



SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6532

Features

- SP4T Electromechanical Relay Switch
- IP64 Level 1 Rated
- DC to 18 GHz Frequency Range
- Latching Actuator
- Internal 50 Ohm Terminations
- 5M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.25:1 max
- SMA Female Connectors
- +28 Volt DC Bias
- 15 Pin D-Sub Connector for DC Control
- -54°C to +85°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
- 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 PE71S6532 is a Ruggedized SP4T electromechanical relay switch that operates across a broadband frequency range from DC to 18 GHz and can handle up to 90W of average power in a break before make condition. The 50 Ohm design is IP64 compliant with a Level 1 moisture seal and specially designed to operate reliably in harsh usage environments and conditions, such as over extreme temperatures and wet or dusty environments. Intrusion protection offers full protection against dust and other particulates. Moisture protection enables resistance to splashes in all directions. The switch has a Latching Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. The output ports are terminated in 50 ohms when switched in the isolation (off) state. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 80 dB. This switch requires +28Vdc bias voltage, operates over a temperature range of -54°C to +85°C, and is rated for 5 million lifecycles. 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)

Switch Type SP4T
Actuator Type Latching

| Description | Minimum | Typical | Maximum | Units |
|-------------------------|---------|---------|---------|-------|
| Frequency Range | DC | | 18 | GHz |
| Impedance | | 50 | | Ohms |
| Operating Voltage | | | 28 | Volts |
| Actuating Set Current | | | 110 | mA |
| Actuating Reset Current | | | 440 | mA |
| VSWR | | 1.2:1 | 1.5:1 | |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA PE71S6532](#)



SP4T, IP64 Rated Electromechanical Relay Latching
Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6532

| | | | | |
|----------------|----|-----|-----|--------|
| Insertion Loss | | 0.2 | 0.5 | dB |
| Isolation | 80 | 90 | | dB |
| Switching Time | | <20 | | ms Typ |

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 | 1.95 in [49.53 mm] |
| Width/Diameter | 2.75 in [69.85 mm] |
| Height | 0.92 in [23.37 mm] |
| Weight | 0.164 lbs [74.39 g] |

Connectors

| | |
|-------------------|----------------|
| RF Connector Type | SMA Female |
| Control Connector | D-Subminiature |

Environmental Specifications

Temperature

| | |
|-----------------|-------------------|
| Operating Range | -54 to +85 deg C |
| Storage Range | -55 to +100 deg C |

Ingress Protection (IP) Rating

| | |
|-------|---|
| Shock | IP64 MIL-STD-202 Method 213, Condition D, 500 G (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: [SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA PE71S6532](#)

