

WR112 SPDT/DPDT Failsafe, X Band Waveguide Electromechanical Relay Switch, 7.05 GHz to 10 GHz, 7 kW, CPR-Flat, 28V



Waveguide Electromechanical Relay Switches Technical

PEWGS6069

Features

- 7.05 to 10 GHz SPDT Waveguide Switch
- Optional DPDT Configuration
- WR112 Waveguide with CPR Flat Flanges
- Failsafe Actuator and Position Indicator
- Insertion Loss: 0.04 dB typ
- Isolation: 88 dB typ
- Switching Time: <100 msec typ
- +28 Vdc Nominal Voltage
- Input Power Rating up to 7 kW CW max
- Unpressurized Peak Power Rating up to 202 kW
- Manual Override Access
- Fully Weatherized Package
- Quick Connect Circular DC Connector with Mate
- -40°C to +85°C Operating Temperature

Applications

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- VSAT
- Radar
- Space Systems
- Test Instrumentation
- Research and Development

Description

The PEWGS6069 WR112 waveguide electromechanical switch operates across a wide frequency range from 7.05 to 10 GHz and is configured for single pole double throw (SPDT) operation. A shorting plate on port 3 can be removed for optional double pole double throw (DPDT) operation. This innovative design features a failsafe actuator with TTL logic control, and a patented motor drive with arc suppression. The motor drive housing supports a viewable position indicator window and a cover that can be removed for manual override access. Impressive typical performance includes 0.04 dB insertion loss, 88 dB Isolation and 1.07:1 VSWR. The design operates across a temperature range of -40°C to +85°C, requires +28Vdc nominal bias voltage, and has an input power rating of up to 7 kW CW maximum, and an unpressurized peak power rating up to 202 kW. Operating life of 250K cycles minimum. The waveguide ports have CPR Flat flanges. The rugged package design is fully weatherized for up to 100% humidity exposure and supports a quick connect circular 6 pin MIL-SPEC DC bias connector with mate included.

Electrical Specifications

Switch Type
Actuator Type
Actuator Options

SPDT/DPDT
Failsafe
Window Indicator, Manual Override

Description	Minimum	Typical	Maximum	Units
Frequency Range	7.05		10	GHz
Impedance		50		Ohms
Operating Voltage	25.2	28	30.8	Volts
Actuating Current @ 28 Volts		142	150	mA
VSWR		1.07:1	1.1:1	
Insertion Loss		0.04	0.05	dB
Isolation	80	88		dB
Switching Time		<100		ms
Input Power (CW)			7	kWatts
Input Power (Peak/Unpressurized)			202	kWatts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR112 SPDT/DPDT Failsafe, X Band Waveguide Electromechanical Relay Switch, 7.05 GHz to 10 GHz, 7 kW, CPR-Flat, 28V PEWGS6069](#)

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Mechanical Specifications

Size

Length	2.25 in [57.15 mm]
Width/Diameter	2.43 in [61.72 mm]
Height	4.85 in [123.19 mm]
Weight	1.44 lbs [653.17 g]
Operating Life	250,000 Cycles
Operating Pressure	30 psig

Configuration

Waveguide Size	WR-112
Flange Type	CPR Flat
Body Material and Plating	Aluminum, Black
Body Plating Specification	MIL-DTL-5541

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +100 deg C
Humidity	0 to 100% Fully Weatherized IAW IP67

