



SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA

## Electromechanical Relay Switches Technical Data Sheet

PE71S6471

### Features

- Single Pole Double Throw Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Latching Actuator with Self Cut-Off
- TTL Logic Control
- Suppression Diodes
- Indicators
- 5M Lifecycle Rating
- Insertion Loss 0.3 dB typ
- Internally Terminated
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Command 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 PE71S6471 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 26.5 GHz and can handle up to 90 Watts of Average power in a break before make condition. The 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. The output port is terminated in 50 ohms when switched in the isolation (off) state. Additional features include TTL control logic, suppression diodes which limit voltage spikes or reverse current, and indicators. Impressive typical performance includes 0.3 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 command control functions. 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	SPDT, Terminated
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	Self Cut Off, Indicators, TTL Logic
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA PE71S6471](#)



SPDT E-M Relay Latching Switch, Self Cut-Off,  
Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles,  
12V, Suppression Diodes, TTL, Indicators, SMA

## Electromechanical Relay Switches Technical Data

PE71S6471

Actuating Set Current @ 12 Volts		420	mA
VSWR	1.4:1	1.5:1	
Insertion Loss	0.3	0.5	dB
Isolation	40	80	dB
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	1.7:1		
Insertion Loss, Max	0.15	0.25	0.35	0.6		dB
Isolation, Min	80	70	60	50		dB

### Mechanical Specifications

#### Size

Length	1.85 in [46.99 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	0.56 in [14.22 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)

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA PE71S6471](#)



SPDT E-M Relay Latching Switch, Self Cut-Off,  
Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles,  
12V, Suppression Diodes, TTL, Indicators, SMA

