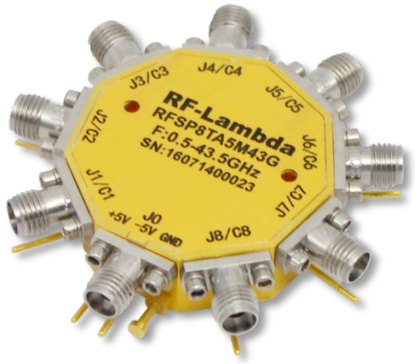
Absorptive Coaxial SP8T Switch
0.5 - 43.5GHz



Features

- Ultra Wide Band Operation 0.5-43.5GHz
- 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, TA = +25° C, Vdd = +5V/-5V, TTL = 0 / +5V

Description	PN: RFSP8TA5M43G									
	SP8T Absorptive Switch									
	Low Power Cold Switching									
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.5		8	8		26.5	26.5		43.5	GHz
Insertion Loss		4.2	4.5		6.5	7		7.5	8.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation (Adjacent channels)	60	70		50	58		48	55		dB
Isolation (Between any channels)	60	70		50	58		42	50		dB
Input VSWR		2	3		1.9	3		1.8	2.5	: 1
Output VSWR		2	3		1.9	3		1.8	2.5	: 1
RF Input power			23			23			23	dBm
DC Power Dissipation		0.8			0.8			0.8		W
0.1dB Compression Point(P0.1dB)		23			23			23		dBm
IIP3		42			43			36		dBm
Switching Speed	50 typ. 100 Max.									ns
Weight	1.8Max.									ounces
Impedance	50									Ω
Bias Current (+5V/-5V)	200/50 Max.									mA
Input / Output Connectors	2.92mm - Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Absorptive Coaxial Single Pole Eight Throw Switch 0.5 - 43.5GHz

Absolute Maximum Ratings

Biasing Voltage	+5V±10%/-5V±10%

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

Ordering Information

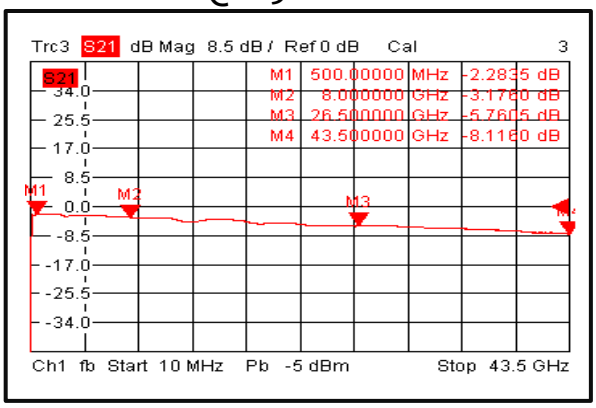
Part No.	Description
RFSP8TA5M43G	SP8T 0.5-43.5PIN Diode Switch

Environmental Specifications and Test Standards

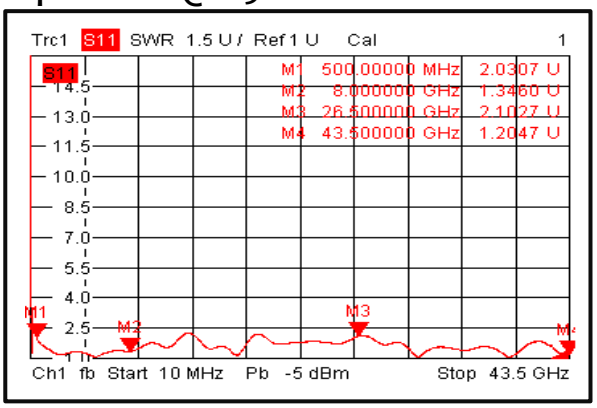
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock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