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

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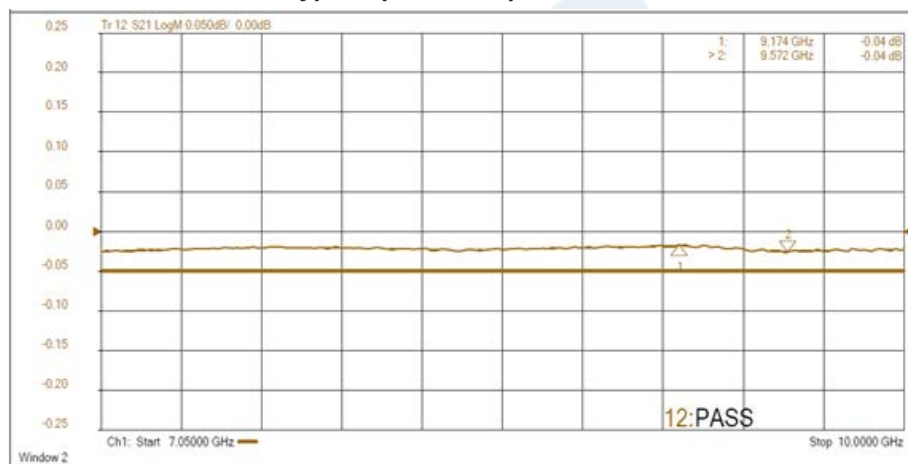


Waveguide Electromechanical Relay Switches Technical

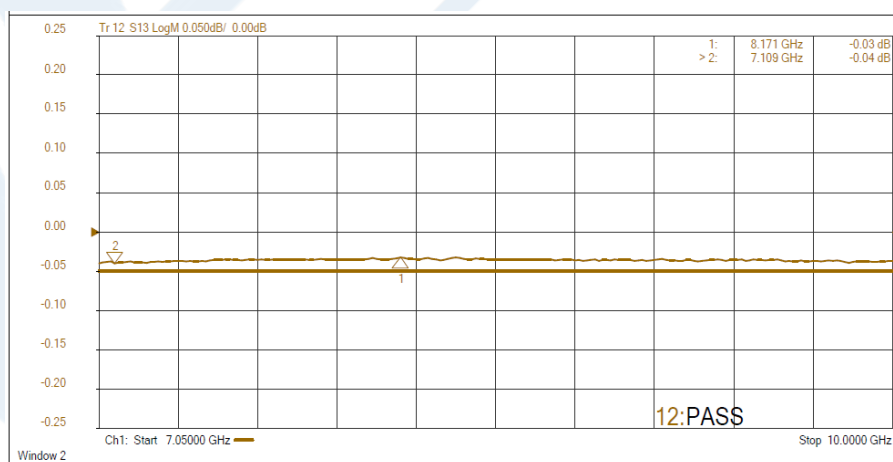
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Typical Performance Data

Typical (Position 1) Insertion Loss



Typical (Position 2) Insertion Loss



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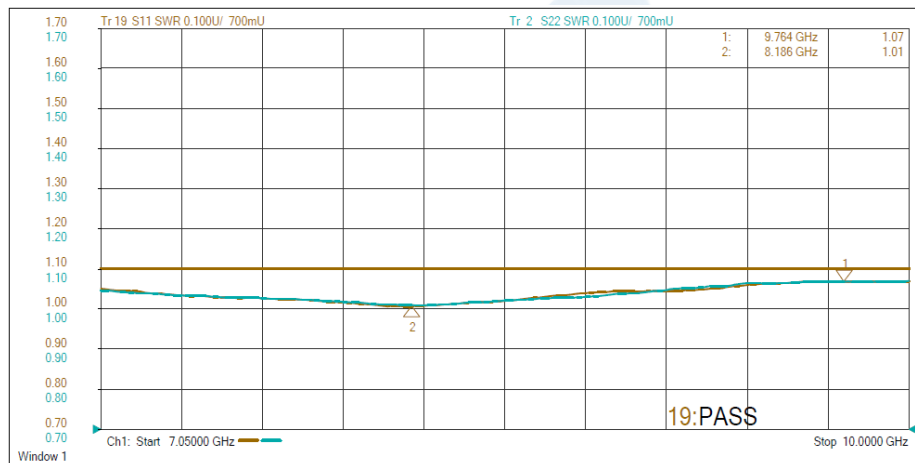
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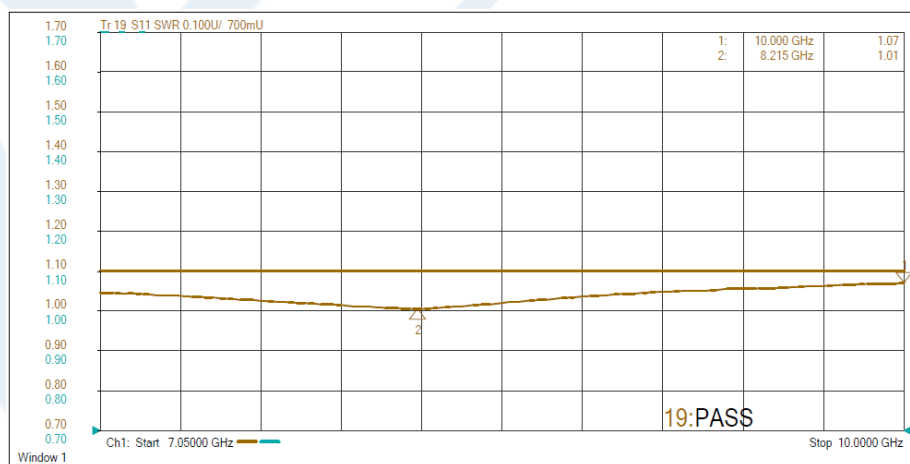
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**Typical (Position 1)
VSWR**



**Typical (Position 2)
VSWR**



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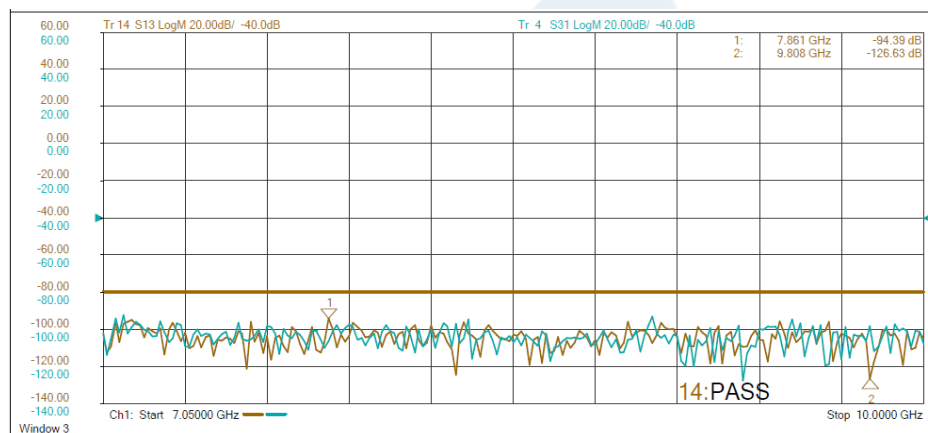
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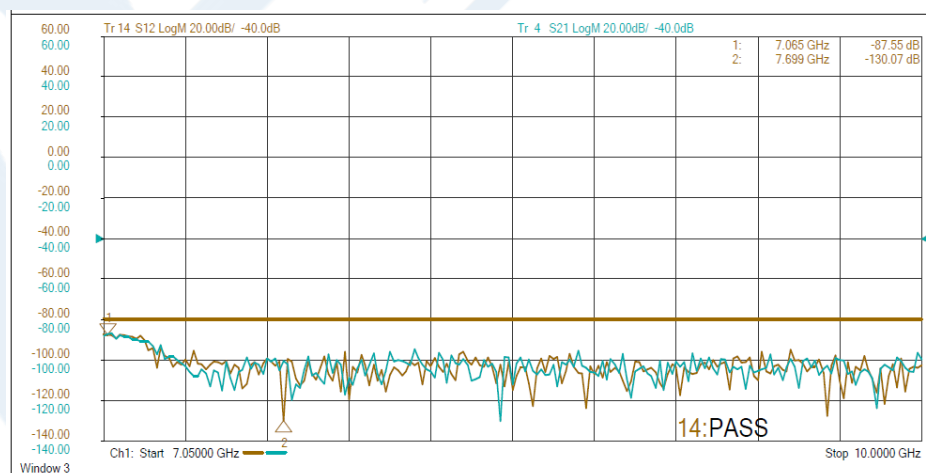
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Typical (Position 1) Isolation



Typical (Position 2) Isolation



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WR112 SPDT/DPDT Failsafe, X Band Waveguide Electromechanical Relay Switch, 7.05 GHz to 10 GHz, 7 kW, CPR-Flat, 28V from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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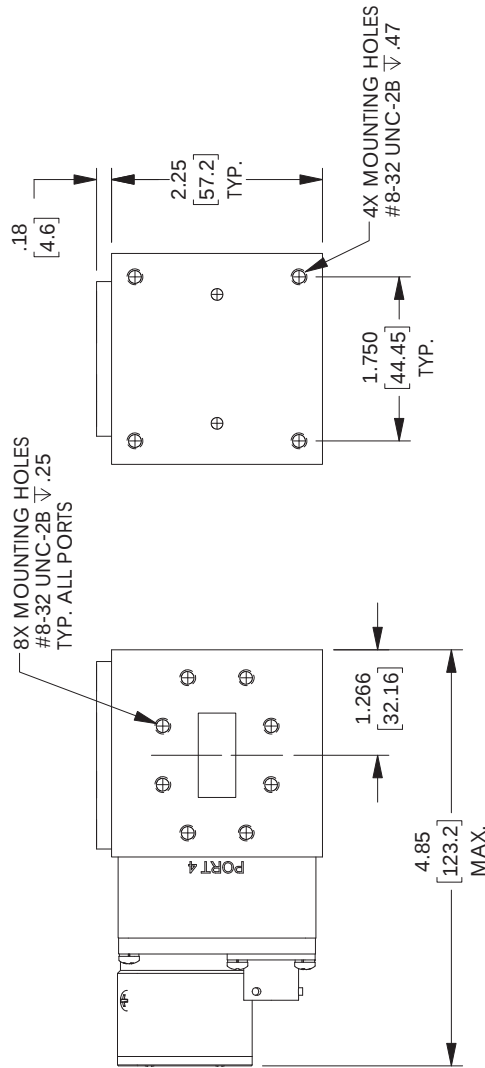
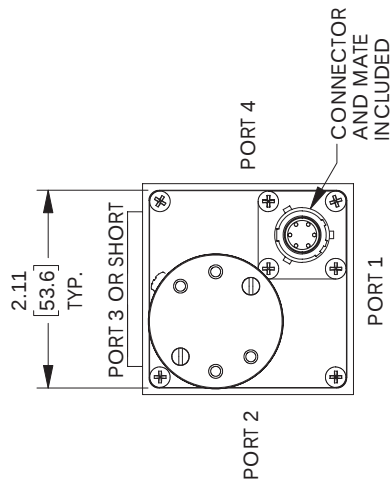
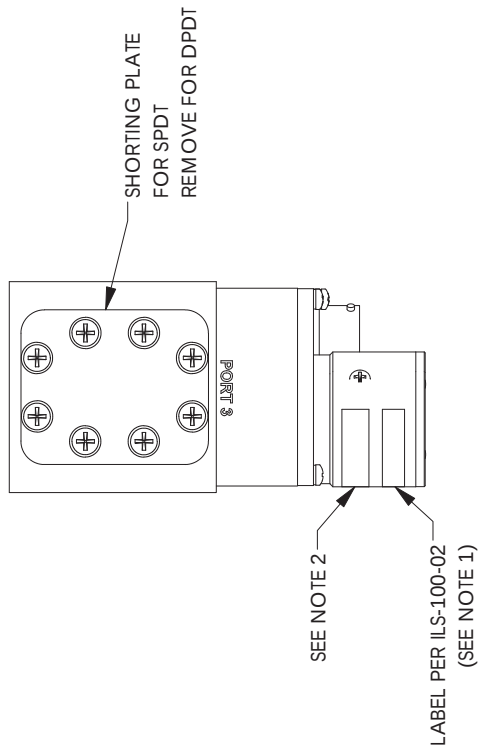
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PEWGS6069 CAD Drawing

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	03/26/2021	TGALLA



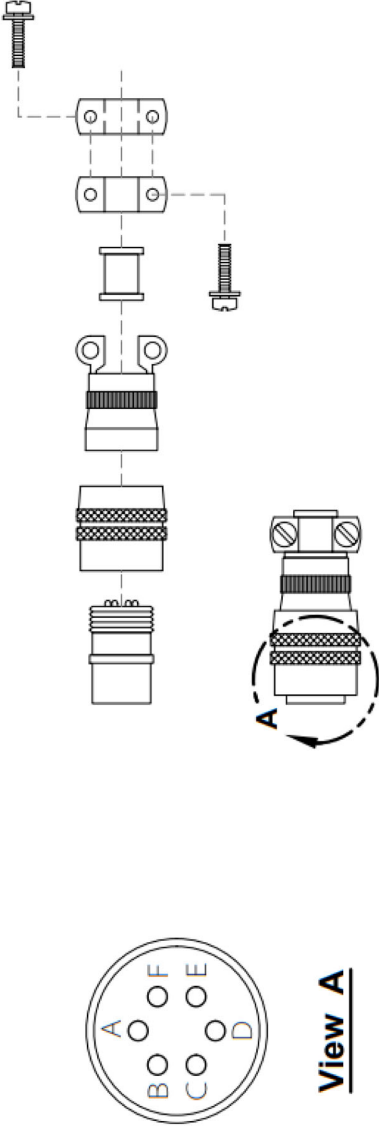
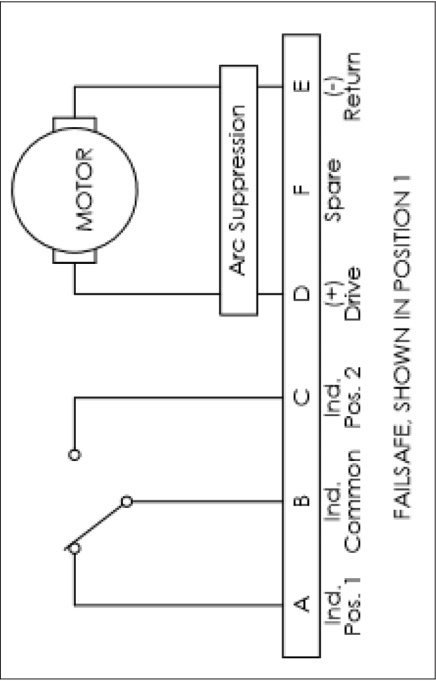
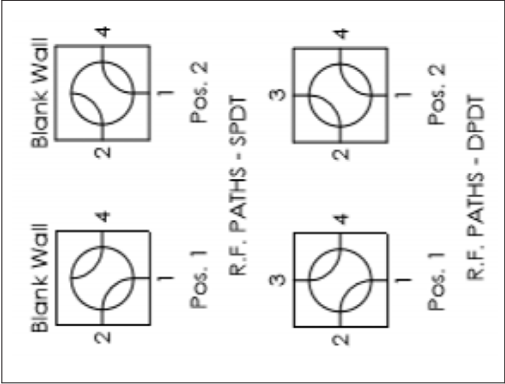
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SIZE A	CAGE CODE 53919	DRAWN BY DFRISIELLO	ITEM NO. PEWGS6069
		REV	A

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