## Electromechanical Relay Switches Technical Data

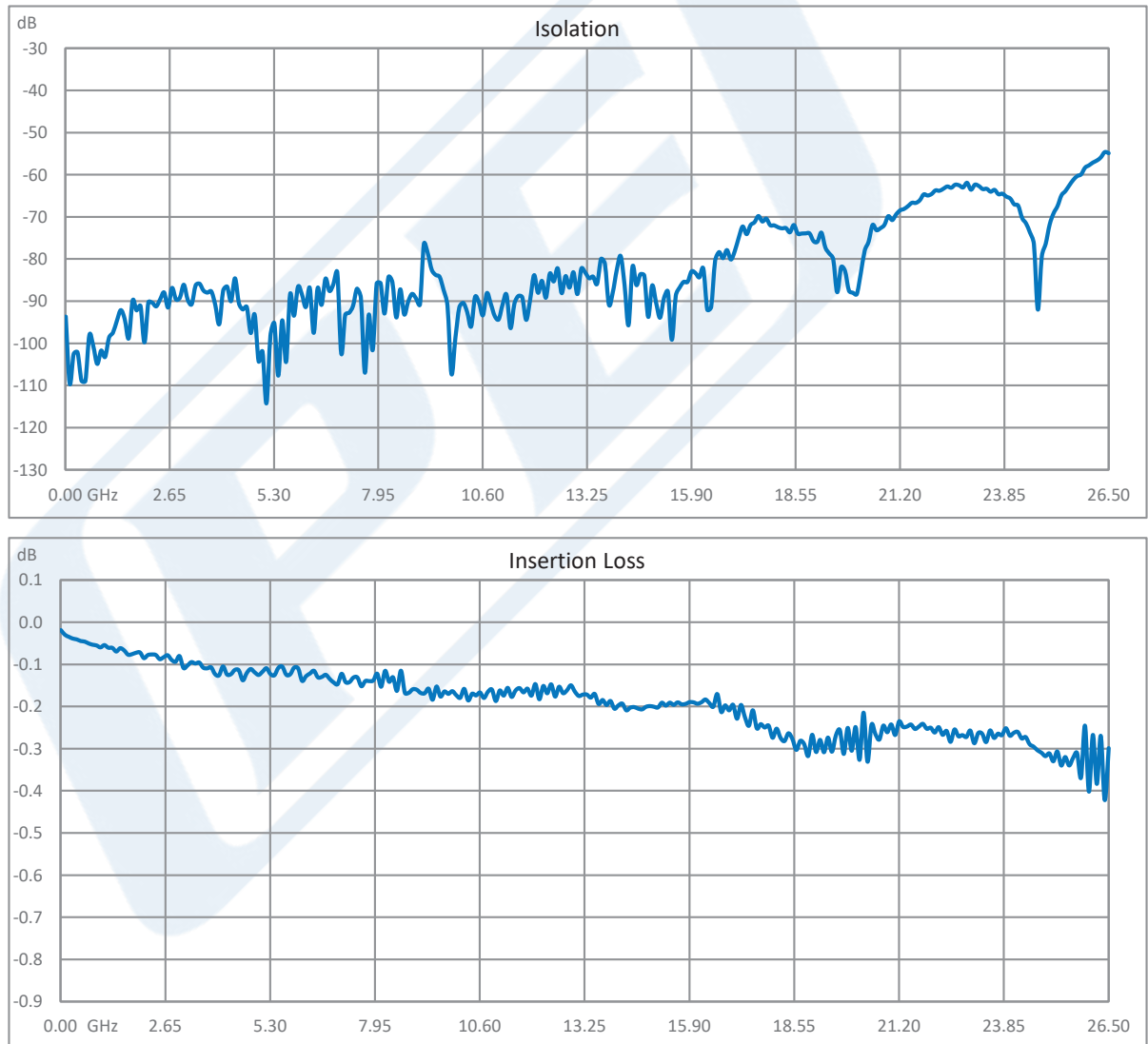
PE71S6471

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

### Plotted and Other Data

Notes:

#### Typical Performance Data



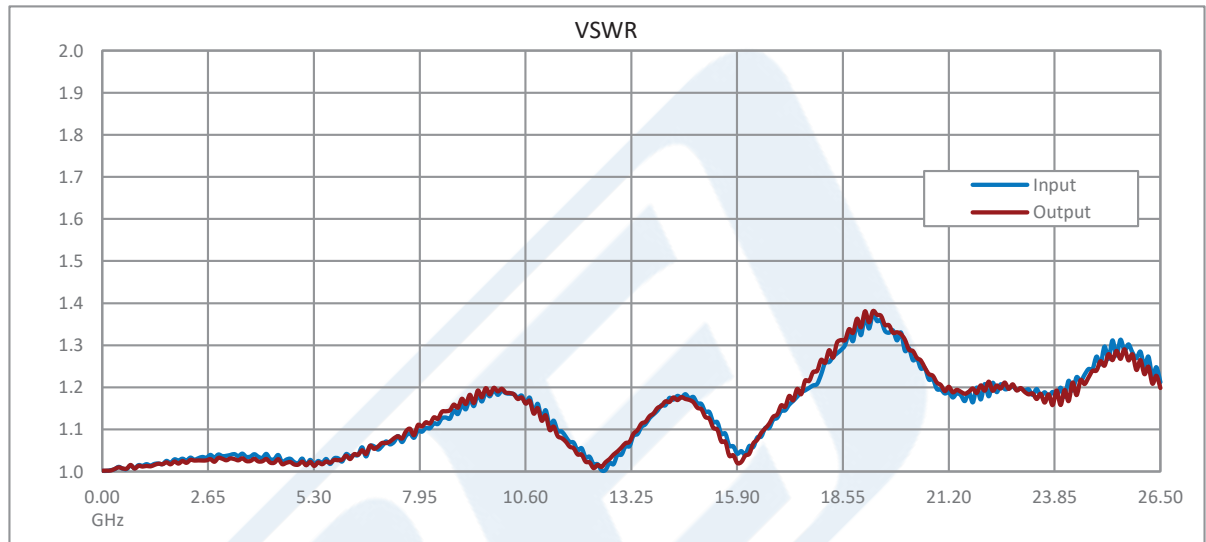
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA PE71S6471](#)



SPDT E-M Relay Latching Switch, Self Cut-Off,  
Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles,  
12V, Suppression Diodes, TTL, Indicators, SMA

