

Rotating SP8T Switch with Rotary Joint 0.5 – 43.5GHz



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

SP8T Switch with Rotary Joint 0.5 – 43.5GHz

Electrical Specifications, $T_A = +25^{\circ}\text{C}$, $V_{dd} = +5\text{V}/-5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP8TA5M43G3D									
	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		5.8	6.0		7.5	8.5		9.0	10.0	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ $^{\circ}\text{C}$
Isolation	60	70		50	58		45	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
Power Dissipation		0.8			0.8			0.8		W
0.1dB Compression Point ($P_{0.1\text{dB}}$)		23			23			23		dBm
IIP ₃		43			38			34		dBm
Switching Speed			100			100			100	ns
Weight	/									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)									

Mechanical Specifications

Parameter	Description
Maximum Rotation Speed	30 rpm
Operating Life	300,000 revolutions
Working Environment	Indoor

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

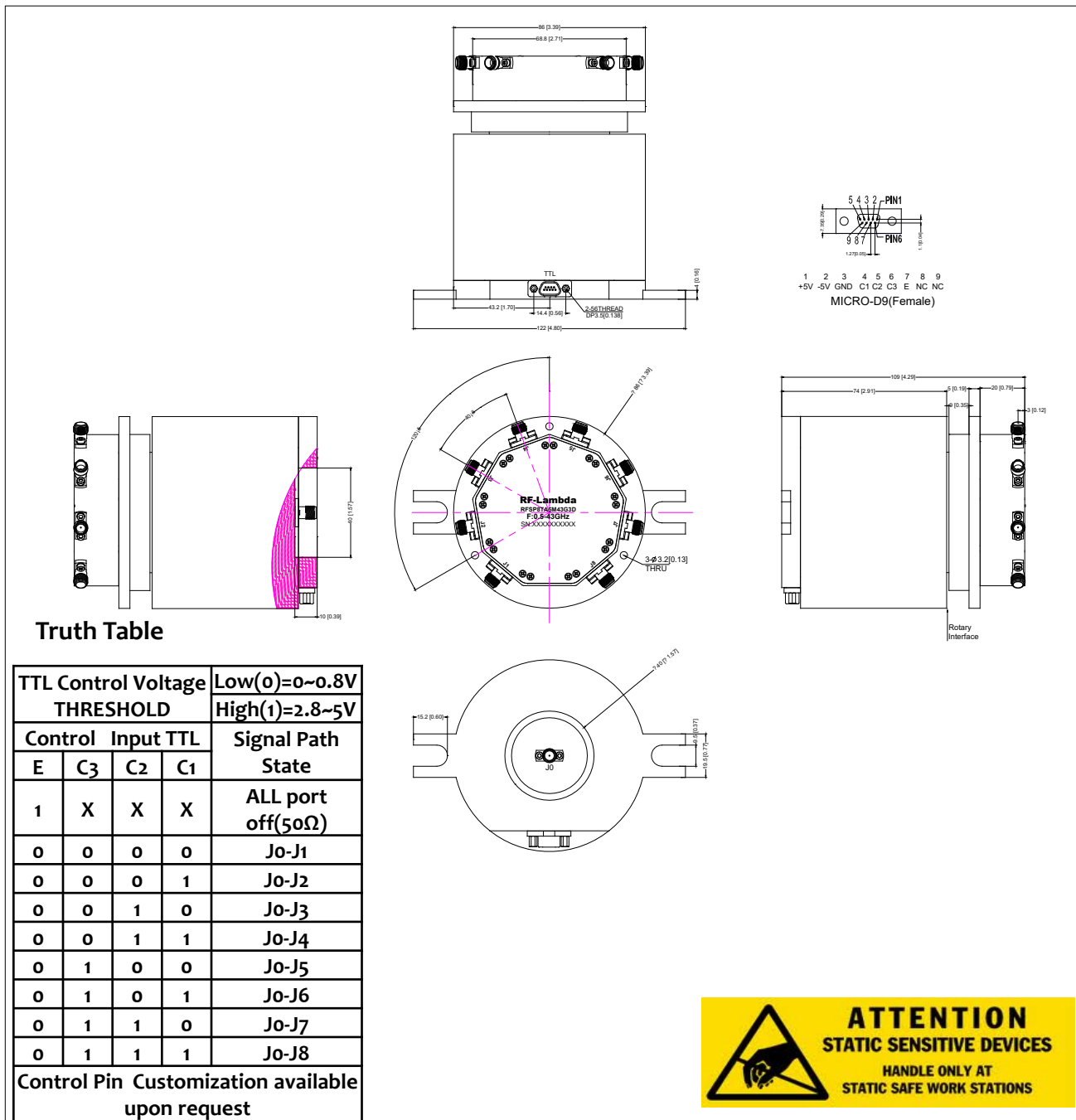
Part No.	Description
RFSP8TA5M43G3D	SP8T 0.5-43.5GHz PIN Diode Switch

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-30°C~+50°C (Case Temperature)
Storage Temperature	-40°C~+70°C
Thermal Shock	-30°C → +50°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 +50°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)

Outline Drawing:

All Dimensions in mm [inches]



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