



Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6448

**Features**

- Transfer Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Latching Actuator with Self Cut-Off
- Suppression Diodes
- 5M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Control
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 90 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets Mil-STD-202 Test Conditions

**Applications**

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IoT

**Description**

The PE71S6448 is a Transfer electromechanical relay switch that operates across a wide frequency range of DC to 26.5 GHz and can handle up to 90W of Average power in a break before make condition. The 50 Ohm design is rated for 5 million lifecycles and features a Latching Self Cut-Off Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Additional features include suppression diodes which limit voltage spikes or reverse current, and indicators. Impressive typical performance includes 0.4 dB insertion loss and isolation greater than 80 dB. This switch requires +12Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports SMA female connectors and solder terminal pins for DC Control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

**Electrical Specifications**

Switch Type	DPDT
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	Self Cut Off, Diodes

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Set Current @ 12 Volts			300	mA
VSWR		1.3:1	1.6:1	
Insertion Loss		0.4	0.8	dB
Isolation	60	80		dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA PE71S6448](#)



Transfer Electromechanical Relay Latching Switch  
with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M  
Lifecycles, 12V, Suppression Diodes, SMA

## Electromechanical Relay Switches Technical Data

PE71S6448

Switching Time	20	ms Max
----------------	----	--------

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12	12 to 18	18 to 26.5		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.6:1		
Insertion Loss, Max	0.2	0.3	0.5	0.8		dB
Isolation, Min	80	70	62	60		dB

### Mechanical Specifications

#### Size

Length	2 in [50.8 mm]
Width/Diameter	2.16 in [54.86 mm]
Height	1.32 in [33.53 mm]

Finish	NICKEL
Package Type	Connectorized
Operating Life	5,000,000 Cycles

#### Connectors

RF Connector Type	SMA Female
-------------------	------------

### Environmental Specifications

#### Temperature

Operating Range	-25 to +65 deg C
Storage Range	-55 to +100 deg C

Humidity	Moisture resistant or immersion sealing available
Shock	MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration	MIL-STD-202 Method 214, Condition D, 10G RMS (non oper)

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

### Plotted and Other Data

Notes:

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA PE71S6448](#)

