



Absorptive Coaxial SP8T Switch 0.5 - 43.5GHz



Note: The photo is for illustration purposes only.
Please refer to the outline drawing



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: RFSP8TA5M43GC										
	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		4.5	5.0		6.8	7.5		8.0	9.0	dB	
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C	
Isolation	60	70		50	58		48	55		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 (CW)			23			23			23	dBm	
DC Power Dissipation		0.8			0.8			0.8		W	
0.1dB Compression Point(Po.1dB)		23			23			23		dBm	
IIP3		55			55			50		dBm	
Switching Speed		50	100		50	100		50	100	ns	
Weight	2.12									ounces	
Impedance	50									Ω	
Bias Current (+5V/-5V)	200/50									mA	
Input / Output Connectors	2.4mm - Female										
Interface and Control Connector	MICRO-D9 (Female)										
Finish	Gold Plated										
Material	Aluminum										
Sealing	Hermetically Sealed (Optional)										

Absorptive Coaxial Single Pole Eight Throw Switch 0.5 - 43.5GHz



Absolute Maximum Ratings

Biassing Voltage	+5V±10%/-5V±10%
TTL Control Voltage	0~ 0.8V / 2.8 ~ 5V

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

Ordering Information

Part No.	ECCN	Description
RFSP8TA5M43GC	EAR99	SP8T 0.5-43.5PIN Diode Switch

Environmental Specifications and Test Standards

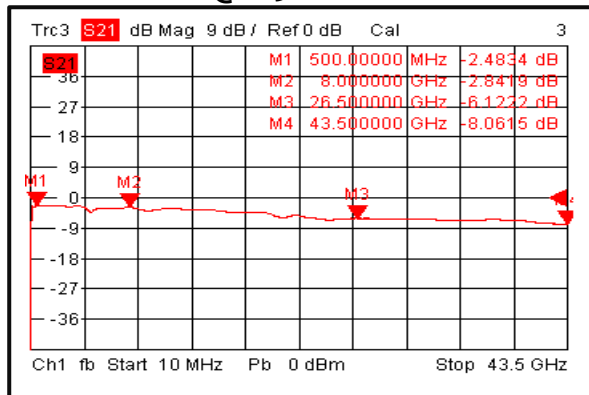
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C (Case Temperature)
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +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	MIL-STD-883 (For Hermetically Sealed Units)

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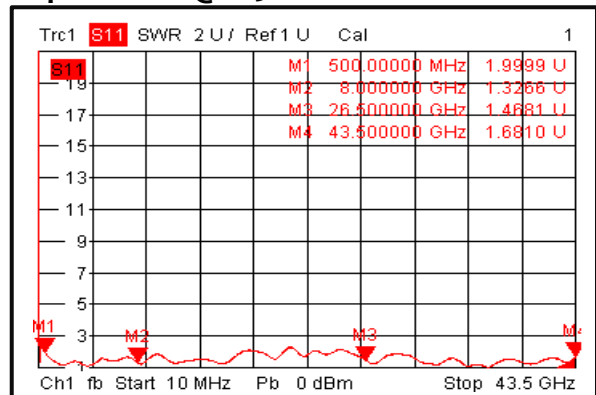