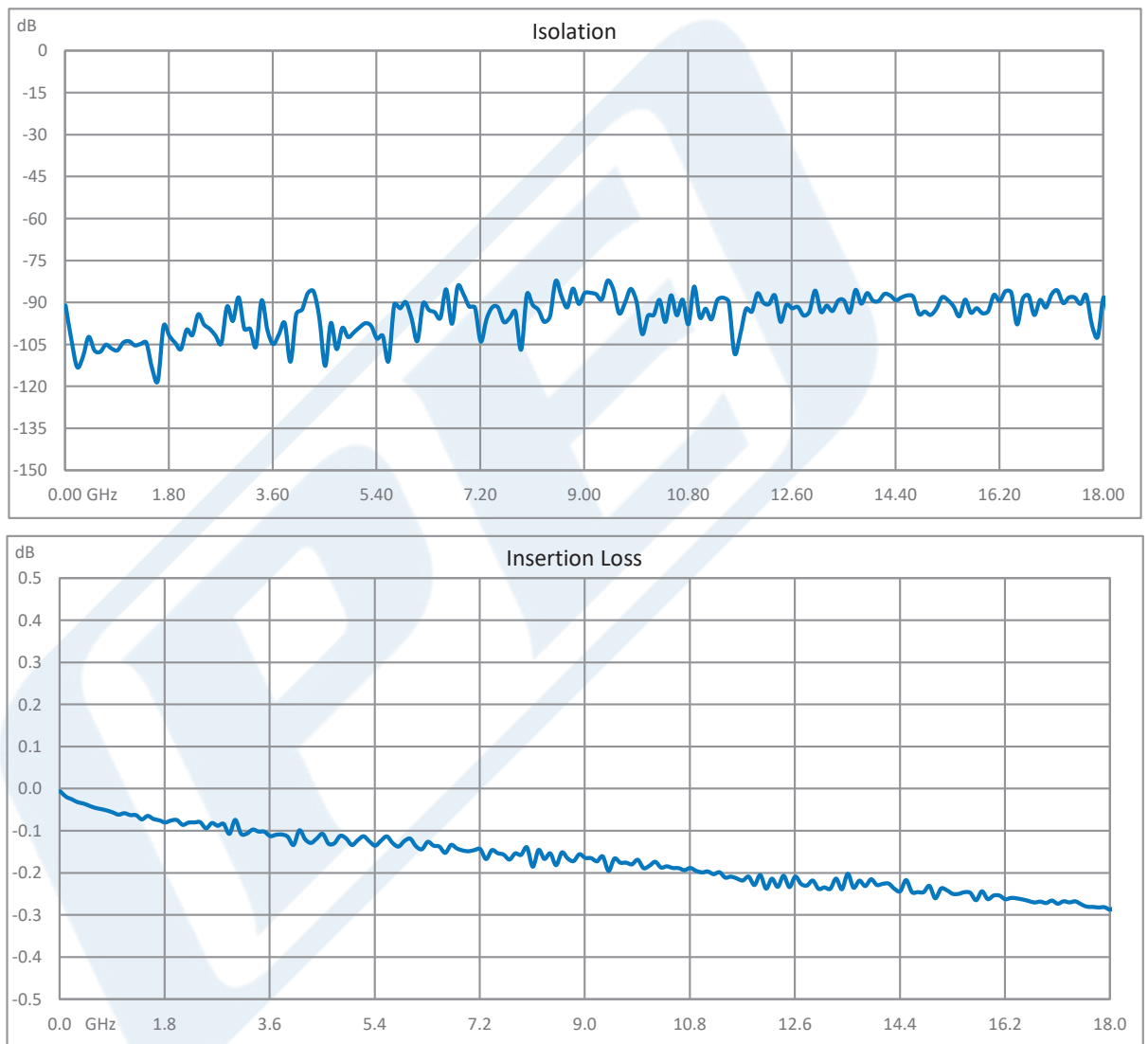


SP4T, IP64 Rated Electromechanical Relay Latching
Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6532

Typical Performance Data



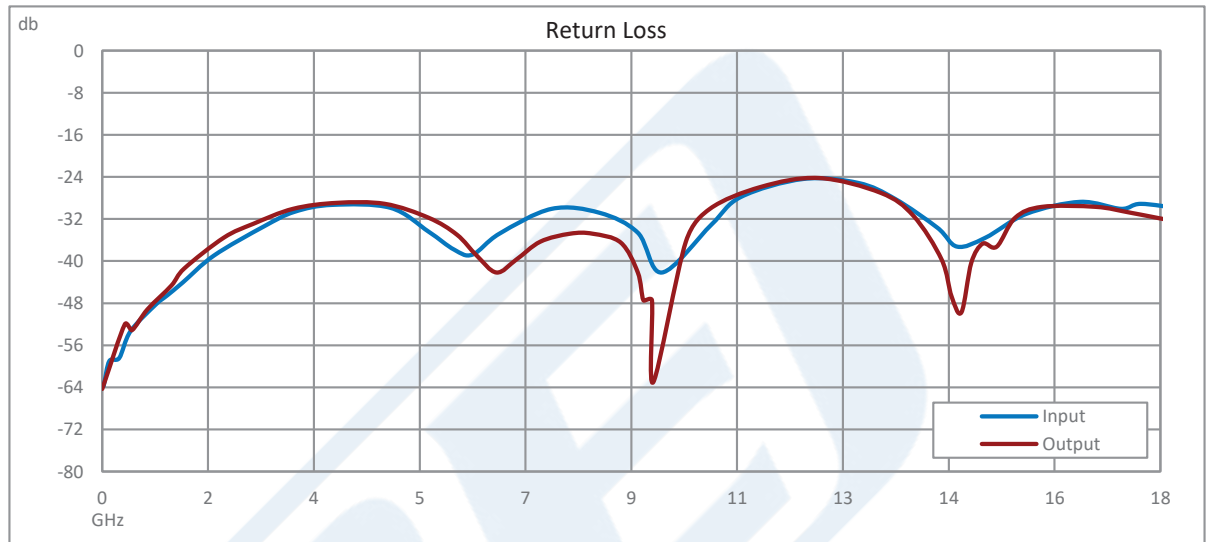
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA PE71S6532](#)



SP4T, IP64 Rated Electromechanical Relay Latching
Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6532



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA PE71S6532](#)

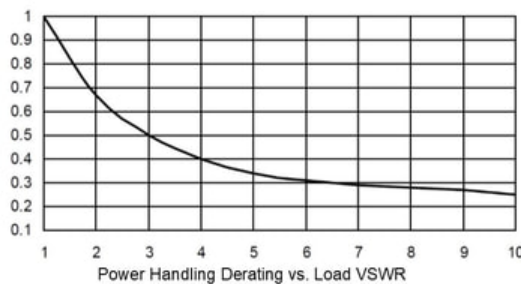
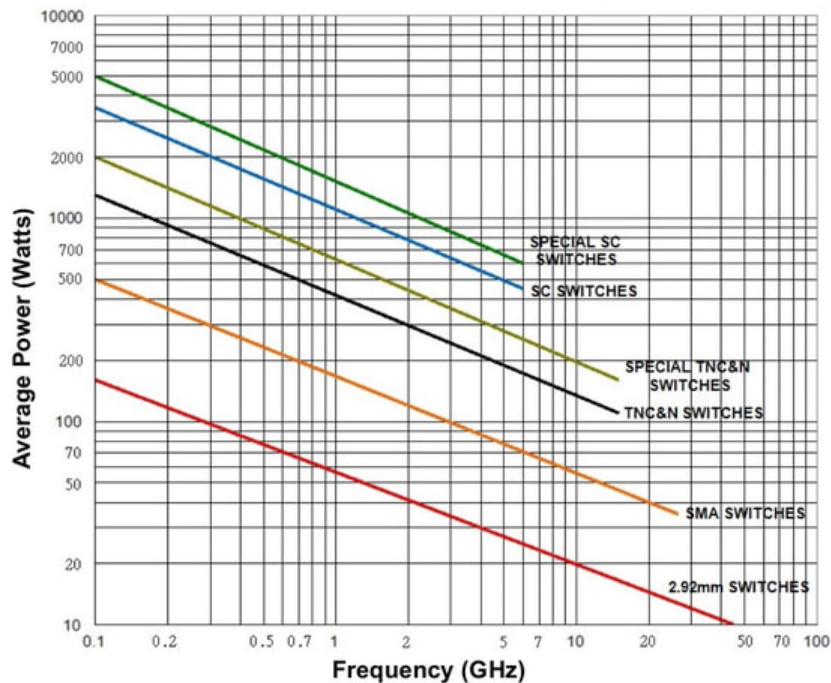


SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6532

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: [SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA PE71S6532](#)



SP4T, IP64 Rated Electromechanical Relay Latching
Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6532

SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, 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.

