

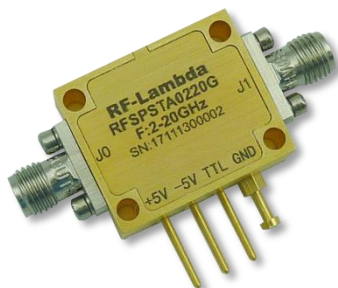


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSPSTA0220G

Absorptive Coaxial SPST 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

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

Description	PN: RFSPSTA0220G									
	SPST Absorptive Switch									
	Jo: Absorptive Port J1: Reflective port									
	Low Power Cold Switching									
Parameter	Min	Typ.	Max	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	2-8			8-12			12-20			GHz
Insertion Loss		1.3	1.5		1.5	2.0		2.5	2.8	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation ($J_0 \rightarrow J_1$)	80	90		80	85		70	80		dB
Input VSWR		1.5	1.8		1.5	1.8		1.5	1.8	:1
Output VSWR		1.5	1.8		1.5	1.8		1.5	1.8	:1
RF Input power (CW)			30			30			30	dBm
Power Dissipation		0.3			0.3			0.3		W
0.1dB Compression Point ($P_{0.1dB}$)		30			30			30		dBm
IIP3		55			55			55		dBm
Switching Speed		100			100			100		ns
Weight	0.35									ounces
Impedance	50									Ω
Bias Current (+5V/-5V)	50/40									mA
Input / Output Connectors	SMA-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Absorptive Coaxial Single Pole Single Throw Switch 2 - 20GHz



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSPSTA0220G

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

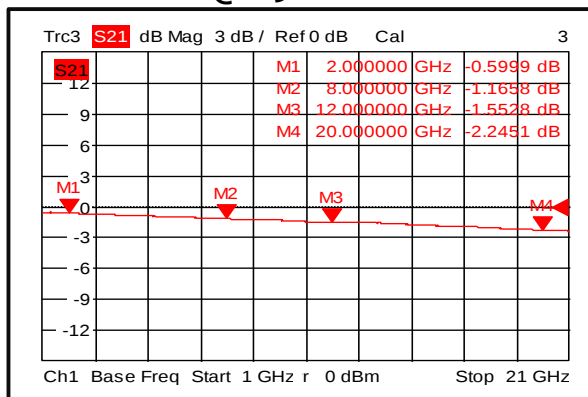
Part No.	ECCN	Description
RFSPSTA0220G	EAR99	SPST 2-20GHz PIN Diode Switch

Environmental Specifications and Test Standards

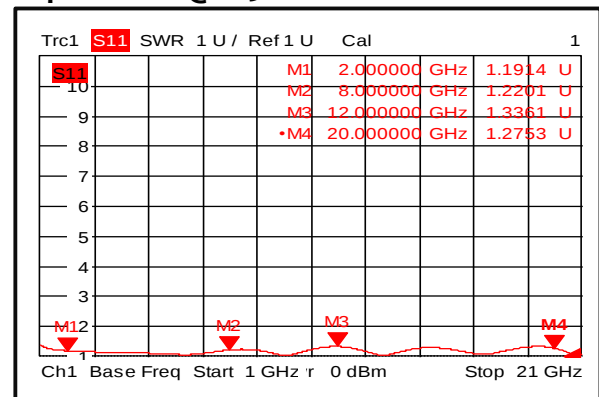
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 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)

