

Absorptive Coaxial SP2T Switch 4 - 8GHz



Features

- Wide Band Operation 4-8GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement

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

Description	PN: RFSP2TA0408G5W			
	SP2T Absorptive Switch			
	High Power Cold Switching			
Parameters	Min.	Typ.	Max.	Units
Frequency Range	4-8			GHz
Insertion Loss		1.9	2.0	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	75	80		dB
Input VSWR		1.4	1.5	:1
Output VSWR		1.4	1.5	:1
RF Input Power			37	dBm
Power Dissipation		1.5		W
0.1dB Compression Point (Po.1dB)		37		dBm
IIP3		53		dBm
Switching Speed	500 Max.			ns
Weight	Switch	2.0 Max.		ounces
	Including Heat sink	5.0 Max.		ounces
Impedance	50			Ω
Bias Current (+5V)	200 Typ.			mA
Input / Output Connectors	SMA - Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

Absolute Maximum Ratings

Biassing	+5V±10%
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Ordering Information

Part No.	Description
RFSP2TA0408G5W	SP2T 4-8GHz PIN Diode Switch

Notes:

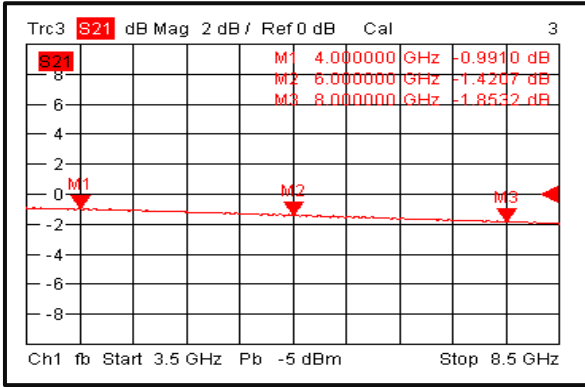
TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Environmental Specifications and Test Standards

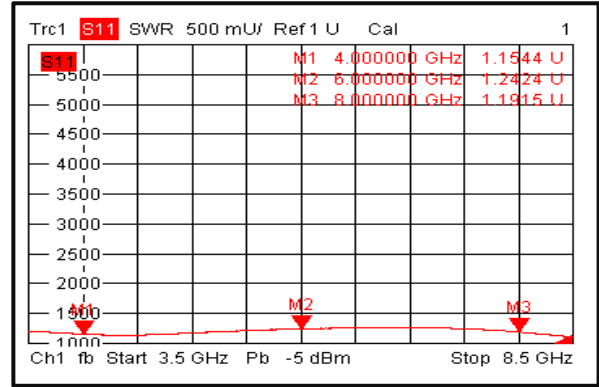
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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

