



### Reflective DC-18GHz Coaxial SP4T Switch



#### Features

- Wide Band Operation DC-18GHz
- 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.

Electrical Specifications, TA = +25° C, With Vdd = +12V, & VCTL = 0/ +5V

| Description                            | PN: RFSP4TRDC18G                 |       |     |      |       |     |       |       |     |        |
|----------------------------------------|----------------------------------|-------|-----|------|-------|-----|-------|-------|-----|--------|
|                                        | SP4T Reflective Switch           |       |     |      |       |     |       |       |     |        |
|                                        | High Power Cold Switching        |       |     |      |       |     |       |       |     |        |
| Parameters                             | Min                              | Typ.  | Max | Min  | Typ.  | Max | Min   | Typ.  | Max | Units  |
| Frequency Range                        | DC-6                             |       |     | 6-12 |       |     | 12-18 |       |     | GHz    |
| Insertion Loss                         |                                  | 1.5   | 2.0 |      | 2.4   | 3.0 |       | 3.2   | 4.0 | dB     |
| Insertion Loss Temperature Coefficient |                                  | 0.003 |     |      | 0.003 |     |       | 0.003 |     | dB/°C  |
| Isolation                              | 40                               | 45    |     | 30   | 35    |     | 24    | 25    |     | dB     |
| Input VSWR                             |                                  | 1.25  | 1.4 |      | 1.6   | 1.7 |       | 1.6   | 2   |        |
| Output VSWR                            |                                  | 1.2   | 1.3 |      | 1.7   | 1.8 |       | 1.6   | 2   |        |
| RF Input power (CW)                    |                                  |       | 10  |      |       | 10  |       |       | 10  | W      |
| Power Dissipation (CW)                 |                                  | 2.5   |     |      | 3.5   |     |       | 5     |     | W      |
| 0.1dB Compression Po.1dB               |                                  | 40    |     |      | 40    |     |       | 40    |     | dBm    |
| IM3                                    |                                  | 40    |     |      | 40    |     |       | 40    |     | dBc    |
| IIP3                                   |                                  | 50    |     |      | 50    |     |       | 50    |     | dBm    |
| Switching Speed                        |                                  |       | 50  |      |       | 50  |       |       | 50  | ns     |
| Weight                                 | /                                |       |     |      |       |     |       |       |     | ounces |
| Impedance                              | 50                               |       |     |      |       |     |       |       |     | Ω      |
| Biasing(+12V)                          | 300                              |       |     |      |       |     |       |       |     | mA     |
| Input /Output Connector                | SMA-Female                       |       |     |      |       |     |       |       |     |        |
| Finishing                              | Gold Plating                     |       |     |      |       |     |       |       |     |        |
| Material                               | Aluminum                         |       |     |      |       |     |       |       |     |        |
| Seal                                   | Hermetically Sealed ( optional ) |       |     |      |       |     |       |       |     |        |



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## RFSP4TRDC18G

### Absolute Maximum Ratings

|                           |             |
|---------------------------|-------------|
| Biasing                   | +12V±10%    |
| TTL Control Voltage       | 0~0.8V/2~5V |
| Operating Temperature(°C) | -45 ~ +85   |
| Storage Temperature(°C)   | -50 ~ +125  |

### Ordering Information

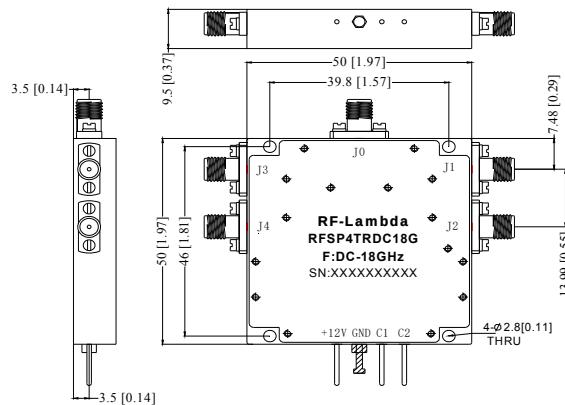
| Part No      | ECCN  | Description              |
|--------------|-------|--------------------------|
| RFSP4TRDC18G | EAR99 | SP4T DC-18GHz GaN Switch |

### 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                                                                                |

### Outline Drawing:

All Dimensions in mm ( inches )



### Truth Table

| Control Input TTL |    | Signal Path State |
|-------------------|----|-------------------|
| C1                | C2 |                   |
| 0                 | 0  | J0-J1             |
| 0                 | 1  | J0-J2             |
| 1                 | 0  | J0-J3             |
| 1                 | 1  | J0-J4             |

Control Pin Customization available upon request



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