Typical Performance Plots

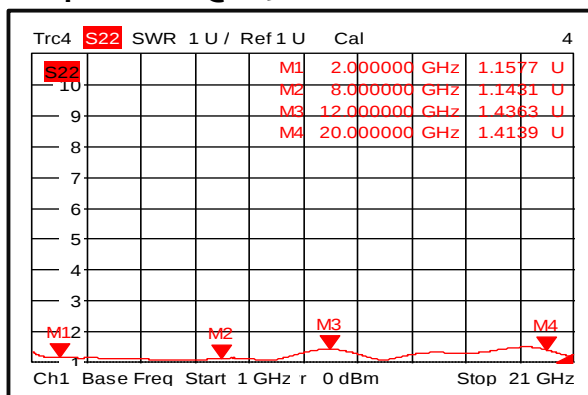
Insertion Loss @+25°C



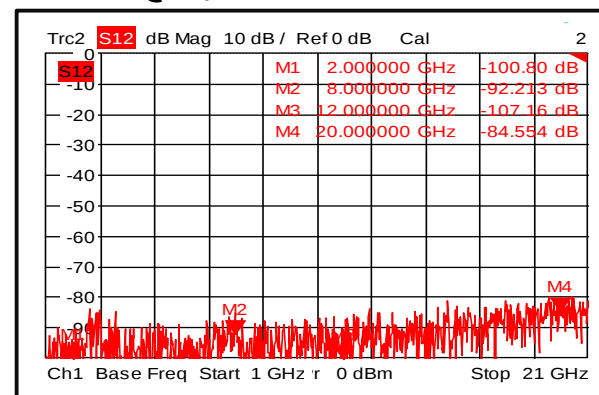
Input VSWR @+25°C



Output VSWR @+25°C



Isolation @+25°C



Absorptive Coaxial Single Pole Single Throw Switch 2 - 20GHz

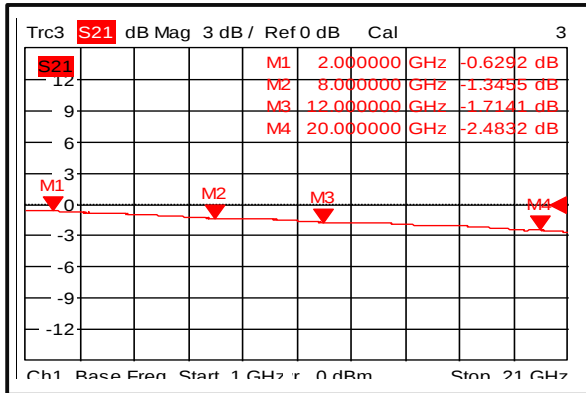


RF-LAMBDA

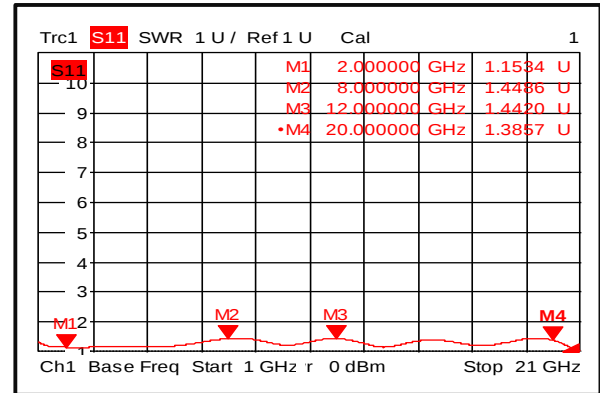
LEADER OF RF BROADBAND SOLUTIONS

RFSPSTA0220G

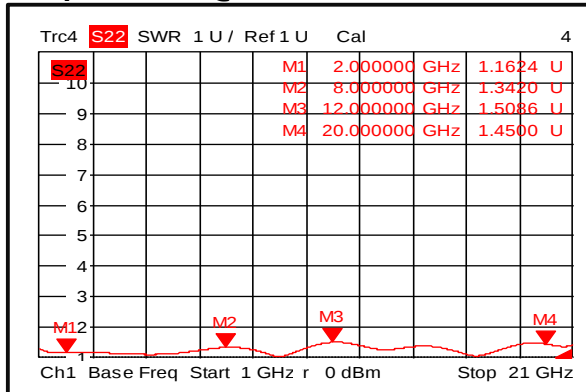
Insertion Loss @-45°C



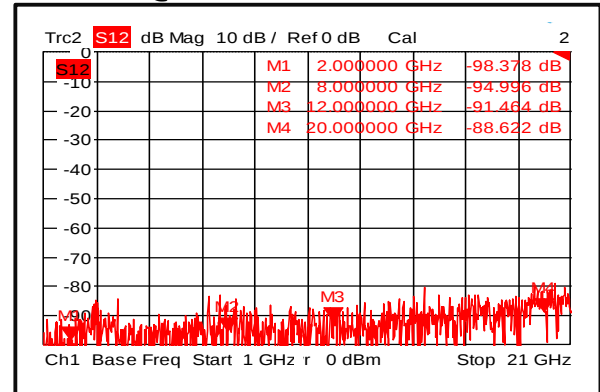
Input VSWR @-45°C



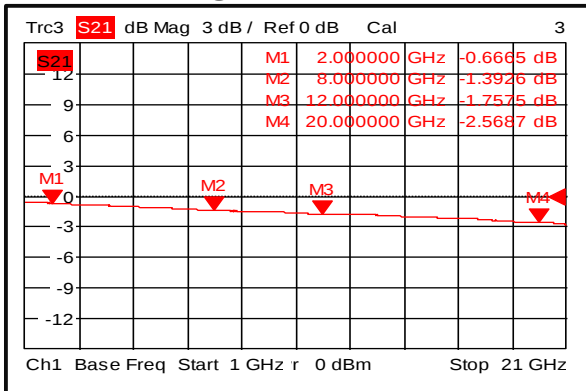
Output VSWR @-45°C



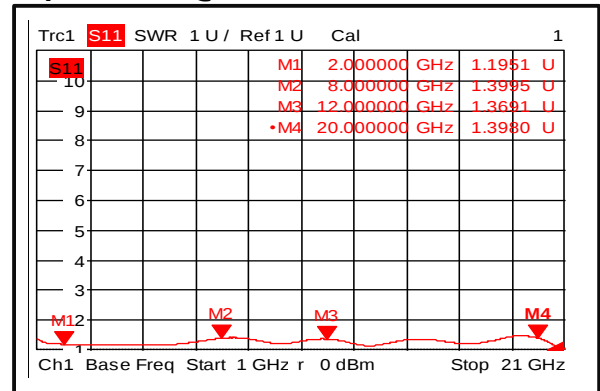
