



WRD-650 Double Ridge Waveguide SPDT/DPDT
Latching Relay Switch, 6.5 GHz to 18 GHz Frequency
Band, 8,500 Watts, UG Cover, 12V, Self Cut Off

Waveguide Electromechanical Relay Switches Technical

PEWGS6046

Features

- 6.5 to 18 GHz SPDT Double Ridge Waveguide Switch
- Optional DPDT Configuration
- WRD-650 Double Ridge Waveguide
- Insertion Loss: 0.35 dB Max
- Isolation: 60 dB min
- +12 Vdc Nominal Voltage
- Input Power Rating up to 8.5 KW CW max
- Latching 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 PEWGS6046 electromechanical relay switch supports double ridge WRD-650 waveguide ports and operates across an ultra-wide frequency range from 6.5 GHz to 18 GHz. The switch 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 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 0.35 dB max insertion loss, 60 dB min Isolation, 1.18:1 max VSWR, and an operating life of 250K cycles minimum. 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 8.5 KW CW maximum. The double ridge waveguide ports have standard UG Cover 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
Latching
Self Cut Off, Set Indicators, Manual Override, Viewing Window

Description	Minimum	Typical	Maximum	Units
Frequency Range	6.5		18	GHz
Operating Voltage	10	12	20	Volts
Actuating Current @ 12 Volts			1	A
VSWR			1.18:1	
Insertion Loss			0.35	dB
Isolation	60			dB
Switching Time		100		ms
Input Power (CW)			8.5	kWatts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off PEWGS6046](#)

WRD-650 Double Ridge Waveguide SPDT/DPDT
Latching Relay Switch, 6.5 GHz to 18 GHz Frequency
Band, 8,500 Watts, UG Cover, 12V, Self Cut Off



Waveguide Electromechanical Relay Switches Technical

PEWGS6046

Mechanical Specifications

Size

Operating Life	250,000 Cycles
Operating Pressure	30 psig

Configuration

Waveguide Size	WRD-650
Flange Type	UG Cover
Body Material and Plating	Aluminum, Gold
Body Plating Specification	MIL-DTL-5541

Environmental Specifications

Temperature

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

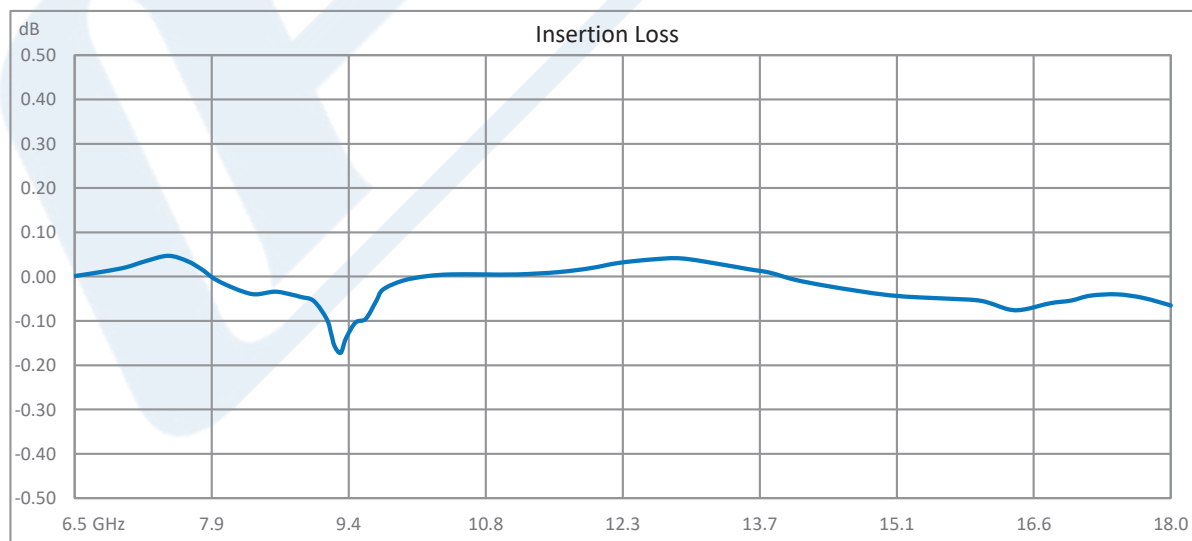
Humidity	0 to 100%, Fully Weatherized
----------	------------------------------

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

Plotted and Other Data

Notes:

