



## Absorptive Coaxial SP16T 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 & Aerospace
- Test & Measurement

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

Description	PN: RFSP16TA5M43G									
	SP16T Absorptive Switch									
	Low Power Cold Switching									
Parameters	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	5.5		8	10.0		10.5	13.0	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation	60	70		50	60		45	50		dB
Input VSWR		2.5	3		2.5	3		2.5	3	:1
Output VSWR		2.5	3		2.5	3		2.5	3	:1
RF Input Power (CW)			23			23			23	dBm
DC Power Dissipation		2.5			2.5			2.5		W
0.1dB Compression Point (Po.1dB)		23			23			23		dBm
IIP3		55			55			50		dBm
Switching Speed		100			100			100		ns
Weight	5.29									ounces
Impedance	50									Ω
Bias Current (+5V/-5V)	380/100									mA
Input / Output Connectors	2.92mm - Female									
Finish	Gold Plated									
Material	Aluminum									
Seal	Hermetically Sealed (Optional)									

Absorptive Coaxial Single Pole Sixteen Throw Switch 0.5 - 43.5GHz



**Absolute Maximum Ratings**

Biasing	+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
RFSP16TA5M43G	EAR99	SP16T 0.5-43.5PIN Diode Switch

**Environmental Specifications and Test Standards**

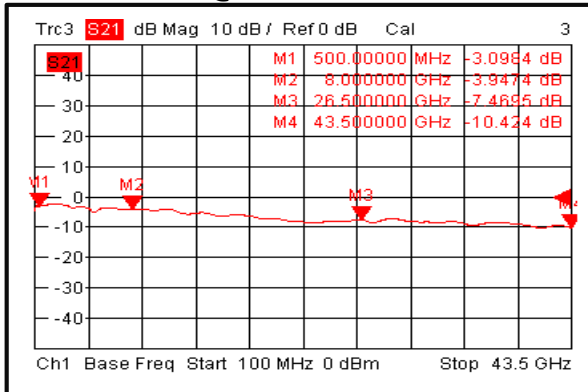
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C (Case Temperature)
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature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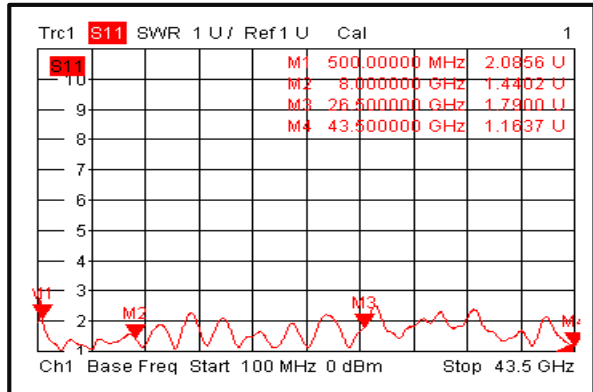


