



SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6427

Features

- Single Pole Double Throw Electromechanical Relay Switch
- DC to 12 GHz Frequency Range
- Latching Self Cut-Off Actuator
- Suppression Diodes
- +COM Reverse Polarity
- 5M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 80 dB typ
- VSWR 1.4:1 typ
- SMA Female Connectors
- 12 Volt DC Bias
- 15 PIN D-SUB Connector for DC Control
- -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 PE71S6427 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across a wide frequency range of DC to 26.5 GHz and can handle up to 90 Watts of CW input 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 +COM reverse polarity. This switch requires 12Vdc bias voltage and operates over a temperature range of -25°C to +65°C. Impressive typical performance includes 0.4 dB insertion loss and isolation greater than 80 dB. The rugged and compact package assembly supports SMA female connectors and a 15 pin D-SUB connector for all 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	SP6T
Actuator Type	Failsafe
Switching Sequence	Break before Make
Actuator Options	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
Actuating Set Current @ 12 Volts At +20°C			280	mA

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA PE71S6427](#)



SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA

Electromechanical Relay Switches Technical Data

PE71S6427

Actuating Reset Current		1.68	A
VSWR	1.4:1	1.7:1	
Insertion Loss	0.4	0.6	dB
Isolation	50	80	dB
Input Power (CW)		90	Watts
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

Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	2,000,000 Cycles

Connectors

RF Connector Type	SMA Female
Control Connector	Solder Terminals

Environmental Specifications

Temperature

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

Humidity
Shock

Moisture Resistance
MIL-STD-202 Method 213, Cond. D 500G Non Operating

Vibration

MIL-STD-202 Method 204, Cond. D 10G RMS Non Operating

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA PE71S6427](#)



SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA

Electromechanical Relay Switches Technical Data

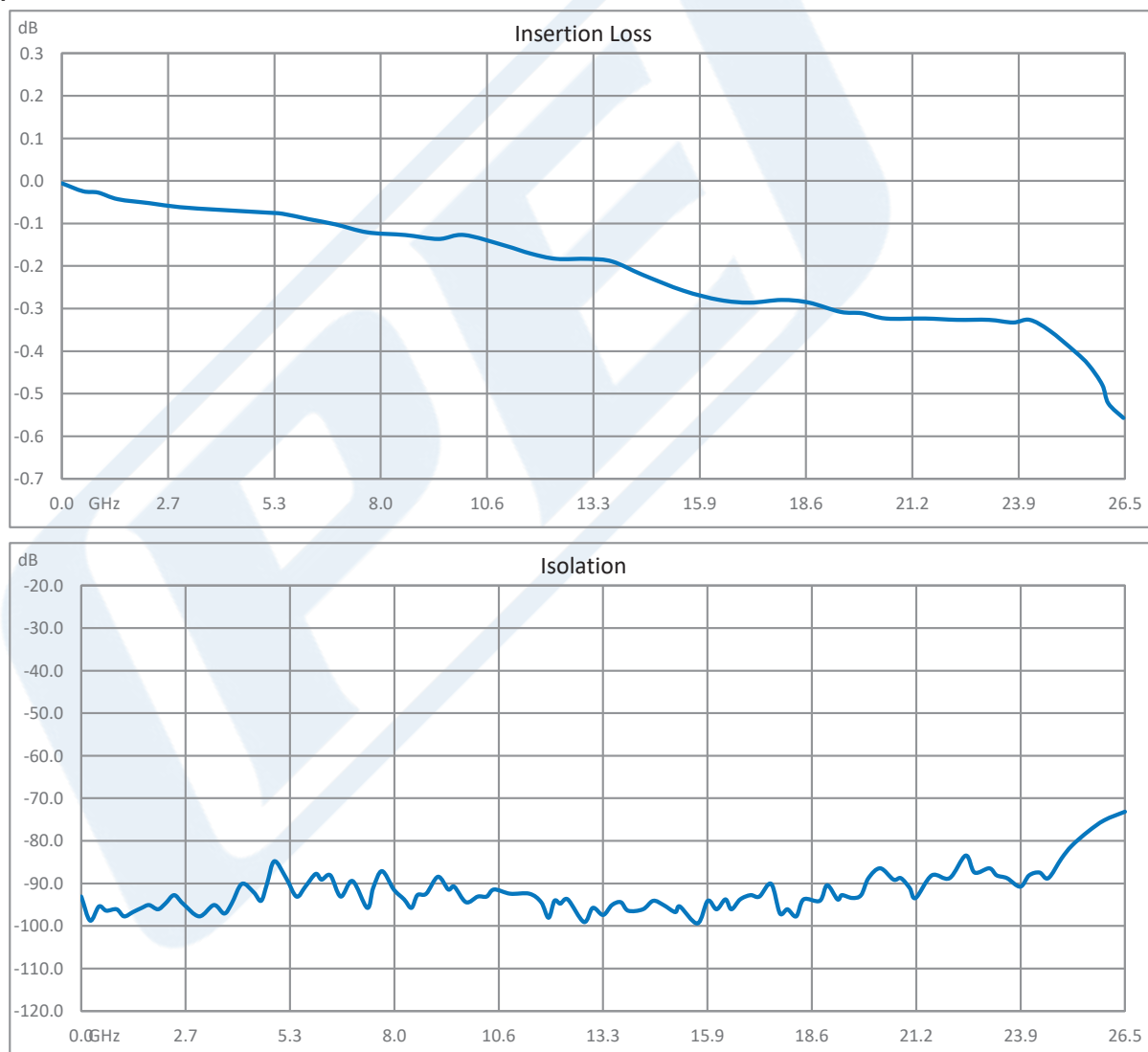
PE71S6427

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

Plotted and Other Data

Notes:

