

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

Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Military and 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 (Po.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 Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
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Ordering Information

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

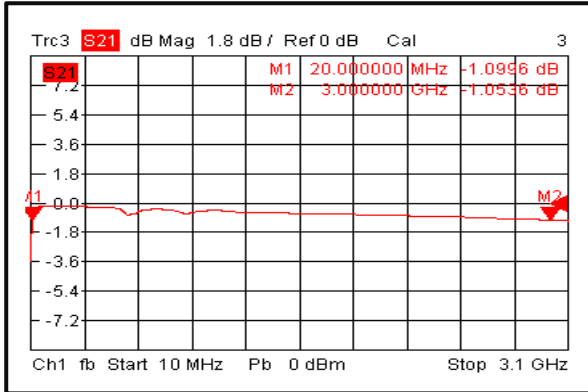
Notes:

- 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.

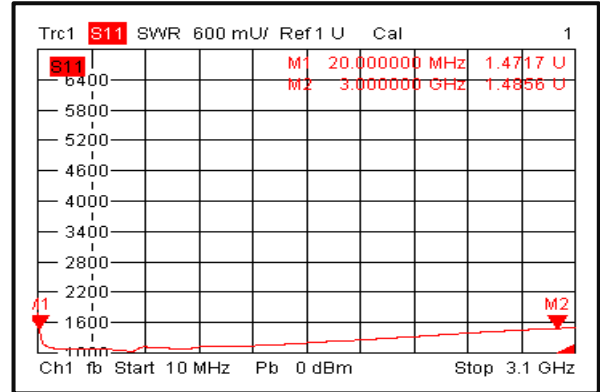
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High 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 (For Hermetically Sealed Units)

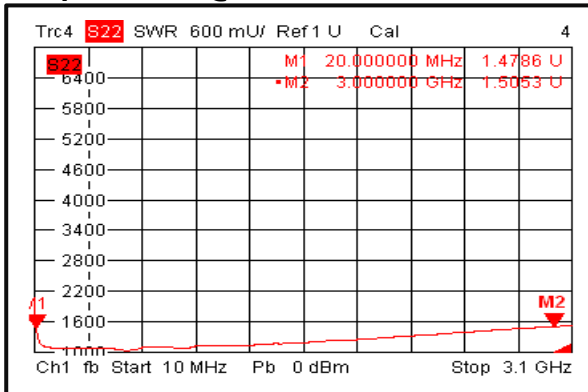
Typical Performance Plots
Insertion Loss @+25°C



