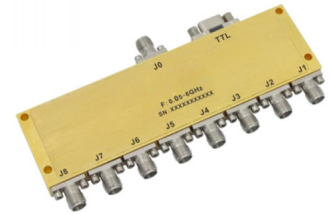




Absorptive 0.05-6GHz Coaxial SP8T Switch

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 & Aerospace
 - Fiber Optics
- RF Microwave & VSAT Test Instrument**

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)						



Absolute Maximum Ratings

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

Part No.	Description
DBSA0800050600C	SP8T 0.05-6GHz PIN Diode Switch

Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Outline Drawing:

All Dimensions in mm (inches) Tolerances ±0.2 (0.008)

The drawing shows the RFECHO SP8T PIN Diode Switch with the following details:

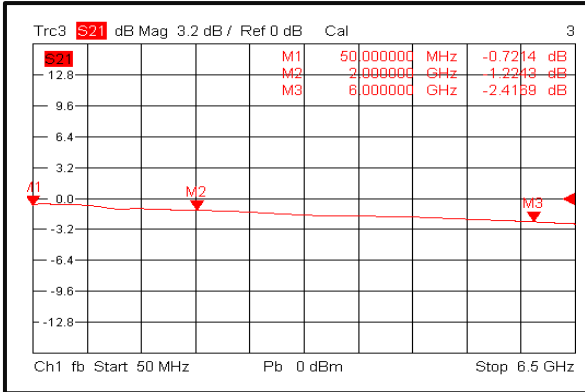
- Top View:** Dimensions include 105 [4.13] total length, 100 [3.94] length to the center of the J0 connector, and 26.26 [1.03] length to the center of the TTL control input. There are 4 holes with a diameter of 2.8 [0.11] spaced 6 [0.24] apart. Connector labels J1 through J8 are shown along the bottom edge.
- Side View:** Shows a height of 9.5 [0.37] and a width of 3 [0.12].
- Front View:** Shows a 2-56THREAD mounting hole and a length of 14.35 [0.56].
- MICRO-D9 Connector:** Shows pin assignments: C3, C2, C1, GND, -5V, +5V, and three NC (No Connection) pins.
- Labels:** The device is labeled "RFECHO", "F:0.05-6GHz", and "SN:XXXXXXXXXX".

Truth Table

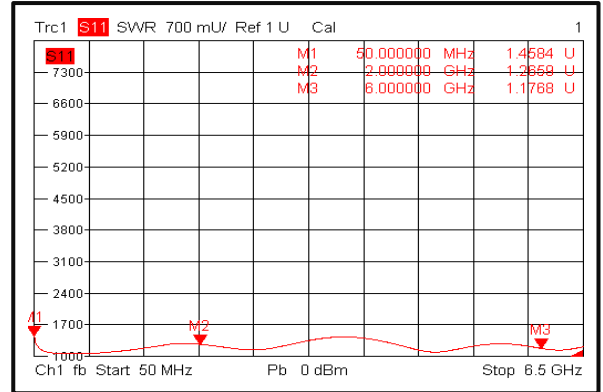
TTL Control Voltage THRESHOLD			Low(0)=0~0.8V
			High(1)=2.8~5V
Control Input TTL			Signal Path State
C3	C2	C1	
0	0	0	J0-J1
0	0	1	J0-J2
0	1	0	J0-J3
0	1	1	J0-J4
1	0	0	J0-J5
1	0	1	J0-J6
1	1	0	J0-J7
1	1	1	J0-J8
Control Pin Customization available upon request			



