



Reflective Coaxial SP2T Switch 0.02 - 3GHz



Features

- Ultra Wide Band Operation 0.02-3GHz
- 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, $T_A = +25\text{ }^\circ\text{C}$, $V_{dd} = +5\text{V} / -5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP2TR0003G5W			
	SP2T Reflective Switch			
	High Power Cold Switching			
Parameters	Min	Typ	Max	Units
Frequency Range	0.02~3			GHz
Insertion Loss		1.1	1.5	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	60	80		dB
Input VSWR		1.4	1.6	: 1
Output VSWR		1.4	1.6	: 1
RF Input Power			37	dBm
DC Power Dissipation		1		W
0.1dB Compression Point (P 0.1dB)		37		dBm
IIP3		55		dBm
Switching Speed		150	500	ns
Weight	1.41			ounces
Impedance	50			Ω
Bias Current (5V/-5V)	160/20			mA
Input / Output Connectors	SMA-Female			
Finish	Gold Plating			
Material	Aluminum			
Sealing	Hermetically Sealed (optional)			

Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz



Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V / 2.8~5V

Ordering Information

Part No.	ECCN	Description
RFSP2TR0003G5W	EAR99	SP2T 0.02-3GHz PIN Diode Switch

Notes:

- TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.
- Cold Switching: Before changing any TTL signal(s), the RF input power must be blanked or the switch could be damaged.

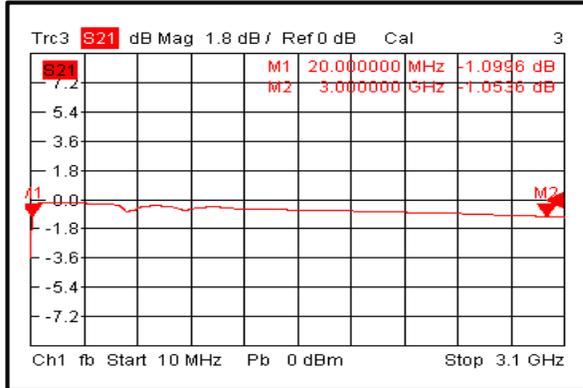
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
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)

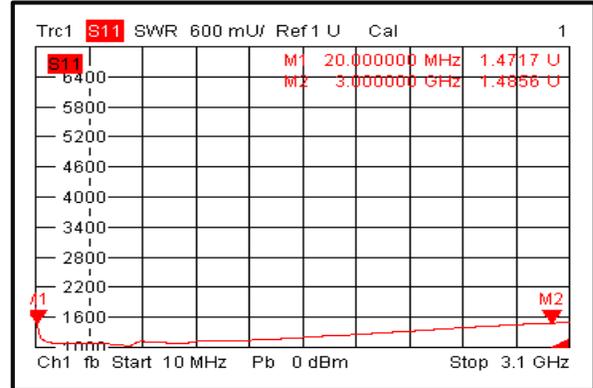
Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz



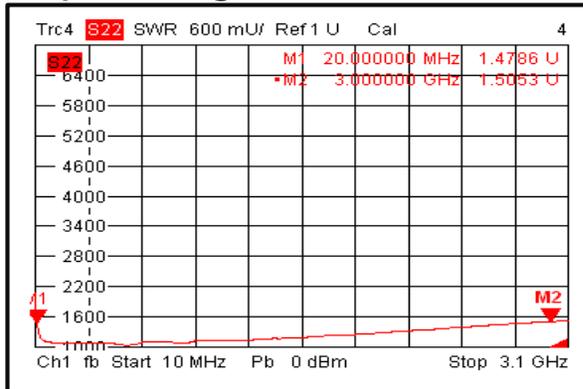
Typical Performance Plots Insertion Loss @+25°C