Typical Performance Plots

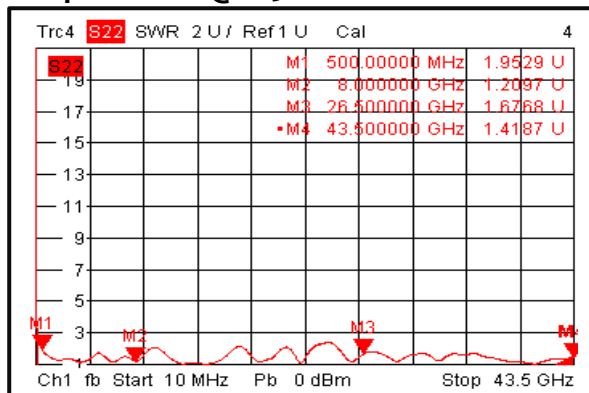
Insertion Loss @+25°C



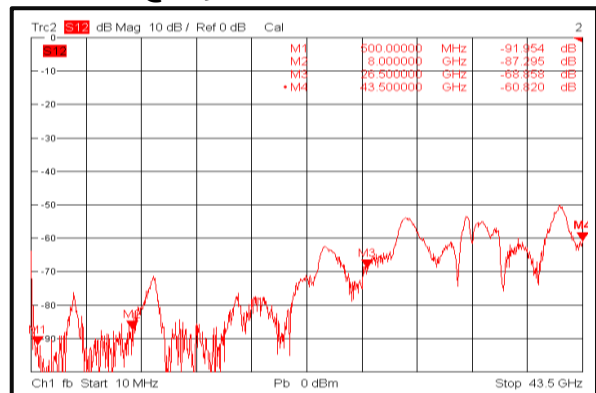
Input VSWR @+25°C



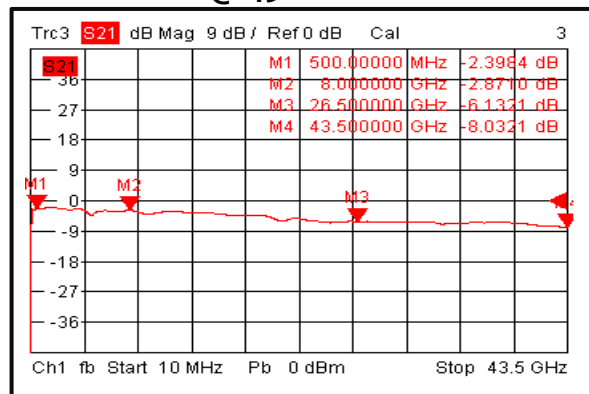
Output VSWR @+25°C



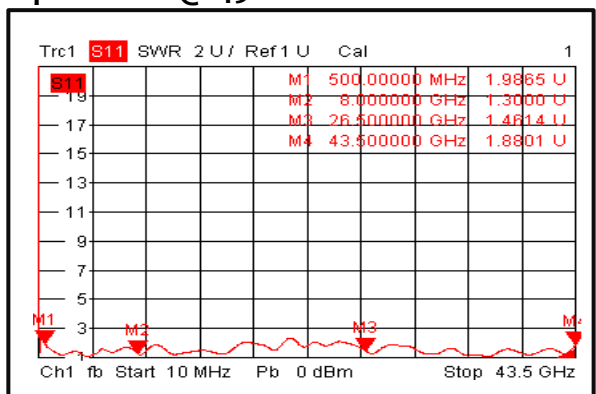
Isolation @+25°C



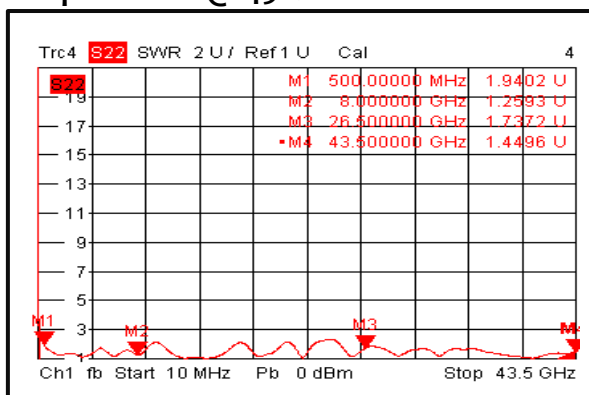