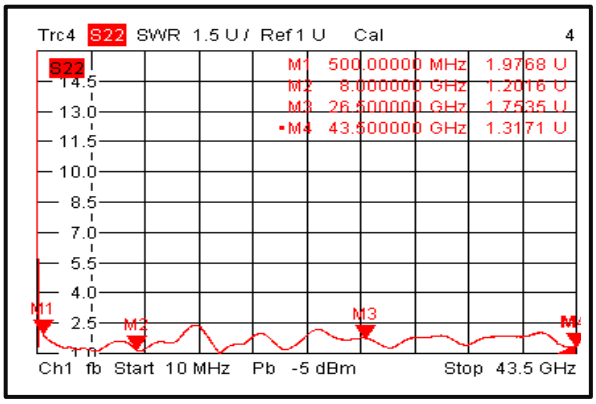
Insertion Loss @+25℃



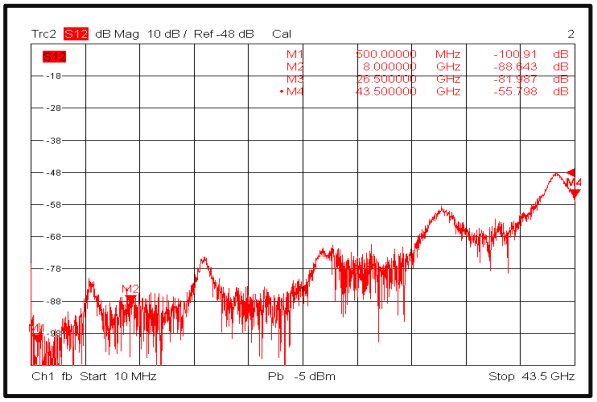
Input VSWR @+25℃



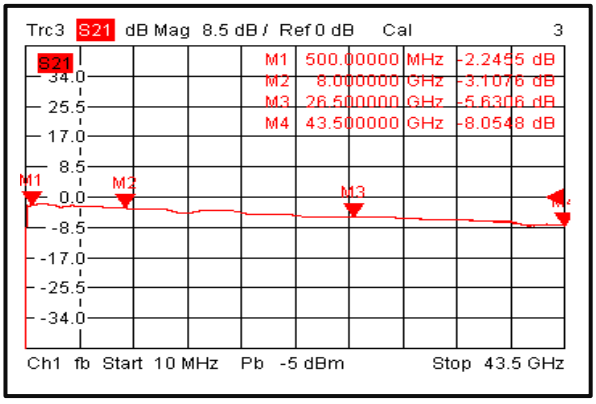
Output VSWR @+25℃



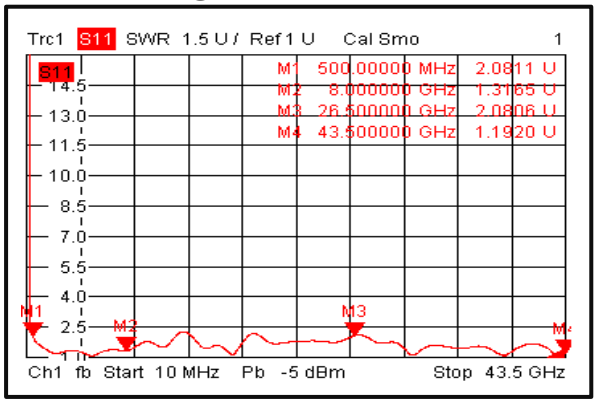
Isolation @+25℃



Insertion Loss @-40℃



Input VSWR @-40℃



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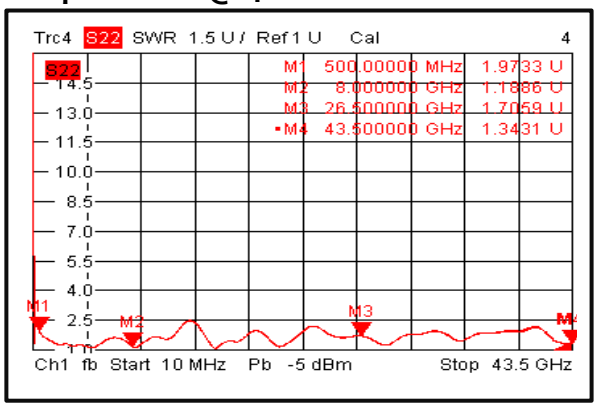
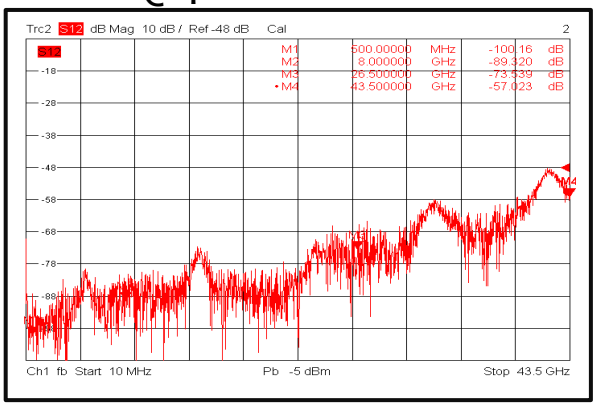
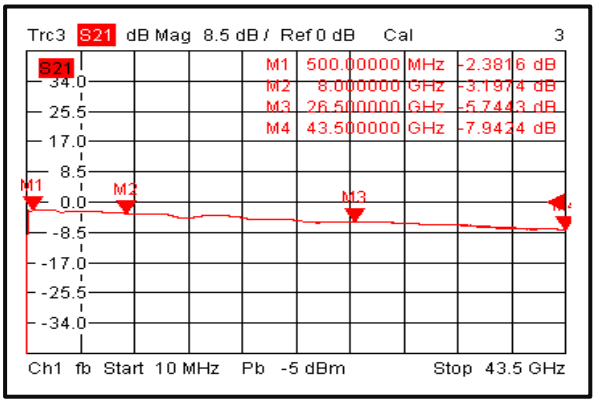
Output VSWR @-40℃



