

Absorptive Coaxial SP8T Switch 0.5 – 26.5GHz



Features

- Ultra Wide Band Operation 0.5-26.5GHz
- 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, $T_A = +25^\circ\text{C}$, $V_{dd} = +5\text{V}/-5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP8TA5M26G									
	SP8T Absorptive Switch									
	Low Power Cold Switching									
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.5-6			6-12			12-26.5			GHz
Insertion Loss		2.8	3.5		3.5	4.5		5.0	5.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation	60	65		50	55		45	50		dB
Input VSWR		2	2.8		2.5	2.8		2	2.8	:1
Output VSWR		2	2.8		2.5	2.8		2	2.8	:1
RF Input Power (CW)			23			23			23	dBm
Power Dissipation		1.5			1.5			1.5		W
0.1dB Compression Point (Po.1dB)		23			23			23		dBm
IIP3		43			41			38		dBm
Switching Speed	100 Max.									ns
Weight	1.8 Max.									ounces
Impedance	50									Ω
Bias Current (+5V/-5V)	200/50 Max.									mA
Input / Output Connectors	SMA-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Absolute Maximum Ratings

Biasing Voltage	+5V±10% / -5V±10%
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Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

Part No.	Description
RFSP8TA5M26G	SP8T 0.5-26.5GHz PIN Diode Switch

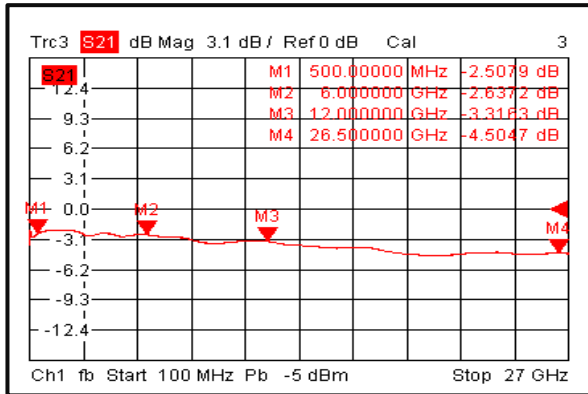
Environmental Specifications and Test Standards

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)

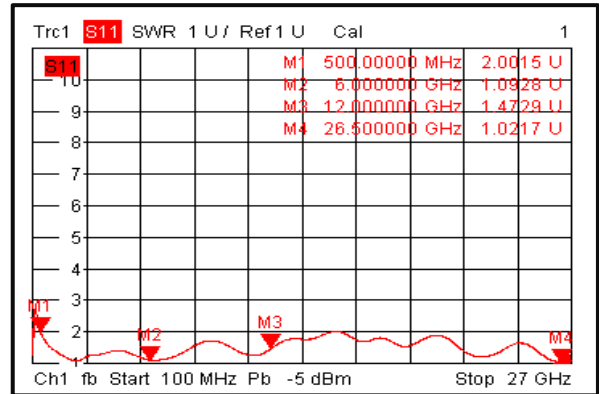
Absorptive Coaxial Single Pole Eight Throw Switch 0.5 – 26.5GHz

Typical Performance Plots

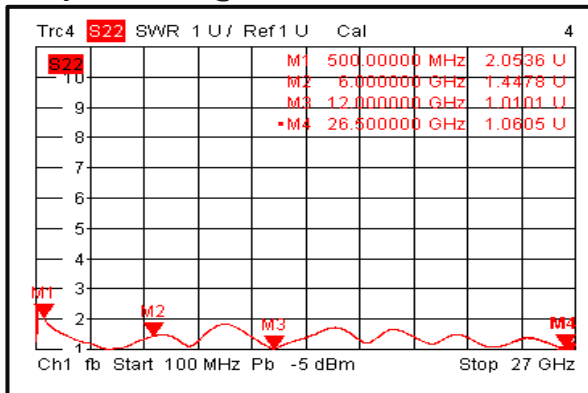
Insertion Loss @+25°C



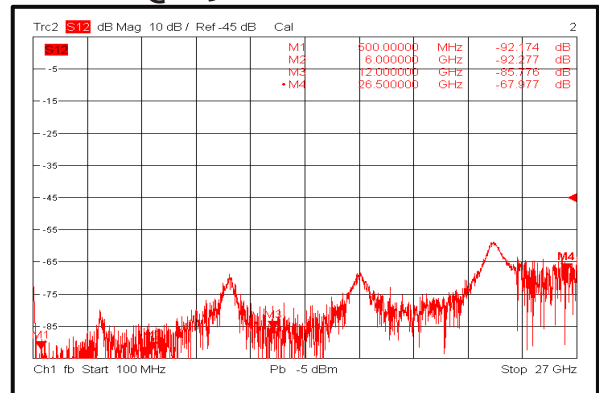
Input VSWR @+25°C



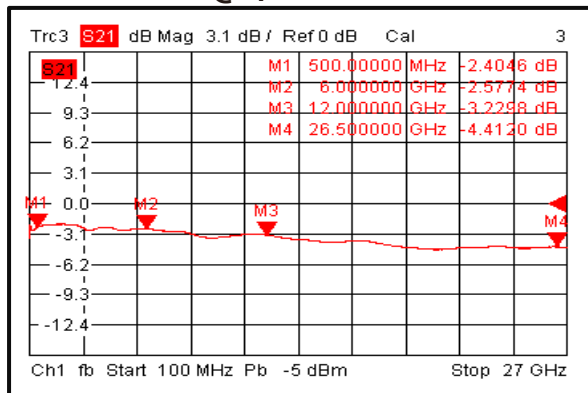
Output VSWR @+25°C



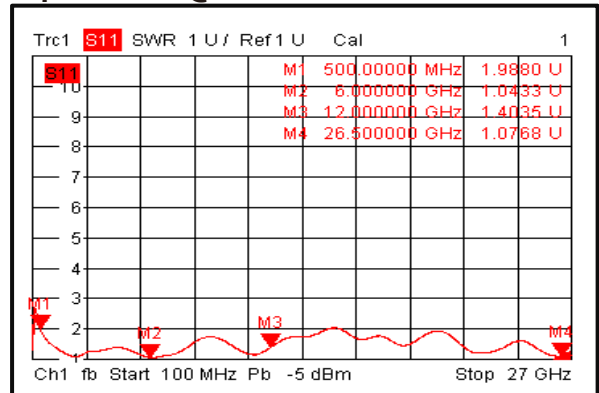
Isolation @+25°C



Insertion Loss @-40°C

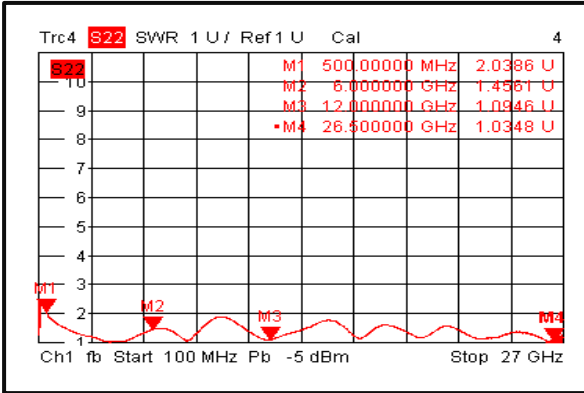


Input VSWR @-40°C

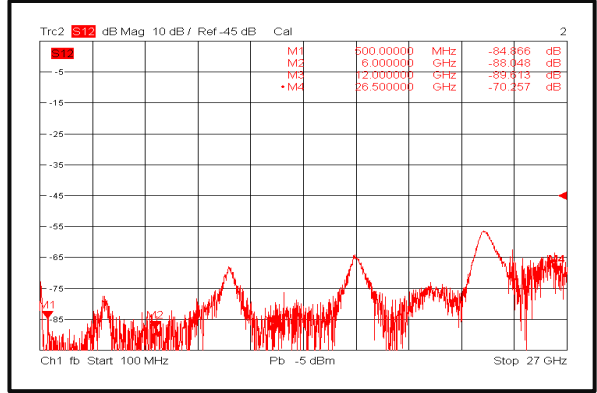


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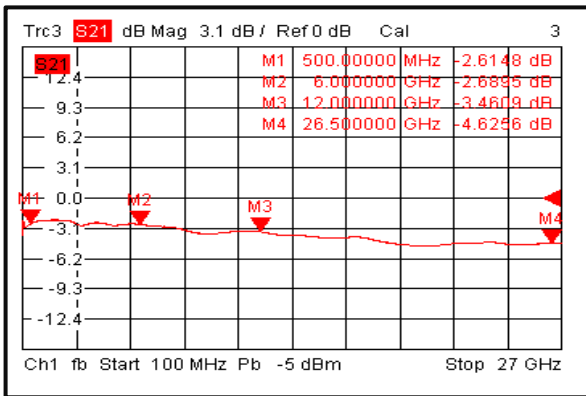
Output VSWR @-40°C



