RF-LAMBDA
THE LEADER OF RF BROADBAND SOLUTIONS

RFSP8TA0006G

Absorptive Coaxial SP8T Switch
0.05 - 6GHz

Features

- Ultra Wide Band Operation 0.05-6GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement

Electrical Specifications, TA = +25 °C, Vdd = +5V/-5V, TTL = 0 / +5V

Description	PN: RFSP8TA0006G SP8T Absorptive Switch Low Power Cold Switching						
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.05		2	2		6	GHz
Insertion Loss		1.6	2.0		2.8	3.2	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	65	70		60	70		dB
Input VSWR		1.4	1.7		1.4	1.7	: 1
Output VSWR		1.4	1.7		1.4	1.7	: 1
RF Input Power			30			30	dBm
DC Power Dissipation		1.5			1.5		W
0.1dB Compression Point (P0.1dB)		30			30		dBm
IIP3		45			42		dBm
Switching Speed	500 Max.(Standard) 100 Max.(Optional with extra cost)						ns
Weight	2.8 Max.						ounces
Impedance	50						Ω
Bias Current (+5V/-5V)	350/50 Max.						mA
Input / Output Connectors	SMA - Female						
Interface and Control Connector	Micro-D9 (Female)						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

Absorptive Coaxial Single Pole Eight Throw Switch 0.05-6GHz

Absolute Maximum Ratings

Biasing	+5V±10% / -5V±10%

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

Ordering Information

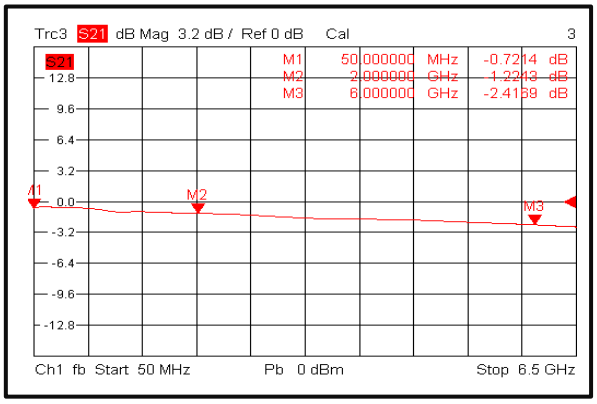
Part No.	Description
RFSP8TA0006G	SP8T 0.05-6GHz PIN Diode Switch

Environmental Specifications and Test Standards

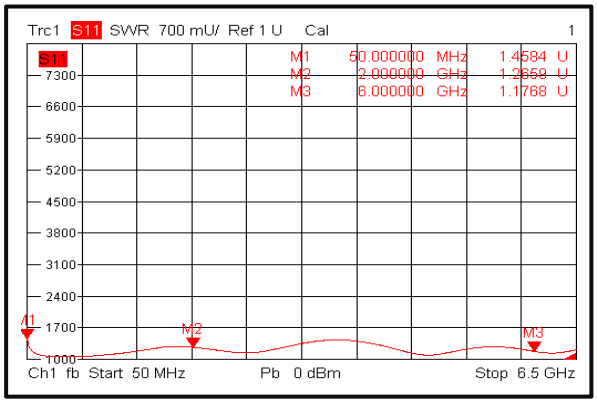
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock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