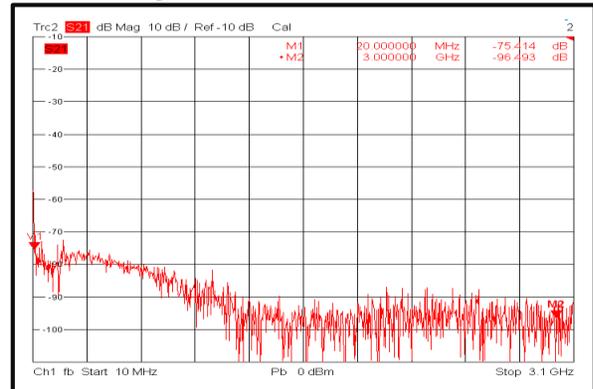
Input VSWR @+25°C



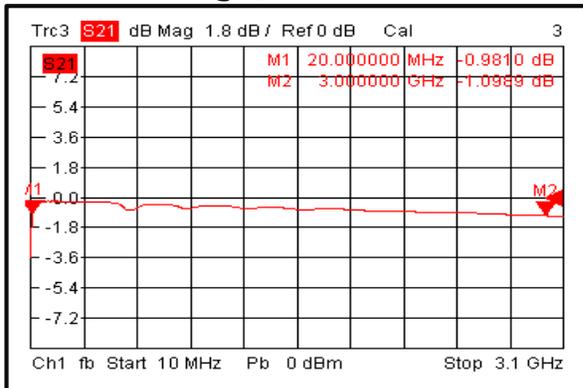
Output VSWR @+25°C



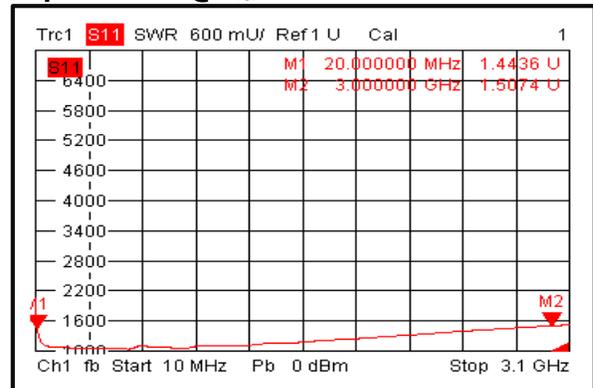
Isolation @+25°C



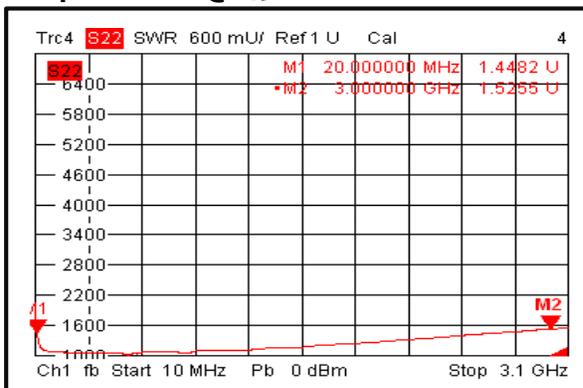
Insertion Loss @-45°C



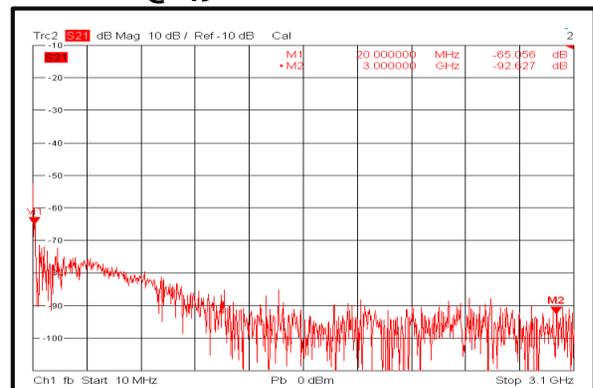
Input VSWR @-45°C



Output VSWR @-45°C



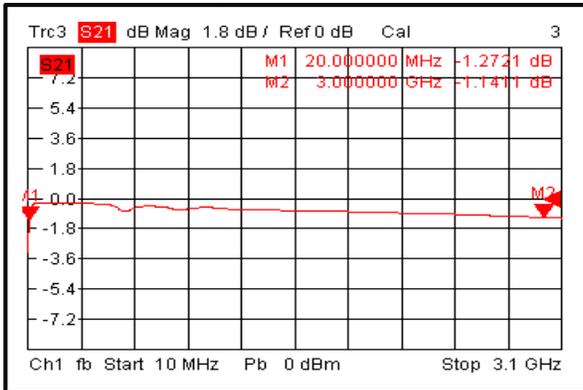
Isolation @-45°C



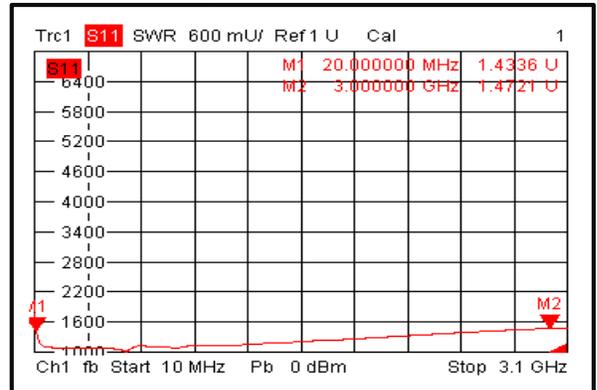
Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz



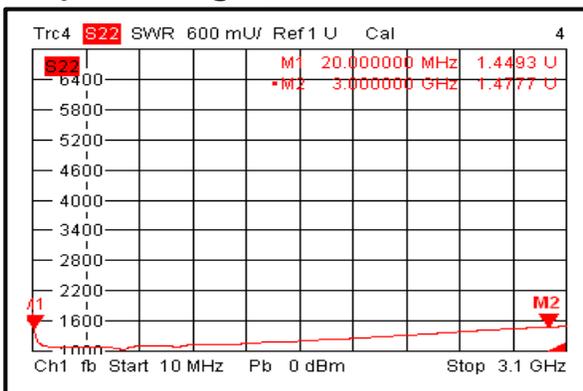
Insertion Loss @+85°C



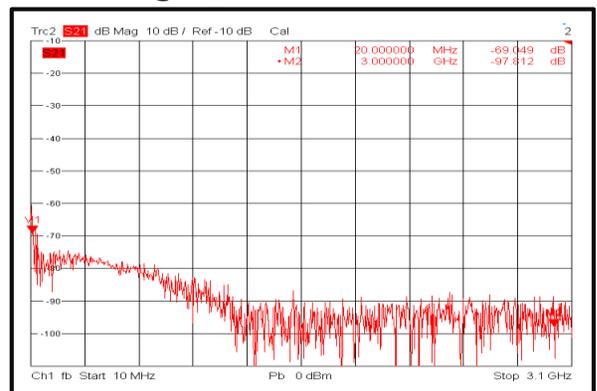
Input VSWR @+85°C



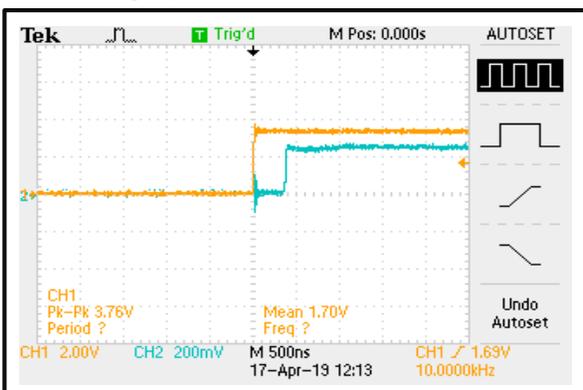
Output VSWR @+85°C



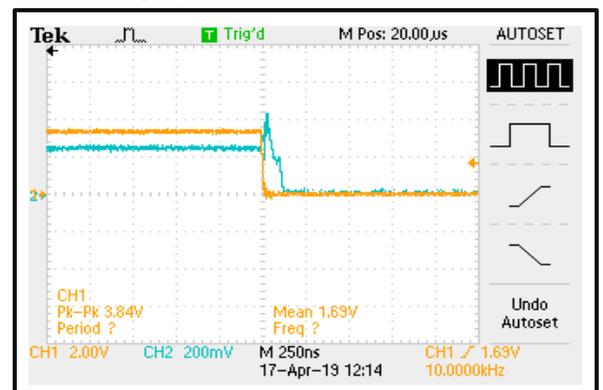
Isolation @+85°C



Switching Speed



Switching Speed



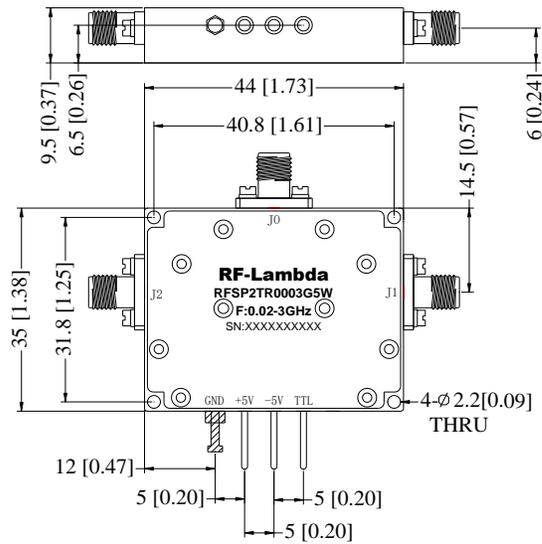
Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz



Outline Drawing:

All Dimensions in mm [inches]

[X206]



Truth Table

Control Input TTL	Signal Path State
0	J0-J1
1	J0-J2
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.

Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz