



SP6T Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

## Electromechanical Relay Switches Technical Data Sheet

**PE71S6575**

### Features

- Single Pole Six Throw (SP6T) Electromechanical Relay Switch
- DC to 18 GHz Frequency Range
- Latching Actuator
- Positive Common (+COM) Configuration
- 5M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.25:1 max
- 15 PIN D-SUB Connector for DC Control
- 12 Volt DC Bias
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- 5 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
- Actuating Set / Reset Feature

### Applications

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

### Description

The PE71S6575 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across a broadband frequency range from DC to 18 GHz and can handle 90W of average power in a break before make condition. The 50 Ohm design supports a positive common (+COM) biasing configuration and features a Latching Actuator with a 5 million lifecycle rating. The Latching Actuator magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 80 dB. This switch requires 12 Vdc 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 a 15 Pin D-SUB Connector 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 (TA = 25°C, DC Voltage = 12 Vdc)

Switch Type SP6T  
Actuator Type Latching

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Operating Voltage	11	12	13	Volts
Actuating Set Current @		280		mA
Actuating Reset Current		1.68		A
VSWR		1.2:1	1.4:1	
Insertion Loss		0.2	0.5	dB
Isolation		90		dB
Switching Time		<20		ms Typ

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6575](#)



SP6T Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

## Electromechanical Relay Switches Technical Data

**PE71S6575**

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12	12 to 18			GHz
VSWR, Max	1.25:1	1.4:1	1.5:1			
Insertion Loss, Max	0.2	0.4	0.5			dB
Isolation, Min	80	80	80			dB

### Mechanical Specifications

#### Size

Length	1.75 in [44.45 mm]
Width/Diameter	1.75 in [44.45 mm]
Height	1.75 in [44.45 mm]
Weight	0.18 lbs [81.65 g]

#### Connectors

RF Connector Type	SMA Female
Control Connector	D-Subminiature

### Environmental Specifications

#### Temperature

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

#### Shock

MIL-STD-202 Method 213, Condition D, 500G (non oper)

#### Vibration

MIL-STD-202 Method 204, 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: [SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6575](#)

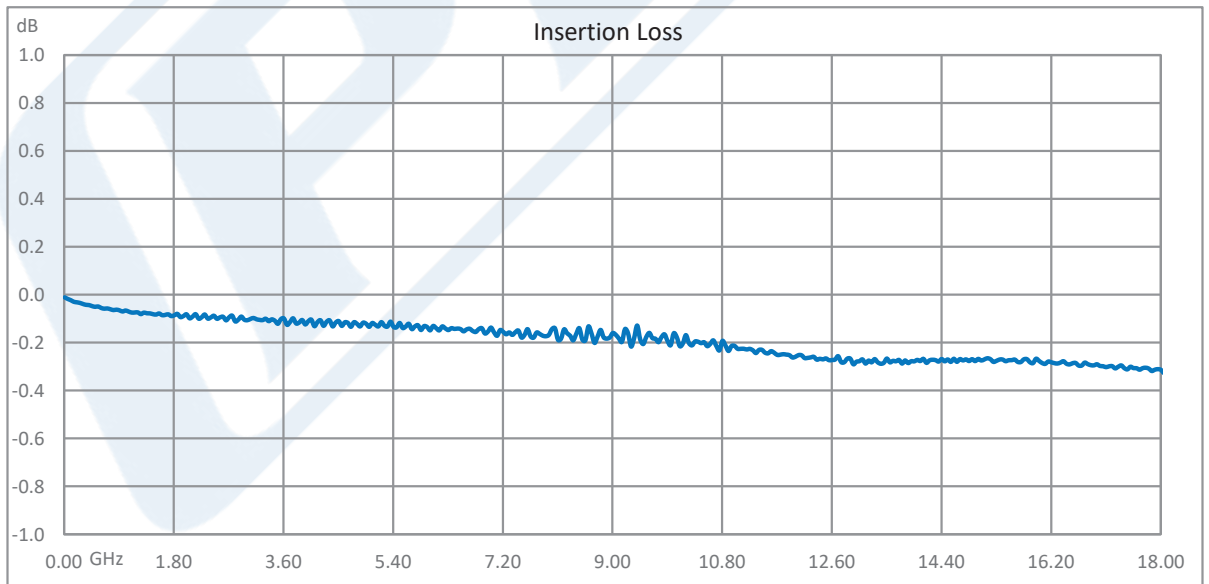
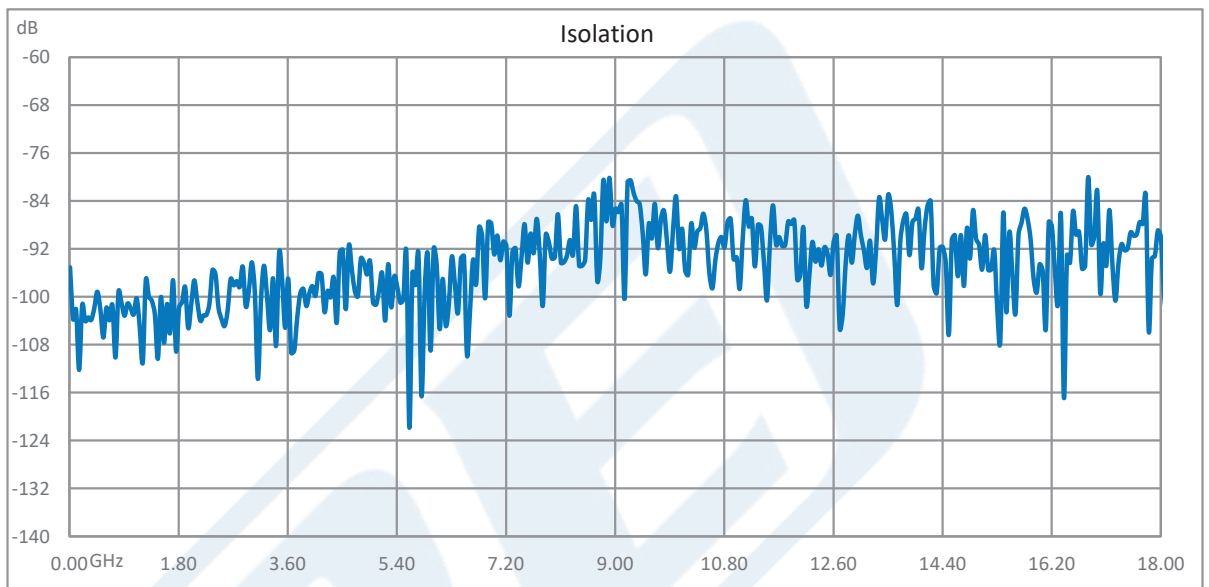


SP6T Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

**Electromechanical Relay Switches Technical Data**

**PE71S6575**

**Typical Performance Data**



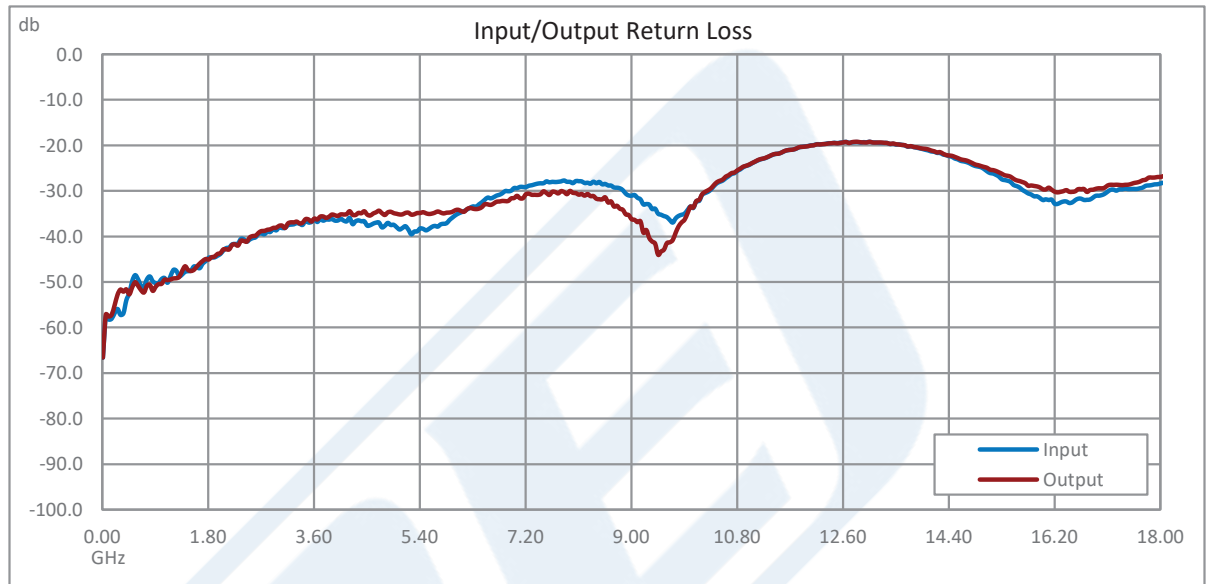
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6575](#)



SP6T Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

## Electromechanical Relay Switches Technical Data

**PE71S6575**



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6575](#)

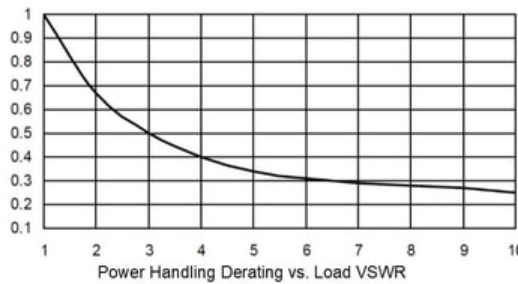
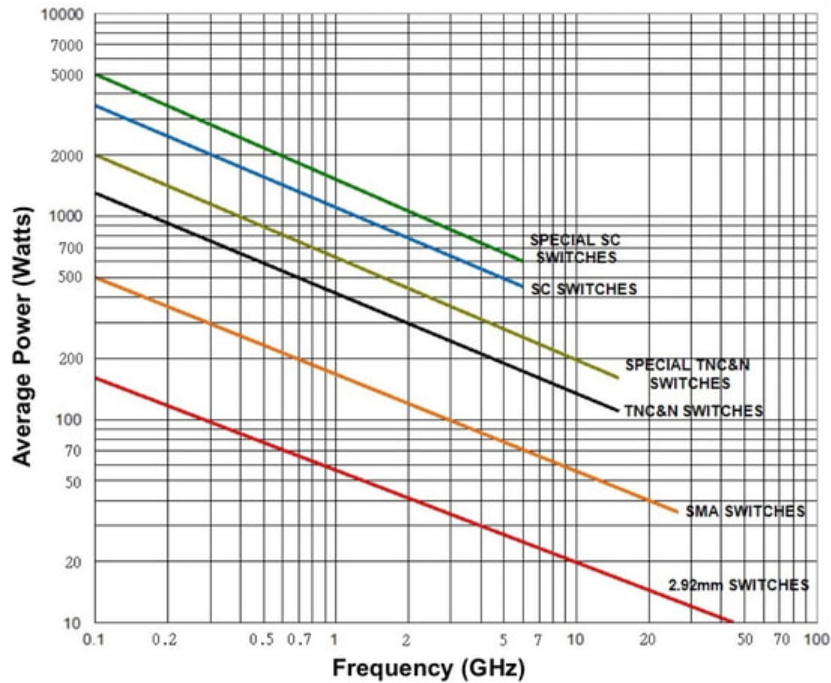


SP6T Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

**Electromechanical Relay Switches Technical Data**

**PE71S6575**

**Power Handling vs. Frequency**



Power handling chart and derating curves based on the following conditions:

- Ambient temperature: 40°C or less
- Altitude: Sea level
- Load VSWR: 1.20:1 Maximum
- Relative Humidity: 40-50%
- Cold switching: RF signal off

Note: specifications subject to change without notice

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6575](#)



SP6T Electromechanical Relay Latching Switch,  
+COM, DC to 18 GHz, 90W, 12VDC, SMA

## Electromechanical Relay Switches Technical Data

**PE71S6575**

SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, 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 Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6575](https://www.pasternack.com/sp6t-electromechanical-relay-latching-switch-18-ghz-12v-sma-pe71s6575-p.aspx)