**Typical Performance Plots**

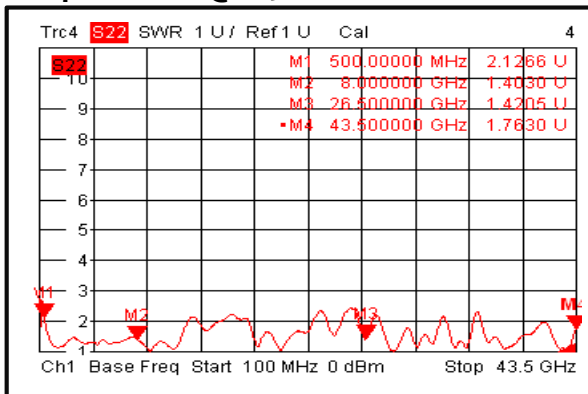
**Insertion Loss @+25°C**



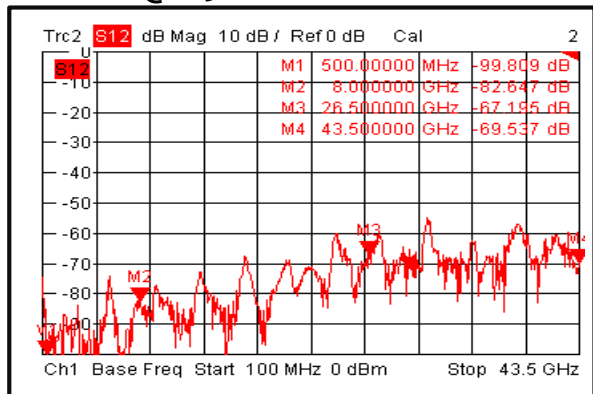
**Input VSWR @+25°C**



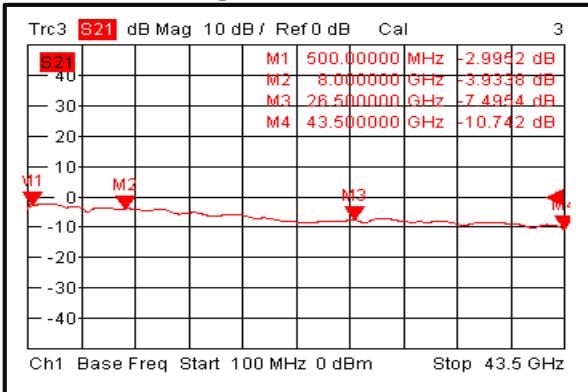
**Output VSWR @+25°C**



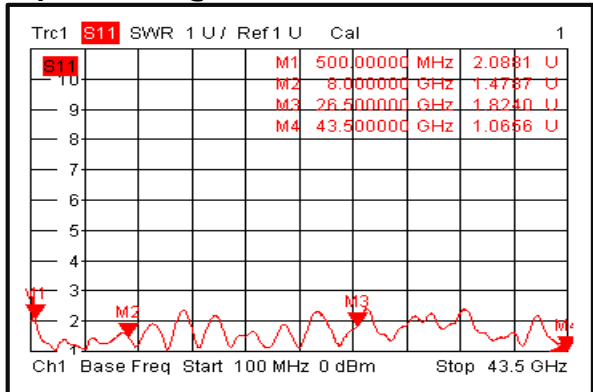
**Isolation @+25°C**



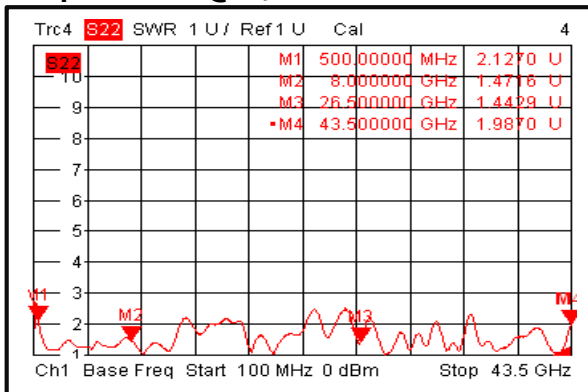