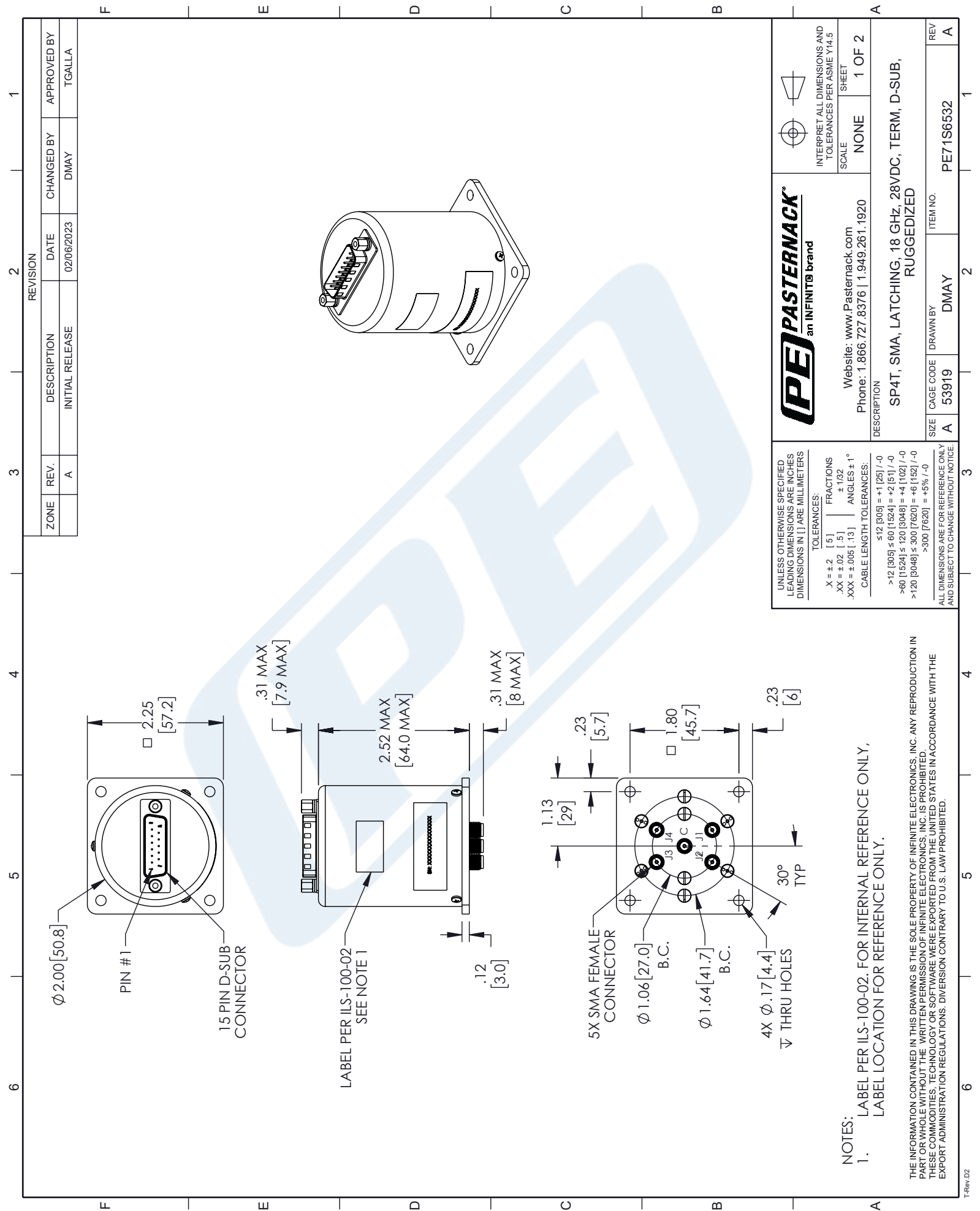
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA PE71S6532](https://www.pasternack.com/sp4t-electromechanical-relay-latching-switch-18-ghz-sma-pe71s6532-p.aspx)

URL: <https://www.pasternack.com/sp4t-electromechanical-relay-latching-switch-18-ghz-sma-pe71s6532-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.