Isolation @-45°C



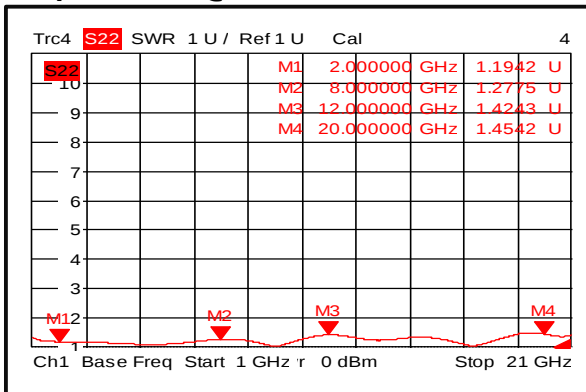
Insertion Loss @+85°C



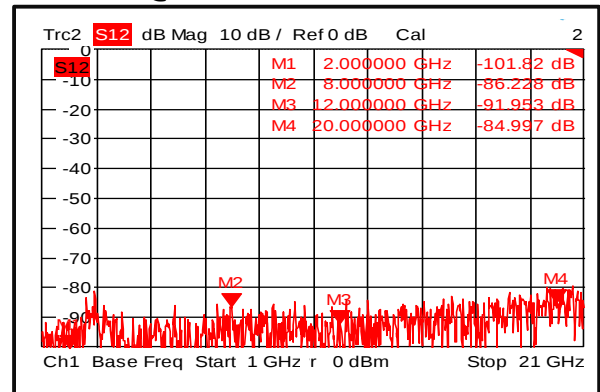
Input VSWR @+85°C



Output VSWR @+85°C



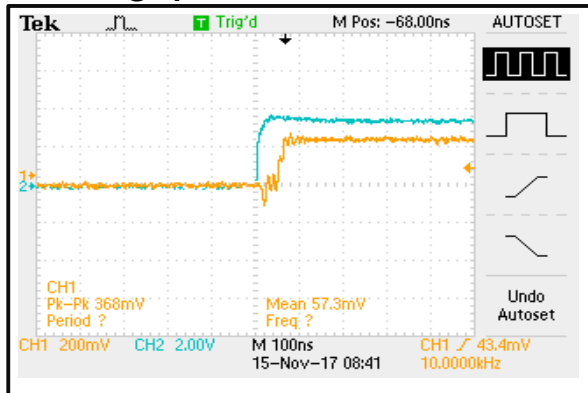
Isolation @+85°C



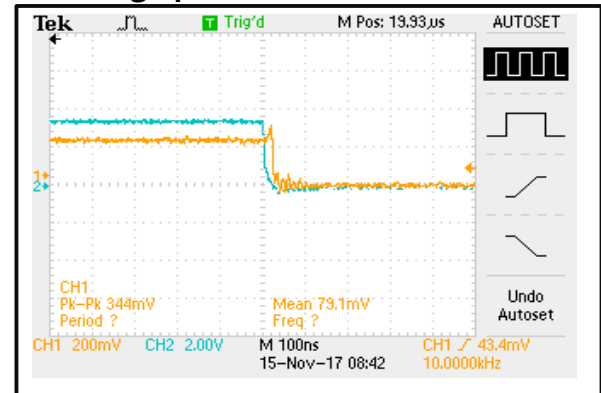
Absorptive Coaxial Single Pole Single Throw Switch 2 - 20GHz



Switching Speed



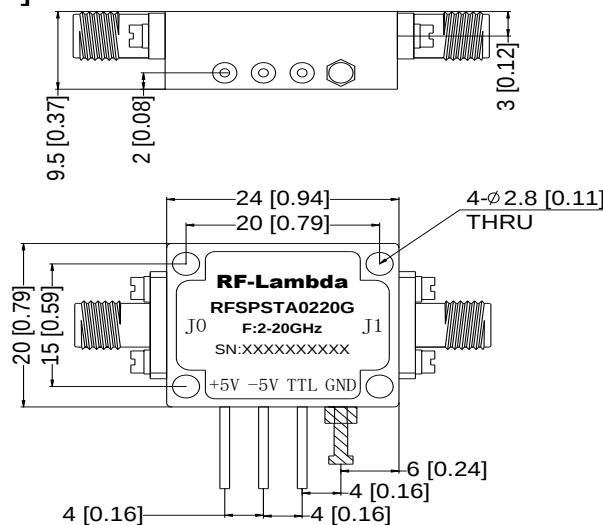
Switching Speed



Outline Drawing:

All Dimensions in mm [inches]

[X101]



Truth Table

Control Input TTL	Signal Path State
1	ON
0	OFF
Control Pin Customization available upon request	



Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.