

Absorptive Coaxial SP2T Switch 30GHz-110GHz



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 14dB
- Isolation 25dB Typical
- 50 Ohm Matched

Product Description

RFSP2TA30110G is an absorptive coaxial single pole double throw switch with a frequency range of 30 to 110GHz.

The maximum power input of this switch is 15dBm. The insertion loss is 14dB with a typical isolation of 25dB.

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

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	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		30-60			60-90			90-110		GHz
Insertion Loss			11.0			14.0		18.0		dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ °C
Isolation		25			25			25		dB
Input VSWR			3.5			3		3		: 1
Output VSWR			3.5			3		3		: 1
RF Input Power			15			15			15	dBm
DC Power Dissipation		0.8			0.8			0.8		W
IIP3		38			35			32		dBm
Switching Speed					350Typ					ns
Bias Current (+5V / -5V)					10/10 Max.					mA
Weight					/ Max.					lbs
Impedance					50					Ω
Input / Output Connectors					1.0mm-Female(Input) – 1.0mm-Female(Output)					
Package					Epoxy Sealed (Standard)					
					Hermetically Sealed (Optional)					

Absolute Maximum Ratings

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

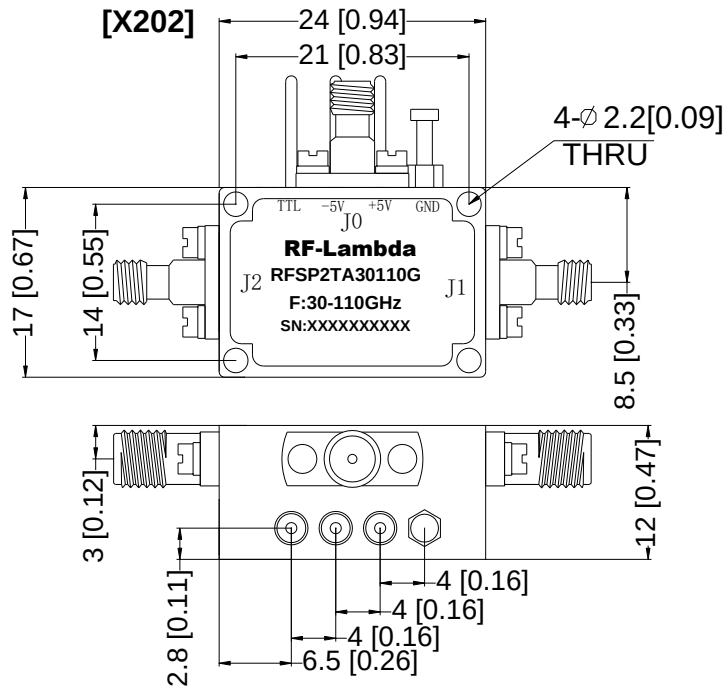
* TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Environmental Specifications and Test Standards

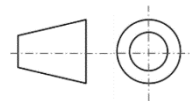
Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 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	Low(0)=0~0.8V
THRESHOLD	High(1)=2.8~5V
Control Input TTL	State
1	J0-J1
0	J0-J2
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
RFSP2TA30110G	Connectors 1.0mm-Female	30GHz-110GHz SP2T PIN Diode Switch

Important Notice

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