



SPDT Electromechanical Relay Latching Switch,
Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles,
28V, Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6442

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
- TTL Logic Control
- Suppression Diodes
- Indicators
- Insertion Loss 0.3 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +28 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 PE71S6442 is a Single Pole Double Throw (SP2T) 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 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 +28Vdc 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
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	26	28	30	Volts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Suppression Diodes, SMA PE71S6442](#)



SPDT Electromechanical Relay Latching Switch,
Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles,
28V, Indicators, TTL, Supression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6442

Actuating Set Current @ 28 Volts		65	mA
VSWR	1.3:1	1.7:1	
Insertion Loss	0.3	0.6	dB
Isolation	50	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	1.8 in [45.72 mm]
Width/Diameter	1.5 in [38.1 mm]
Height	0.52 in [13.21 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 Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Supression Diodes, SMA PE71S6442](#)



SPDT Electromechanical Relay Latching Switch,
Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles,
28V, Indicators, TTL, Supression Diodes, SMA

Electromechanical Relay Switches Technical Data

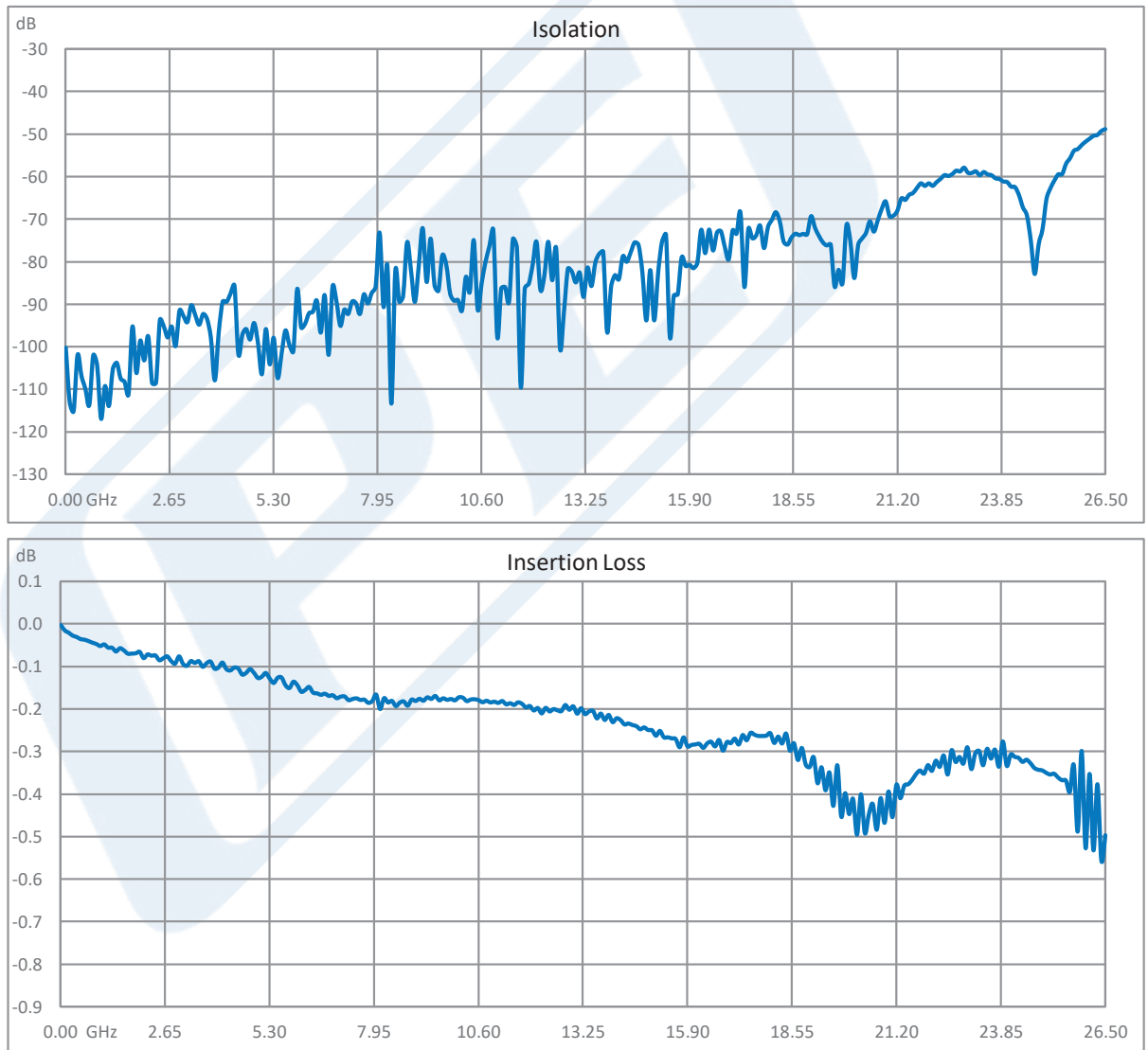
PE71S6442

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

Plotted and Other Data

Notes:

Typical Performance Data



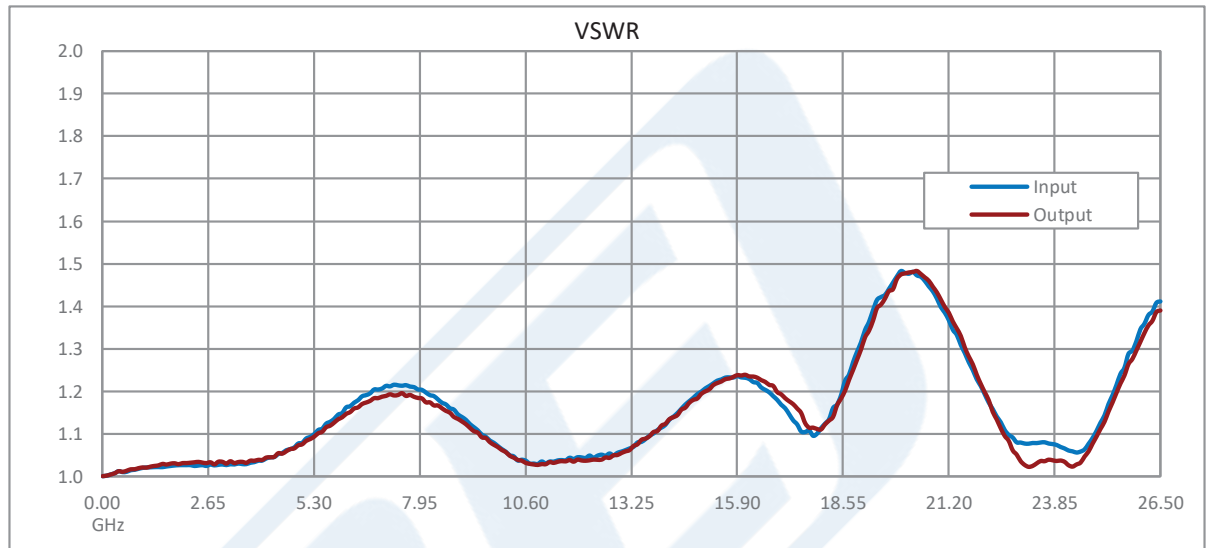
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Supression Diodes, SMA PE71S6442](#)



SPDT Electromechanical Relay Latching Switch,
Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles,
28V, Indicators, TTL, Supression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6442



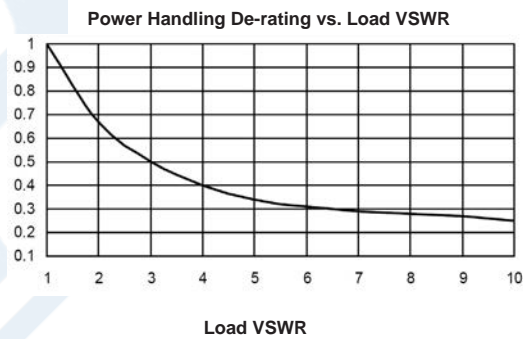
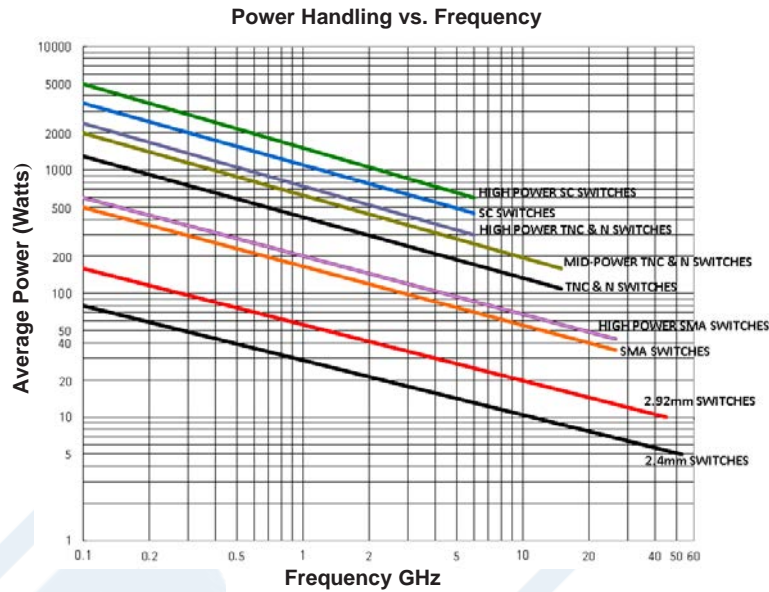
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Supression Diodes, SMA PE71S6442](#)



