



SP4T E-M Relay Normally Open Switch, Terminated,
DC to 26.5 GHz, 90W, 2M Lifecycles, 12V,
Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6472

Features

- Single Pole Four Throw Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Normally Open Actuator
- TTL Logic Control
- Suppression Diodes
- Indicators
- 2M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 80 dB typ
- Internally Terminated
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Terminal Solder 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 PE71S6472 is a Single Pole Four Throw (SP4T) 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 2 million lifecycles and features a Normally Open Actuator where the selected position remains active with constant voltage, all positions are open when voltage is removed. The output ports are 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 0.4 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 terminal solder 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	SP4T, Terminated
Actuator Type	Normally Open
Switching Sequence	Break Before Make
Actuator Options	Indicators, TTL Logic, Solder Pins
TTL Control	on: 2.4 to 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: [SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA PE71S6472](#)



SP4T E-M Relay Normally Open Switch, Terminated,
DC to 26.5 GHz, 90W, 2M Lifecycles, 12V,
Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6472

Actuating Set Current @ 12 Volts		420	mA
VSWR	1.3:1	1.7:1	
Insertion Loss	0.4	0.7	dB
Isolation	70	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	0.4	0.7		dB
Isolation, Min	80	80	80	70		dB

Mechanical Specifications

Size

Length	2.52 in [64.01 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	2.25 in [57.15 mm]
Finish	NICKEL
Package Type	Connectorized
Operating Life	2,000,000 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
Shock

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

Vibration

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA PE71S6472](#)



SP4T E-M Relay Normally Open Switch, Terminated,
DC to 26.5 GHz, 90W, 2M Lifecycles, 12V,
Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

