



### Absorptive Coaxial SP8T Switch 30 - 90GHz



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



#### Features

- Wide Band Operation 30-90GHz
- 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,  $T_A = +25\text{ }^\circ\text{C}$ ,  $V_{dd} = +5\text{V} / -5\text{V}$ ,  $TTL = 0 / +5\text{V}$

Description	PN: RFSP8TA3090G			
	SP8T Absorptive Switch			
	Low Power Cold Switching			
Parameter	Min.	Typ.	Max.	Units
Frequency Range	30-90			GHz
Insertion Loss		25		dB
Insertion Loss Temperature Coefficient		0.003		dB/ $^\circ\text{C}$
Isolation		25		dB
Input VSWR		3.0		: 1
Output VSWR		3.0		: 1
RF Input Power (CW)			15	dBm
DC Power Dissipation		1.2		W
0.1dB Compression Point (Po.1dB)		15		dBm
IIP3		45		dBm
Switching Speed		100		ns
Weight	/			ounces
Impedance	50			$\Omega$
Bias Current (+5V / -5V)	300/50			mA
Input / Output Connectors	1.0mm-Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

Absorptive Coaxial Single Pole Eight Throw Switch 30 - 90GHz



**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
RFSP8TA3090G	EAR99	SP8T 30-90GHz PIN Diode Switch

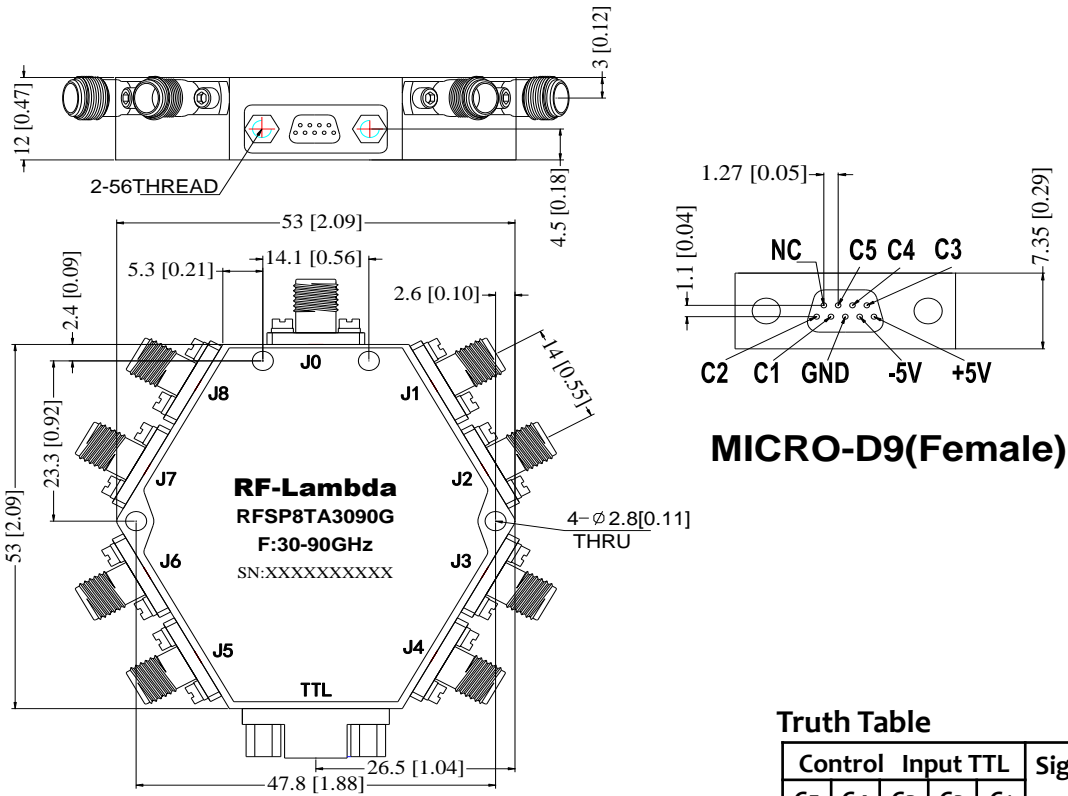
**Environmental Specifications and Test Standards**

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)



**Outline Drawing:**

All Dimensions in mm [inches]



**Truth Table**

Control					Input TTL	Signal Path State
C5	C4	C3	C2	C1		
0	0	0	0	0	Jo-J1	
0	0	0	0	1	Jo-J2	
0	1	0	1	0	Jo-J3	
0	1	0	1	1	Jo-J4	
1	0	1	0	0	Jo-J5	
1	0	1	0	1	Jo-J6	
1	1	1	1	0	Jo-J7	
1	1	1	1	1	Jo-J8	

Control pin customization available upon request



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