## Electromechanical Relay Switches Technical Data

PE71S6471



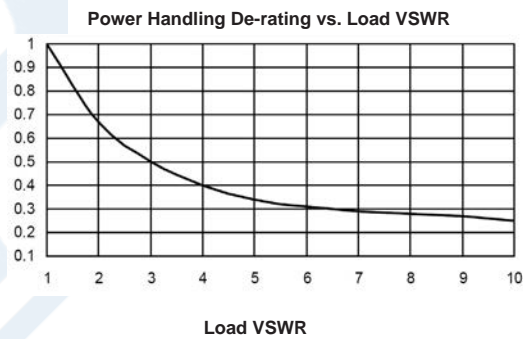
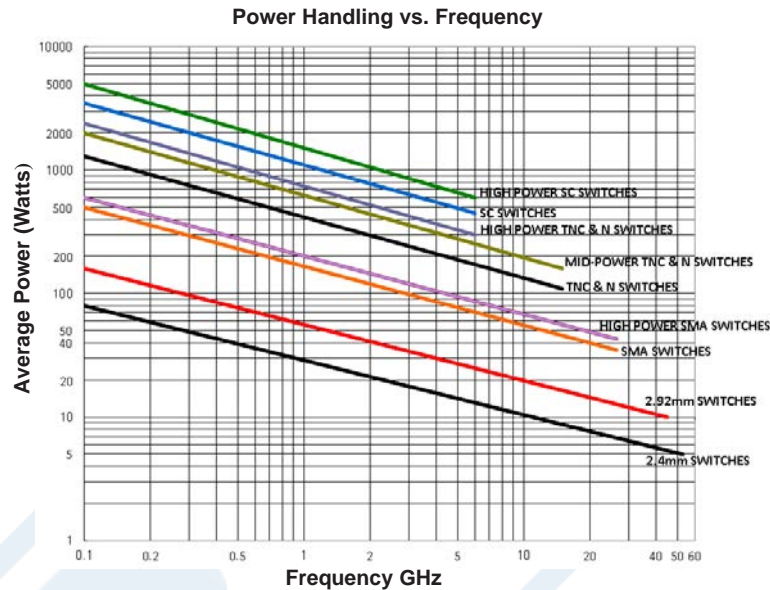
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA PE71S6471](#)



SPDT E-M Relay Latching Switch, Self Cut-Off,  
Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles,  
12V, Suppression Diodes, TTL, Indicators, SMA

Electromechanical Relay Switches Technical Data

PE71S6471



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:  $\leq 1.20:1$   
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: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA PE71S6471](#)



SPDT E-M Relay Latching Switch, Self Cut-Off,  
Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles,  
12V, Suppression Diodes, TTL, Indicators, SMA

## Electromechanical Relay Switches Technical Data

PE71S6471

SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, 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: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA PE71S6471](https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-terminated-33.5-ghz-12v-indicators-ttl-2.92mm-pe71s6471-p.aspx)

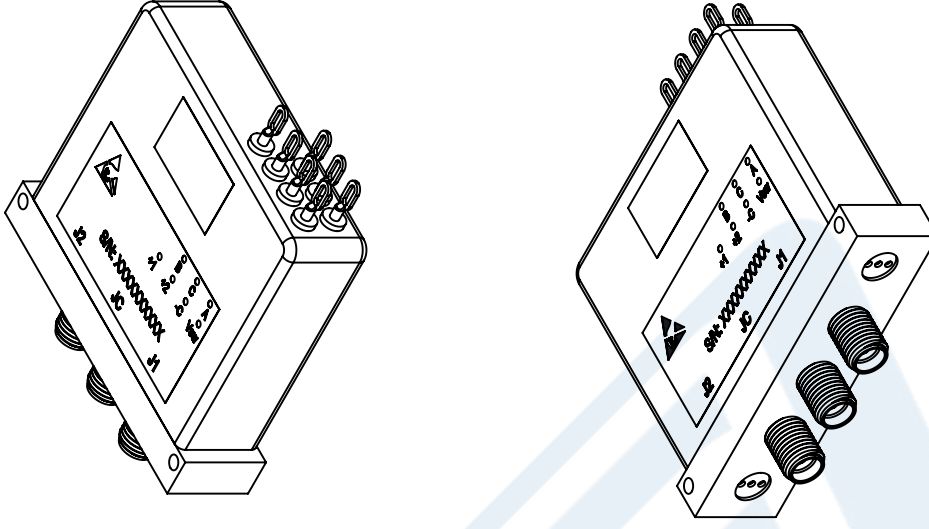
URL: <https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-terminated-33.5-ghz-12v-indicators-ttl-2.92mm-pe71s6471-p.aspx>

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.

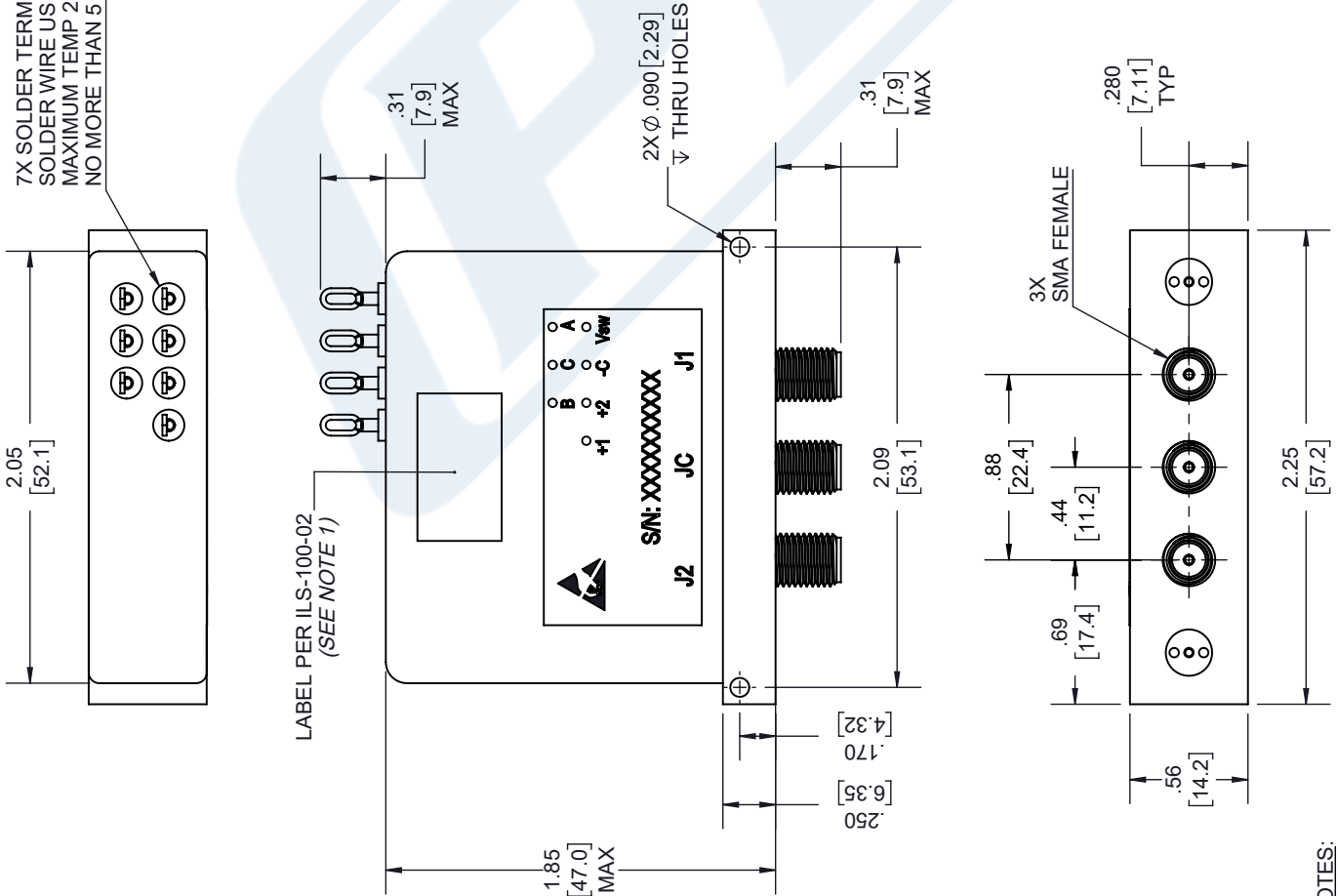
# PE71S6471 CAD Drawing

SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz,  
90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	2/2/2021	T.GALLA



7X SOLDER TERMINALS,  
SOLDER WIRE USING SN96  
MAXIMUM TEMP 250 °C FOR  
NO MORE THAN 5 SEC.