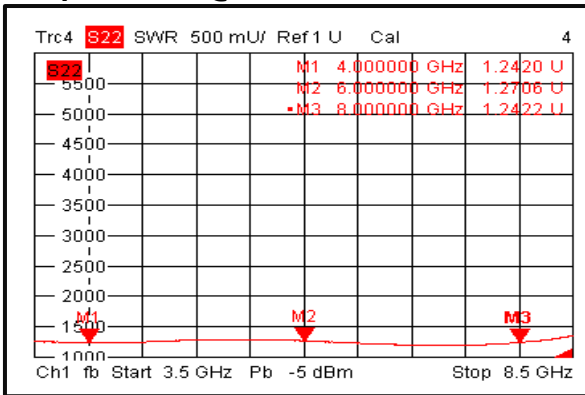
Insertion Loss @+25°C



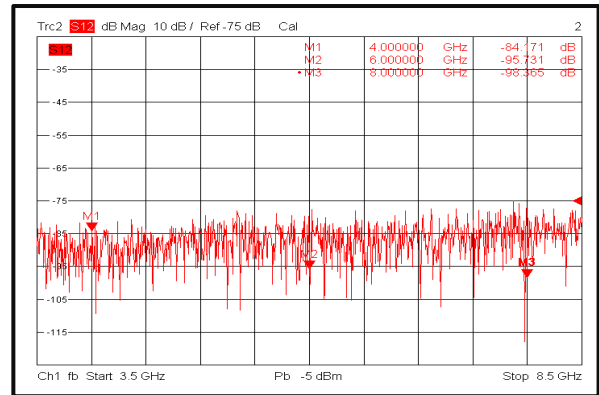
Input VSWR @+25°C



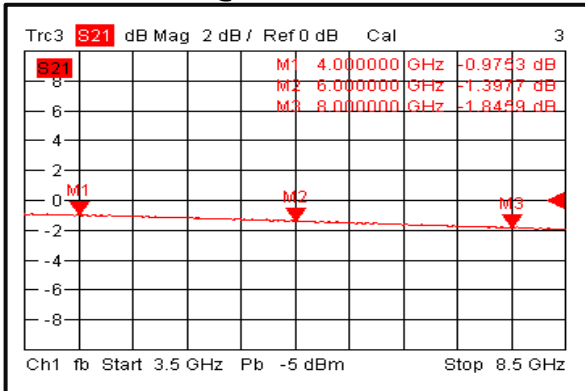
Output VSWR @+25°C



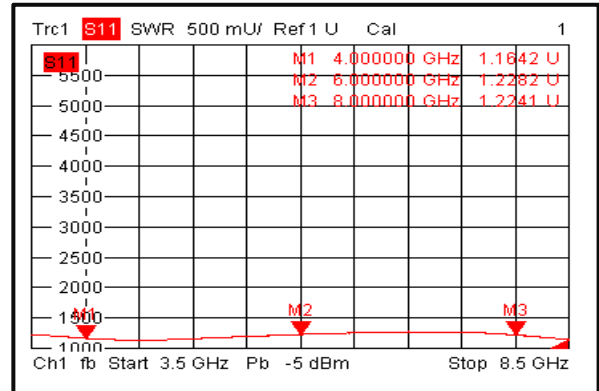
Isolation @+25°C



Insertion Loss @-40°C

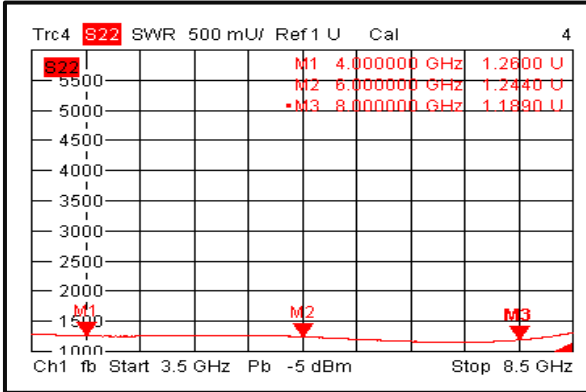


Input VSWR @-40°C

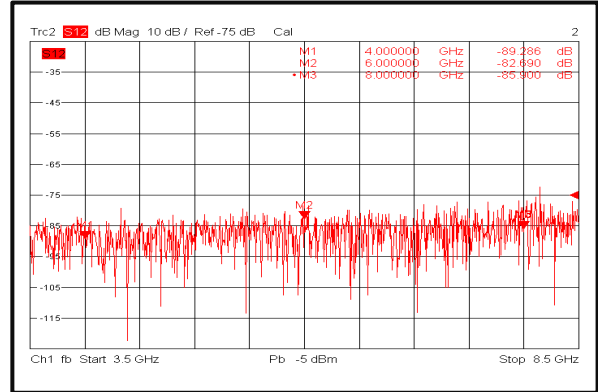


Absorptive Coaxial Single Pole Double Throw Switch 4-8GHz

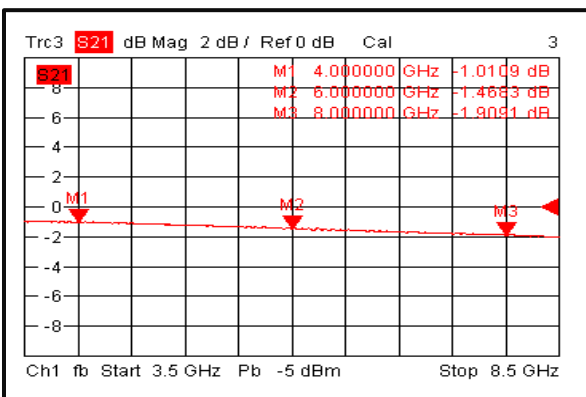
