

Reflective Coaxial SP8T Switch 0.1GHz-40GHz



Product Description

RFSP8TR01M40G is a reflective coaxial single pole eight throw switch with a frequency range of 0.1 to 40GHz.

The max power input of this switch is 30dBm. The insertion loss is 5.0dB with a typical isolation of 30dB.

The product features fast switching speed, low insertion loss and high isolation.

The working temperature of this product is between - 40°C and + 85°C

Features

- TTL compatible driver included
- Low Power Cold Switching
- Fast Switching Speed
- Insertion Loss 5.0dB Typical
- Isolation 30dB Typical
- 50 Ohm Matched

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications(TA = +25°C), Vdd = +5V/-15V, TTL = 0 / +5V

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		0.1-18			18-40		GHz
Insertion Loss		3.0	4.0		5.0	6.0	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Isolation		30			30		dB
Input VSWR		2.0			2.2		: 1
Output VSWR		2.0			2.2		: 1
RF Input Power (CW)			30			30	dBm
Power Dissipation		1.5			1.5		W
0.1dB Compression Point (P0.1dB)		24			24		dBm
IIP3		40			38		dBm
Switching Speed			100 Max.				ns
Bias Current (+5V/-15V)			300/80 Max.				mA
Weight			/ Max.				lbs
Impedance			50				Ω
Input / Output Connectors			2.92mm-Female(Input) – 2.92mm-Female(Output)				
Package			Epoxy Sealed (Standard)				
			Hermetically Sealed (Optional)				

Absolute Maximum Ratings

Parameter	Rating
Biasing	+5V±10%/-15V±10%

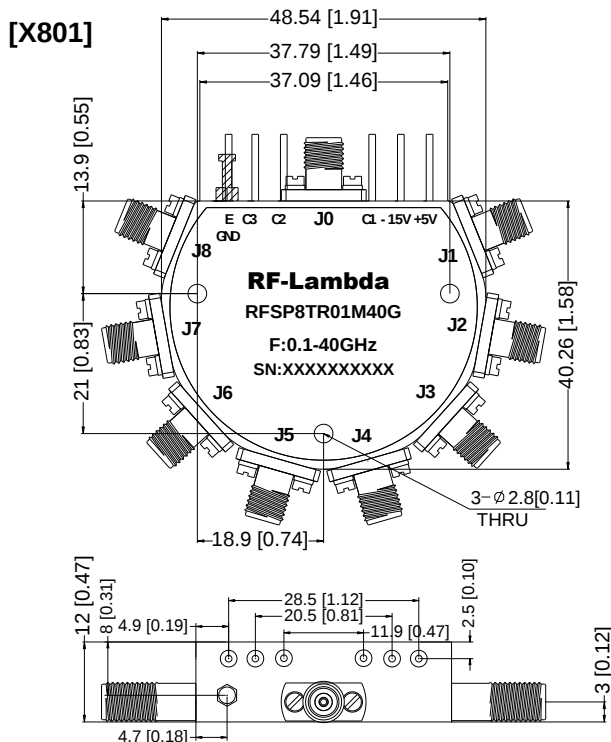
*TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°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 +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 (For Hermetically Sealed Units)

**For vibration testing details please see additional information section.

Outline Drawing



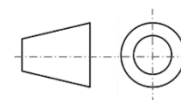
Notes:

1. Package Material: Aluminum
2. Finish: Gold Plated
3. All dimensions are in millimeters [inches].
4. Housing Tolerances ± 0.1 [0.004] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.

Truth Table

TTL Control Voltage THRESHOLD				Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL				Signal Path State
E	C3	C2	C1	
1	X	X	X	ALL Ports Off (50Ω)
0	0	0	0	J0-J1
0	0	0	1	J0-J2
0	0	1	0	J0-J3
0	0	1	1	J0-J4
0	1	0	0	J0-J5
0	1	0	1	J0-J6
0	1	1	0	J0-J7
0	1	1	1	J0-J8

Control Pin Customization Available Upon Request



Additional Information

Documentation

ESD Policy

https://rflambda.com/pdf/rflambda_esd_control.pdf

Connector Torque Specifications

https://www.rflambda.com/pdf/Torque_Specifications.pdf

Random Vibration Test Standard

https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Webpage

Ordering Information

Part Number	Modification	Description
RFSP8TR01M40G	Connectors 2.92mm-Female	0.1GHz-40GHz SP8T PIN Diode Switch

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