

WR10 Reflective Waveguide DPDT Electromechanical Switch 75GHz–110GHz



Product Description

The RFDPDTW10A is a reflective waveguide electromechanical switch with a frequency range of 75 to 110GHz.

The power handling of this switch is 500W max. The typical insertion loss is 0.4dB and the isolation is 50dB with the speed of 50ms. This electromechanical switch works with a +28 VDC power supply.

The electromechanical switch's interface is WR10.
The operating temperature of this product is from -40 to +85°C.

Features

- Reflective Waveguide Electromechanical Switch
- DPDT configuration
- Magnetic latching
- Operating life of 40 thousand cycles
- Guaranteed repeatability of 0.02dB up to 40 thousand cycle
- Standard Drive Compatible
- Supply Voltage +28VDC
- Insertion Loss +0.4dB
- Isolation 50dB

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 ($T_A = +25^\circ\text{C}$)

Parameter	Min	Typ	Max	Units
Frequency Range		75 – 110		GHz
Insertion Loss		0.4		dB
VSWR			1.2	:1
Isolation		50		dB
Avg. Power		500		W
Switching Speed		50		ms
Life Cycles		40		Thousand
Repeatability			0.02	dB
Supply Current ($V_{CC} = +28\text{VDC}$)		0.625		A
Weight		0.41		lbs.
Impedance		50		Ohms
Interface		WR10		
Actuator Type		Latching		
Contact		Break Before Make		
Control		Ground		
Package		Epoxy Sealed (Standard)		
		Hermetically Sealed (Optional)		

Absolute Maximum Ratings

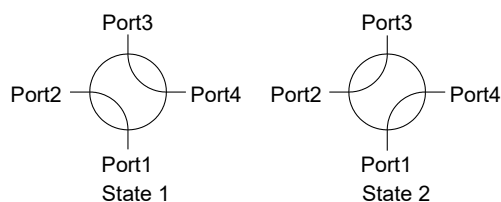
Parameter	Rating
Supply Voltage Range	22 – 32VDC

Environmental Specifications and Test Standards

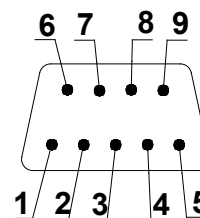
Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-55°C to +85°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
*Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 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.

Control Methods

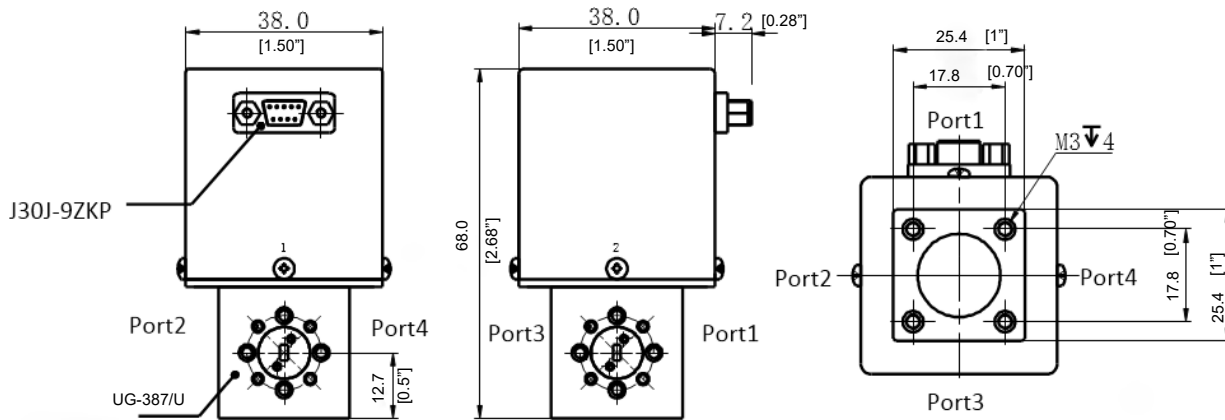


Control Port: J30J-9ZKP



Switch State	Pin 1	+28V Pin 2	Pin 3	Pin 4	Feedback Signal(Pin 5 is common) Pin 5
State 1	Vcc	GND	OPEN	Connect with Pin 5	Disconnect from Pin 5
State 2	OPEN	GND	Vcc	Disconnect from Pin 5	Connect with Pin 5

Outline Drawing



Notes:

1. Package Material: Aluminum
2. Finish: Oxidized
3. All dimensions are in millimeters [inches].
4. Tolerances ± 0.02 [0.008] unless otherwise specified.



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
RFD PDTW10A	WR10	60GHz-90GHz Electromechanical Switch

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