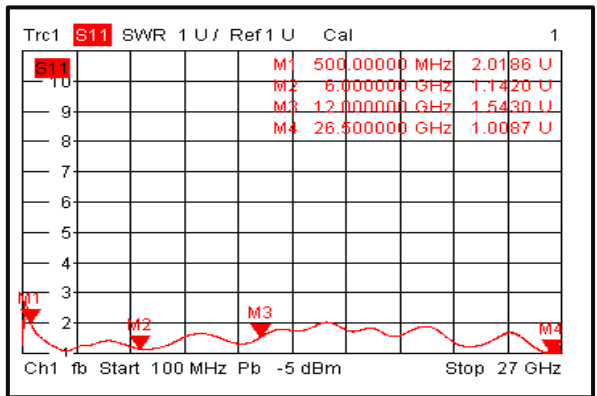
Isolation @-40°C



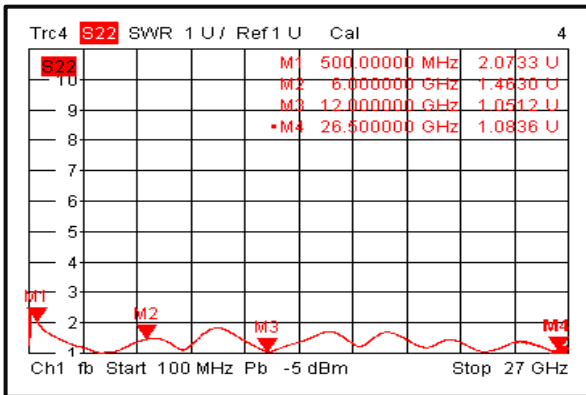
Insertion Loss @+85°C



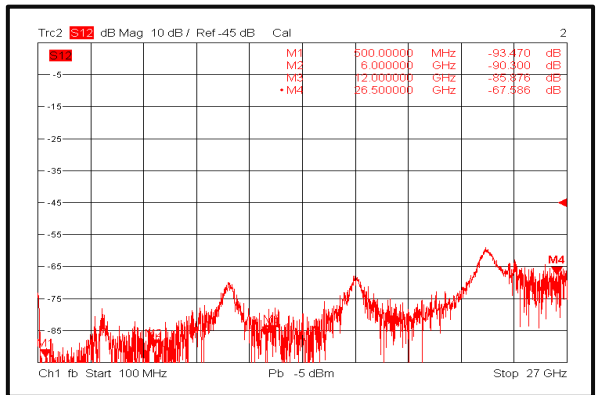
Input VSWR @+85°C



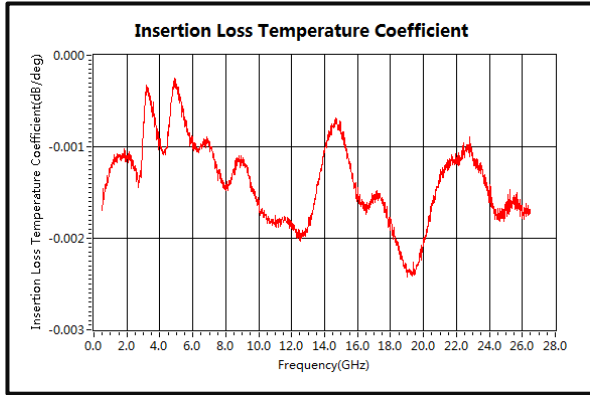
Output VSWR @+85°C