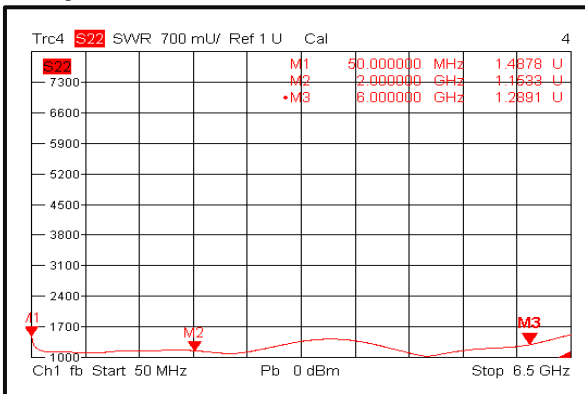
Insertion Loss @+25°C



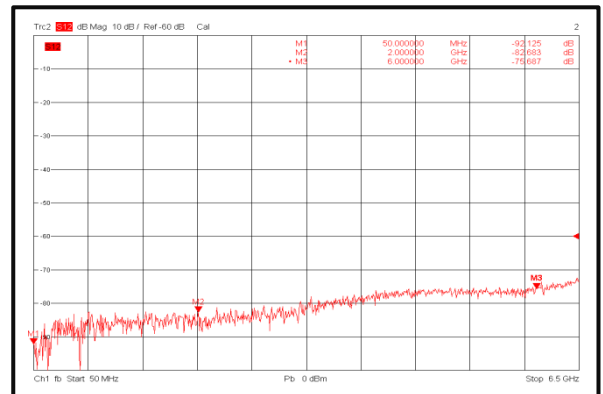
Input VSWR @+25°C



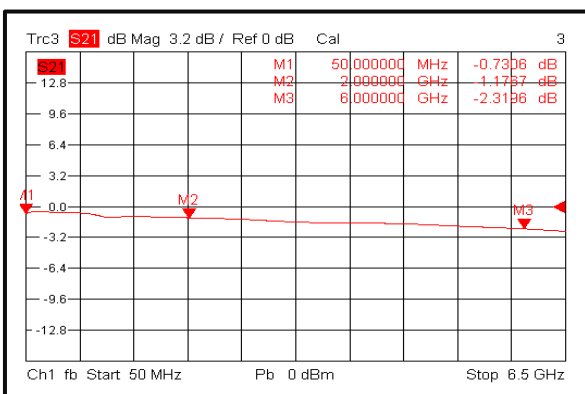
Output VSWR @+25°C



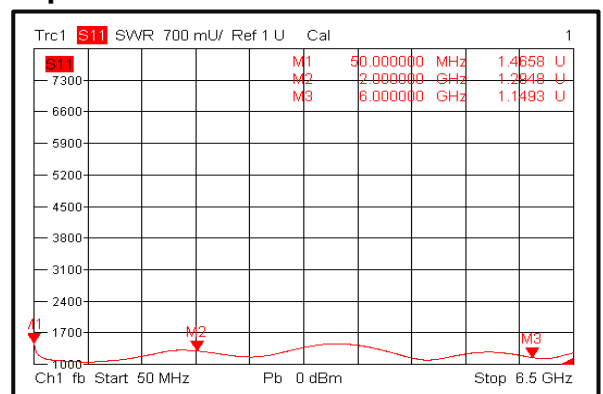
Isolation @+25°C



Insertion Loss @-40°C

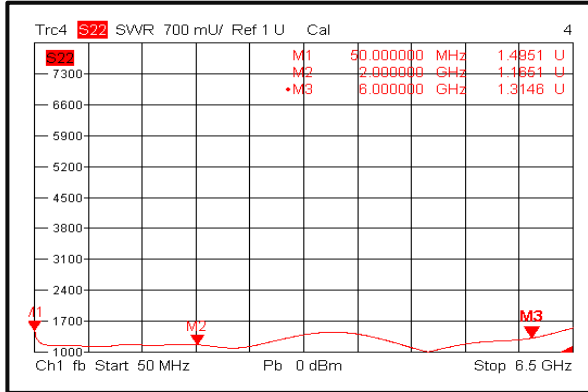


Input VSWR @-40°C

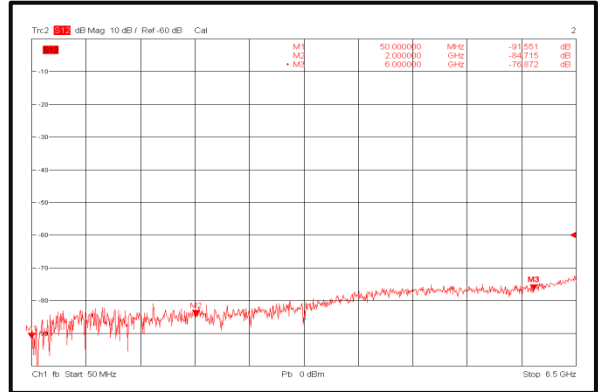




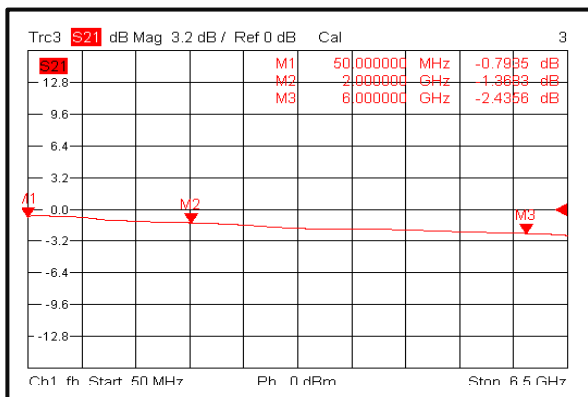
Output VSWR @-40°C



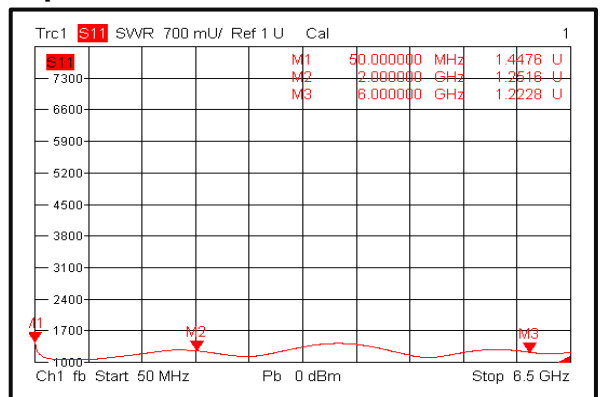