Insertion Loss @-45°C



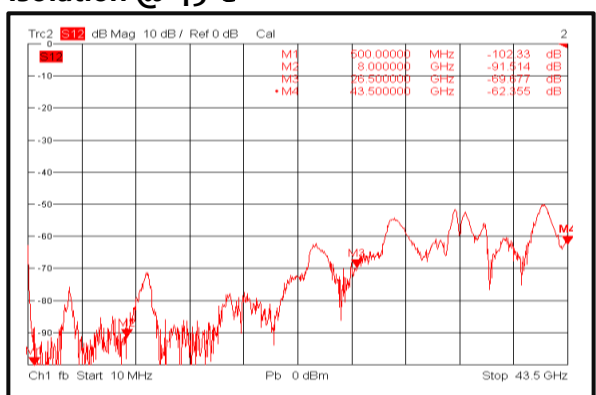
Input VSWR @-45°C



Output VSWR @-45°C



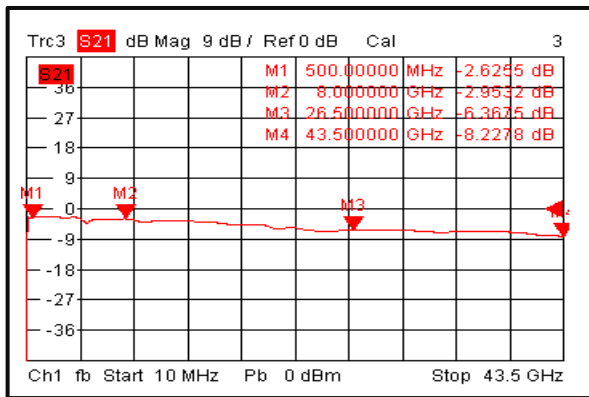
Isolation @-45°C



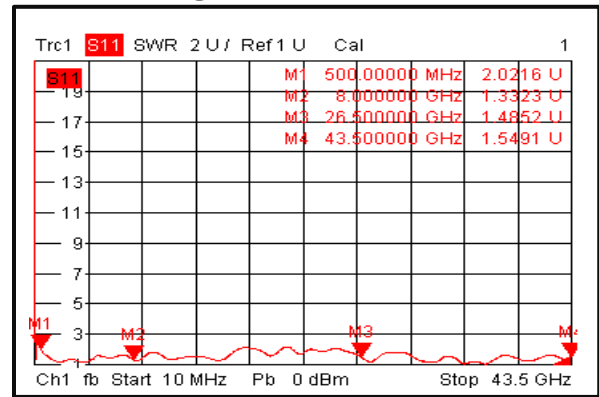
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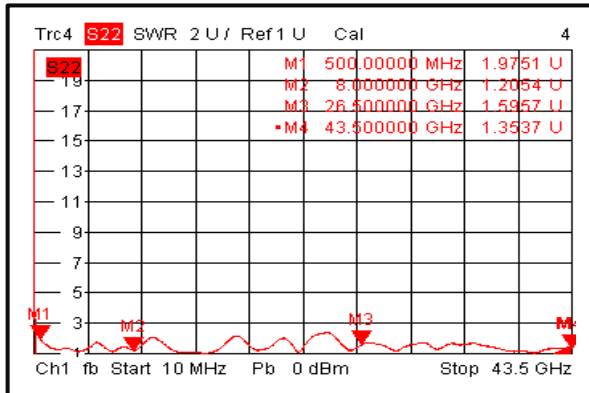
Insertion Loss @+85°C