Typical Performance Data



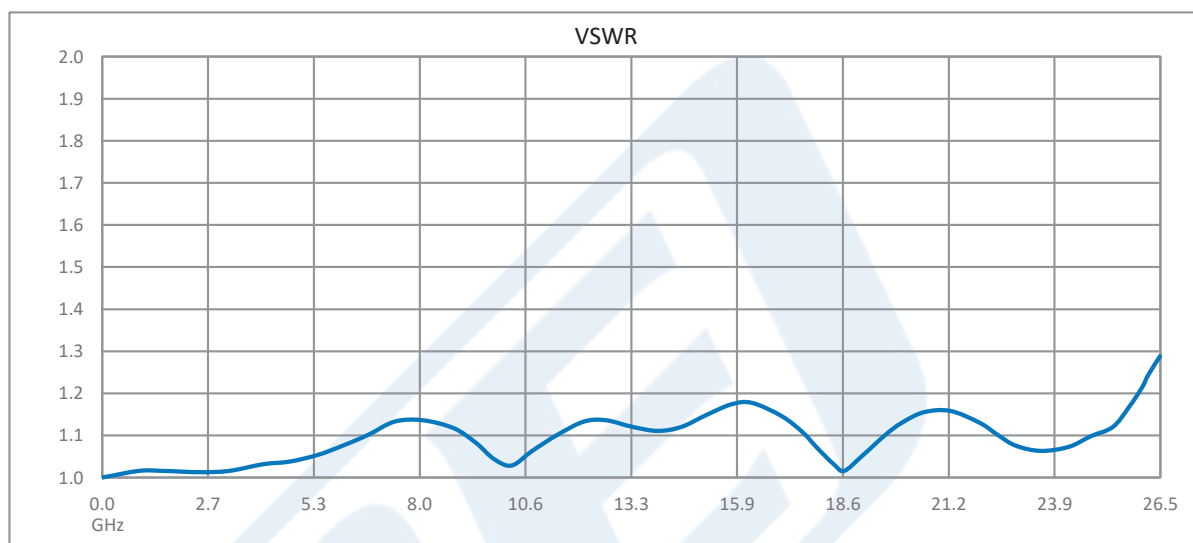
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA PE71S6427](#)



SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA

Electromechanical Relay Switches Technical Data

PE71S6427



SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, 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: [SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA PE71S6427](https://www.pasternack.com/sp6t-electromechanical-relay-failsafe-switch-26.5-ghz-90w-12v-ttl-sma-pe71s6427-p.aspx)

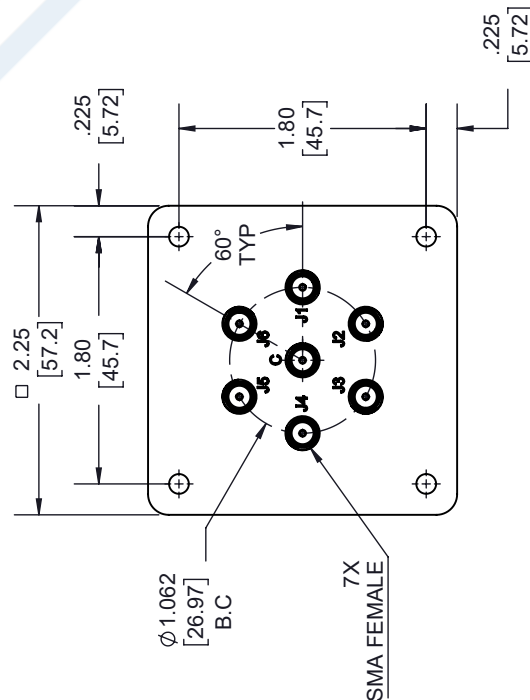
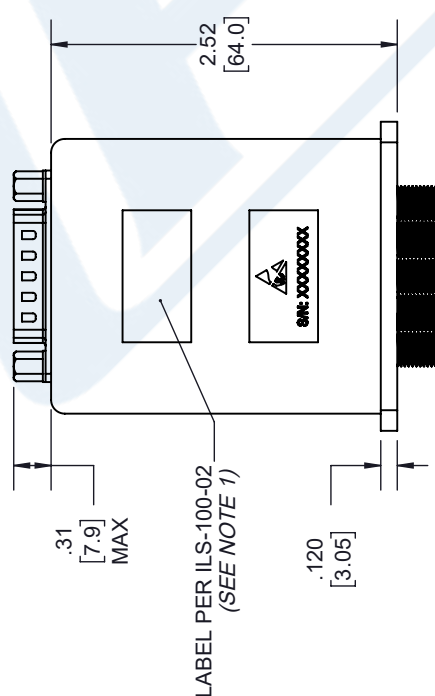
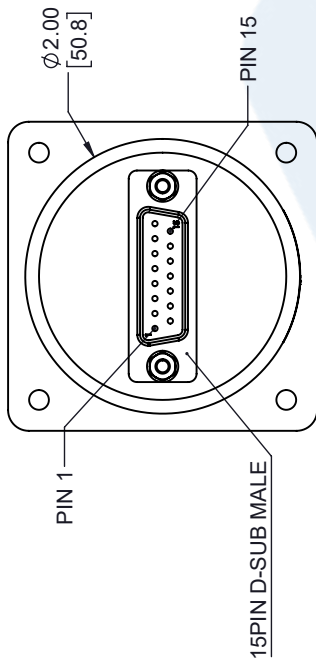
URL: <https://www.pasternack.com/sp6t-electromechanical-relay-failsafe-switch-26.5-ghz-90w-12v-ttl-sma-pe71s6427-p.aspx>