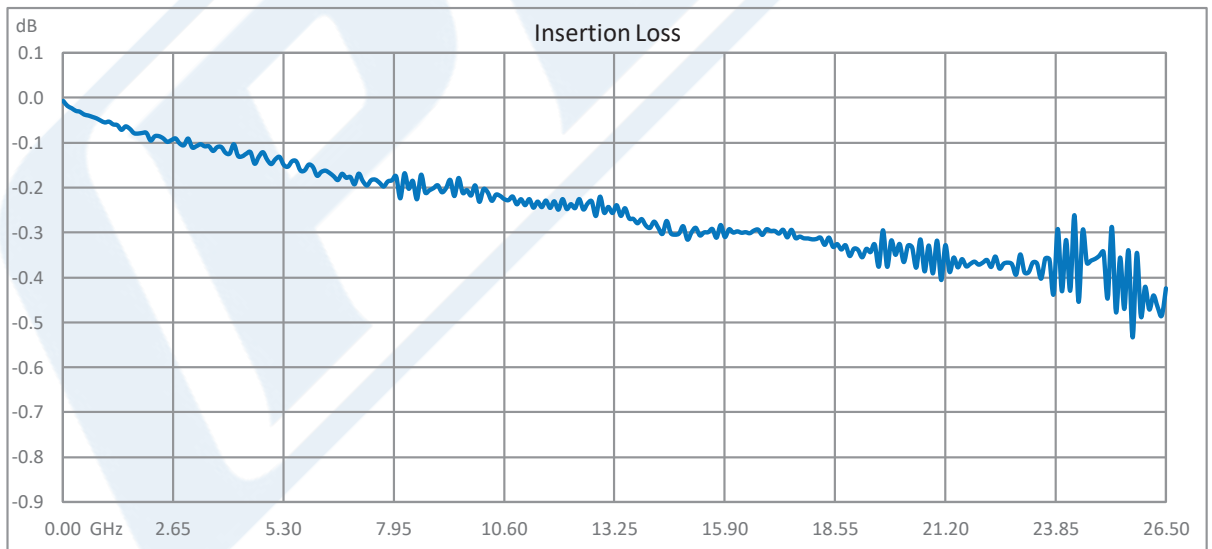
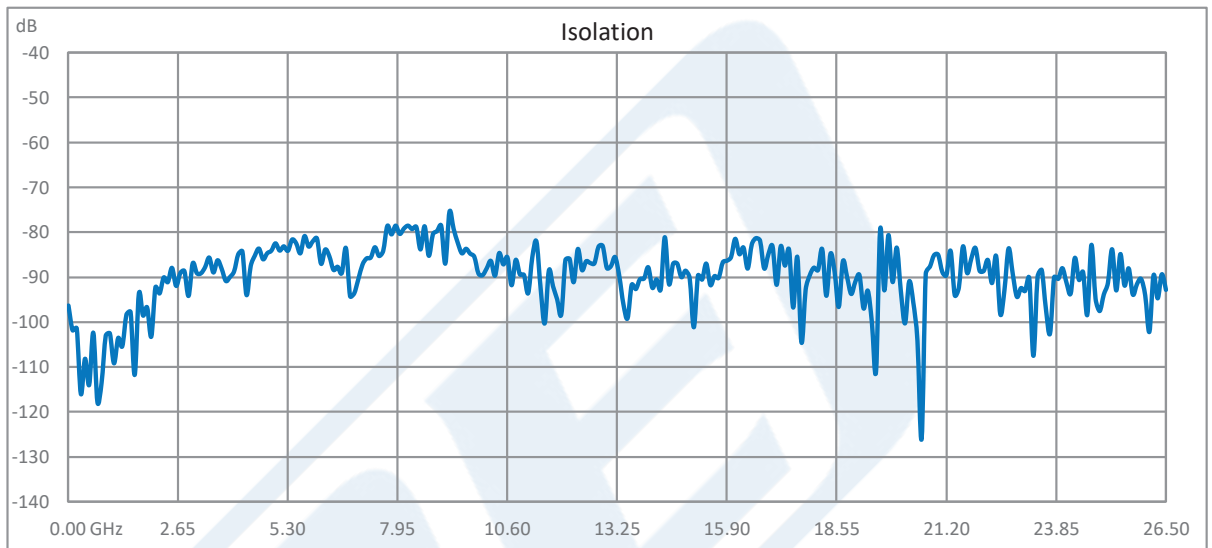


Transfer Electromechanical Relay Latching Switch  
with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M  
Lifecycles, 12V, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6448

Typical Performance Data



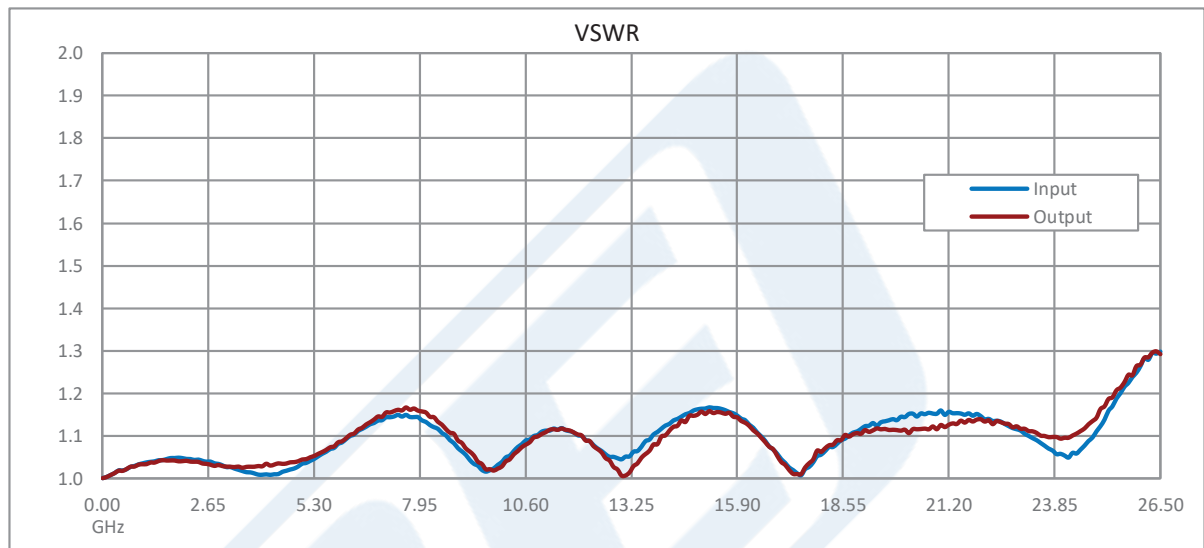
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA PE71S6448](#)