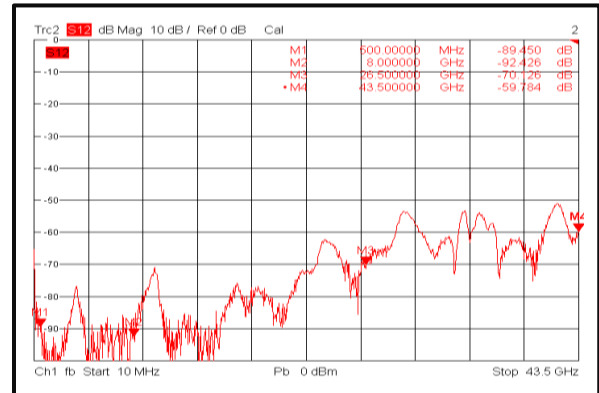
Input VSWR @+85°C



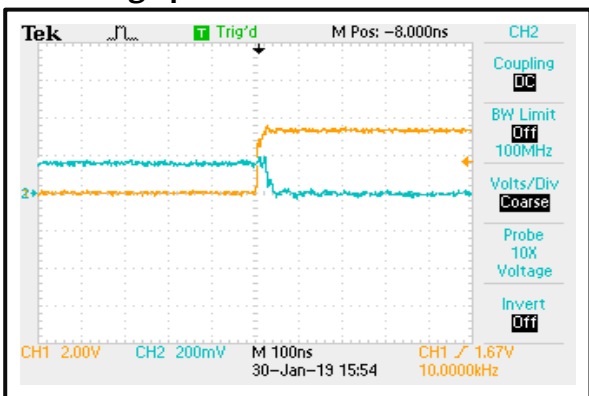
Output VSWR @+85°C



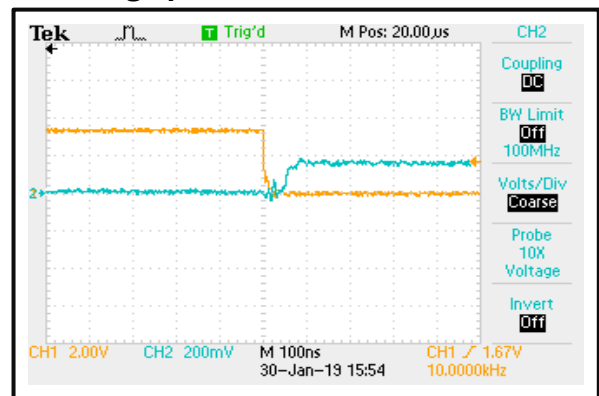
Isolation @+85°C



Switching Speed



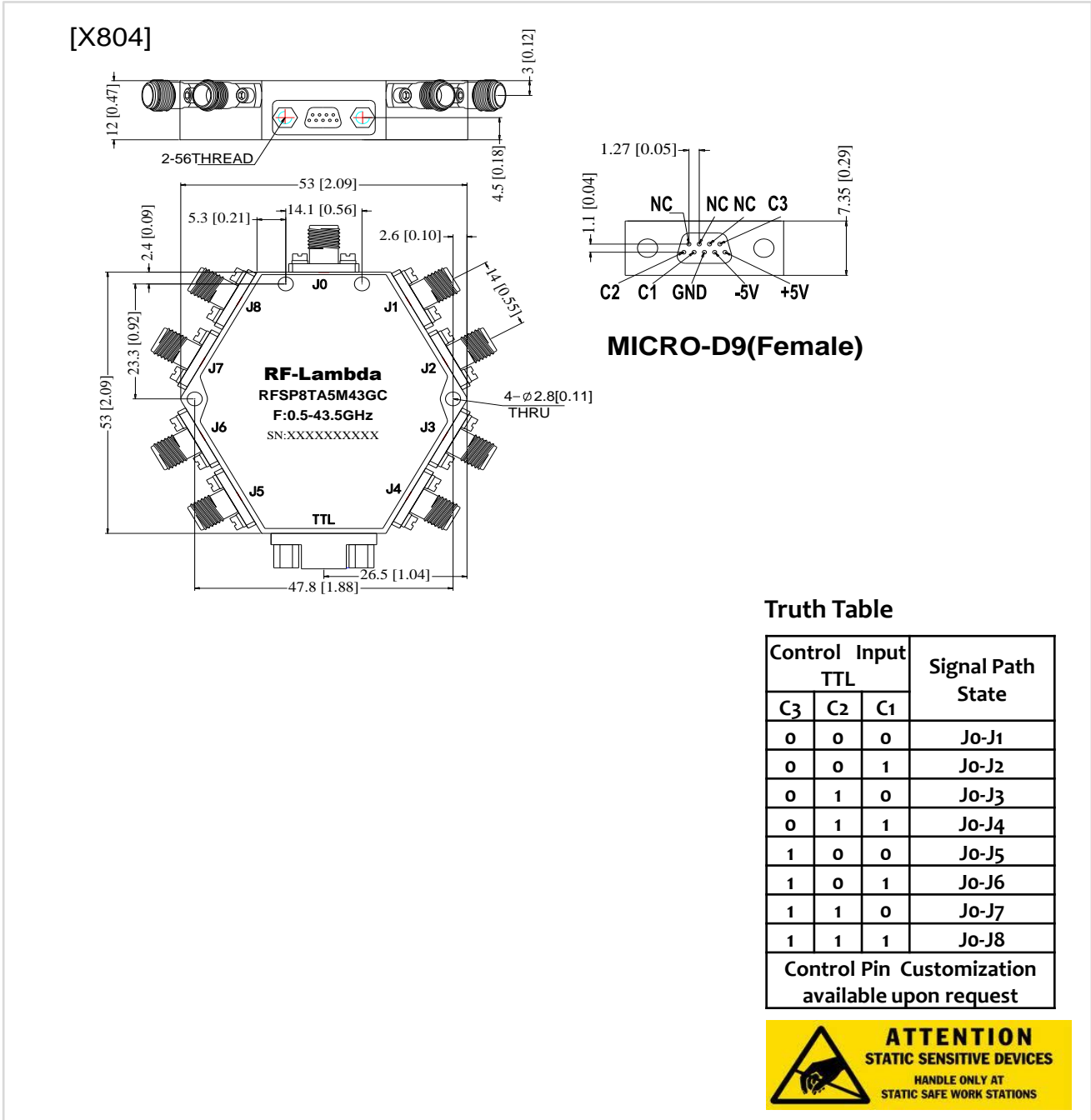
Switching Speed





Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Input TTL			Signal Path State
C3	C2	C1	
0	0	0	Jo-J1
0	0	1	Jo-J2
0	1	0	Jo-J3
0	1	1	Jo-J4
1	0	0	Jo-J5
1	0	1	Jo-J6
1	1	0	Jo-J7
1	1	1	Jo-J8

Control Pin Customization available upon request



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