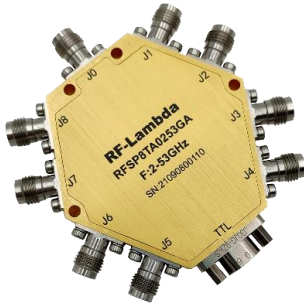


Absorptive Coaxial SP10T Switch 2GHz-50GHz



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 9dB
- Isolation 50dB Typical
- 50 Ohm Matched

Product Description

RFSP10TA0250G is an absorptive coaxial single pole ten throw switch with a frequency range of 2 to 50GHz.

The maximum power input of this switch is 23dBm. The insertion loss is 9dB with a typical isolation of 50dB.

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, TTL = 0 / +5V

Parameter	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		2-18			18-43.5			43.5-50		GHz
Insertion Loss		9			10			12		dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ °C
Isolation		50			45			45		dB
Input VSWR		2	3		2.5	3		2.5		: 1
Output VSWR		2	3		2.5	3		2.5		: 1
RF Input power (CW)			23			23			23	dBm
DC Power Dissipation		1.5			1.5			1.5		W
0.1dB Compression Point (P0.1dB)		23			23			23		dBm
IIP3		43			38			33		dBm
Switching Speed					100					ns
Bias Current (+5V)					500					mA
Weight					/ Max.					lbs
Impedance					50					Ω
Input / Output Connectors	2.4mm-Female(Input) – 2.4mm-Female(Output)									
Package	Epoxy Sealed (Standard)									
	Hermetically Sealed (Optional)									

Absolute Maximum Ratings

Parameter	Rating
Biasing	+5V±10%

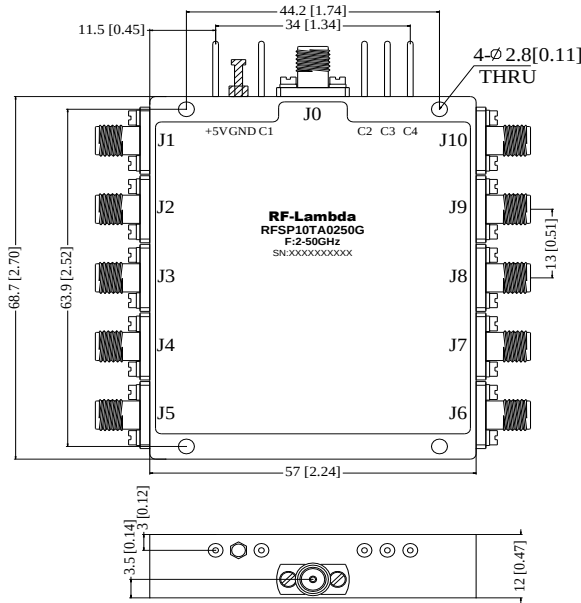
* TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

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

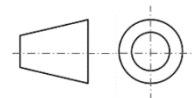


Truth Table

TTL Control Voltage THRESHOLD				Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL				Signal Path State
C1	C2	C3	C4	
0	0	0	0	J0-J1
1	0	0	0	J0-J2
0	1	0	0	J0-J3
1	1	0	0	J0-J3
0	0	1	0	J0-J4
1	0	1	0	J0-J5
0	1	1	0	J0-J6
1	1	1	0	J0-J7
0	0	0	1	J0-J8
1	0	0	1	J0-J9
0	1	0	1	J0-J10
1	1	1	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
RFSP10TA0250G	Input Connector 2.4mm-Female and Output Connectors 2.4mm-Female	2GHz-50GHz SP10T PIN Diode Switch

Important Notice

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