SPDT Electromechanical Relay Latching Switch,
Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles,
28V, Indicators, TTL, Supression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6442



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 Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Supression Diodes, SMA PE71S6442](#)



SPDT Electromechanical Relay Latching Switch,
Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles,
28V, Indicators, TTL, Supression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6442

SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Supression 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: [SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz, 90W, 5M Lifecycles, 28V, Indicators, TTL, Supression Diodes, SMA PE71S6442](https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-26.5-ghz-28v-indicators-ttl-sma-pe71s6442-p.aspx)

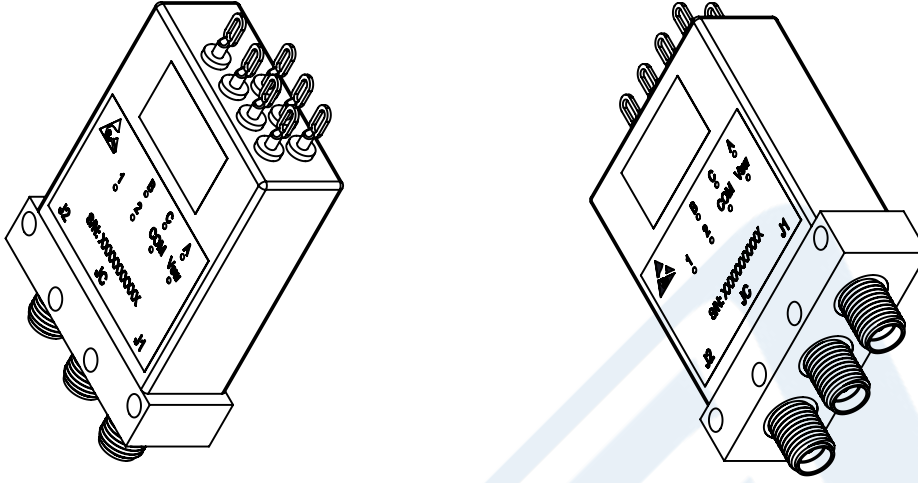
URL: <https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-26.5-ghz-28v-indicators-ttl-sma-pe71s6442-p.aspx>

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.