**Insertion Loss @-45°C**



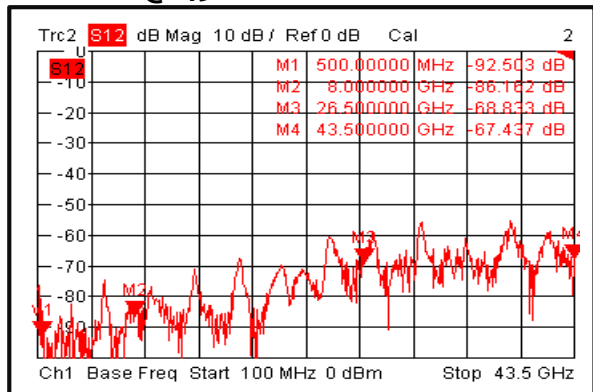
**Input VSWR @-45°C**



**Output VSWR @-45°C**



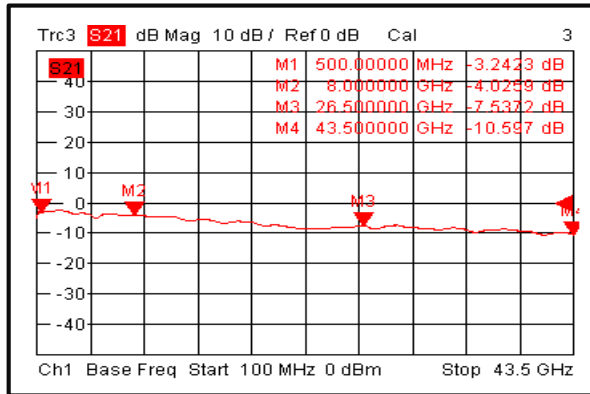
**Isolation @-45°C**



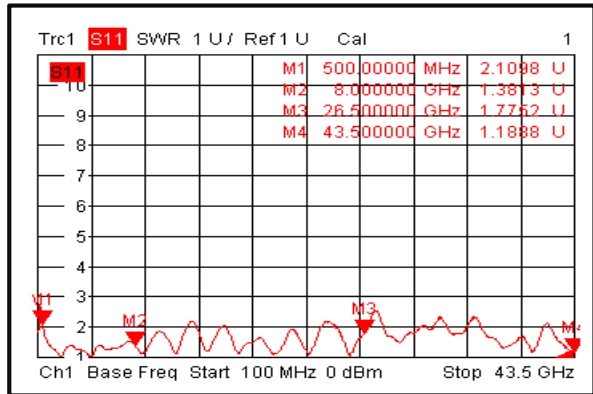
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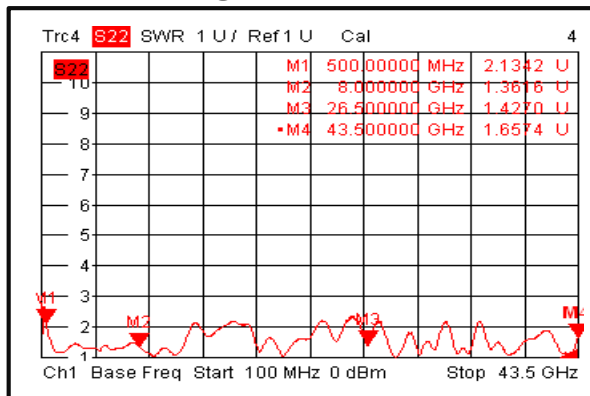
**Insertion Loss @+85°C**



