



Reflective Coaxial SP4T Switch 2 – 20GHz



Features

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

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace

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

Description	PN: RFSP4TR0220G			
	SP4T Reflective Switch			
	High Power Cold Switching			
Parameters	Min	Typ.	Max	Units
Frequency Range	2-20			GHz
Insertion Loss		2.4	2.9	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	70	80		dB
Input VSWR		1.8	2.0	:1
Output VSWR		1.8	2.0	:1
RF Input Power (CW)			1	W
DC Power Dissipation			1	W
0.1dB Compression Point (Po.1dB)			30	dBm
IIP ₃	40			dBm
Switching Speed			100	ns
Weight	/			ounces
Impedance	50			Ω
Biasing(+5V/-5V)	150/50			mA
Input / Output Connectors	SMA-Female			
Finish	Gold Plating			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			



Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
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.

Ordering Information

Part No.	ECCN	Description
RFSP4TRO220G	EAR99	SP4T 2-20GHz GaN Switch

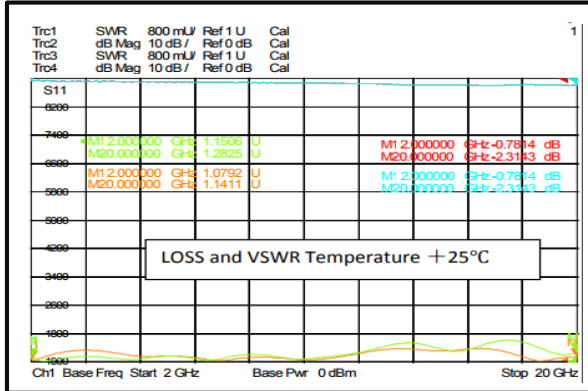
Environmental Specifications and Test Standards

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)

