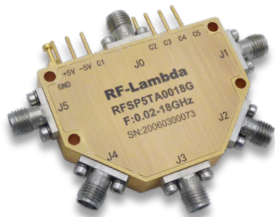


Hermetically Sealed Absorptive Coaxial SP5T Switch 0.02GHz-18GHz



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

Features

- TTL compatible driver included
- Fast Switching Speed
- Low Power Cold Switching
- Insertion Loss 4.0dB
- Isolation 75dB Typical
- 50 Ohm Matched

Product Description

RFSP5TA0018G-C3-H is a hermetically sealed absorptive coaxial single pole five throw switch with a frequency range of 0.02 to 18GHz.

The power input of this switch is 30dBm Max. The insertion loss is 4.0dB with a typical isolation of 75dB.

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		0.02-6			6-12			12-18		GHz
Insertion Loss		2.2	3.0		3.0	4.0		4.0	5.0	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ °C
Isolation	60	75		60	70		60	65		dB
Input VSWR		1.6	2.0		1.6	2.0		1.6	2.0	: 1
Output VSWR		1.6	2.0		1.6	2.0		1.6	2.0	: 1
RF Input Power			30			30			30	dBm
DC Power Dissipation		1.2			1.2			1.2		W
0.1dB Compression Point (P0.1dB)		30			30			30		dBm
IIP3		45			43			42		dbm
Switching Speed					250 Max.					ns
Bias Current (+5V)					250 Typ.					mA
Weight					/ Max.					lbs
Impedance					50					Ω
Input / Output Connectors	SMA-Female(Input) – SMA-Female(Output)									
Package	Hermetically Sealed (Laser Welded)									

Absolute Maximum Ratings

Parameter	Rating
Biasing	+5V ± 10%

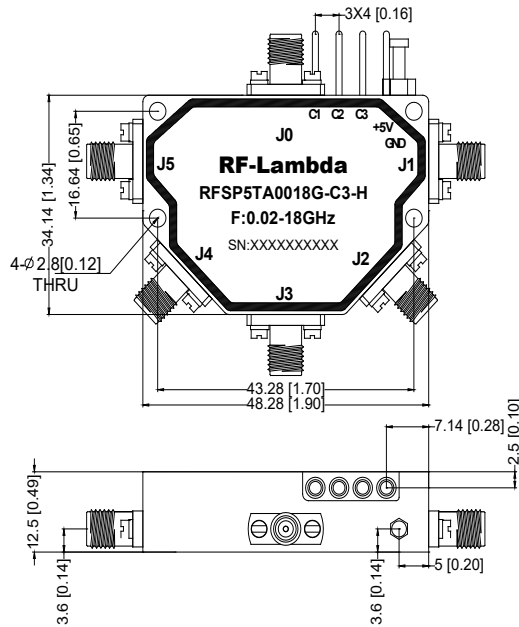
* TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

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

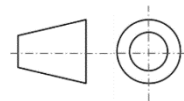


Truth Table

TTL Control Voltage	Low(0)=0~0.8V		
THRESHOLD	High(1)=2.8~5V		
Control Input TTL	Signal Path State		
C3	C2	C1	
0	0	0	J0-J1
0	0	1	J0-J2
0	1	0	J0-J3
0	1	1	J0-J4
1	0	0	J0-J5
1	0	1	Not Used
1	1	0	Not Used
1	1	1	Not Used
Control Pin Customization available upon request			

Notes:

1. Package Material: Aluminum
2. Plating: Gold
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
RFSP5TA0018G-C3-H	Standard	0.02-18GHz Hermetically Sealed SP5T PIN Diode Switch

Important Notice

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