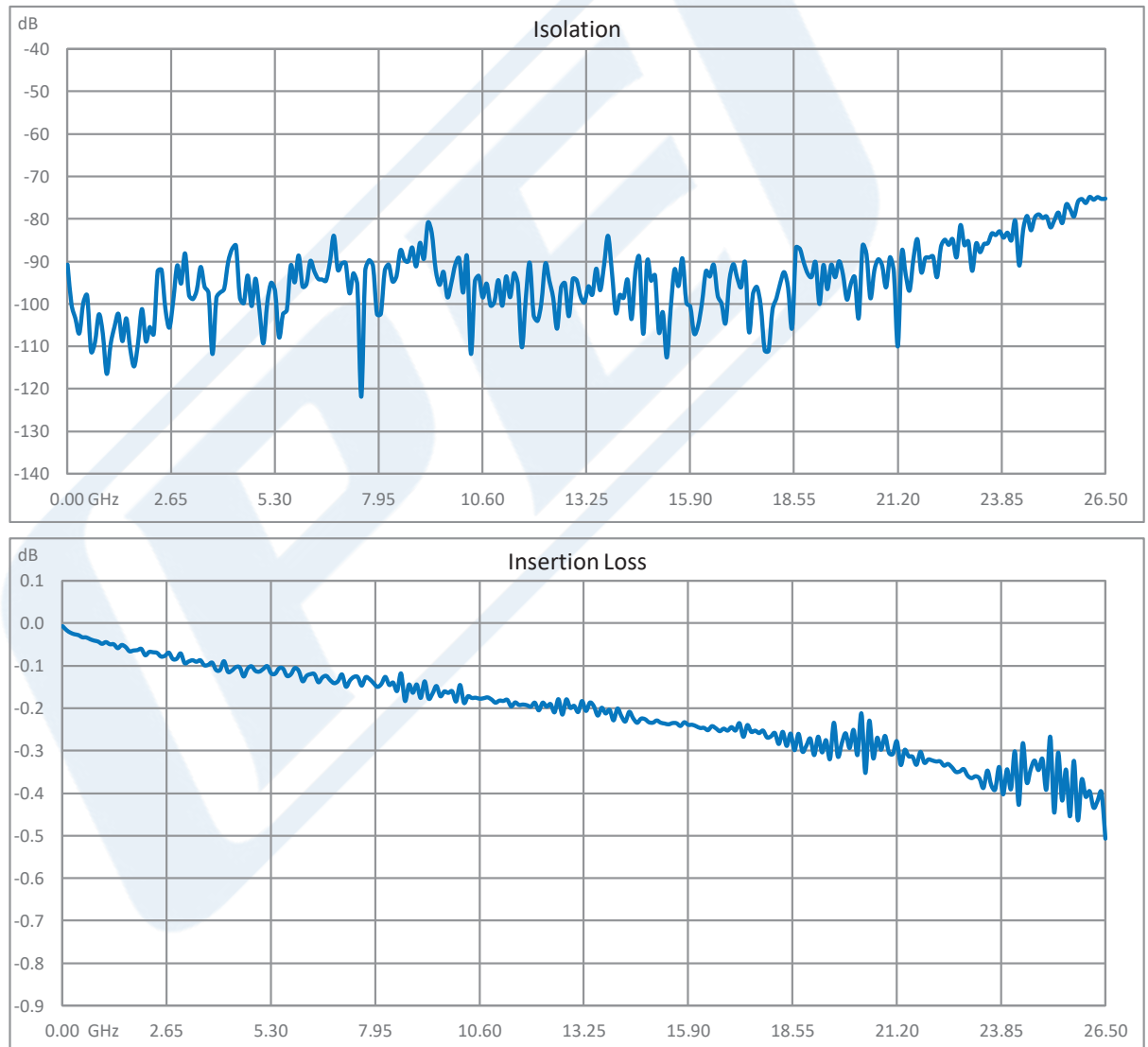
PE71S6472

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

Plotted and Other Data

Notes:

Typical Performance Data



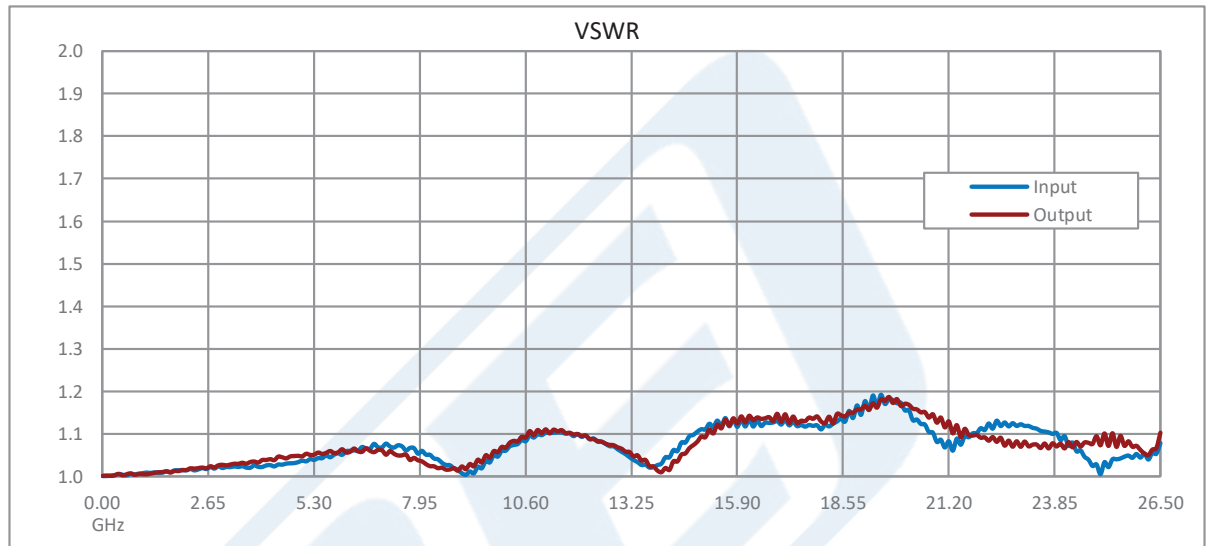
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA PE71S6472](#)



SP4T E-M Relay Normally Open Switch, Terminated,
DC to 26.5 GHz, 90W, 2M Lifecycles, 12V,
Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6472