Output VSWR @-40°C



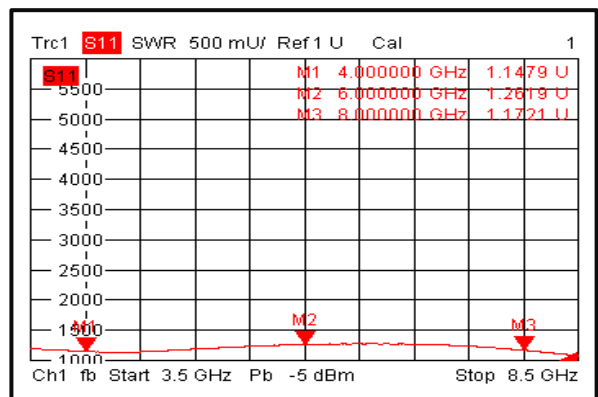
Isolation @-40°C



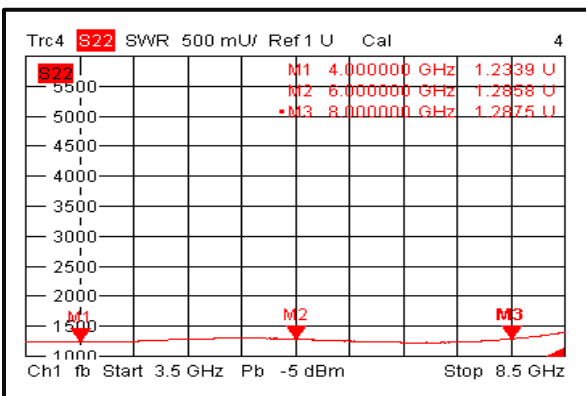
Insertion Loss @+85°C



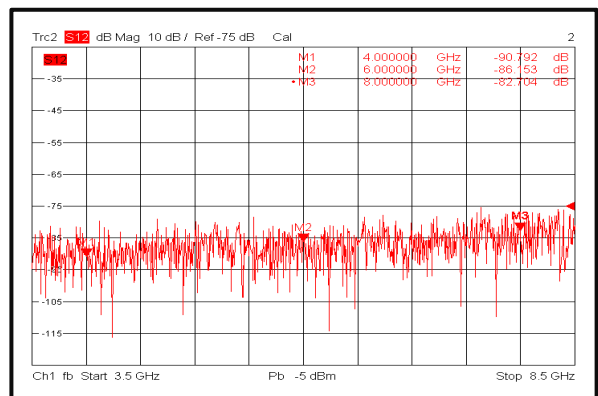
Input VSWR @+85°C



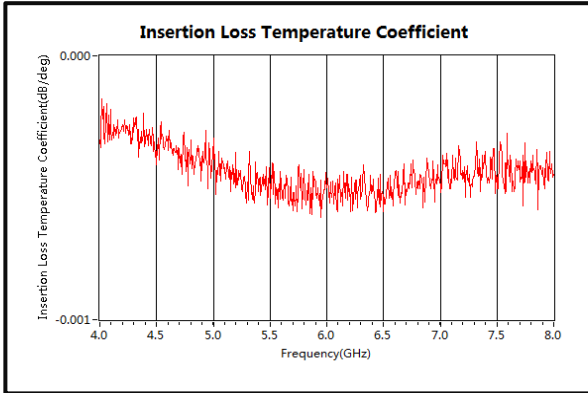
Output VSWR @+85°C



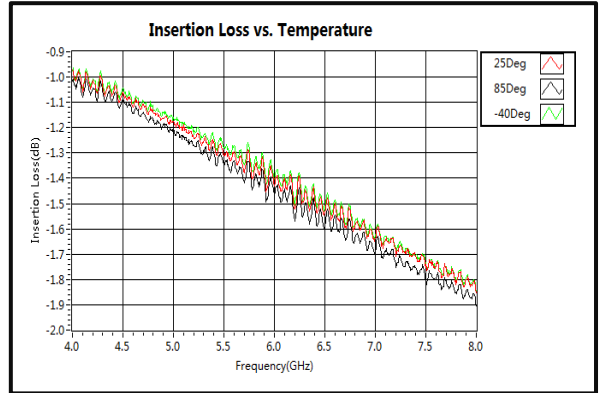
Isolation @+85°C



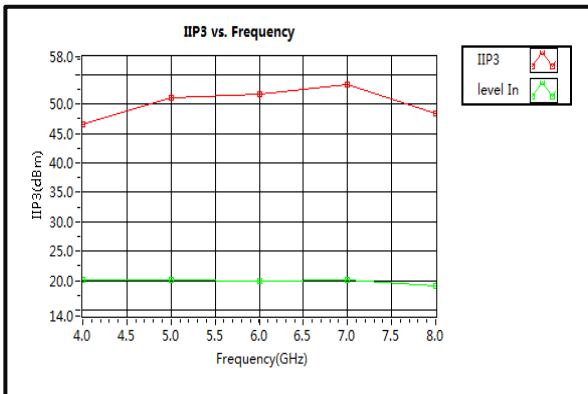
Insertion Loss Temperature Coefficient



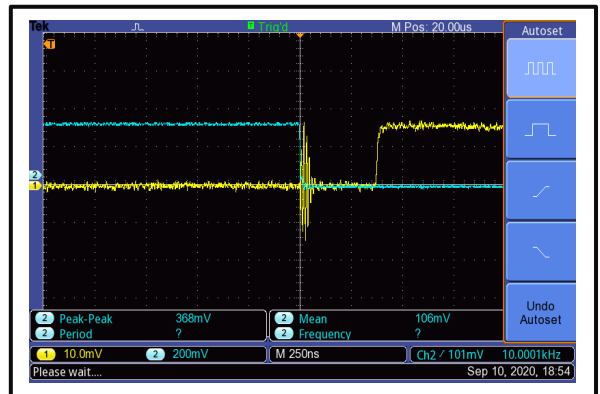
Insertion Loss vs. Temperature