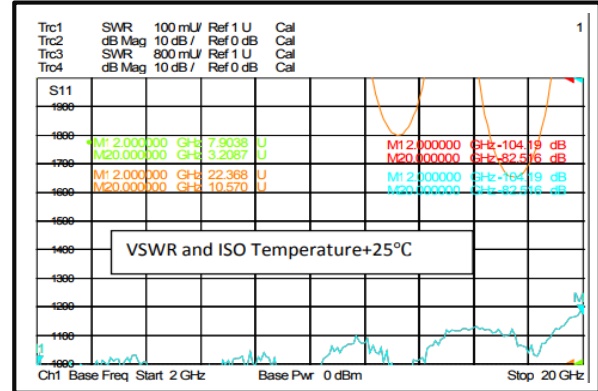


Typical Performance Plots

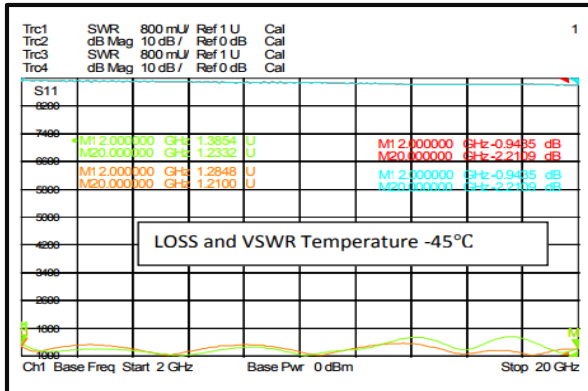
Insertion Loss & VSWR @+25°C



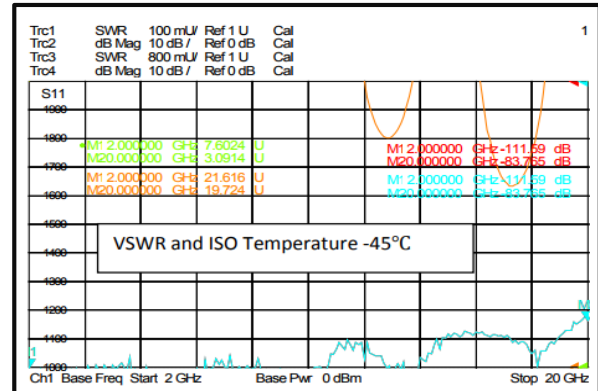
Isolation & VSWR @+25°C



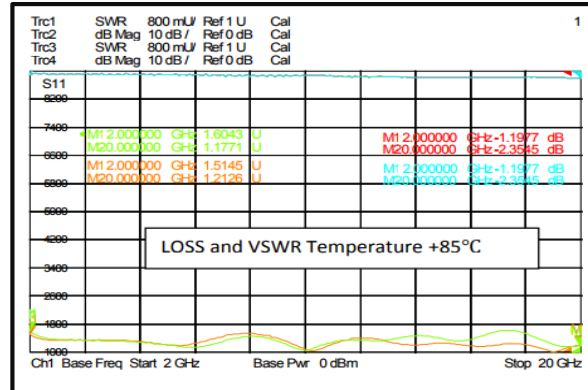
Insertion Loss & VSWR @-45°C



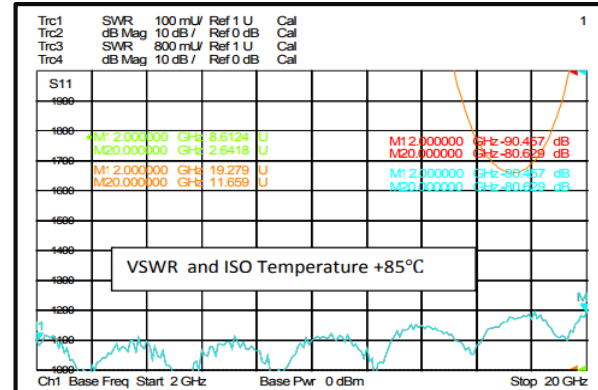
Isolation & VSWR @-45°C



Insertion Loss & VSWR @+85°C



Isolation & VSWR @+85°C





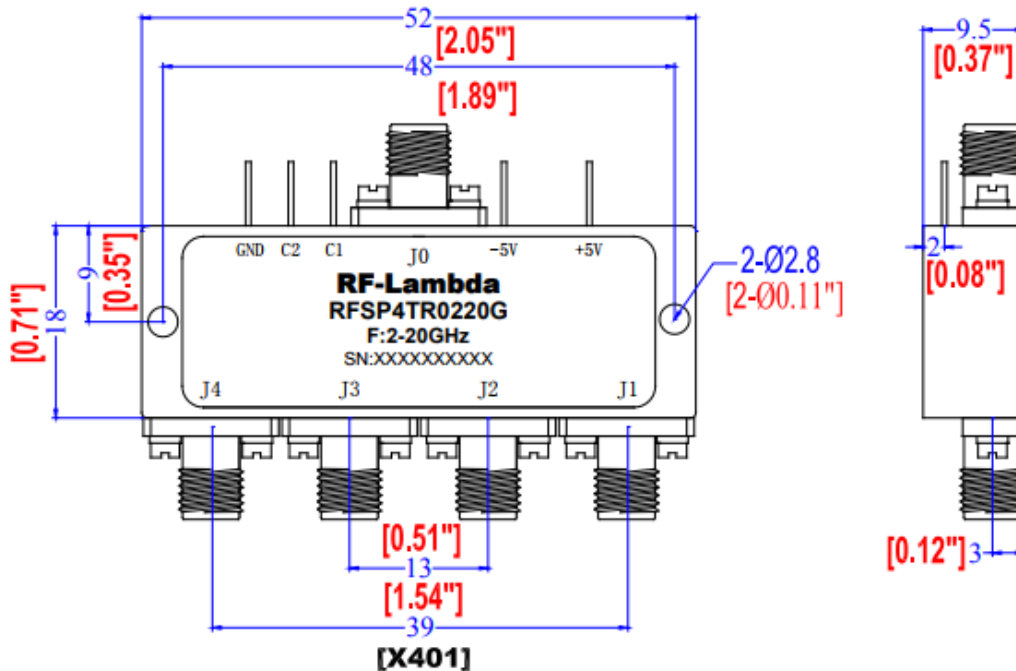
RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSP4TR0220G

Outline Drawing:

All Dimensions in mm [inches]



Truth Table

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

Control Pin Customization available upon request



Important Notice

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Reflective Coaxial Single Pole Four Throw Switch 2 – 20GHz