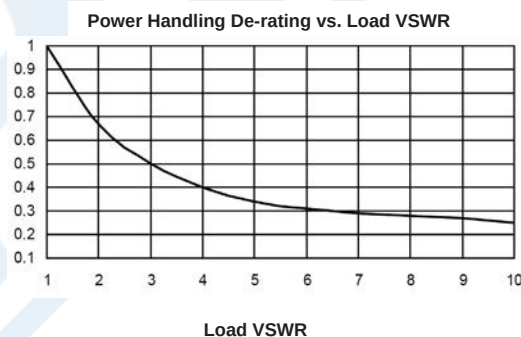
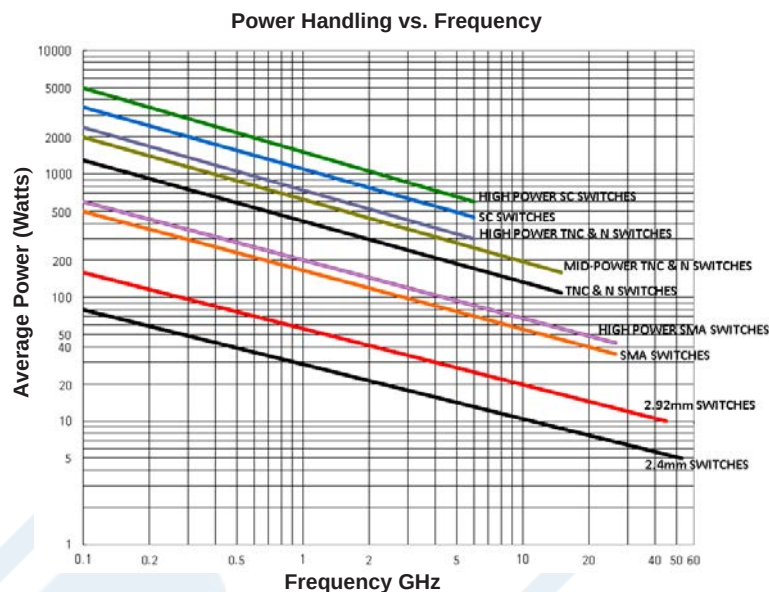
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA PE71S6472](#)



SP4T E-M Relay Normally Open Switch, Terminated,
DC to 26.5 GHz, 90W, 2M Lifecycles, 12V,
Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6472



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: [SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA PE71S6472](#)



SP4T E-M Relay Normally Open Switch, Terminated,
DC to 26.5 GHz, 90W, 2M Lifecycles, 12V,
Indicators, TTL, Suppression Diodes, SMA

Electromechanical Relay Switches Technical Data

PE71S6472

SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, 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: [SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz, 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA PE71S6472](https://www.pasternack.com/sp4t-electromechanical-relay-normally-open-switch-terminated-26.5-ghz-12v-indicators-sma-pe71s6472-p.aspx)

URL: <https://www.pasternack.com/sp4t-electromechanical-relay-normally-open-switch-terminated-26.5-ghz-12v-indicators-sma-pe71s6472-p.aspx>

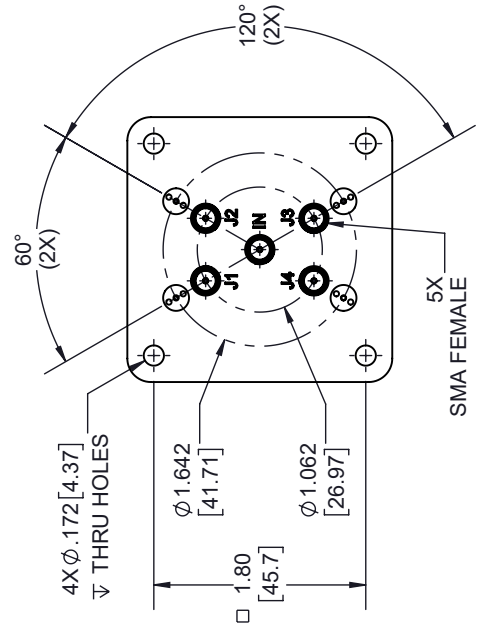
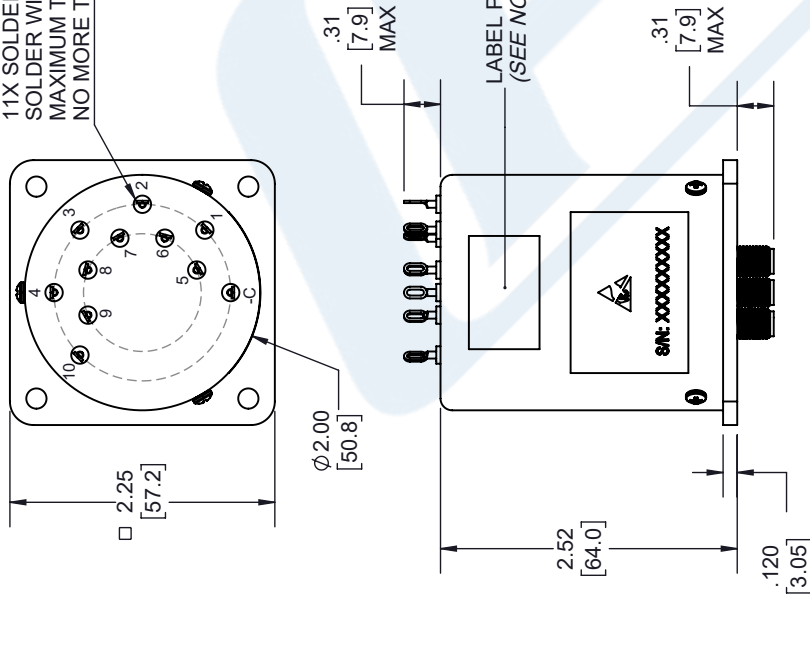
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such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

PE71S6472 CAD Drawing

SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz,
90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	2/1/2021	T.GALLA

11X SOLDER TERMINALS.
SOLDER WIRE USING SN96,
MAXIMUM TEMP 250°C FOR
NO MORE THAN 5 SEC.



