



WR112 SPDT/DPDT Failsafe, X Band Waveguide Electromechanical Relay Switch, 7.05 GHz to 10 GHz, 7 kW, CPR-Flat, 12V

Waveguide Electromechanical Relay Switches Technical

PEWGS6068

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: <125 msec typ
- +12 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 PEWGS6068 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 +12Vdc 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	10.8	12	13.2	Volts
Actuating Current @ 12 Volts		250	300	mA
VSWR		1.07:1	1.1:1	
Insertion Loss		0.04	0.05	dB
Isolation	80	88		dB
Switching Time		<125		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, 12V PEWGS6068](#)

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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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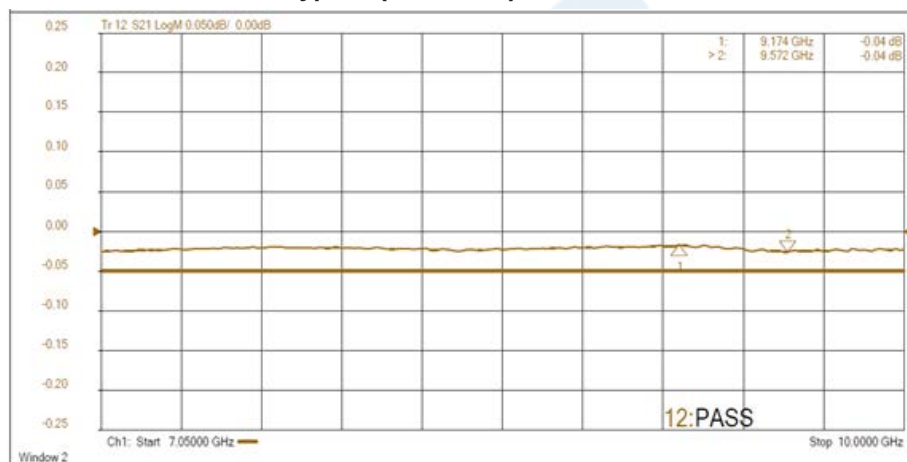


Waveguide Electromechanical Relay Switches Technical

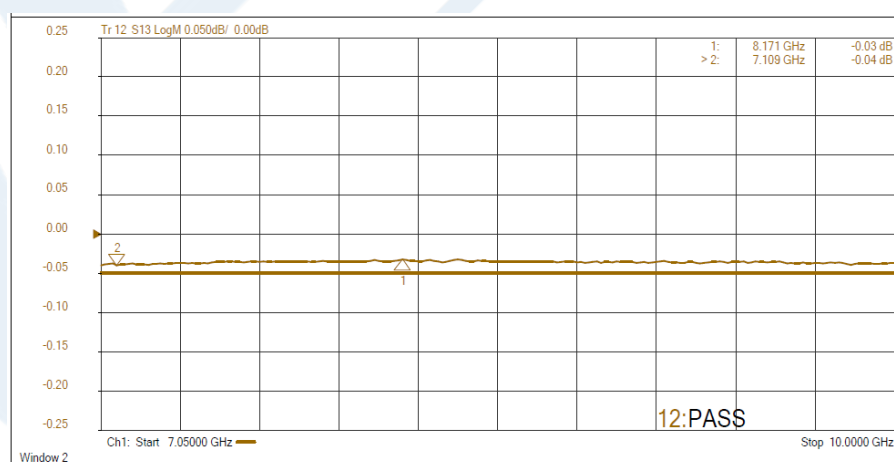
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Typical Performance Data