Typical Performance Data



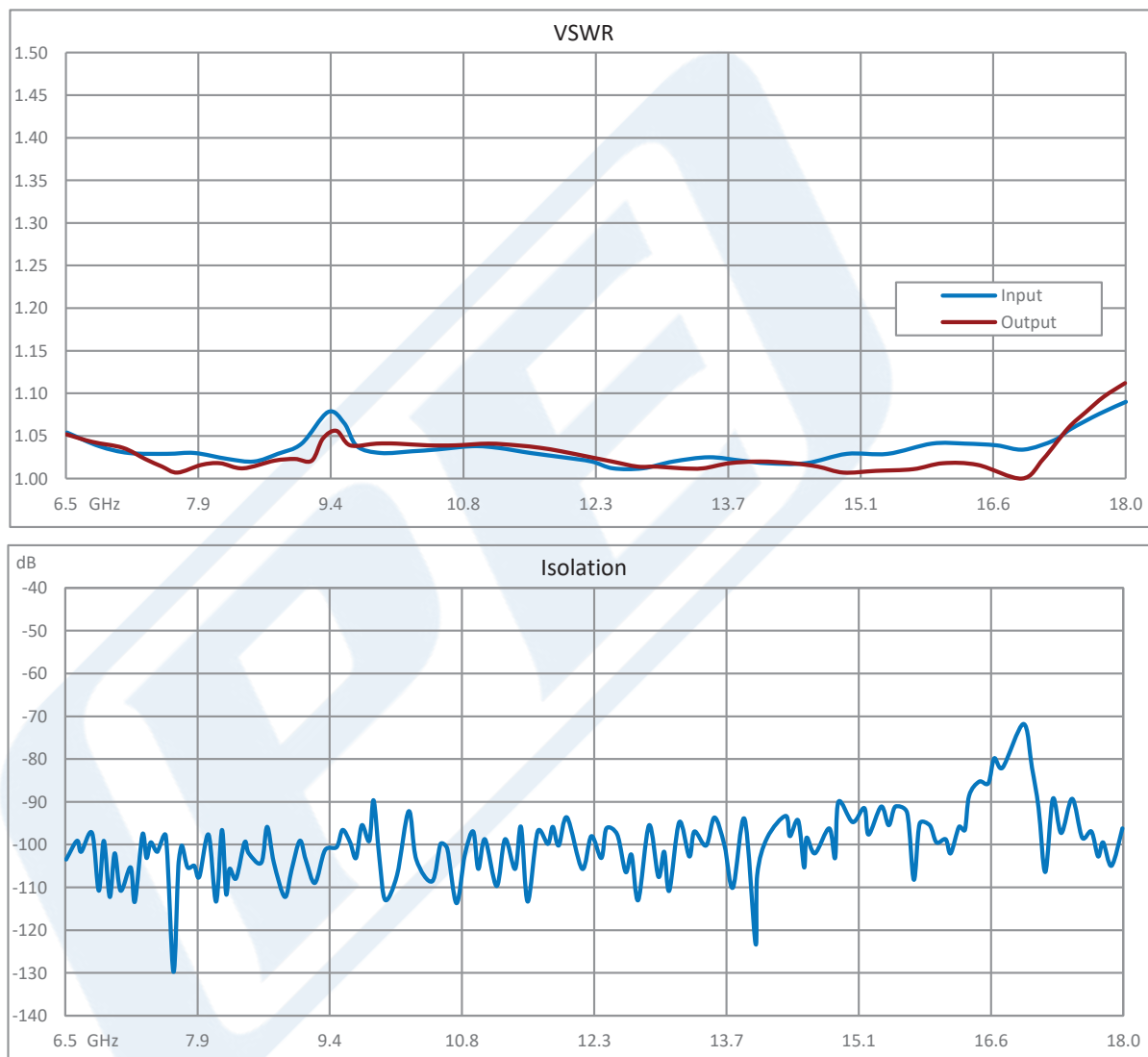
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off PEWGS6046](#)

WRD-650 Double Ridge Waveguide SPDT/DPDT
Latching Relay Switch, 6.5 GHz to 18 GHz Frequency
Band, 8,500 Watts, UG Cover, 12V, Self Cut Off



Waveguide Electromechanical Relay Switches Technical

PEWGS6046



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off PEWGS6046](#)



WRD-650 Double Ridge Waveguide SPDT/DPDT
Latching Relay Switch, 6.5 GHz to 18 GHz Frequency
Band, 8,500 Watts, UG Cover, 12V, Self Cut Off

Waveguide Electromechanical Relay Switches Technical

PEWGS6046

WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off 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.

