WR10 Absorptive Coaxial SP4T Switch 75GHz-110GHz

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

Product Description

RFSP4TA75110GW10 is a waveguide absorptive coaxial single pole four throw switch with a frequency range of 75 to 110GHz.

The maximum power input of this switch is 15dBm. The insertion loss is 25dB 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℃ and + 85℃

Features

- TTL compatible driver included
- Fast Switching Speed
- Low Power Cold Switching
- Insertion Loss 25dB
- Isolation 25dB 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/-5V, TTL = 0 / +5V

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		75-90			90-110		GHz
Insertion Loss		25			29		dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Isolation	25				25		dB
Input VSWR			3		3		: 1
Output VSWR			3		3		: 1
RF Input Power			15			15	dBm
DC Power Dissipation		0.8			0.8		W
IIP3		35			32		dBm
Switching Speed			350Typ				ns
Bias Current (+5V / -5V)			100/50 Max.				mA
Weight			/ Max.				lbs
Impedance			50				Ω
Input / Output Connectors			WR10				
Package			Epoxy Sealed (Standard)				
			Hermetically Sealed (Optional)				

Absolute Maximum Ratings

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

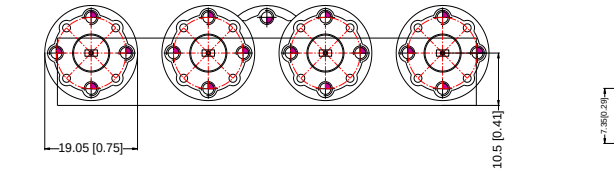
* TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

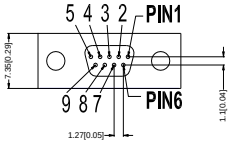
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40ºC to +85ºC (Case Temperature)
Storage Temperature	-50ºC to +105ºC
Thermal Shock	-40ºC → +85ºC (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 +85ºC 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)

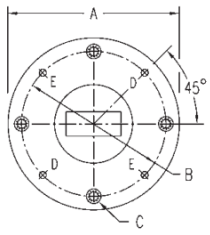
* * For vibration testing details please see additional information section.

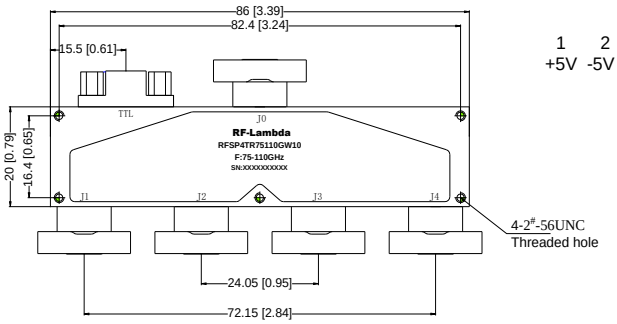
Outline Drawing



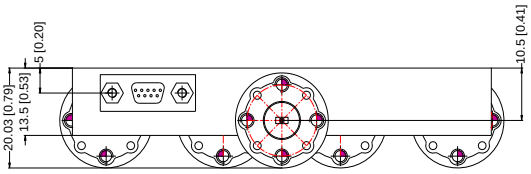


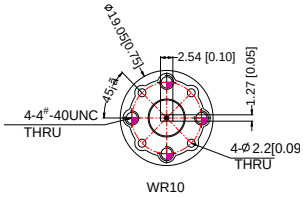
WR10	WG27	R900
	UG387/U	
Dimensions	inches	mm
A	0.750	19.05
B	0.563	14.29
C Holes	4-40 UNC-2B	
D Holes	0.063	1.613
E Dowels	0.061	1.555
All Holes	0.563	14.29



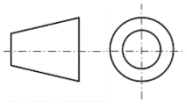


1 2 3 4 5 6 7 8
+5V -5V GND C1 C2 NC NC NC I





Truth Table		
TTL Control Voltage THRESHOLD		Low(0)=0~0.8 V High(1)=2.8~5V
Control Input TTL		State
C1	C2	
0	0	J0-J1
0	1	J0-J2
1	0	J0-J3
1	1	J0-J4
		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
RFSP4TA75110GW10	Connectors 1.0mm-Female	75GHz-110GHz WR10 SP4T PIN Diode Switch

Important Notice

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