

Hermetically Sealed Absorptive Coaxial SPST Switch 0.02GHz-3GHz



Note: Photo is for illustration purposes only. Please refer to outline drawing.

Features

- TTL compatible driver included
- Fast Switching Speed
- Low Power Cold Switching
- Insertion Loss 1.3dB
- Isolation 85dB Typical
- 50 Ohm Matched

Product Description

RFSPSTA0003G-H is a hermetically sealed absorptive coaxial single pole single throw switch with a frequency range of 0.02 to 3GHz.

The power input of this switch is 30dBm Max. The insertion loss is 1.3dB with a typical isolation of 85dB.

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

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

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/-5V, TTL = 0 / +5V

Parameter	Min	Typ	Max	Units
Frequency Range		0.02~3		GHz
Insertion Loss		1.3	1.5	dB
Insertion Loss Temperature Coefficient		0.003		dB/ °C
Isolation	80	85		dB
Input VSWR		1.3	1.5	: 1
Output VSWR		1.3	1.5	: 1
RF Input Power (CW)			30	dBm
DC Power Dissipation		0.3		W
0.1dB Compression Point(P0.1dB)		30		dBm
IIP3		42		dBm
Switching Speed		200 Typ.		ns
Bias Current (+5V/-5V)		80/50 Max.		mA
Weight		/ Max.		lbs
Impedance		50		Ω
Input / Output Connectors	SMA-Female(Input) – SMA-Female(Output)			
Package	Hermetically Sealed (Laser Welded)			

* J0: Absorptive Port J1: Reflective port

Absolute Maximum Ratings

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

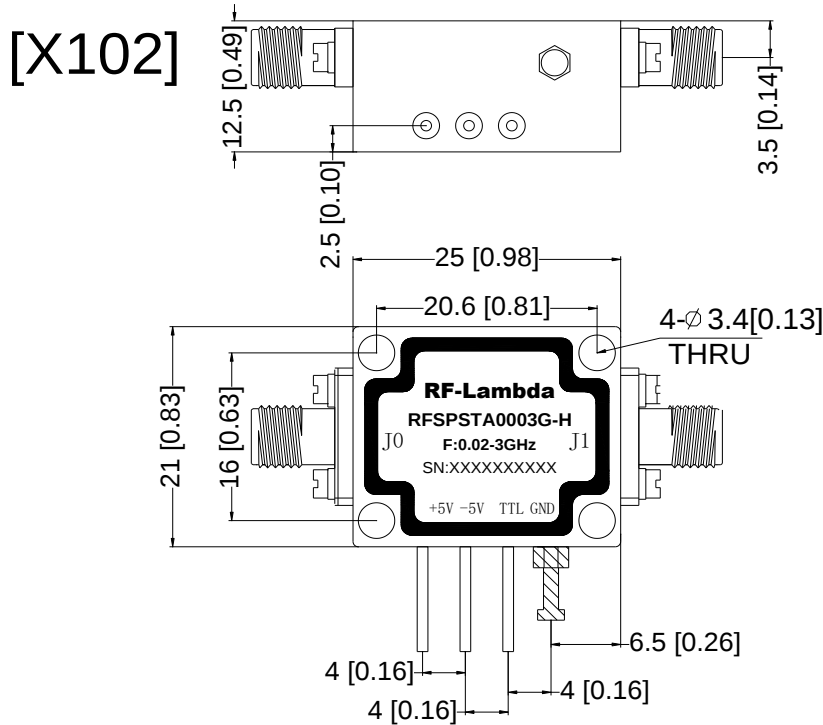
* TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

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

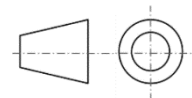


Truth Table

TTL Control Voltage THRESHOLD	Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL	Signal Path State
0	ON
1	OFF
Control Pin Customization available upon request	

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.



Additional Information

Documentation

Webpage

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

Ordering Information

Part Number	Modification	Description
RFSPSTA0003G-H	Standard	0.02-3GHz Hermetically Sealed SPST PIN Diode Switch

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