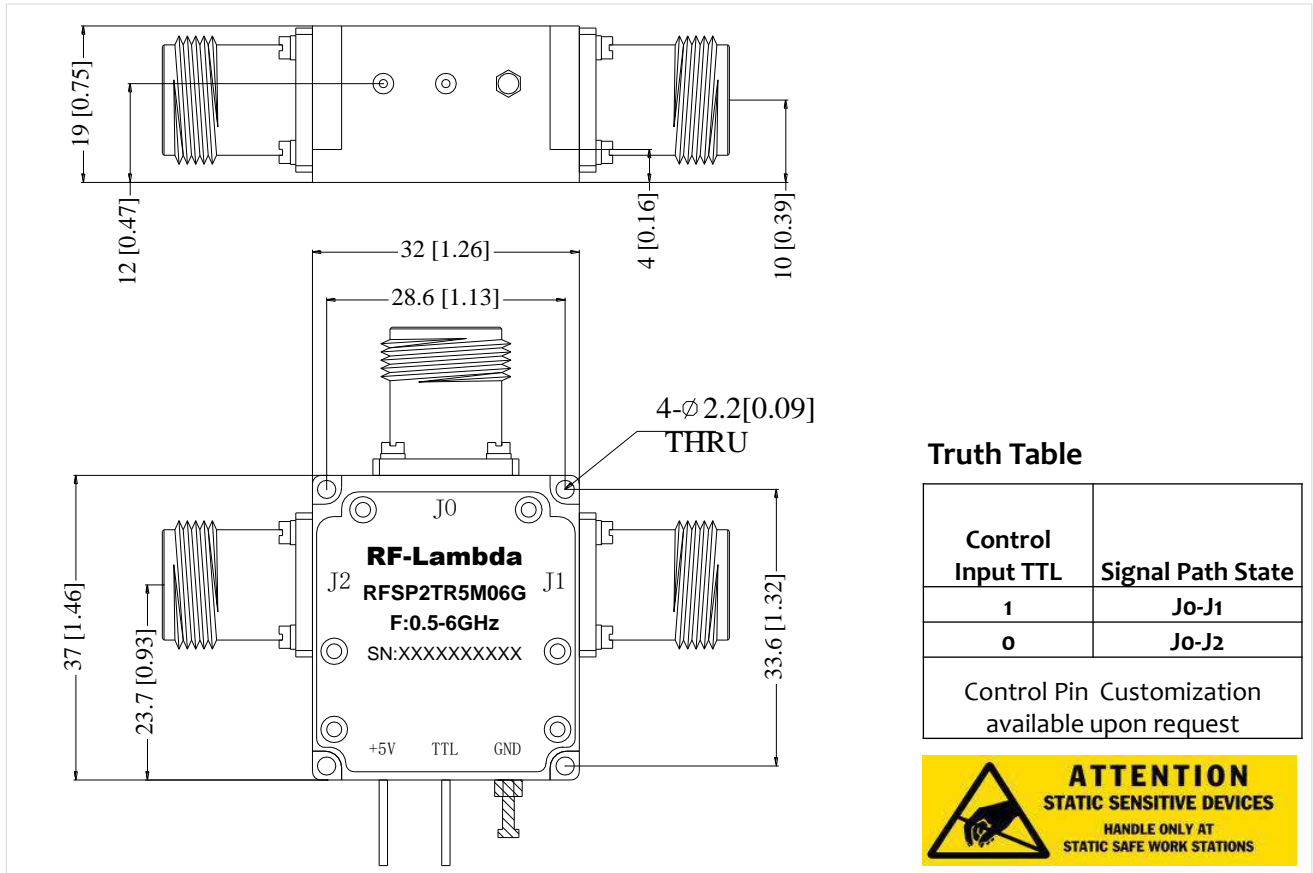


Switching Speed



Outline Drawing:

All Dimensions in mm ( inches )



Important Notice

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Reflective Coaxial Single Pole Double Throw Switch 0.5-6GHz