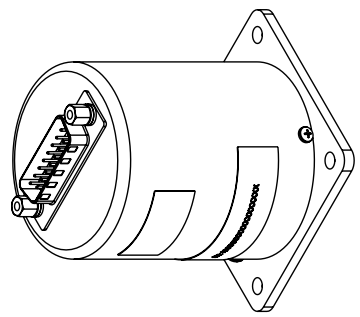
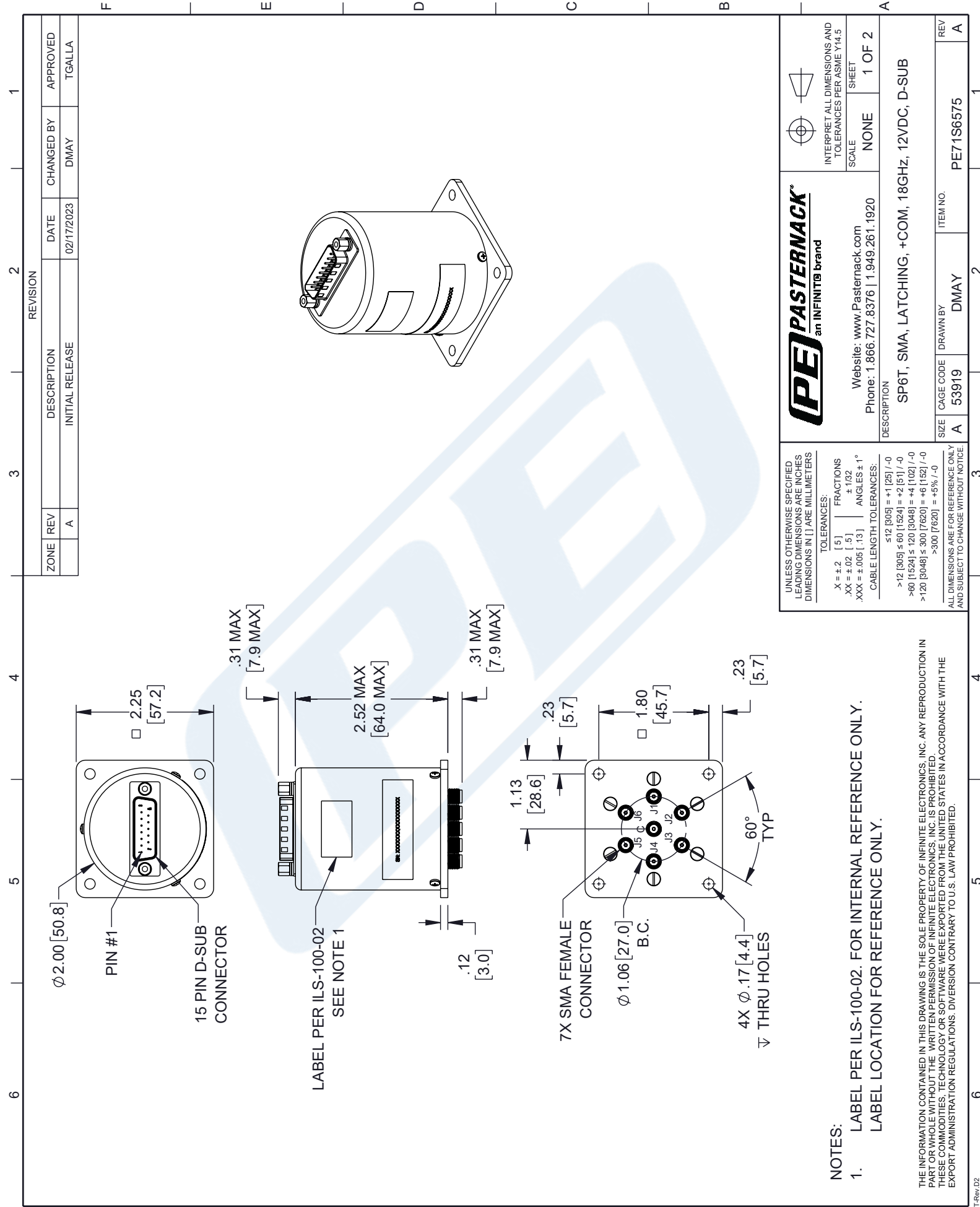
URL: <https://www.pasternack.com/sp6t-electromechanical-relay-latching-switch-18-ghz-12v-sma-pe71s6575-p.aspx>

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.



# PE71S6575 CAD Drawing

SP6T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA



ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	02/17/2023	DMAY	TGALLA

REVISION	1	2	3	4	5	6

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

TOLERANCES:

X = ±.2 [5] FRACTIONS  
 .XX = ±.02 [.5] ±.1/32  
 .XXX = ±.005 [.13] ANGLES ± 1°

CABLE LENGTH TOLERANCES:

≤12 [305] = +1 [25] / -0  
 >12 [305] ≤ 60 [1524] = +2 [51] / -0  
 >60 [1524] ≤ 120 [3048] = +4 [102] / -0  
 >120 [3048] ≤ 300 [7620] = +6 [152] / -0  
 >300 [7620] = +5% / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE

**PE PASTERNAK**  
 an INFINITI® brand

Website: [www.Pasternack.com](http://www.Pasternack.com)  
 Phone: 1.866.727.8376 | 1.949.261.1920