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

TOLERANCES:  
 .X = ±.2 [5.08]    FRACTIONS ±.1032  
 .XX = ±.02 [ .51]    ±.1032  
 .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.

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

**PE PASTERNAK**  
an INFINITE 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

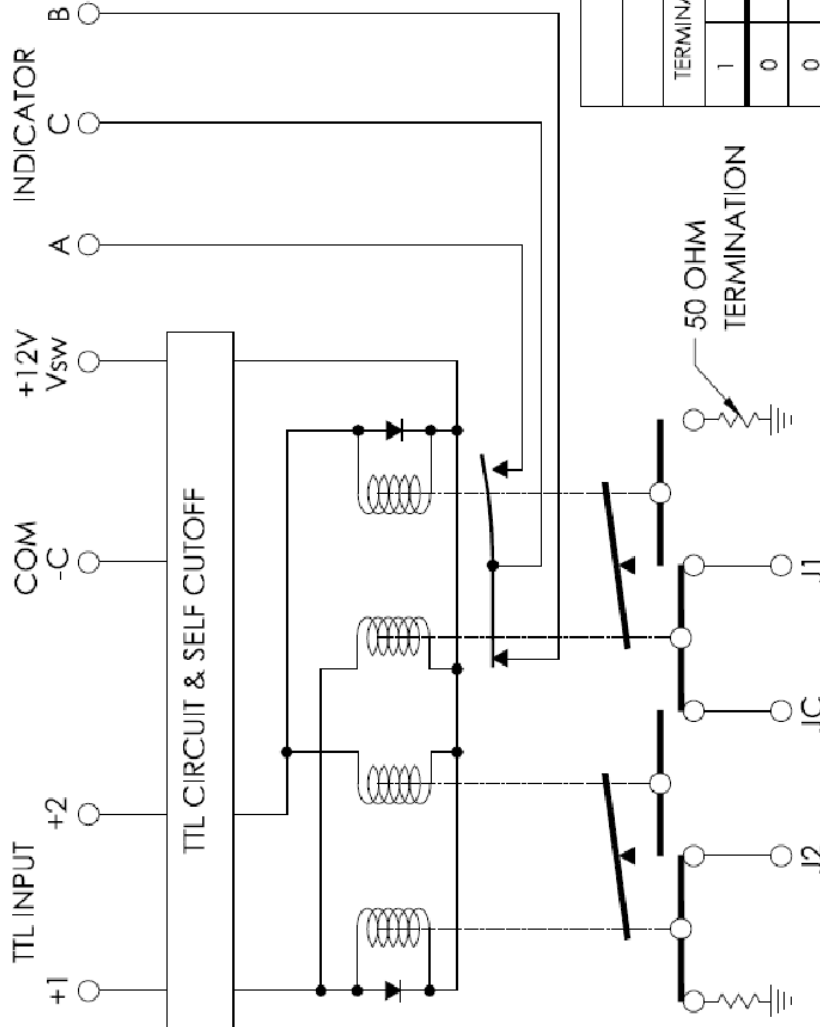
SIZE A    CAGE CODE 53919    DRAWN BY K.DANG    ITEM NO. PE71S6471    REV A

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.

# PE71S6471 CAD Drawing

SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz,  
90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA



**SCHEMATIC**

**OPERATIONAL**

**LOGIC TABLE**

TERMINALS	RF PORTS	INDICATOR	TERMINATION
1	J1-JC	B-C	A-C
0	NO CHANGE	NO CHANGE	J2 TERMINATED   J1 TERMINATED
0	OFF	ON	NO CHANGE
1	ON	OFF	ON
0	ON	OFF	OFF
1	FORBIDDEN	FORBIDDEN	FORBIDDEN

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% / -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		

**PE PASTERNAK**  
an INFINITE 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

SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	K.DANG	PE71S6471

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.