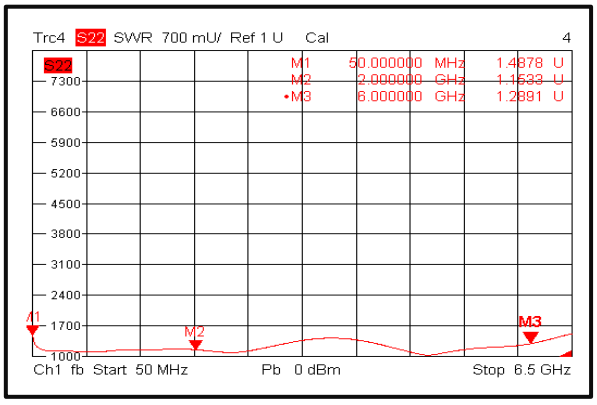
Insertion Loss @+25℃



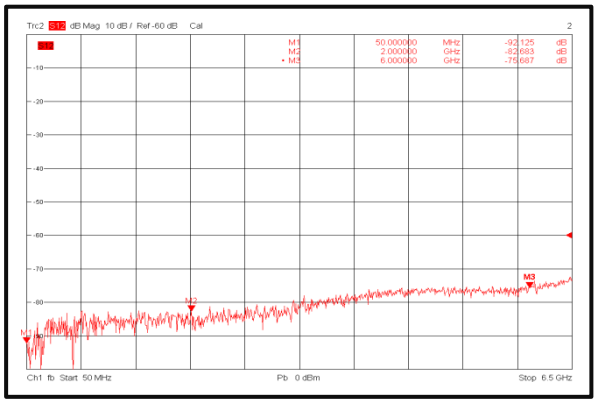
Input VSWR @+25℃



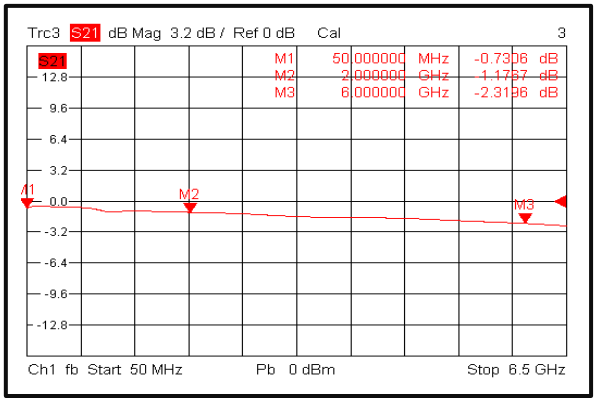
Output VSWR @+25℃



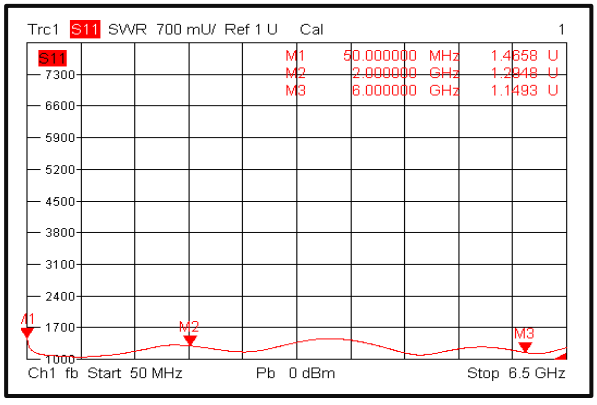
Isolation @+25℃



Insertion Loss @-40℃

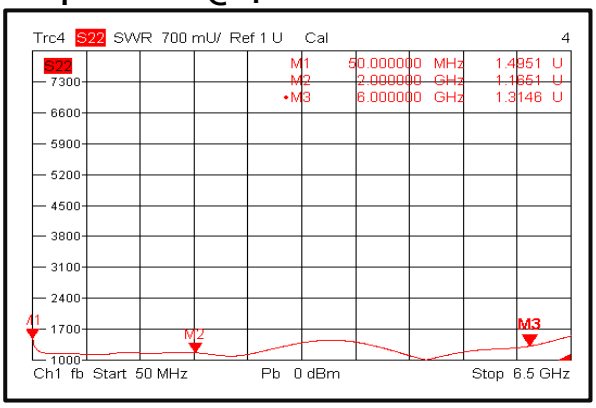


Input VSWR @-40℃

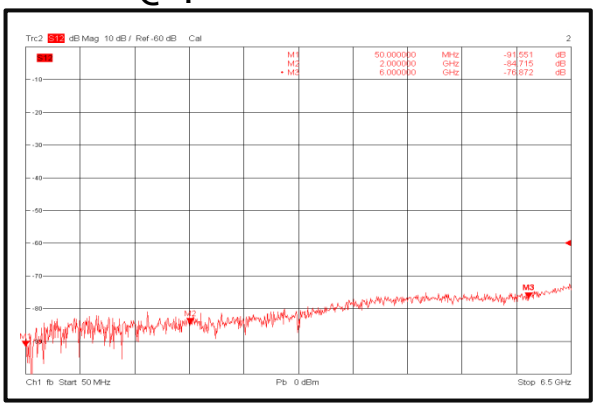


Absorptive Coaxial Single Pole Eight Throw Switch 0.05-6GHz

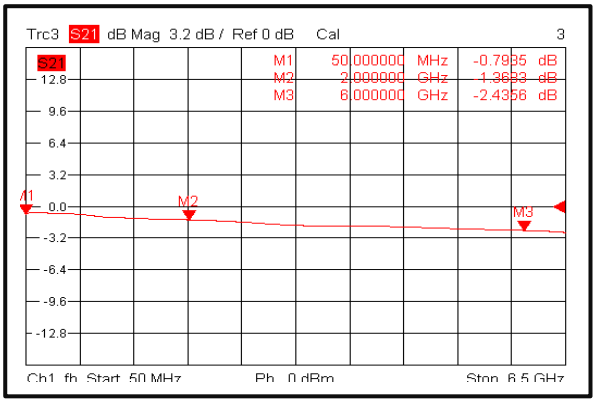
Output VSWR @-40℃



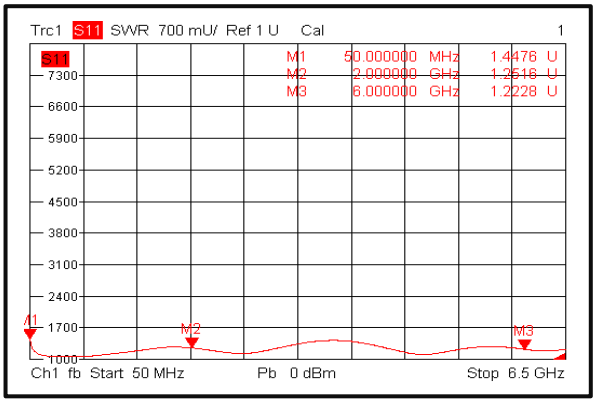
Isolation @-40℃