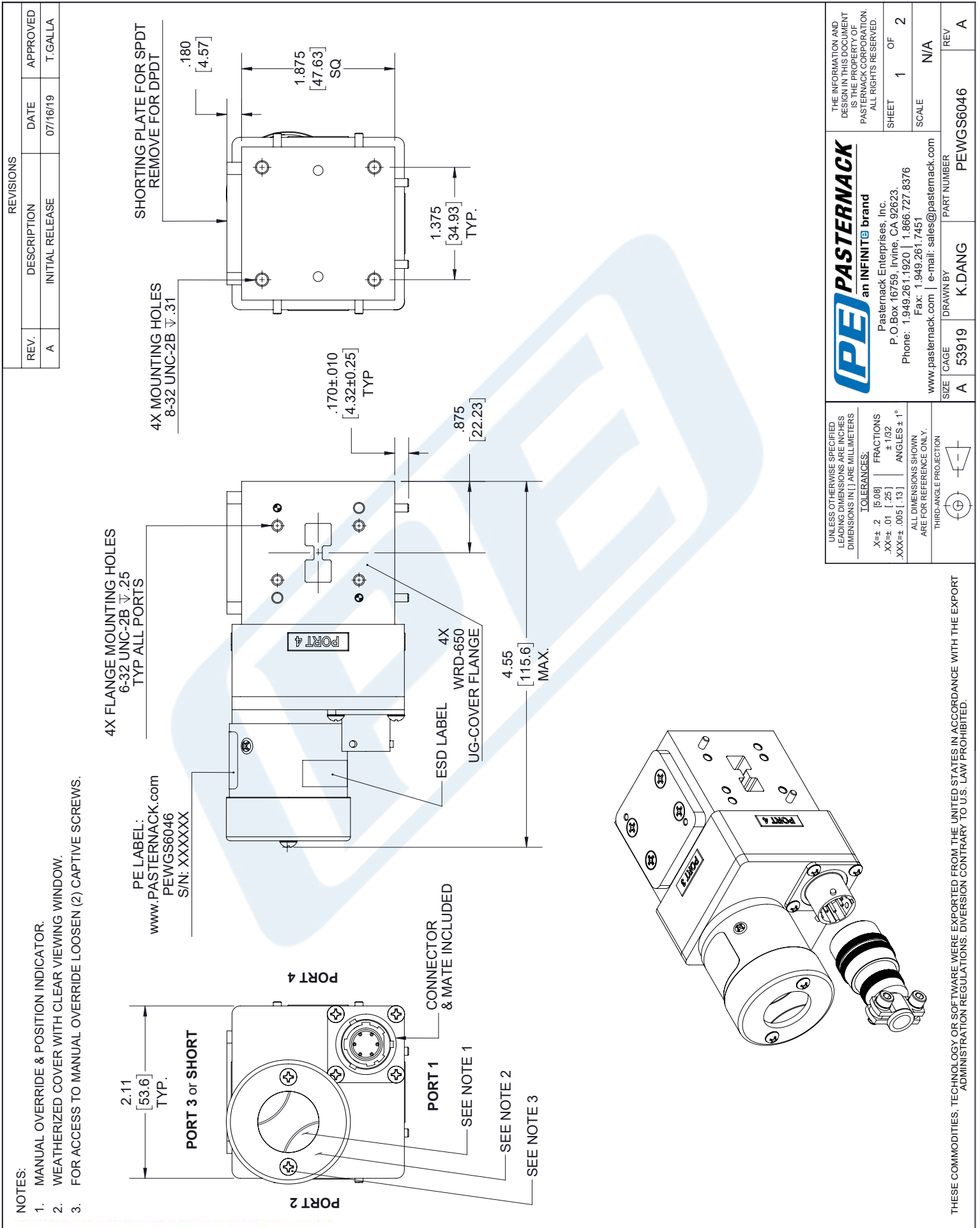
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off PEWGS6046](https://www.pasternack.com/wrd-650-waveguide-electromechanical-relay-spd-dpdt-latching-switch-18-ghz-pewgs6046-p.aspx)

URL: <https://www.pasternack.com/wrd-650-waveguide-electromechanical-relay-spd-dpdt-latching-switch-18-ghz-pewgs6046-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

PEWGS6046 CAD Drawing

WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off



UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

X $\pm$	2	[5.08]	FRACTIONS
XX $\pm$	.01	[.25]	$\pm$.132
XXX $\pm$	.005	[.13]	ANGLES $\pm$ 1°

ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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
www.pasternack.com | e-mail: sales@pasternack.com

THE INFORMATION AND
DESIGN IN THIS DOCUMENT
IS THE PROPERTY OF
PASTERNAK CORPORATION.
ALL RIGHTS RESERVED.