Typical (Position 1) Insertion Loss



Typical (Position 2) Insertion Loss



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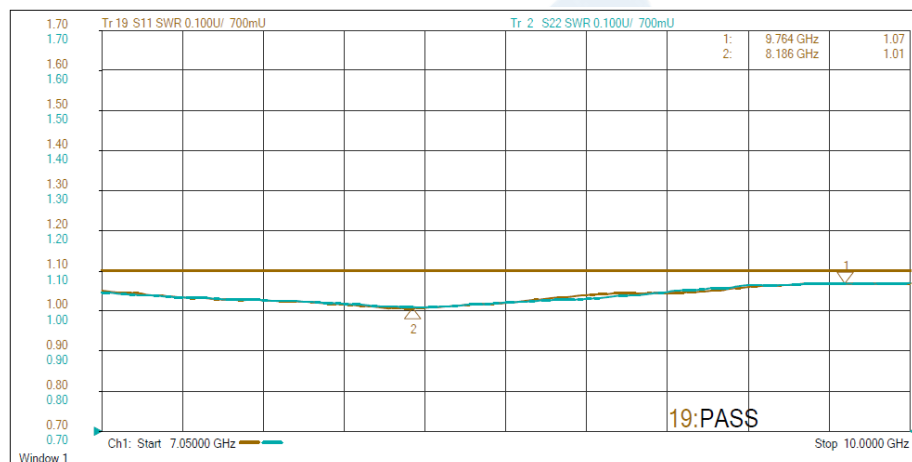
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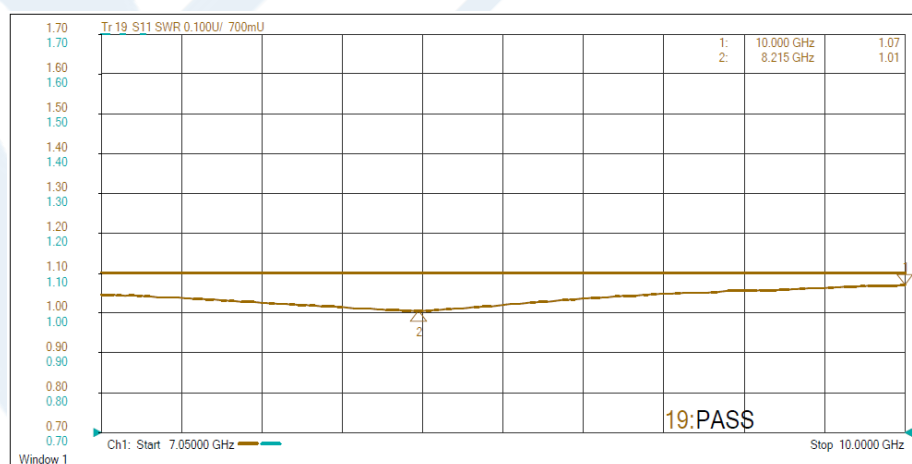
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**Typical (Position 1)
VSWR**



**Typical (Position 2)
VSWR**



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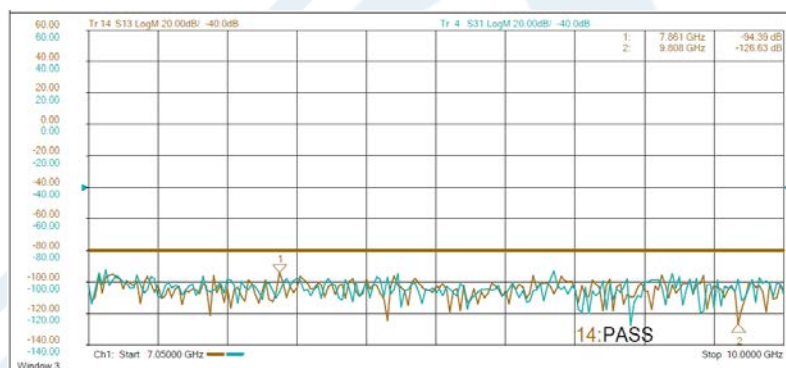
Waveguide Electromechanical Relay Switches Technical

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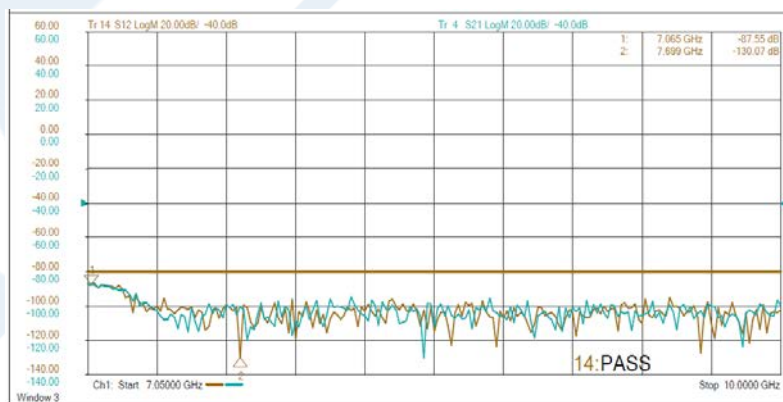