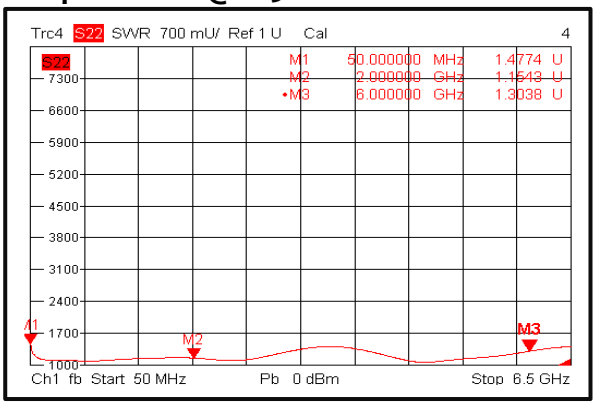
Insertion Loss @+85℃



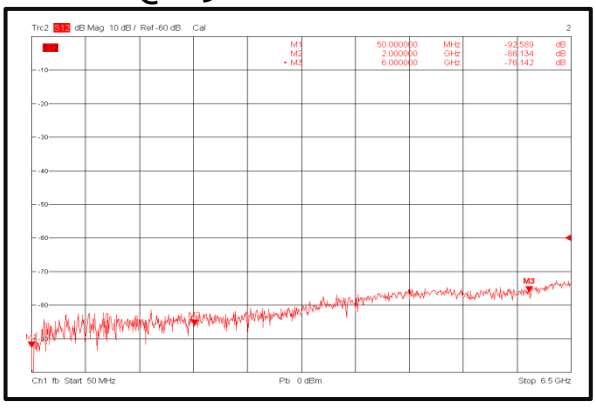
Input VSWR @+85℃



Output VSWR @+85℃

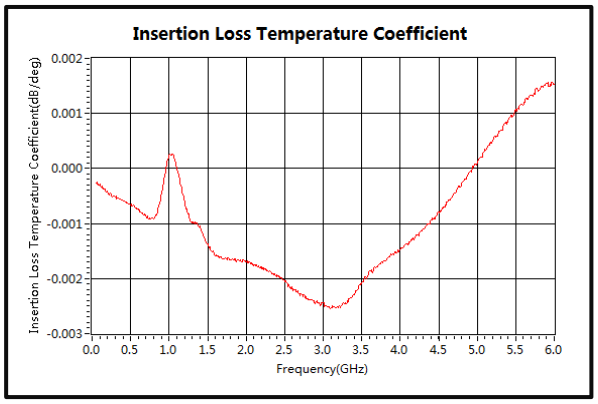


Isolation @+85℃

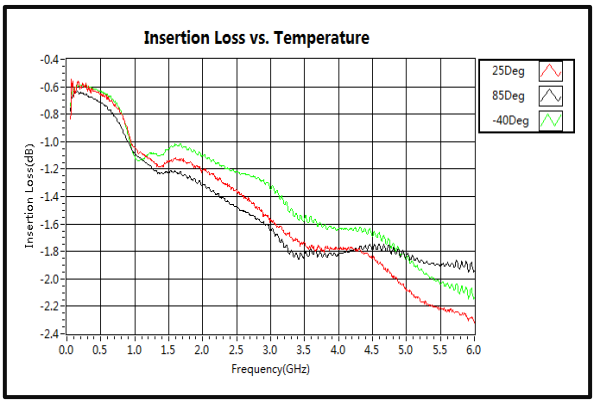


Absorptive Coaxial Single Pole Eight Throw Switch 0.05-6GHz

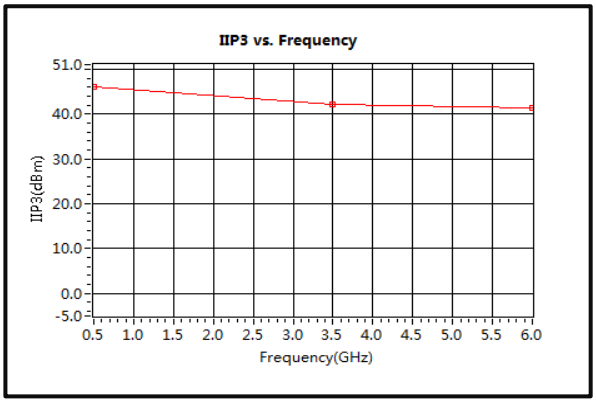
Insertion Loss Temperature Coefficient



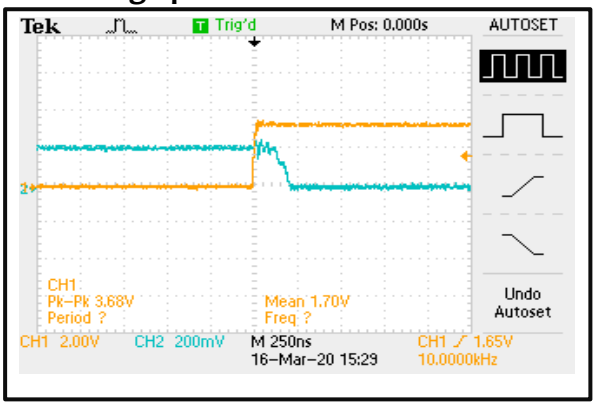
Insertion Loss vs. Temperature



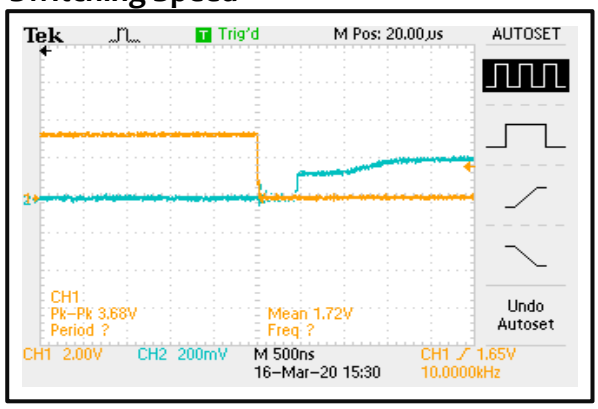
IIP3



Switching Speed



Switching Speed



