



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSP2TR0102G

Reflective Coaxial SP2T Switch 1 – 2GHz



Features

- Wide Band Operation 1-2GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +5\text{V}/-28\text{V}$, $\text{TTL} = 0 / +5\text{V}$

Description	PN: RFSP2TR0102G			
	SP2T Reflective Switch			
	Low Power Cold Switching			
	Min.	Typ.	Max.	Units
Parameters				
Frequency Range	1~2			GHz
Insertion Loss		0.5	0.8	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	80	85		dB
Input VSWR		1.1	1.3	: 1
Output VSWR		1.1	1.3	: 1
RF Input Power (CW)			30	dBm
DC Power Dissipation		0.3		W
0.1dB Compression Point ($P_{0.1\text{dB}}$)		30		dBm
IIP3		55		dBm
Switching Speed			100	ns
Weight	0.71			ounces
Impedance	50			Ω
Bias Current (+5V / -5V)	60/50			mA
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

Reflective Coaxial Single Pole Double Throw Switch 1 – 2GHz



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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
RFSP2TR0102G	EAR99	SP2T 1-2GHz PIN Diode Switch

Environmental Specifications and Test Standards

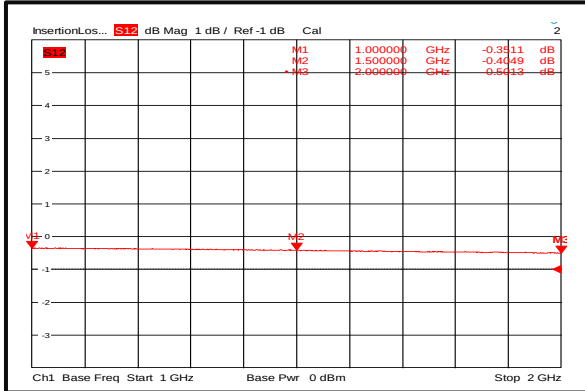
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C (Case Temperature)
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +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	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)

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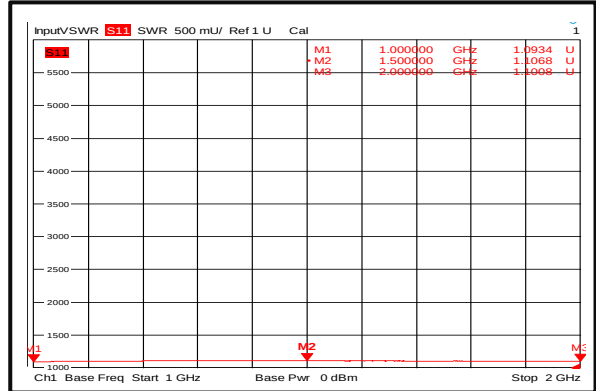