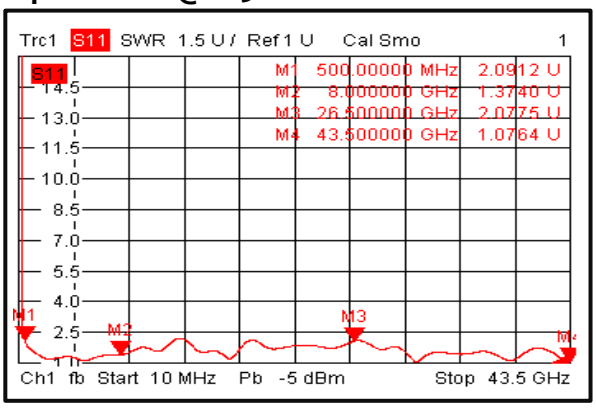
Isolation @-40℃



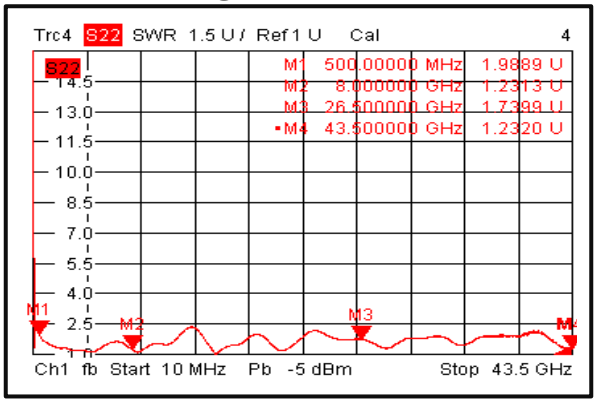
Insertion Loss @+85℃



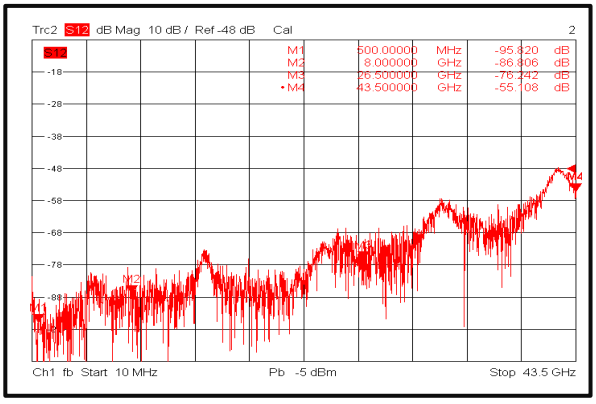
Input VSWR @+85℃



Output VSWR @+85℃



Isolation @+85℃



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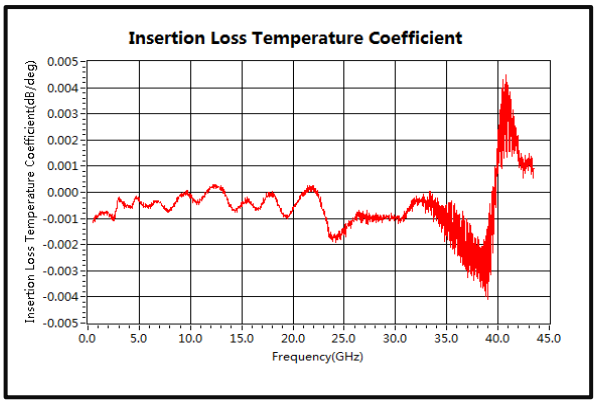
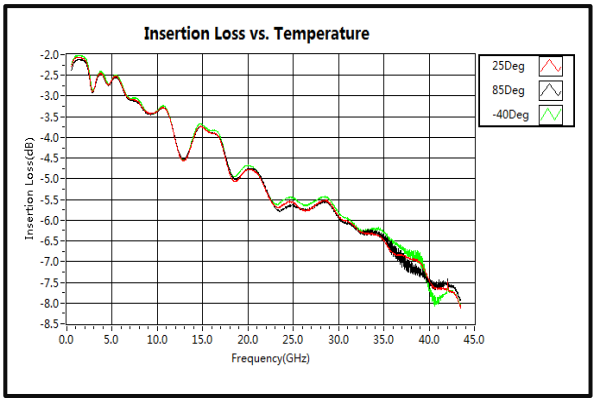
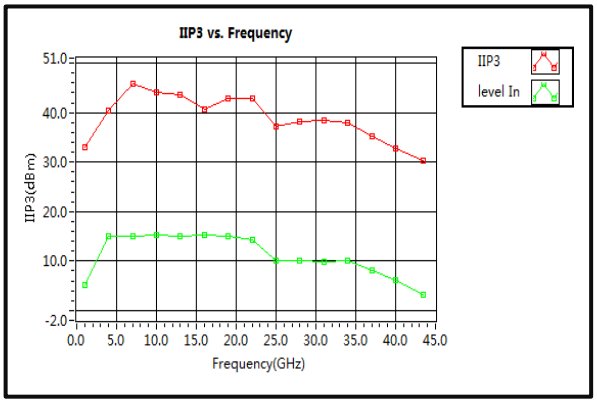
Insertion Loss Temperature Coefficient