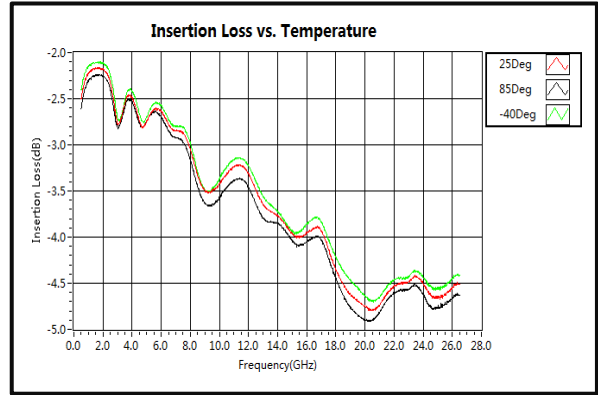
Isolation @+85°C



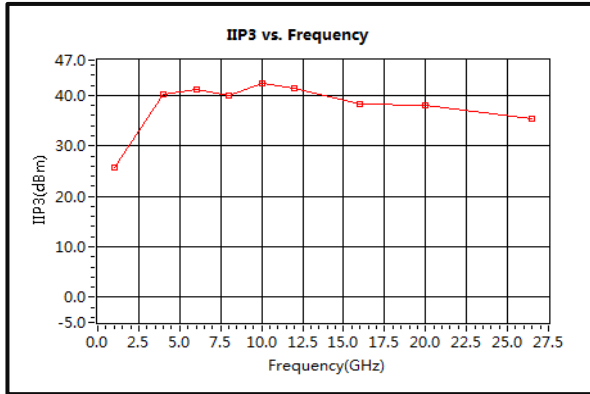
Insertion Loss Temperature Coefficient



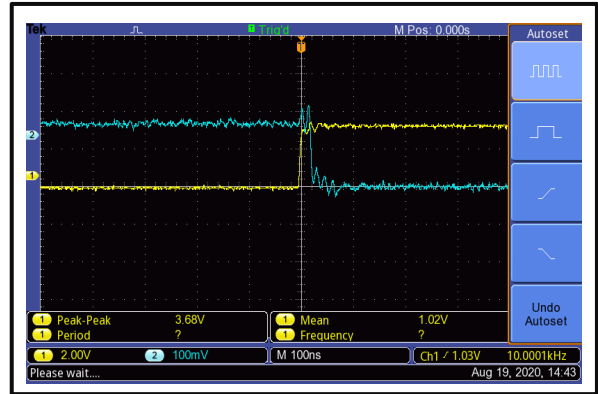
Insertion Loss vs. Temperature



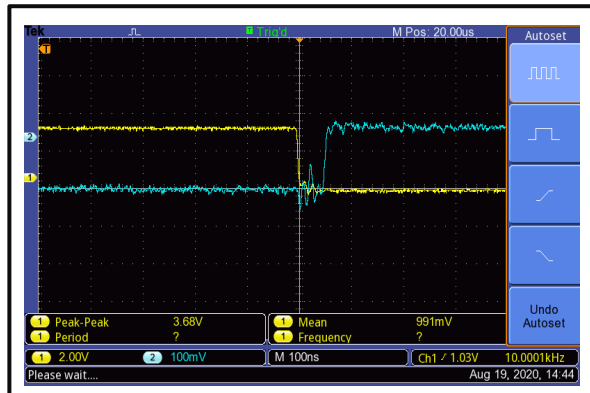
IIP3