SUMMARY TEST DATA

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, 12V 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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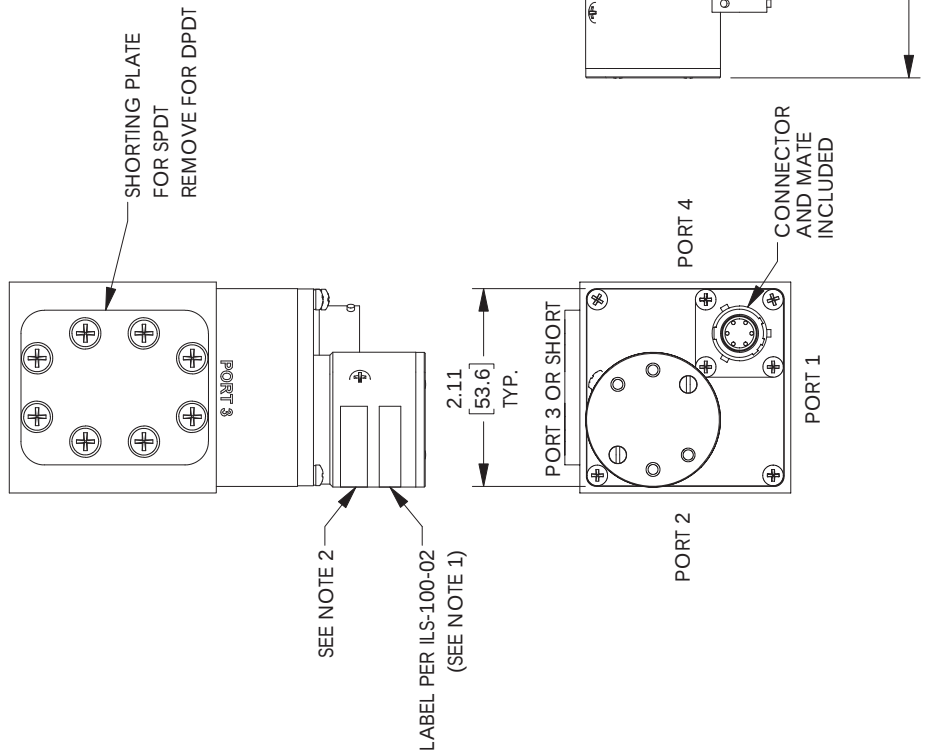
URL: <https://www.pasternack.com/wr-112-waveguide-electromechanical-relay-spdt-dpdt-failsafe-switch-10-ghz-pewgs6068-p.aspx>

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PEWGS6068 CAD Drawing

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Relay Switch, 7.05 GHz to 10 GHz, 7 kW, CPR-Flat, 12V

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



SEE NOTE 2
LABEL PER ILS-100-02
(SEE NOTE 1)

PE PASTERNAK an INFINITI brand Pasternack Enterprises, Inc. P.O. Box 16759, Irvine, CA 92623. Phone: 1.949.261.1920 1.866.727.8376 Fax: 1.949.261.7451 Website: www.pasternack.com E-mail: sales@pasternack.com		THIRD-ANGLE PROJECTION THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION ALL RIGHTS RESERVED. SHEET 1 OF 2 SCALE N/A	
SIZE A	CAGE CODE 53919	DRAWN BY DFRISIELLO	ITEM NO. PEWGS6068
UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE IN INCHES DIMENSIONS IN [] ARE MILLIMETERS TOLERANCES: X = +.2 [5.08] XX = +.02 [.51] XXX = +.005 [.13] ANGLES ± 1° CABLE LENGTH (L) TOLERANCES: L ≤ 12 [305] = +1 [25] / -0 12 [305] < L ≤ 60 [1524] = +2 [51] / -0 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0 300 [7620] < L = +5% / -0 ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.		REV A	

NOTES:
1. LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY.
2. SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 2020040500001

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