



WR-42 Waveguide Electromechanical Relay SPDT Latching Switch, K Band 26.5 GHz Max. Freq., 800 Watts, UG-595/U Square Cover, 28V, TTL

Waveguide Electromechanical Relay Switches Technical

PEWGS6005

Features

- 18 to 26.5 GHz SPDT Waveguide Switch
- Optional DPDT Configuration
- WR-42 Waveguide with O-Rings
- Insertion Loss: 0.013 dB typ
- Isolation: 90 dB typ
- +28 Vdc Nominal Voltage
- Input Power Rating up to 0.8 kW CW max
- Latching TTL Logic Self Cut Off Actuator
- Position Indicator and 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 PEWGS6005 electromechanical WR-42 waveguide switch operates across a wide frequency range from 18 GHz to 26.5 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 latching TTL Logic controlled Self Cut Off actuator and 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 performance includes 0.013 dB typ insertion loss, 90 dB typ Isolation, 1.07:1 typ VSWR, and an operating life of 250K cycles minimum. 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 0.8 KW CW maximum. The waveguide ports have Grooved UG-595/U Square Cover Flanges (O-Rings included) for pressurized operation. The rugged package design is fully weatherized for up to 100% humidity exposure and supports a quick connect circular 10 pin MIL-SPEC DC bias connector with mate included.

Electrical Specifications

Switch Type	SPDT
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	TTL Logic, Self Cut Off, Window Indicator, Manual Override
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts
TTL Control Current	1.2 mA at 5.5 Volts 1.2 mA at 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		26.5	GHz
Impedance		50		Ohms
Operating Voltage	21	28	32	Volts
Actuating Current @ 28 Volts		212	243	mA
VSWR		1.07:1	1.1:1	

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-42 Waveguide Electromechanical Relay SPDT Latching Switch, K Band 26.5 GHz Max. Freq., 800 Watts, UG-595/U Square Cover, 28V, TTL PEWGS6005](#)



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Insertion Loss		0.013	0.15	dB
Isolation	60	90		dB
Switching Time		54	80	ms
Input Power (CW)			800	Watts
Input Power (Peak) 10% Duty Cycle			25.3	KWatts

Mechanical Specifications

Size

Length	4.1 in [104.14 mm]
Width/Diameter	2.11 in [53.59 mm]
Height	2.11 in [53.59 mm]
Weight	1.095 lbs [496.68 g]

Operating Life (Cold Switching)	250,000 Cycles
Operating Pressure	30 psig

Configuration

Waveguide Size	WR-42
Flange Type	Square Cover
Flange Designation	UG-595/U
Body Material and Plating	Aluminum, Chem Film
Body Plating Specification	MIL-DTL-5541 Type II Class 3

Mechanical Specification Notes:
Production Burn-In IAW MIL-DTL-55041 1500 cycles

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +100 deg C

Ingress Protection (IP) Rating	IP67
Humidity	0-100%, Fully Weatherized
ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle in approved ESD Workstation.