Switching Speed



Switching Speed

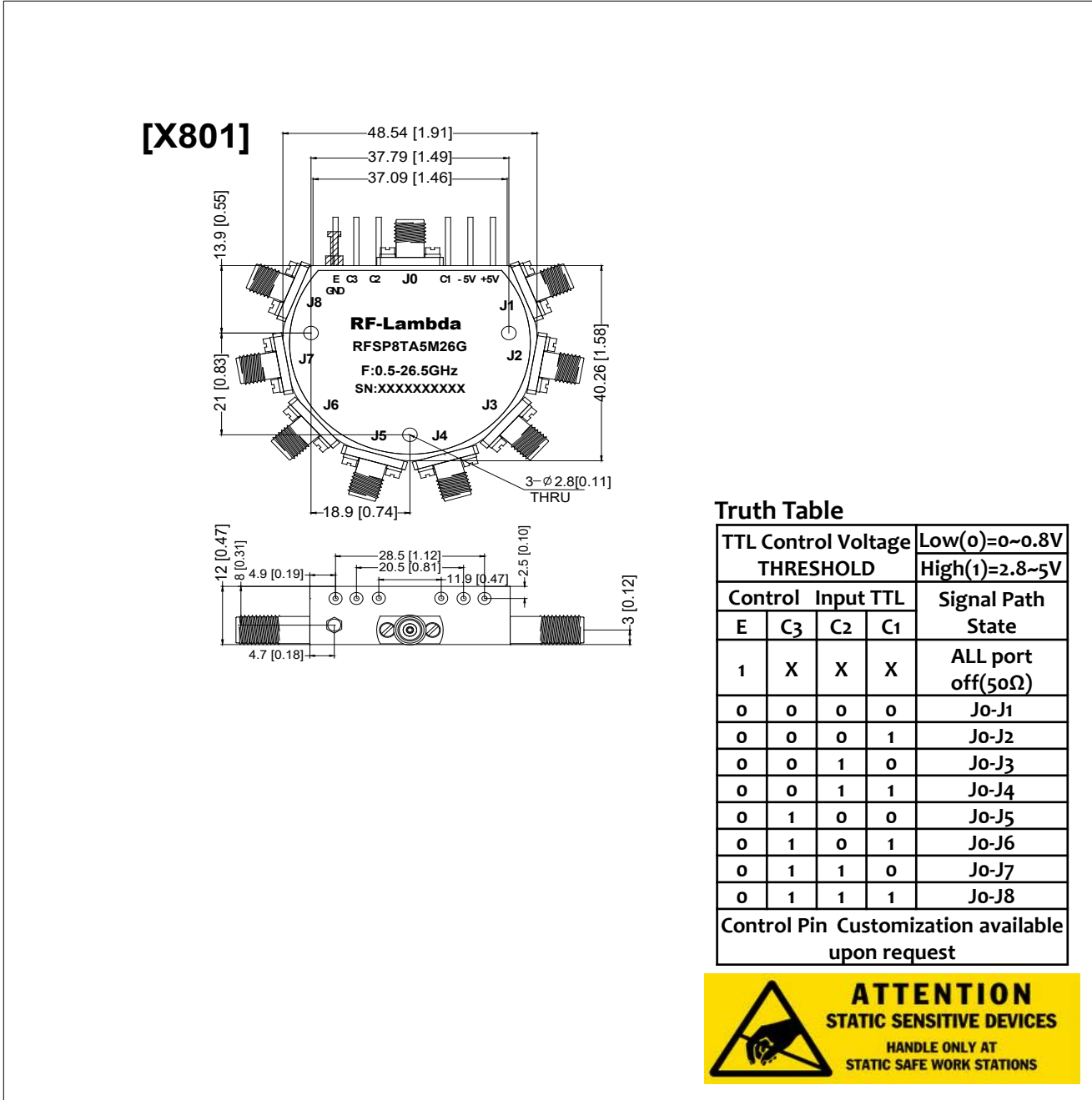


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Outline Drawing:

All Dimensions in mm [inches]

Housing Tolerances ± 0.1 [0.004]



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