SCALE: NONE SHEET: 1 OF 2

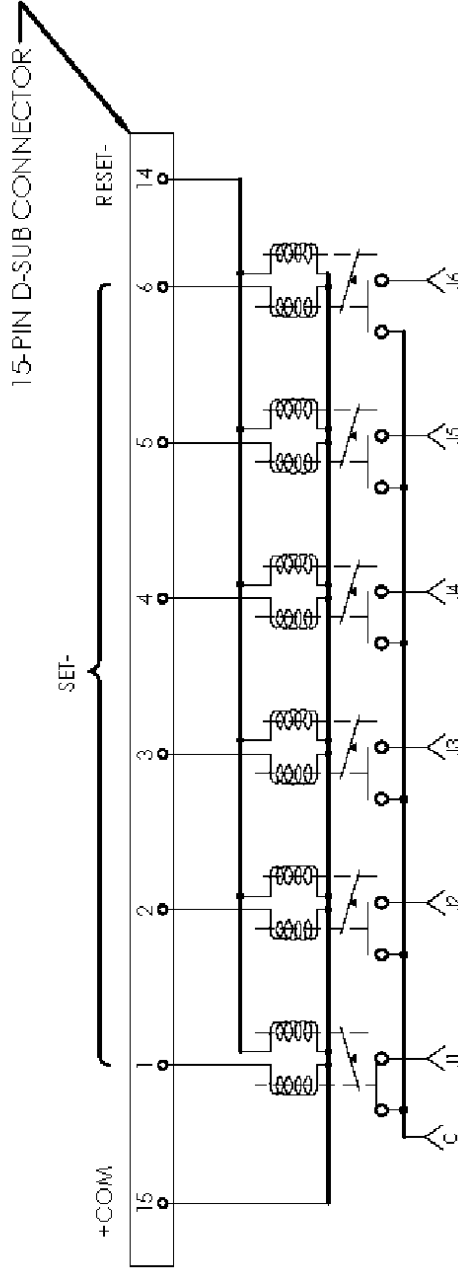
INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

DESCRIPTION: SP6T, SMA, LATCHING, +COM, 18GHz, 12VDC, D-SUB

REV	A
ITEM NO.	PE71S6575
DRAWN BY	DMAY
CAGE CODE	53919

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

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF INFINITE ELECTRONICS, INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF INFINITE ELECTRONICS, INC. IS PROHIBITED. 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.

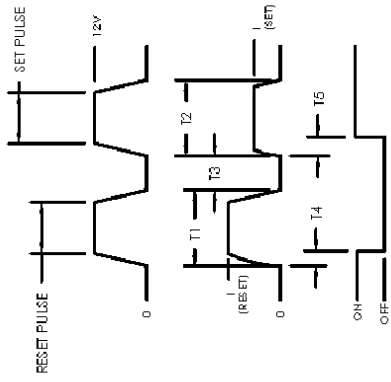


## SCHEMATIC

(COIL 1 SHOWN LAST ENERGIZED)

### ACTUATION CHARACTERISTICS:

- REQUIRES TWO (2) SEQUENTIAL PULSES (RESET & SET)
- T1 & T2 = 30mSEC MIN
- T3 = 10mSEC MIN
- T4 & T5 = 20mSEC MAX



### TRUTH TABLE/PIN ASSIGNMENT:

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

PIN 15. +COM

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

TOLERANCES:  
 X = ±.2 [ .5 ] FRACTIONS  
 .XX = ±.02 [ .5 ] ±.1/32  
 .XXX = ±.005 [ .13 ] ANGLES ± 1°

CABLE LENGTH TOLERANCES:  
 ≤12 [305] = +1[25] / -0  
 >12 [305] ≤ 60 [1524] = +2[51] / -0  
 >60 [1524] ≤ 120 [3048] = +4 [102] / -0  
 >120 [3048] ≤ 300 [7620] = +6 [152] / -0  
 >300 [7620] = +5% / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE



Website: [www.Pasternack.com](http://www.Pasternack.com)  
 Phone: 1.866.727.8376 | 1.949.261.1920

DESCRIPTION  
 SP6T, SMA, LATCHING, +COM, 18GHz, 12VDC, D-SUB



INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5  
 SCALE NONE  
 SHEET 2 OF 2

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF INFINITE ELECTRONICS, INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF INFINITE ELECTRONICS, INC. IS PROHIBITED. 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.

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	DMAY	PE71S6575	A