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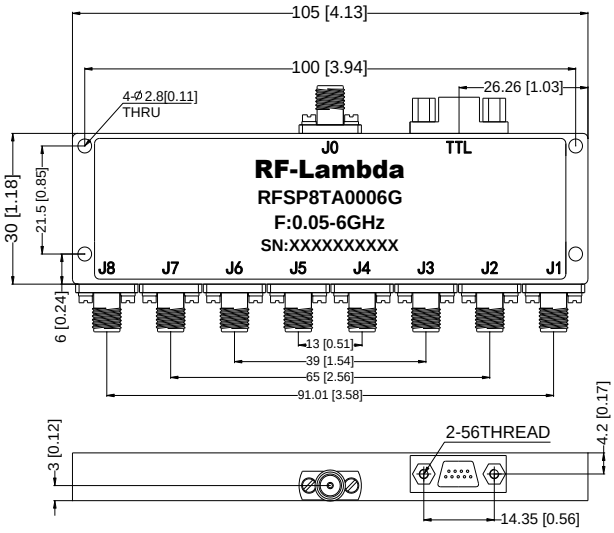
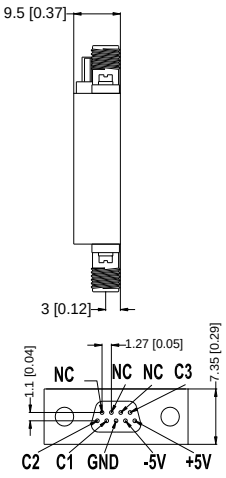
Outline Drawing:

All Dimensions in mm [inches]
Tolerances ±0.2 [0.008]

[X802]





MICRO-D9 (Female)

Truth Table

TTL Control Voltage THRESHOLD			Low(0)=0~0.8V
			High(1)=2.8~5V
Control Input TTL			Signal Path State
C3	C2	C1	
0	0	0	J0-J1
0	0	1	J0-J2
0	1	0	J0-J3
0	1	1	J0-J4
1	0	0	J0-J5
1	0	1	J0-J6
1	1	0	J0-J7
1	1	1	J0-J8
Control Pin Customization available upon request			

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