



# RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

## RFSP4TR0220GBE

### Reflective Coaxial SP4T Switch 2 - 20GHz



Note: The photo is for illustration purposes only.  
Please refer to the outline drawing.



#### Features

- Ultra Wide Band Operation 2-20GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

#### Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Military and Aerospace

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

Description	PN: RFSP4TR0220GBE									
	SP4T Reflective Switch									
	Low Power Cold Switching									
Parameters	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	2~6			6~12			12~20			GHz
Insertion Loss		1.8	2.5		2.7	3.0		3.2	3.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation	75	78		75	80		70	75		dB
Input VSWR		1.8	2		1.6	2		1.6	2	:1
Output VSWR		1.8	2		1.6	2		1.6	2	:1
RF Input Power			30			30			30	dBm
DC Power Dissipation (CW)		0.8			0.8			0.8		W
0.1dB Compression Point (Po.1dB)		30			30			30		dBm
IIP3		55			55			55		dBm
Switching Speed	100									ns
Weight	1.06									ounces
Impedance	50									$\Omega$
Bias Current (+5V/-5V)	160/50									mA
Input / Output Connectors	SMA - Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Reflective Coaxial Single Pole Four Throw Switch 2-20GHz



**Absolute Maximum Ratings**

Biasing	+5V / -5V
TTL Control Voltage	0~0.8V / 2.8~5V

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

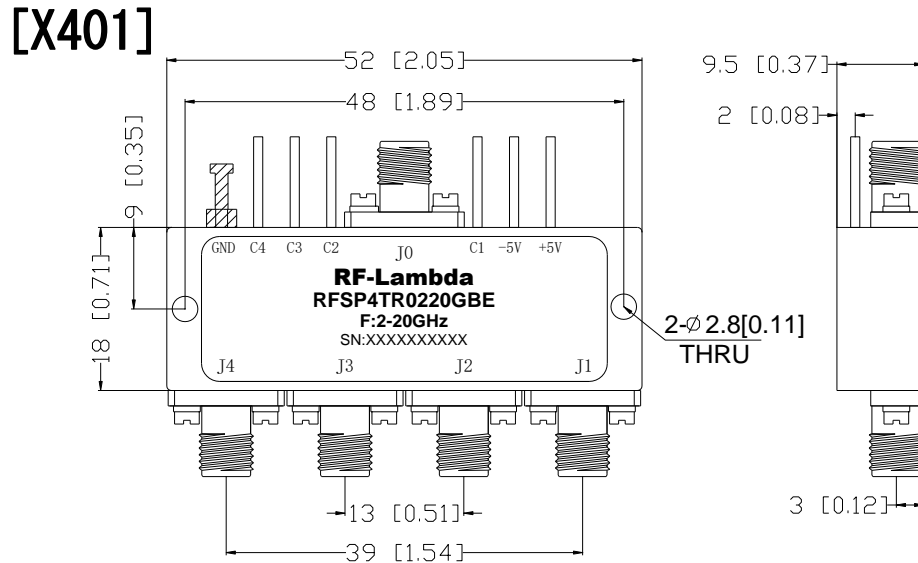
**Environmental Specifications and Test Standards**

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	MIL-STD-883	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)



**Outline Drawing:**

All Dimensions in mm [inches]



**Truth Table**

Control Input TTL				Signal Path State
C4	C3	C2	C1	
0	0	0	0	Not Used
1	1	1	0	J0-J1
1	1	0	1	J0-J2
1	0	1	1	J0-J3
0	1	1	1	J0-J4
1	1	1	1	OFF
Control Pin Customization available upon request				



**Ordering Information**

Part No.	ECCN	Description
RFSP4TR0220GBE	EAR99	SP4T 2-20GHz PIN Diode Switch

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