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.

PE71S6427 CAD Drawing

SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay
Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	10/14/2020	T.GALLA



NOTES:

- 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 [508]
.XX = ± 0.02 [51]
.XXX = ± 0.005 [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

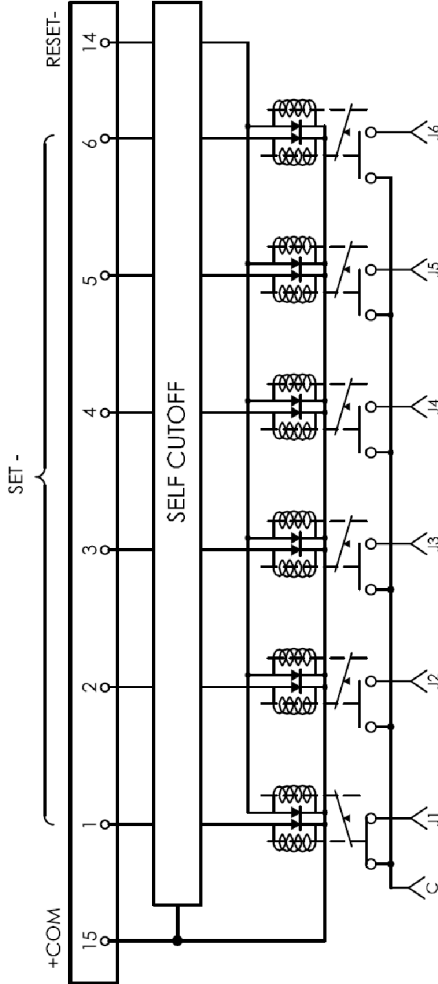
THIRD-ANGLE PROJECTION

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

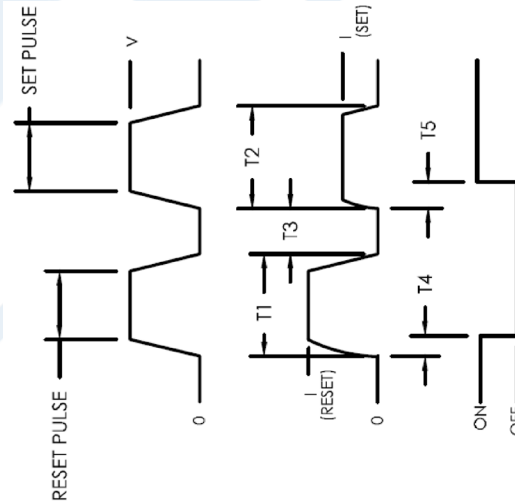
PE71S6427 CAD Drawing

SP6T Latching Self Cut-Off DC to 26.5 GHz Electro-Mechanical Relay
Switch, TTL, Up To 90W, 12V, 5M Lifecycles, Diodes, Pos. Com, SMA



SCHEMATIC

(COIL 1 SHOWN LAST ENERGIZED)



TRUTH TABLE/PIN ASSIGNMENT:

TERMINALS	RF PATH					
	J1	J2	J3	J4	J5	J6
1 (SET-)	ON	OFF	OFF	OFF	OFF	OFF
2 (SET-)	OFF	ON	OFF	OFF	OFF	OFF
3 (SET-)	OFF	OFF	ON	OFF	OFF	OFF
4 (SET-)	OFF	OFF	OFF	ON	OFF	OFF
5 (SET-)	OFF	OFF	OFF	OFF	ON	OFF
6 (SET-)	OFF	OFF	OFF	OFF	OFF	ON
14 (RESET-)	ALL OFF					

PIN 15. +COM

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

TOLERANCES:

X = ±.2 [.508] 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.

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

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

ITEM NO.

PE71S6427

SIZE A

CAGE CODE 53919

DRAWN BY K.DANG

REV A