SHEET 1 OF 2

SCALE N/A

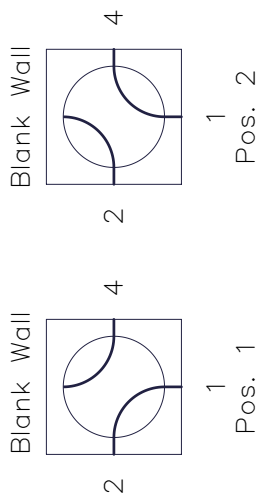
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	07/16/19	T. GALLA

SIZE	CAGE	DRAWN BY	PART NUMBER	REV
A	53919	K.DANG	PEWGS6046	A

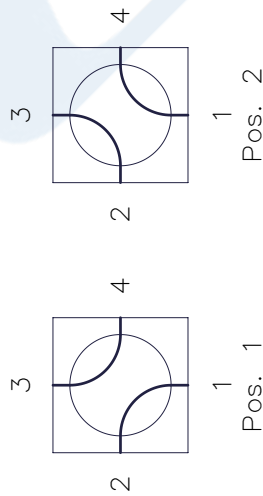
THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

PEWGS6046 CAD Drawing

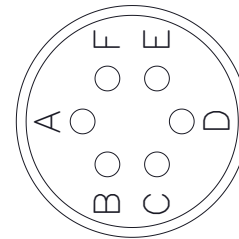
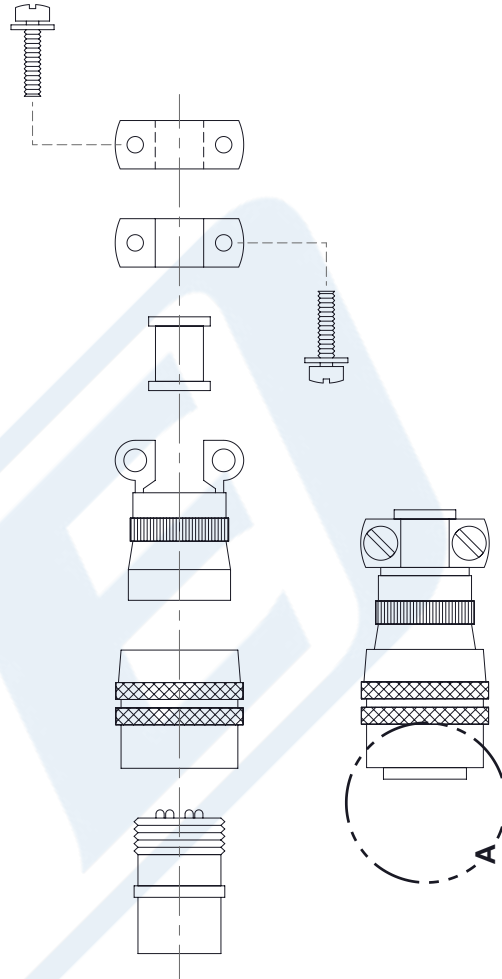
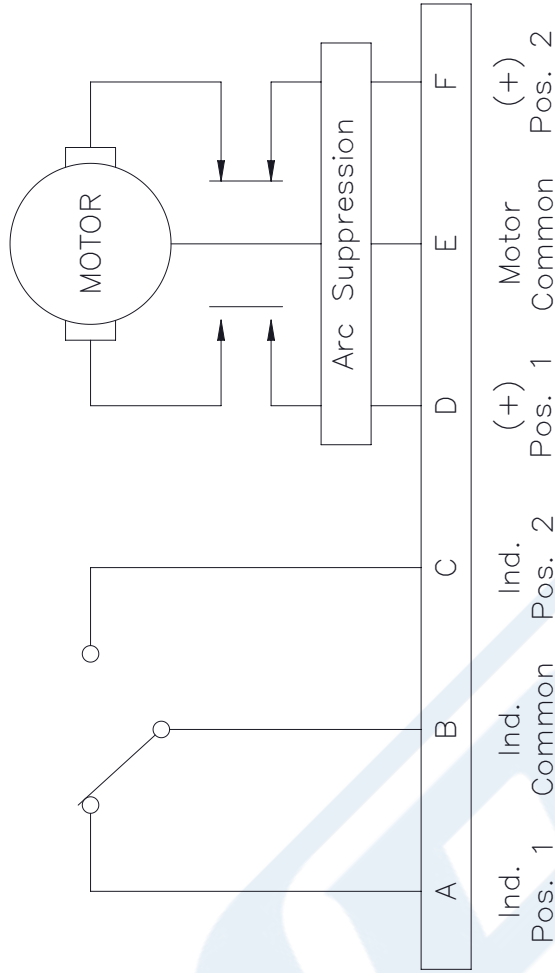
WRD-650 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, Self Cut Off



R.F. PATHS-SPDT



R.F. PATHS-DPDT



VIEW A

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE IN INCHES DIMENSIONS IN [] ARE MILLIMETERS	
TOLERANCES:	FRACTIONS
X±.2 [5.08]	XX±.01 [.25]
XXX±.005 [.13]	ANGLES ± 1°
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.	
THIRD-ANGLE PROJECTION	

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 www.pasternack.com e-mail: sales@pasternack.com	
SIZE	CAGE
A	53919
DRAWN BY	K.DANG
PART NUMBER	PEWGS6046
REV	A

THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION. ALL RIGHTS RESERVED.	
SHEET	2 OF 2
SCALE	N/A

THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.