Isolation @-40°C



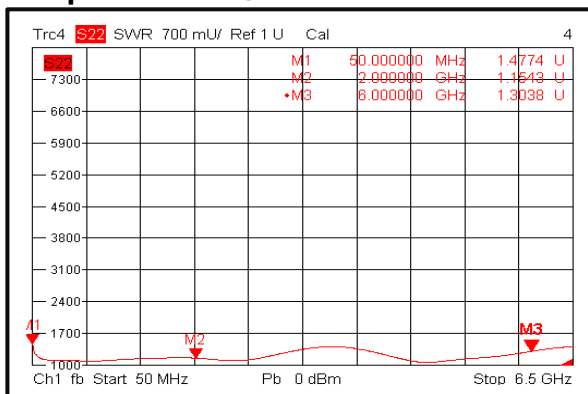
Insertion Loss @+85°C



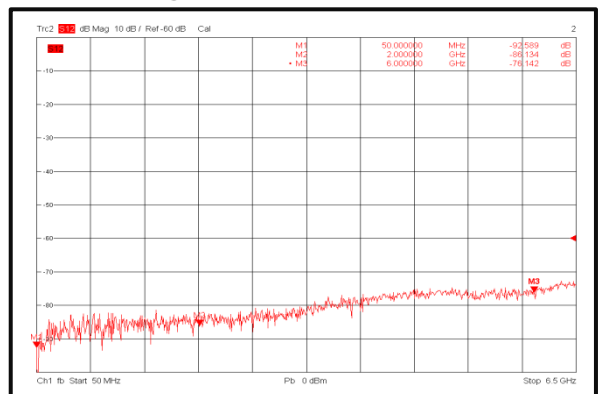
Input VSWR @+85°C



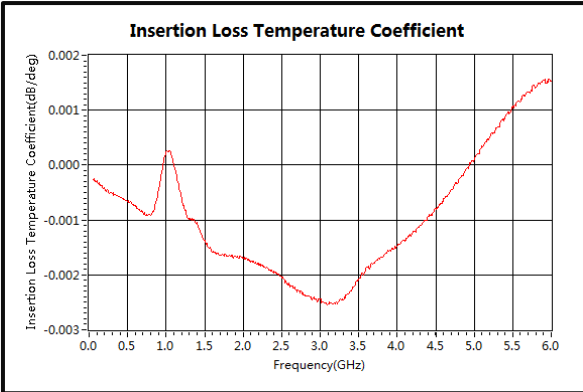
Output VSWR @+85°C



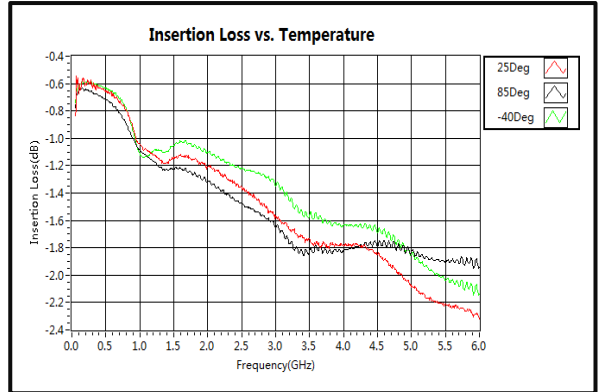
Isolation @+85°C



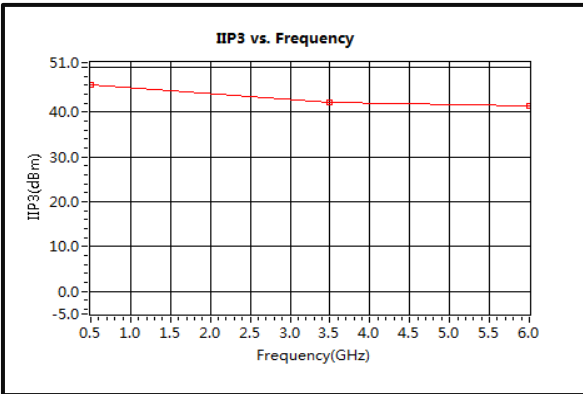
Insertion Loss Temperature Coefficient



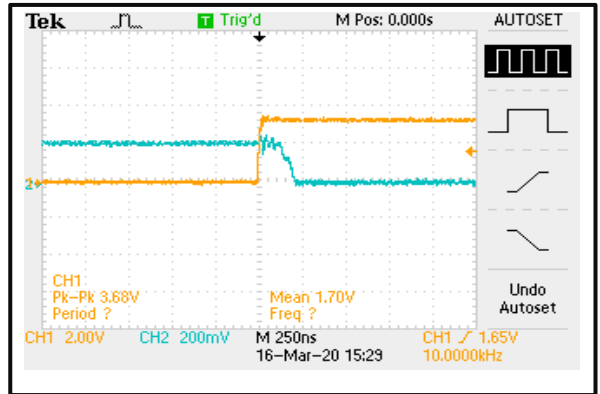
Insertion Loss vs. Temperature



IIP3



Switching Speed



Switching Speed