Transfer Electromechanical Relay Latching Switch  
with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M  
Lifecycles, 12V, Suppression Diodes, SMA

## Electromechanical Relay Switches Technical Data

PE71S6448



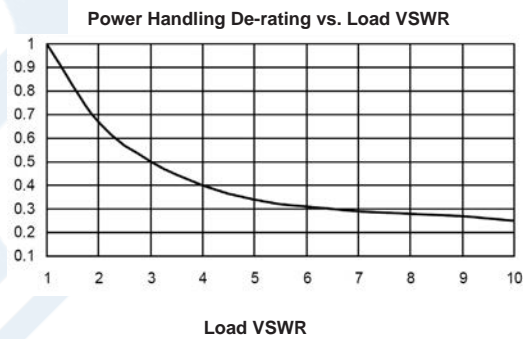
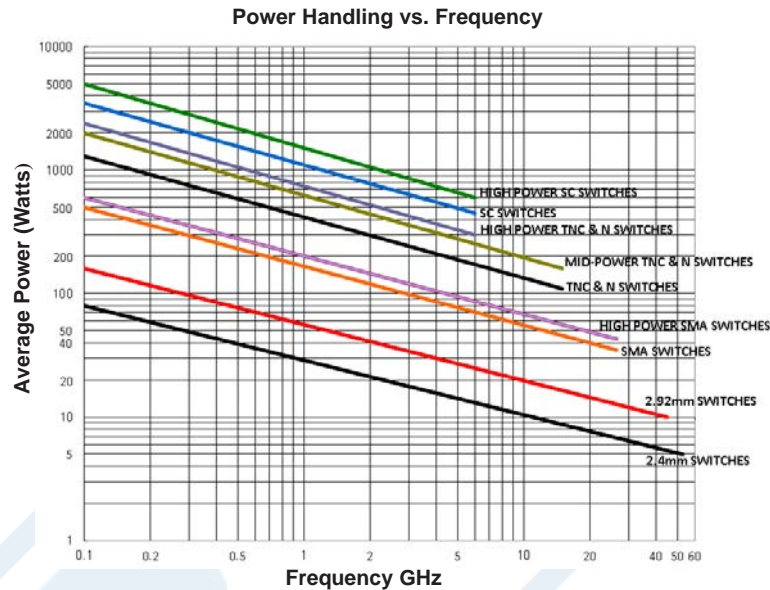
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA PE71S6448](#)



Transfer Electromechanical Relay Latching Switch  
with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M  
Lifecycles, 12V, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6448



Power Handling Chart and Derating Curves based on the following Test and Environmental Conditions:  
 Ambient temperature: 20 - 25°C  
 Altitude: Sea Level to 1,000 feet  
 Relative Humidity: 50 - 55%  
 Load VSWR: ≤ 1.20:1  
 Operation: Cold Switching

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA PE71S6448](#)



Transfer Electromechanical Relay Latching Switch  
with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M  
Lifecycles, 12V, Suppression Diodes, SMA

## Electromechanical Relay Switches Technical Data

PE71S6448

Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA 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: [Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA PE71S6448](https://www.pasternack.com/dpdt-electromechanical-relay-latching-switch-30-ghz-12v-diodes-2.92mm-pe71s6448-p.aspx)

URL: <https://www.pasternack.com/dpdt-electromechanical-relay-latching-switch-30-ghz-12v-diodes-2.92mm-pe71s6448-p.aspx>

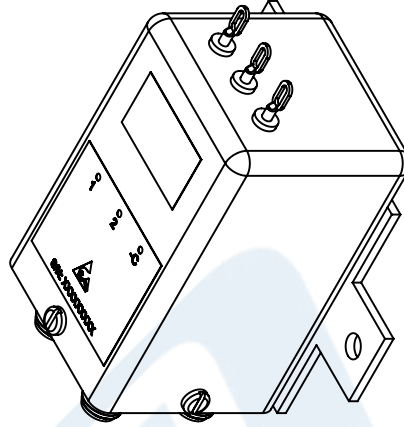
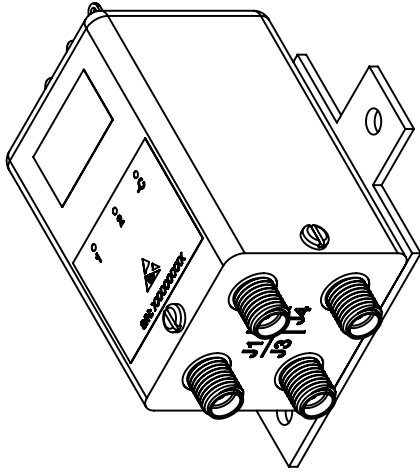
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such 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.