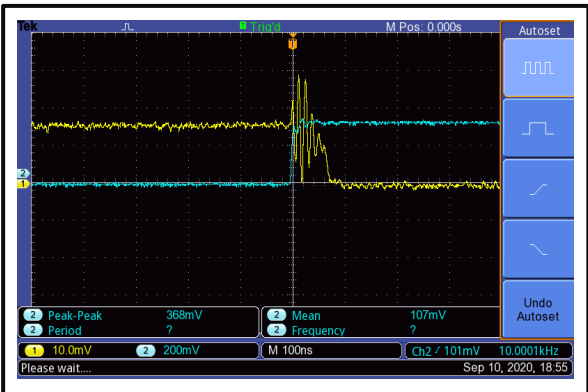
IIP3



Switching Speed



Switching Speed

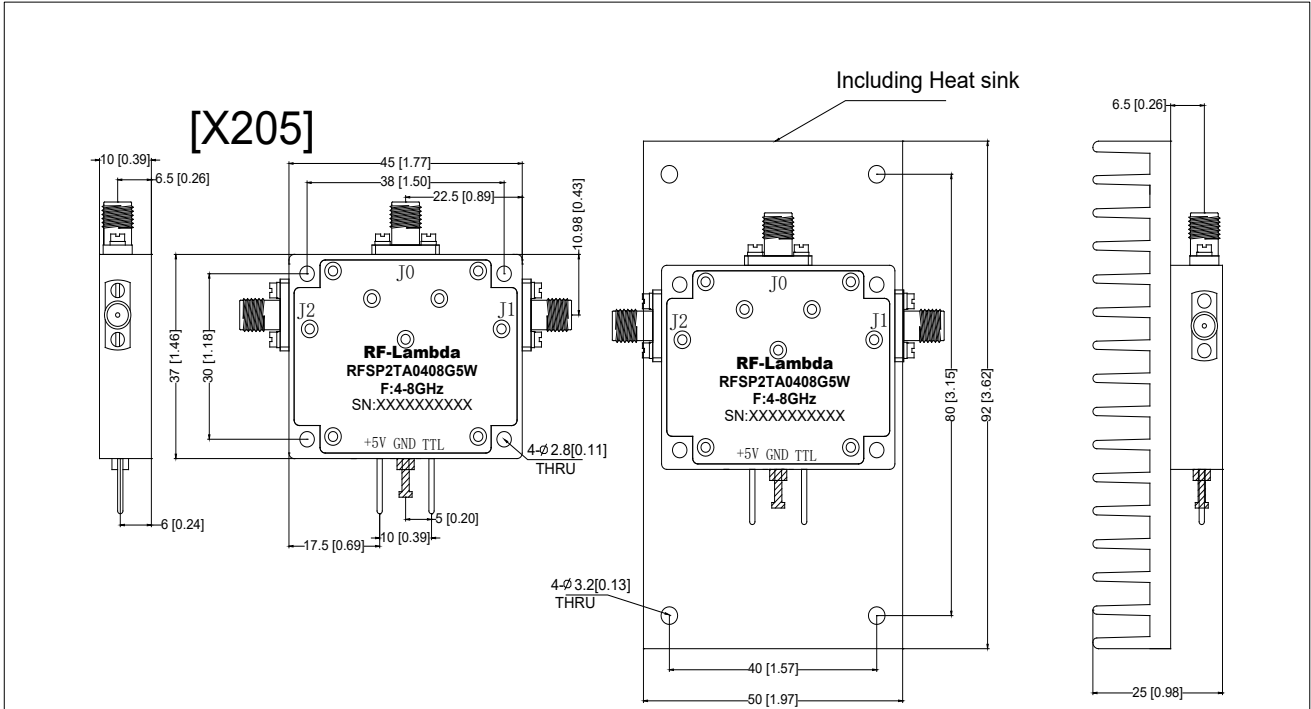


Absorptive Coaxial Single Pole Double Throw Switch 4-8GHz

Outline Drawing:

All Dimensions in mm [inches]

Housing Tolerances ± 0.1 [0.004]



Notes:

- . Heatsink 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	Jo-J1
1	Jo-J2
Control Pin Customization available upon request	



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