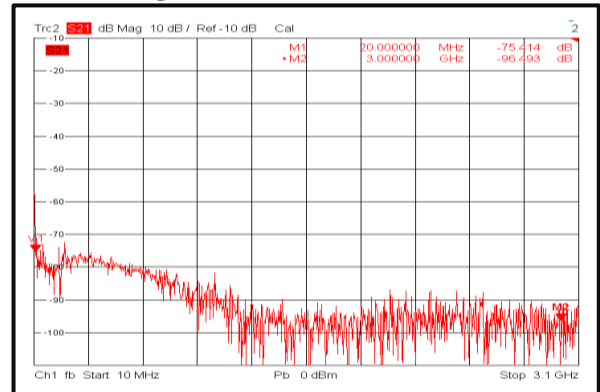
Input VSWR @+25°C



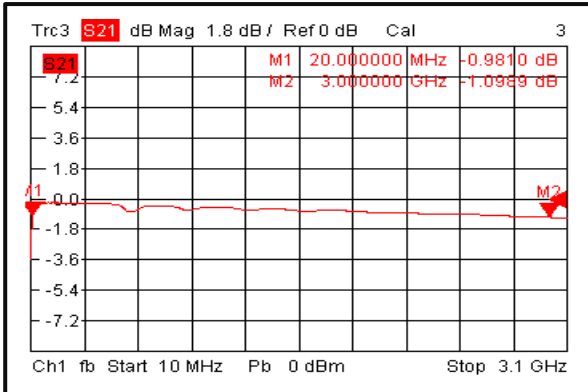
Output VSWR @+25°C



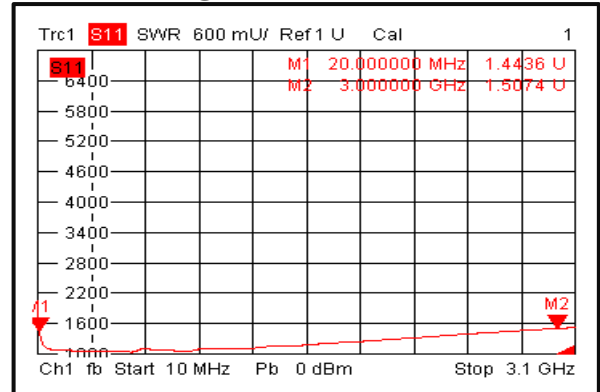
Isolation @+25°C



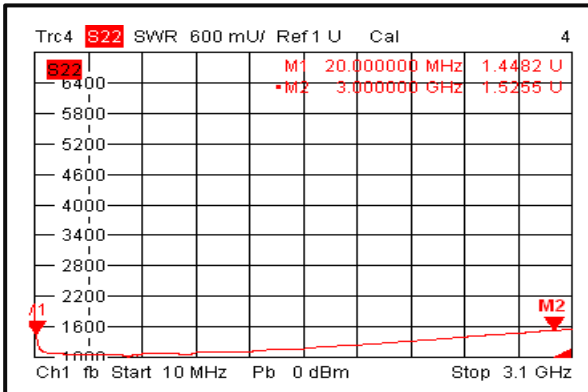
Insertion Loss @-40°C



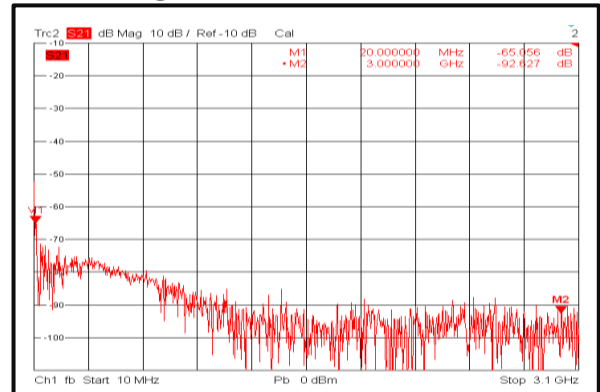
Input VSWR @-40°C



Output VSWR @-40°C

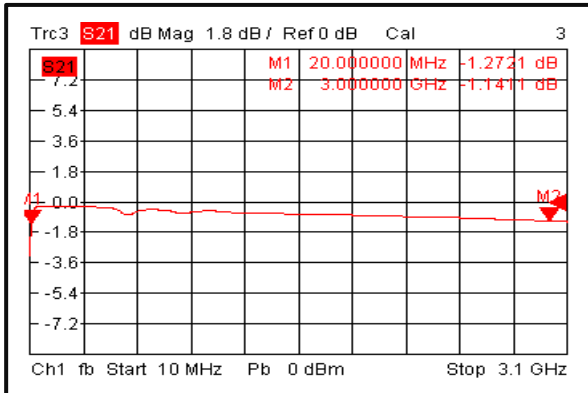


Isolation @-40°C

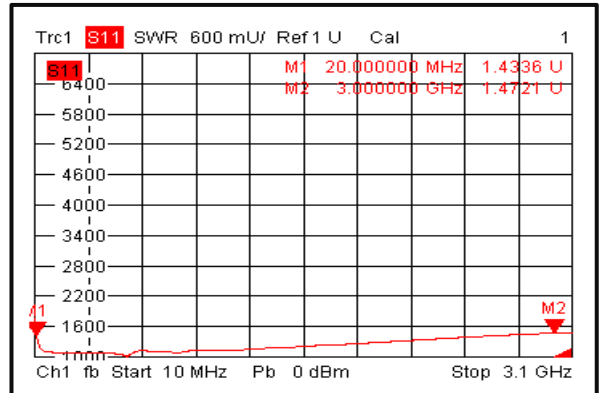


Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz

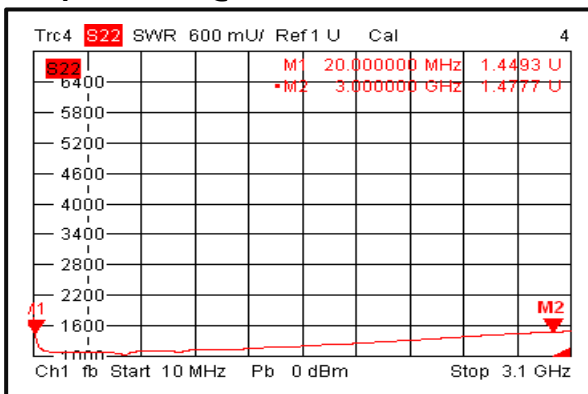
Insertion Loss @+85°C



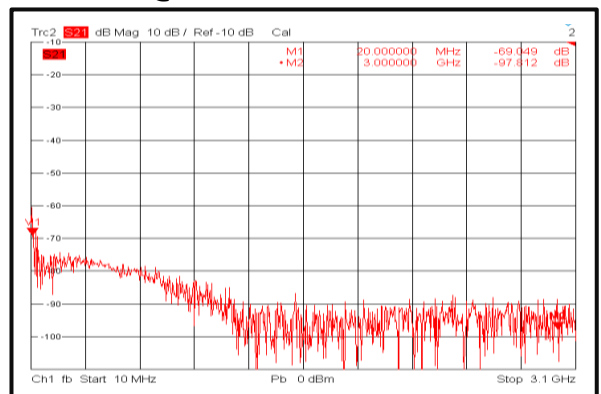
Input VSWR @+85°C



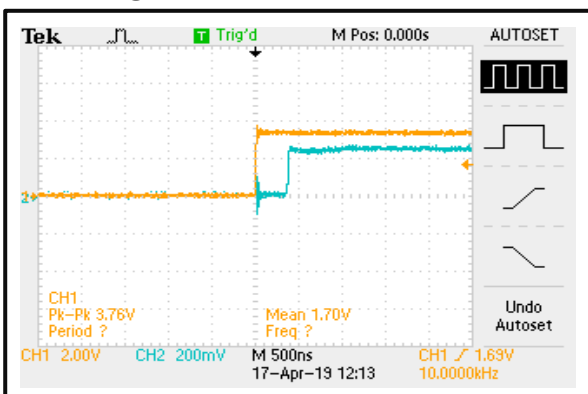
Output VSWR @+85°C



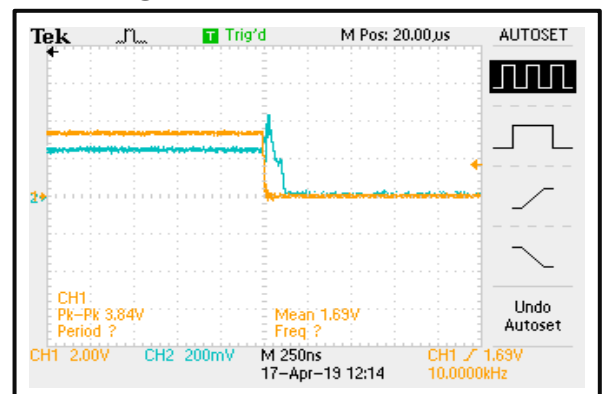
Isolation @+85°C



Switching Speed



Switching Speed



Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz

Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ± 0.1 [0.004]

[X206]

Including Heat sink

RF-Lambda
RFSP2TR0003G5W
F:0.02-3GHz
SN:XXXXXXXXXX

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Notes:

- . Heatsink Included - Mandatory for Operation .
- . Heatsink NOT Included - Mandatory for Operation.

Truth Table

TTL Control Voltage THRESHOLD	Low(0)=0~0.8V
	High(1)=2.8~5V
Control Input TTL	Signal Path State
0	J0-J1
1	J0-J2
Control Pin Customization available upon request	

ATTENTION
STATIC SENSITIVE DEVICES
HANDLE ONLY AT
STATIC SAFE WORK STATIONS

Reflective Coaxial Single Pole Double Throw Switch 0.02 - 3GHz

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