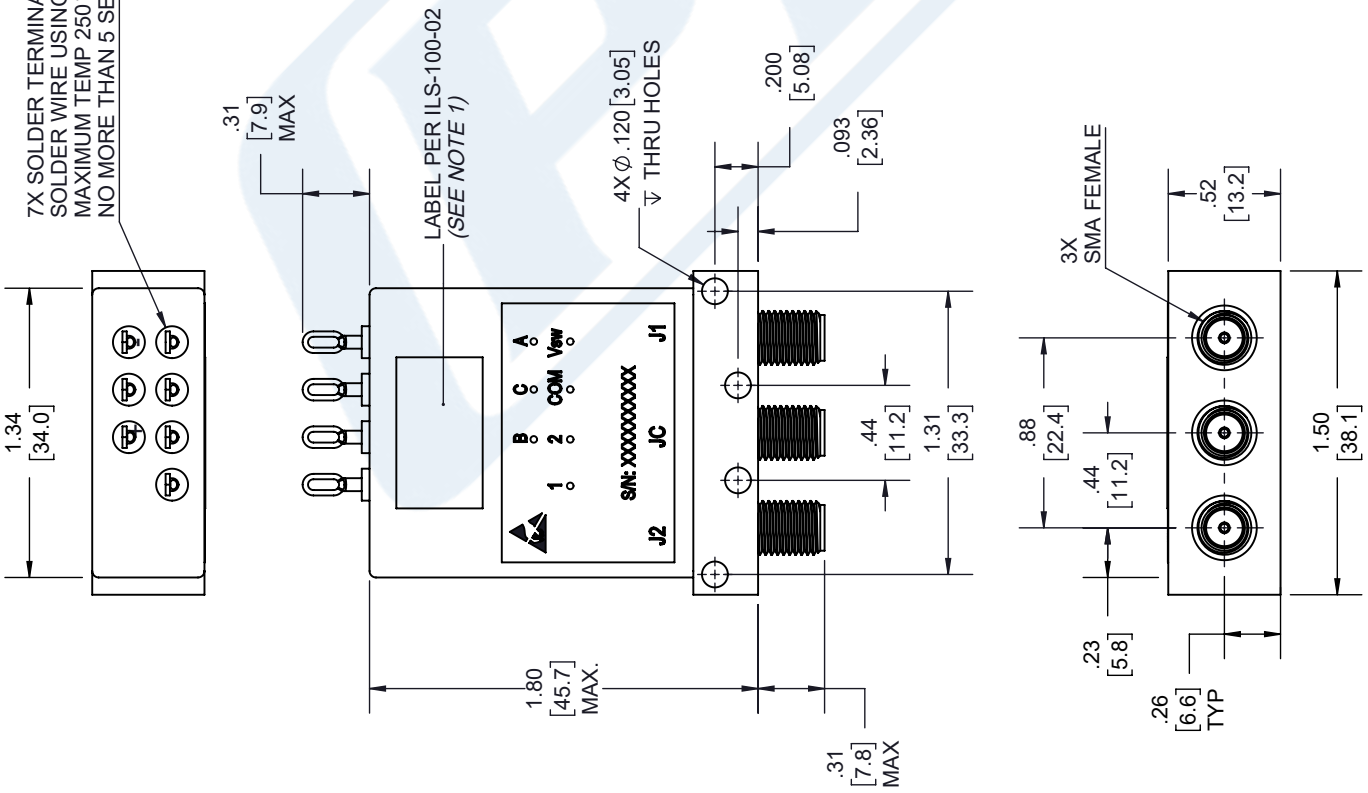
PE71S6442 CAD Drawing

SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz,
90W, 5M Lifecycles, 28V, Indicators, TTL, Supression Diodes, SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	11/12/2020	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
 .XX = ±.02 [.51] ±.1/32
 .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.

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

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

ITEM NO. PE71S6442

DRAWN BY K.DANG

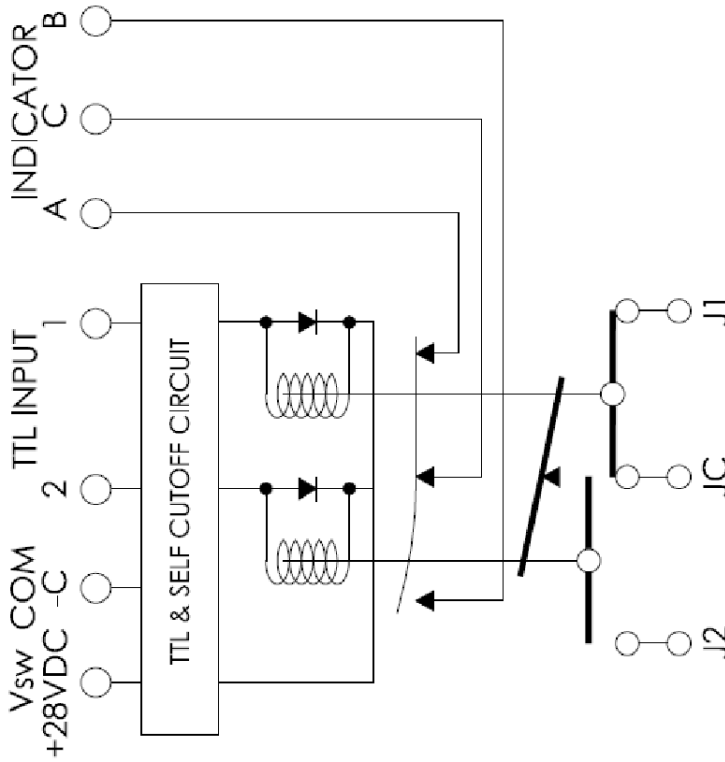
CAGE CODE 53919

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.

PE71S6442 CAD Drawing

SPDT Electromechanical Relay Latching Switch, Self Cut-Off, DC to 26.5 GHz,
90W, 5M Lifecycles, 28V, Indicators, TTL, Suppression Diodes, SMA



SCHEMATIC

OPERATIONAL LOGIC TABLE				
TERMINALS	RF PORTS	INDICATOR		
1 2	J1 J2	A-C	B-C	
0 0	NO CHANGE	NO CHANGE	NO CHANGE	
0 1	OFF	ON	OFF	ON
1 0	ON	OFF	ON	OFF
1 1	FORBIDDEN	FORBIDDEN	FORBIDDEN	FORBIDDEN

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

TOLERANCES:
 .X = ±.2 [.008] FRACTIONS
 .XX = ±.02 [.51] ±.1/32
 .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.

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 PE71S6442

THIRD-ANGLE PROJECTION

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