# PE71S6448 CAD Drawing

Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/26/2021	T.GALLA

REVISIONS



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  
 REV A

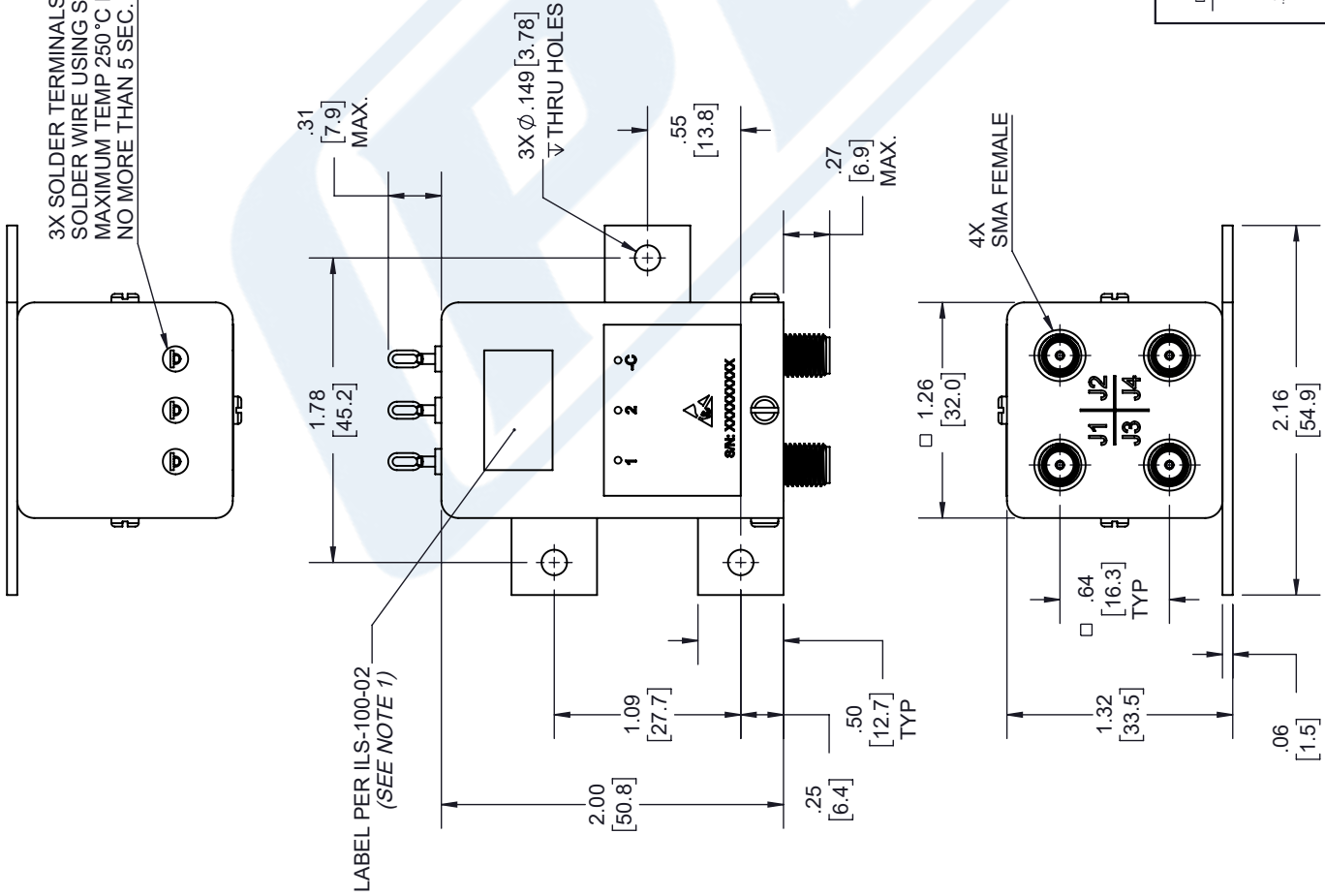


Pasternack Enterprises, Inc.  
 P.O. Box 16759, Irvine, CA 92623.  
 Phone: 1.949.261.1920 | 1.866.727.8376  
 Fax: 1.949.261.7451  
 Website: www.pasternack.com  
 E-mail: sales@pasternack.com

SIZE A  
 CAGE CODE 53919  
 DRAWN BY K.DANG  
 ITEM NO. PE71S6448

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS  
 TOLERANCES:  
 .X = ±.2 [5.08]  
 .XX = ±.02 [51]  
 .XXX = ±.005 [13]  
 FRACTIONS ± 1/32  
 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.

3X SOLDER TERMINALS,  
 SOLDER WIRE USING SN96,  
 MAXIMUM TEMP 250 °C FOR  
 NO MORE THAN 5 SEC.



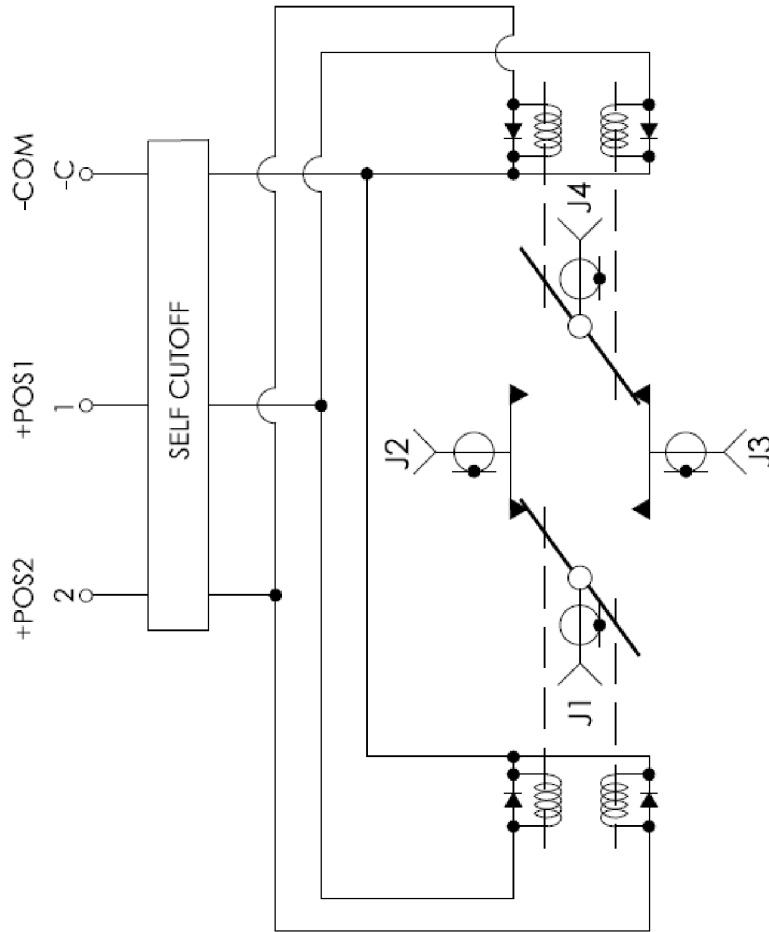
LABEL PER ILS-100-02  
 (SEE NOTE 1)

NOTES:  
 1. LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY.  
 LABEL LOCATION FOR REFERENCE ONLY.

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.

# PE71S6448 CAD Drawing

Transfer Electromechanical Relay Latching Switch with Self Cut-Off, DC to 26.5 GHz, up to 90W, 5M Lifecycles, 12V, Suppression Diodes, SMA



**SCHEMATIC**

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

TOLERANCES:  
 .X = ±.2 [ .008 ] FRACTIONS ± 1/32  
 .XX = ±.02 [ .51 ] ANGLES ± 1°  
 .XXX = ±.005 [ .13 ]  
 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%L / -0  
 ALL DIMENSIONS SHOWN  
 ARE FOR REFERENCE ONLY.



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

SHEET 2 OF 2

SCALE N/A

REV A



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

SIZE A CAGE CODE 53919 DRAWN BY K.DANG ITEM NO. PE71S6448

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.