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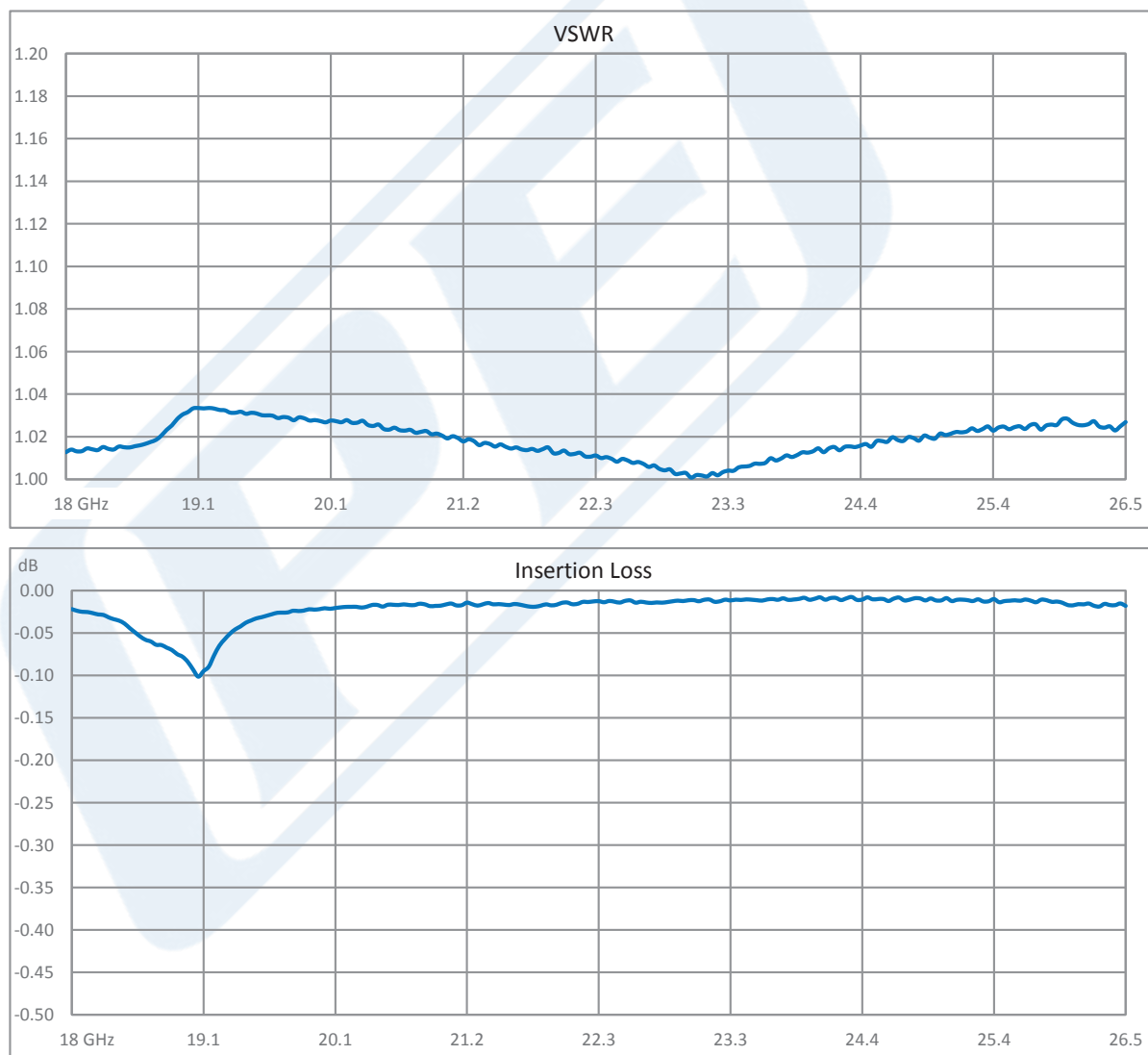
PEWGS6005

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

Plotted and Other Data

Notes:

Typical Performance Data



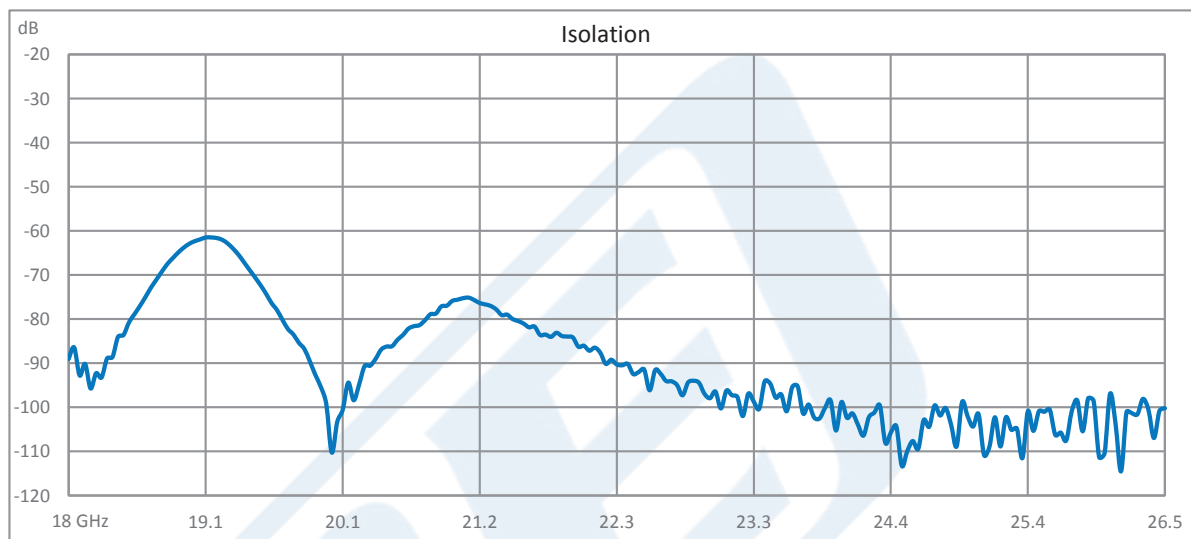
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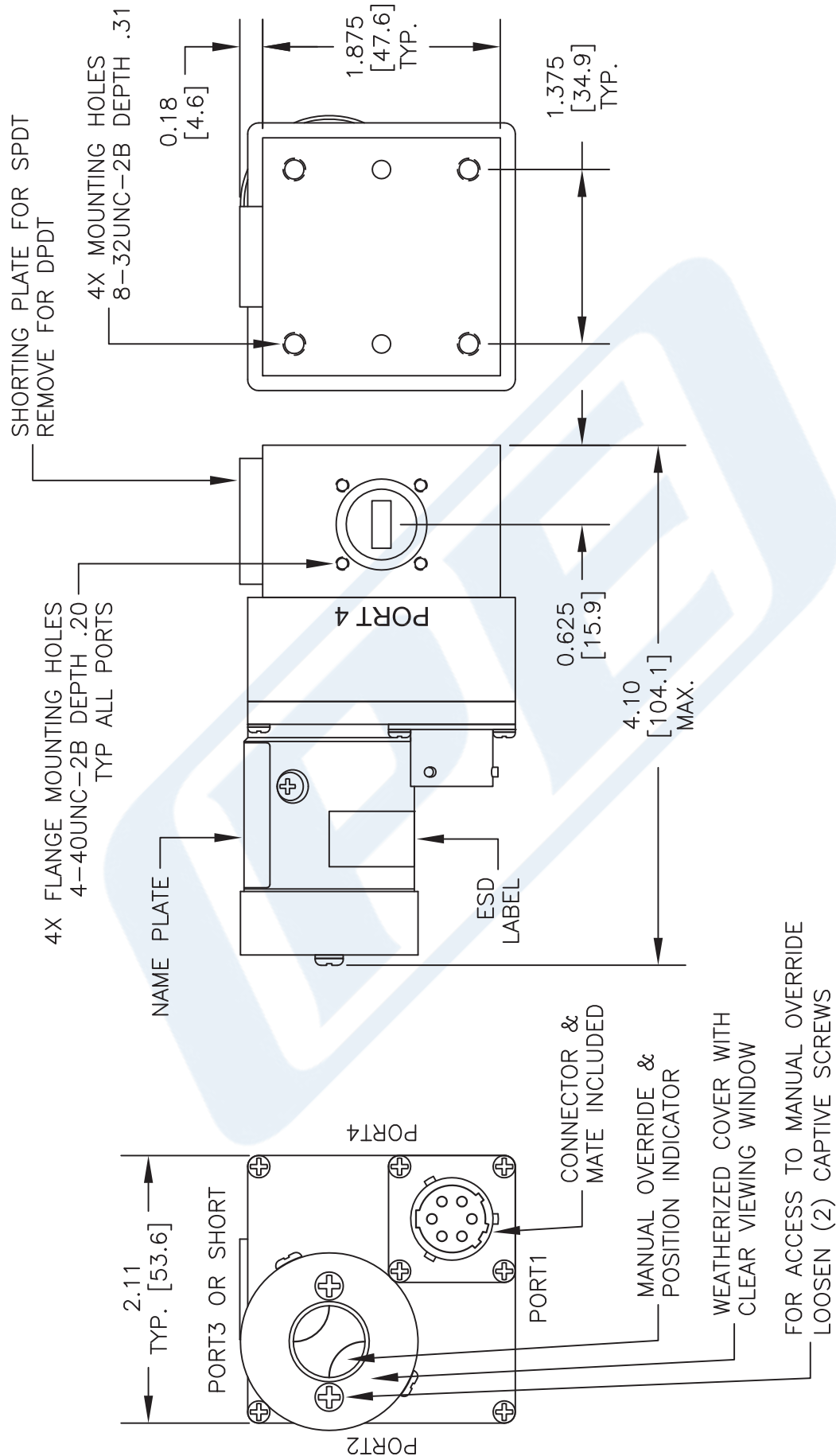
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PEWGS6005 CAD Drawing

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DWG TITLE

PEWGS6005

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

FSCM NO. 53919

CAD FILE 082916

SCALE N/A

SIZE A

2233

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