Typical Performance Plots

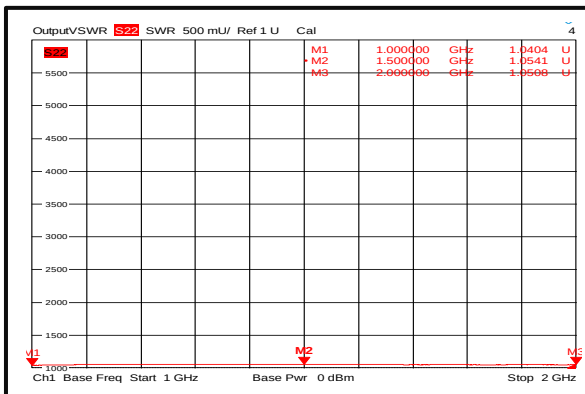
Insertion Loss



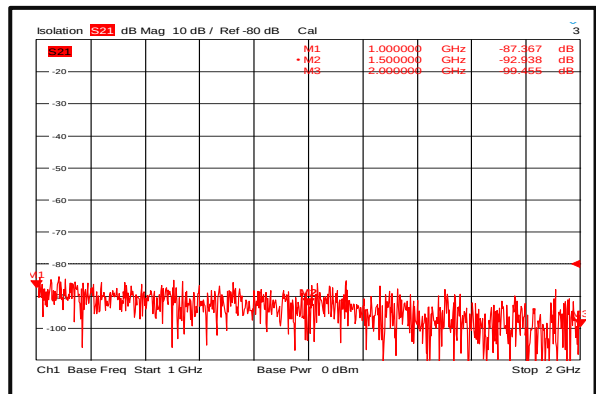
Input VSWR



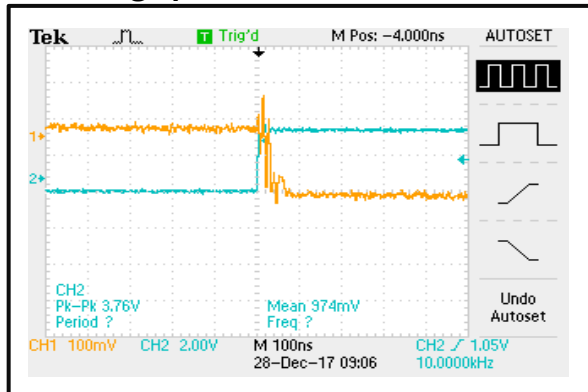
Output VSWR



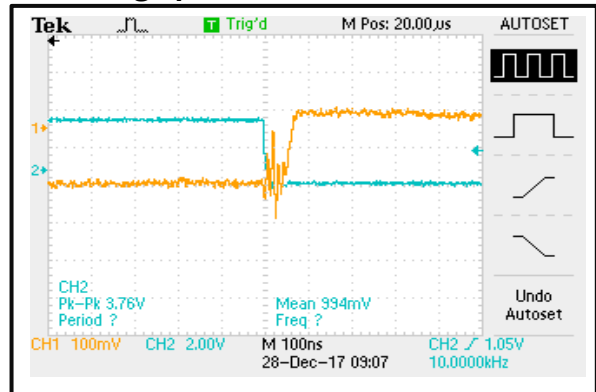
Isolation



Switching Speed



Switching Speed





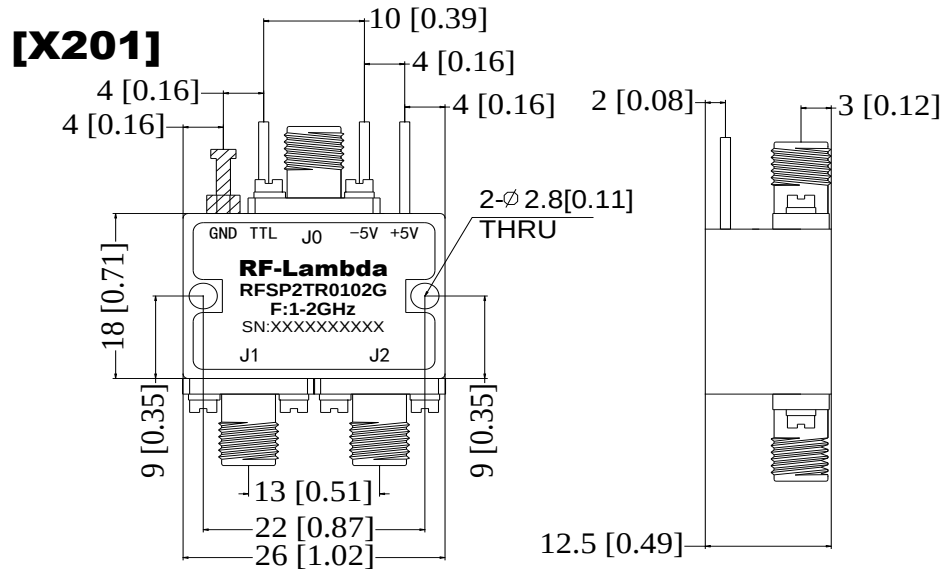
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Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Input TTL	Signal Path State
0	J0-J1
1	J0-J2
Control Pin Customization available upon request	



Important Notice

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