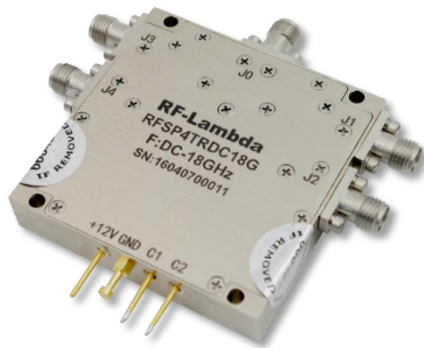


## Reflective Coaxial SP4T Switch DC-18GHz



### Features

- Ultra Wide Band Operation DC-18GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

### Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement

Electrical Specifications, TA = +25 °C, Vdd = +12V, TTL = 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		1.9	2.5		2.5	3		3.6	4	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation	30	40		25	30		24	25		dB
Input VSWR		1.2	1.5		1.6	1.7		1.7	2	:1
Output VSWR		1.2	1.5		1.7	1.8		1.6	2	:1
RF Input power (CW)			10			10			10	W
DC Power Dissipation (CW)		3			4			5		W
0.1dB Compression Po.1dB		40			40			40		dBm
IIP3		55			55			55		dBm
Switching Speed			100			100			100	ns
Weight	4									ounces
Impedance	50									Ω
Bias Current (+12V )	150									mA
Input / Output Connectors	SMA-Female									
Finish	Nickel Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

**Absolute Maximum Ratings**

Biassing	+12V±10%
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**Ordering Information**

Part No.	Description
RFSP4TRDC18G	SP4T DC-18GHz GaN Switch

**Notes:**

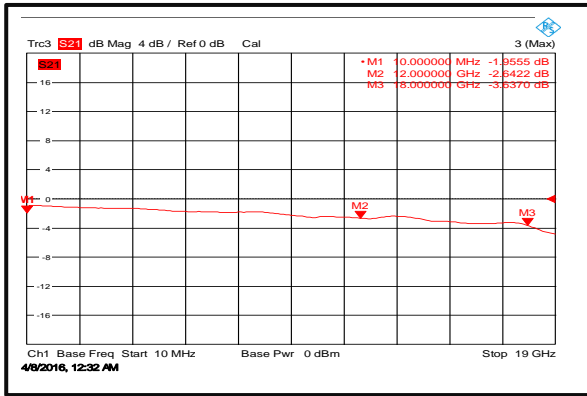
1. If the device operates in high power state, case temperature must be lower than 60°C.
2. Cold Switching: Before changing any TTL signal(s), the RF input power must be blanked or the switch could be damaged.

**Environmental Specifications and Test Standards**

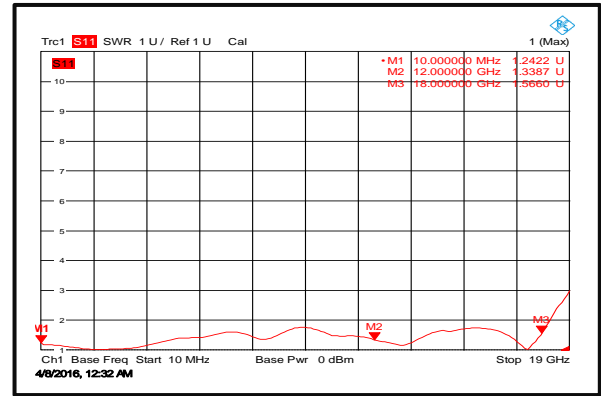
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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 (For Hermetically Sealed Units)