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.

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.



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

ITEM NO. PE71S6472

SCALE N/A

SHEET 1 OF 2

REV A

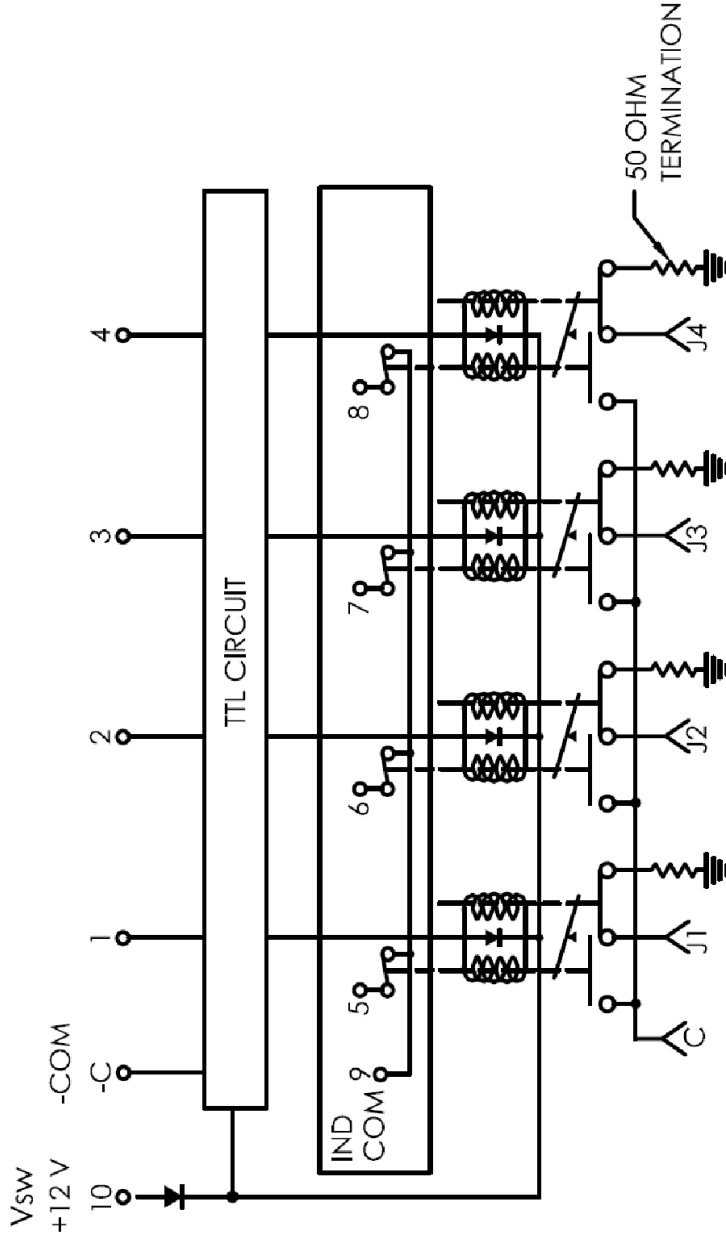


THE INFORMATION AND
DESIGN IN THIS DOCUMENT
IS THE PROPERTY OF
PASTERNAK CORPORATION
ALL RIGHTS RESERVED.

THIRD-ANGLE PROJECTION

PE71S6472 CAD Drawing

SP4T E-M Relay Normally Open Switch, Terminated, DC to 26.5 GHz,
90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA



SCHEMATIC

(SHOWN IN NORMALLY OPEN AND INTERNALLY TERMINATE POSITIONS)

PIN ASSIGNMENT

TERMINALS	RF PATH				INDICATOR			
	J1	J2	J3	J4	5	6	7	8
1 ("1")	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
2 ("1")	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
3 ("1")	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
4 ("1")	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON

PIN -C. -COM

PIN 10. Vsw +12V

PIN 9. IND COM

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.



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
PASTERNACK CORPORATION
ALL RIGHTS RESERVED.

SHEET 2 OF 2
SCALE N/A
REV 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.