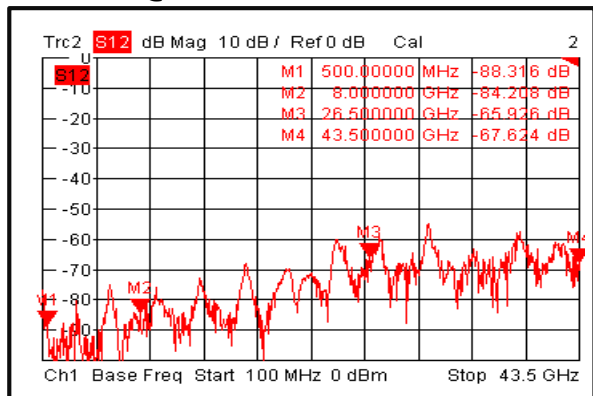
**Input VSWR @+85°C**



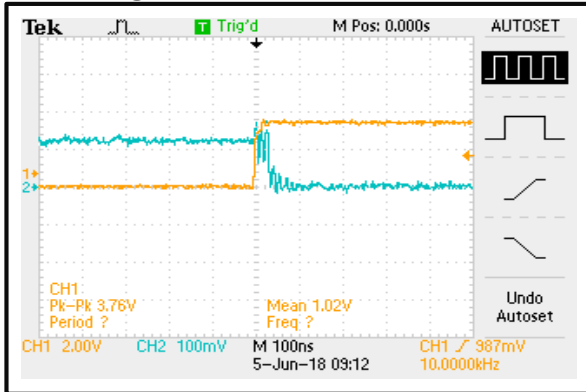
**Output VSWR @+85°C**



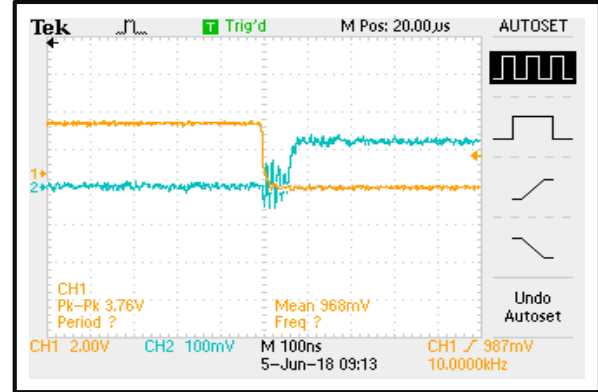
**Isolation @+85°C**



**Switching Speed**



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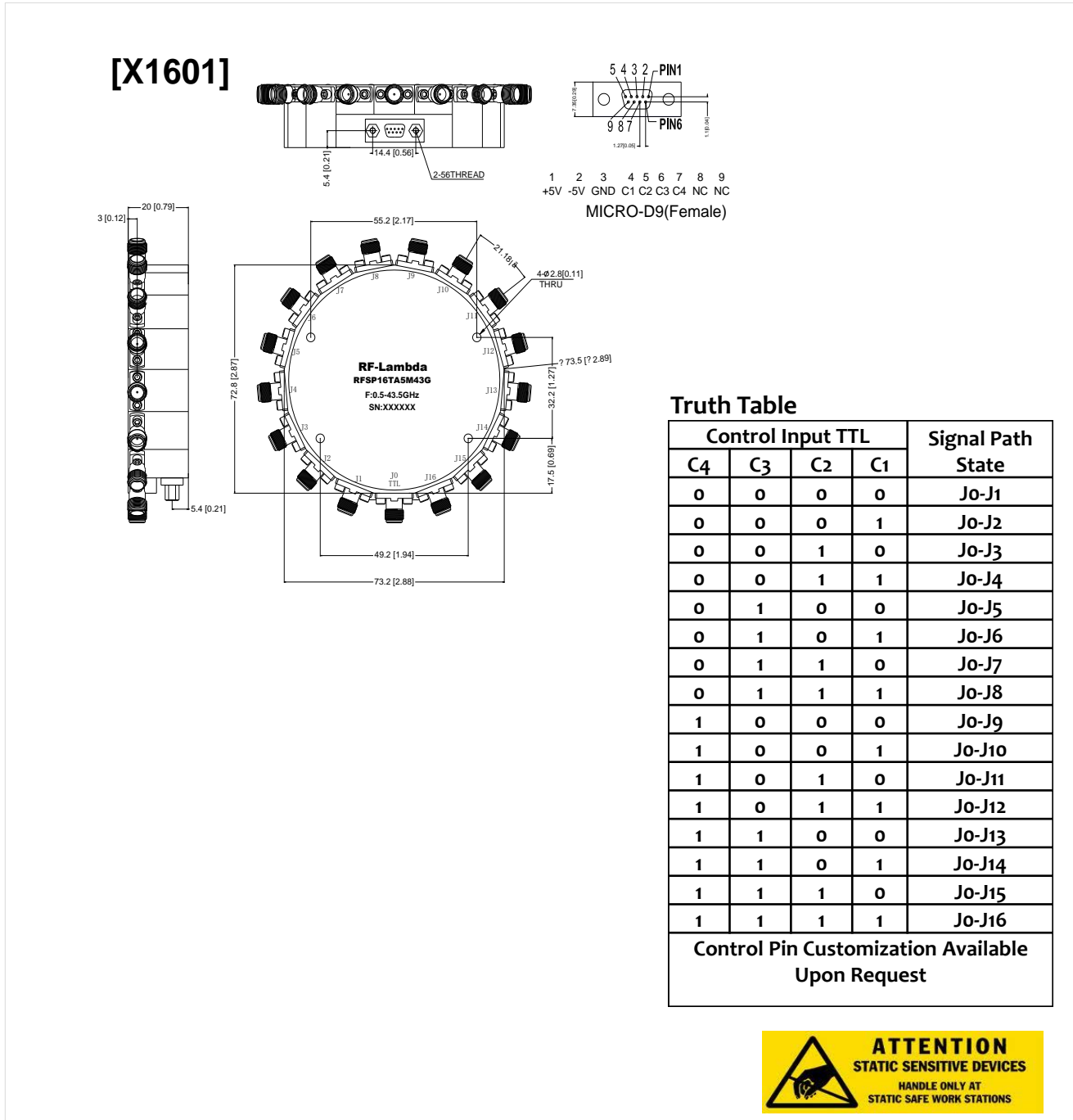


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**Outline Drawing:**

All Dimensions in mm [inches]



**Truth Table**

Control Input TTL				Signal Path
C4	C3	C2	C1	State
0	0	0	0	Jo-J1
0	0	0	1	Jo-J2
0	0	1	0	Jo-J3
0	0	1	1	Jo-J4
0	1	0	0	Jo-J5
0	1	0	1	Jo-J6
0	1	1	0	Jo-J7
0	1	1	1	Jo-J8
1	0	0	0	Jo-J9
1	0	0	1	Jo-J10
1	0	1	0	Jo-J11
1	0	1	1	Jo-J12
1	1	0	0	Jo-J13
1	1	0	1	Jo-J14
1	1	1	0	Jo-J15
1	1	1	1	Jo-J16

Control Pin Customization Available Upon Request



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