Typical Performance Plots

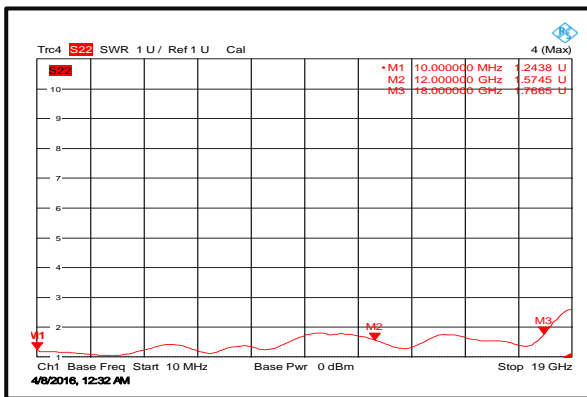
**Insertion Loss**



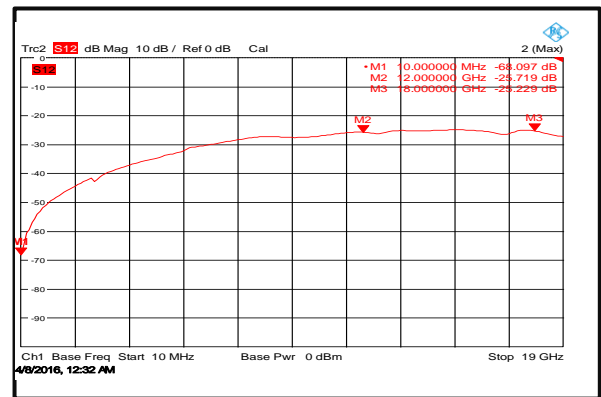
**Input VSWR**



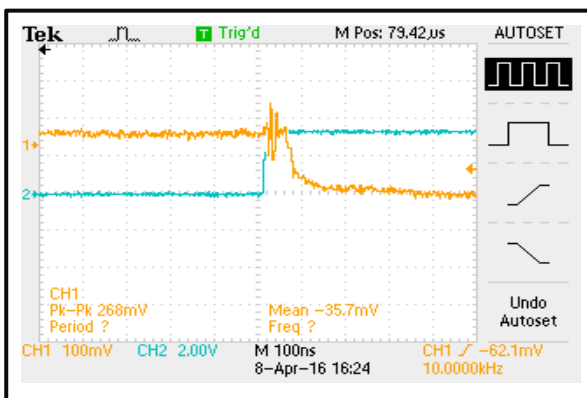
**Output VSWR**



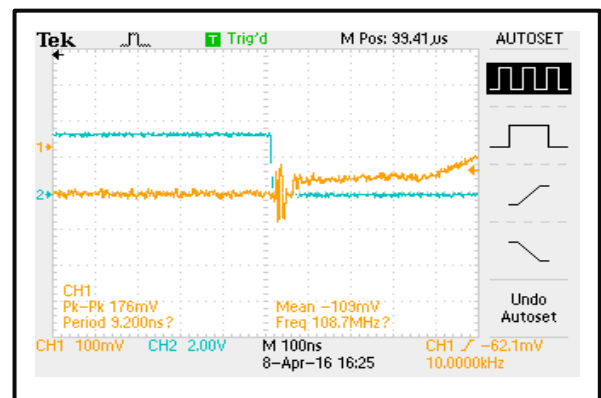
**Isolation**



**Switching Speed**



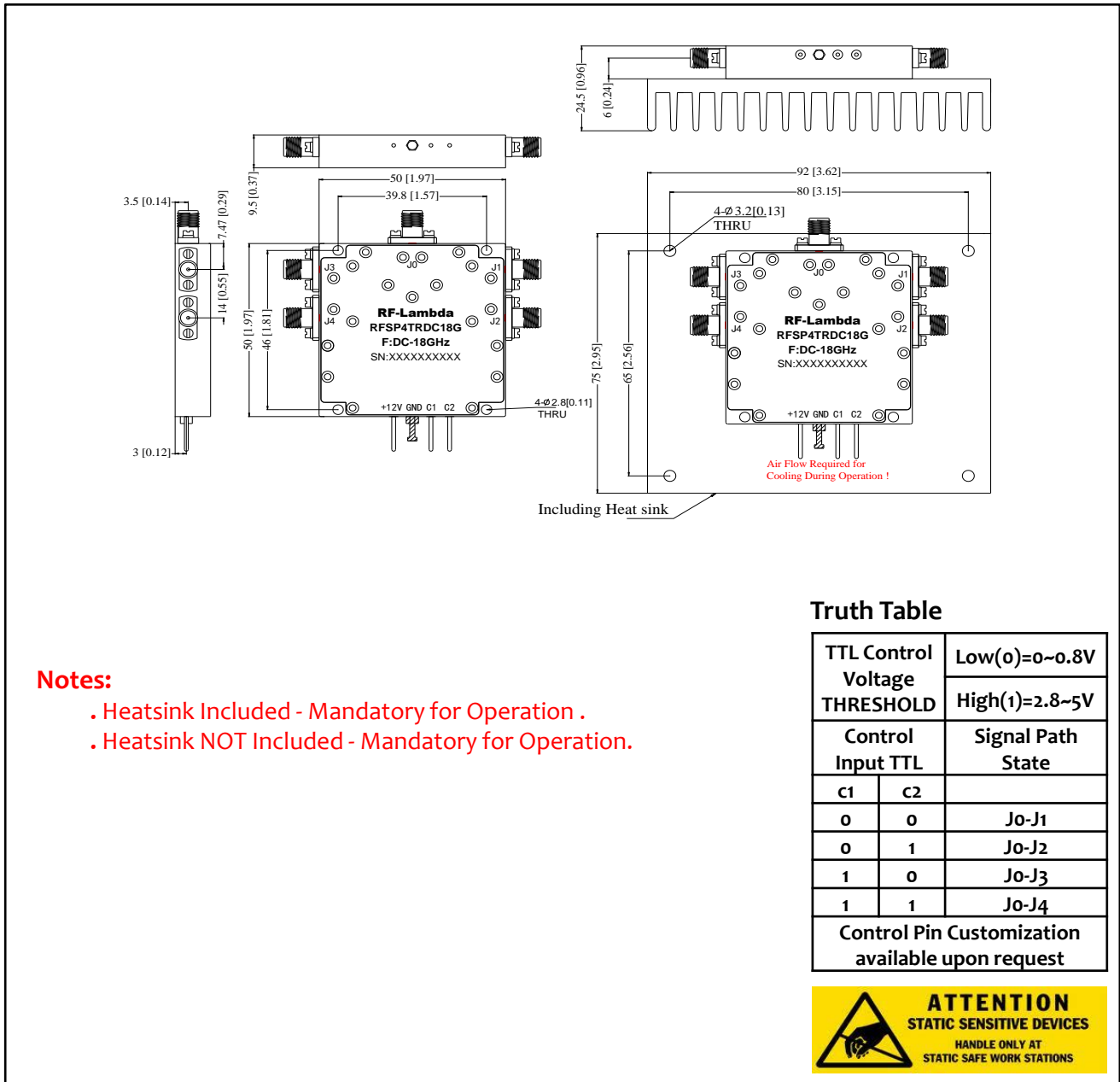
**Switching Speed**



**Reflective Coaxial Single Pole Four Throw Switch DG-18GHz**

**Outline Drawing:**

All Dimensions in mm [inches]  
Housing Tolerances  $\pm 0.1$  [0.004]



**Notes:**

- . Heatsink Included - Mandatory for Operation .
- . Heatsink NOT Included - Mandatory for Operation.

**Truth Table**

TTL Control Voltage THRESHOLD	Low(0)=0~0.8V	
	High(1)=2.8~5V	
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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