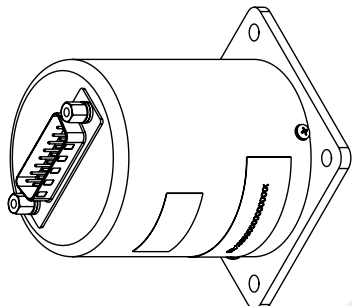
PE71S6532 CAD Drawing

SP4T, IP64 Rated Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, 90W, 28VDC, SMA



| ZONE | REV. | DESCRIPTION | DATE | CHANGED BY | APPROVED BY |
|------|------|-----------------|------------|------------|-------------|
| | A | INITIAL RELEASE | 02/06/2023 | 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
 Phone: 1.866.727.8376 | 1.949.261.1920

SCALE: NONE SHEET: 1 OF 2

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

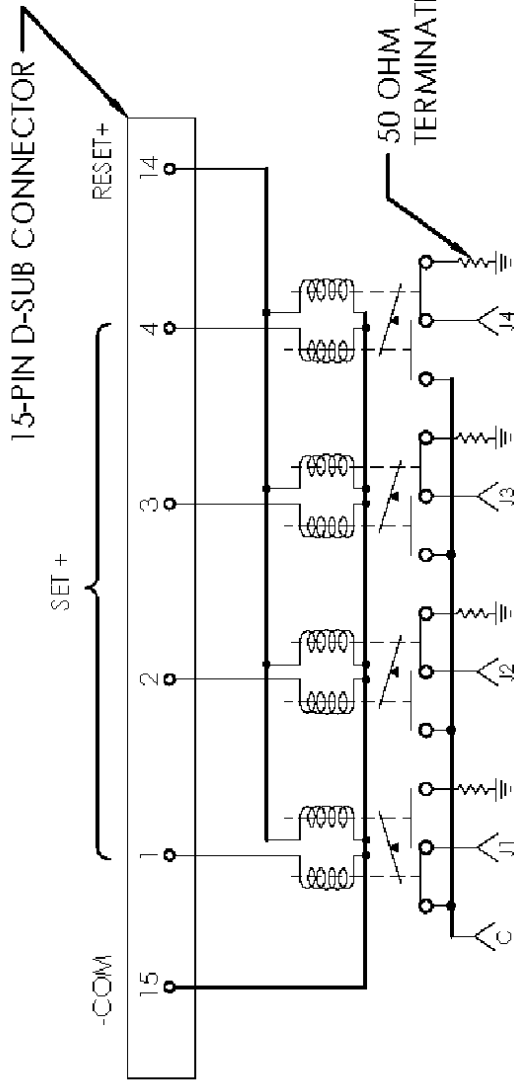
DESCRIPTION: SP4T, SMA, LATCHING, 18 GHz, 28VDC, TERM, D-SUB, RUGGEDIZED

ITEM NO.: PE71S6532

REVISION: A

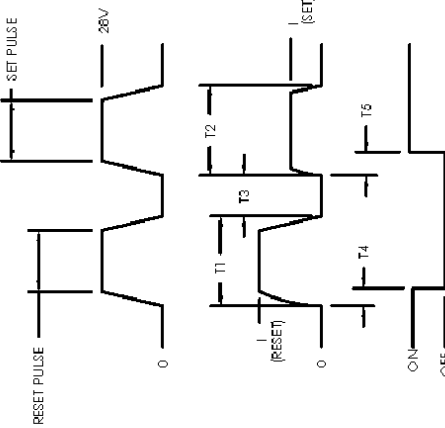
NOTES:
 1. LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY, LABEL LOCATION FOR REFERENCE ONLY.

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:
PIN ASSIGNMENT

| TERMINALS | RF PATH | | | |
|-------------|---------|-----|-----|-----|
| | J1 | J2 | J3 | J4 |
| 1 (SET+) | ON | OFF | OFF | OFF |
| 2 (SET+) | OFF | ON | OFF | OFF |
| 3 (SET+) | OFF | OFF | ON | OFF |
| 4 (SET+) | 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 [.5] FRACTIONS
 .XX = ± .02 [.5] ± 1/32
 .XXX = ± .005 [.13] ANGLES ± 1°

CABLE LENGTH TOLERANCES:
 ≤ 12 [305] ≤ +1 [25] / -0
 > 12 [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
Phone: 1.866.727.8376 | 1.949.261.1920

DESCRIPTION
SP4T, SMA, LATCHING, 18 GHz, 28VDC, TERM, D-SUB, RUGGEDIZED

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 A CAGE CODE A 53919 DRAWN BY DMAY ITEM NO. PE71S6532 REV A