Insertion Loss vs. Temperature

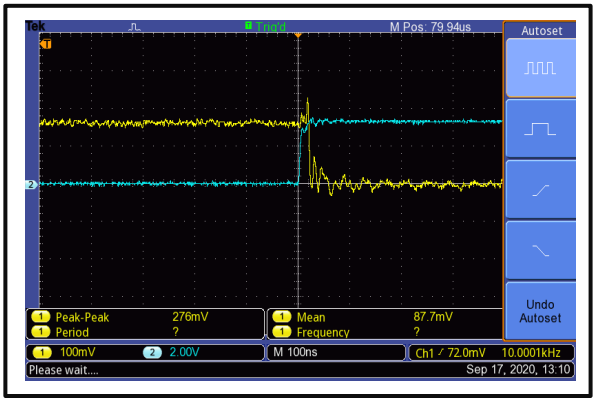


IIP3



Switching Speed

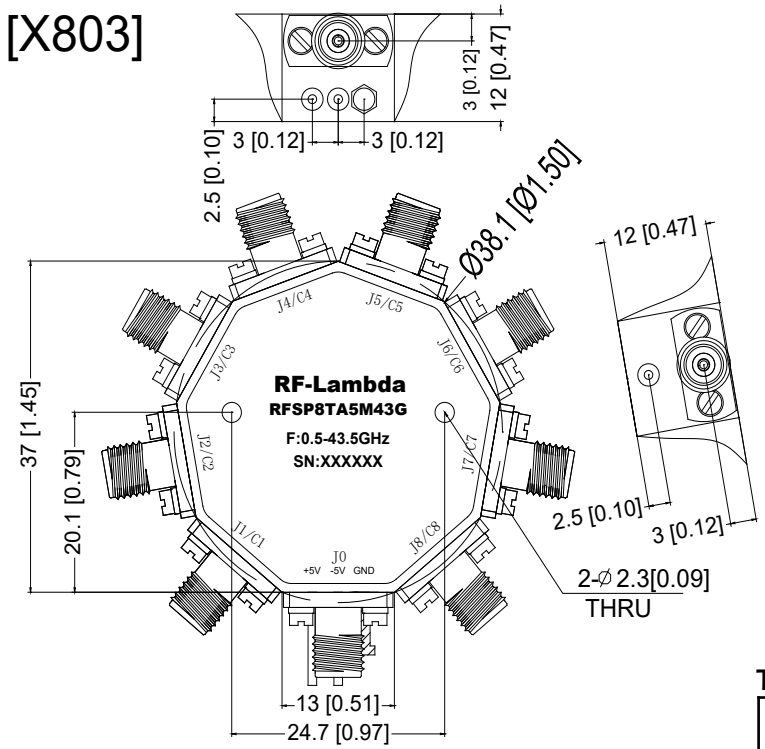
Switching Speed



Absorptive Coaxial Single Pole Eight Throw Switch 0.5 - 43.5GHz

Outline Drawing:

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



Truth Table

TTL Control Voltage THRESHOLD								Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL								Signal Path State
C8	C7	C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	1	0	J0-J1
1	1	1	1	1	1	0	1	J0-J2
1	1	1	1	1	0	1	1	J0-J3
1	1	1	1	0	1	1	1	J0-J4
1	1	1	0	1	1	1	1	J0-J5
1	1	0	1	1	1	1	1	J0-J6
1	0	1	1	1	1	1	1	J0-J7
0	1	1	1	1	1	1	1	J0-J8
Control Pin Customization available upon request								

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