



SPDT Electromechanical Relay Failsafe Switch  
 DC to 40 GHz, 2M Lifecycles, 2.92mm, 10 Watts,  
 28V, Indicators, TTL, Diodes, Solder Pins

## Electromechanical Relay Switches Technical Data Sheet

**PE71S6479**

### Features

- Single Pole Double Throw (SP2T) Electromechanical Relay Switch
- DC to 40 GHz Frequency Range
- Failsafe Actuator
- TTL Logic Control
- Suppression Diodes
- Indicators
- 2M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 85 dB typ
- VSWR as low as 1.15:1 max
- +28 Volt DC Bias
- Solder Terminal Pins for DC Command Control
- 2.92mm Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 10 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 PE71S6479 is a Single Pole Double Throw (SP2T) electromechanical relay switch that operates across a wide frequency range from DC to 40 GHz and can handle up to 10W of average power in a break before make condition. The 50 Ohm design is rated for 2 million lifecycles and features a Failsafe Actuator. Additional features include TTL control logic, suppression diodes which limit voltage spikes or reverse current, and indicators to monitor the switch position. Impressive typical performance includes 0.4 dB insertion loss and isolation greater than 85 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 2.92mm 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 (TA = +25°C, DC Voltage = +28 Vdc)

|                  |   |
|------------------|---|
| Switch Type      | SPDT  |
| Actuator Type    | Failsafe                                    |
| Actuator Options | Indicators, TTL Logic                       |
| TTL Control      | on: 2.4 to 5.5 Volts<br>off: 0 to 0.8 Volts |

| Description                       | Minimum | Typical | Maximum | Units |
|-----------------------------------|---------|---------|---------|-------|
| Frequency Range                   | DC      |         | 40      | GHz   |
| Operating Voltage                 |         | +28     |         | Volts |
| Actuating Set Current @ +28 Volts |         |         | 90      | mA    |
| VSWR                              |         | 1.3:1   | 1.5:1   |       |
| Insertion Loss                    |         | 0.4     | 0.7     | dB    |
| Isolation                         | 60      | 85      |         | dB    |

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 Failsafe Switch DC to 40 GHz, 2M Lifecycles, 2.92mm, 10 Watts, 28V, Indicators, TTL, Diodes, Solder Pins PE71S6479](#)



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|                                 |    |       |
|---------------------------------|----|-------|
| Input Power (CW)<br>(at 40 GHz) | 10 | Watts |
|---------------------------------|----|-------|

### Performance by Frequency

| Description         | F1      | F2        | F3         | F4         | F5         | Units |
|---------------------|---------|-----------|------------|------------|------------|-------|
| Frequency Range     | DC to 6 | 6 to 12.4 | 12.4 to 18 | 18 to 26.5 | 26.5 to 40 | GHz   |
| VSWR, Max           | 1.15:1  | 1.35:1    | 1.4:1      | 1.4:1      | 1.5:1      |       |
| Insertion Loss, Max | 0.2     | 0.3       | 0.4        | 0.5        | 0.7        | dB    |
| Isolation, Min      | 85      | 80        | 80         | 75         | 60         | dB    |

### Mechanical Specifications

#### Size

|                |                    |
|----------------|--------------------|
| Length         | 2.05 in [52.07 mm] |
| Width/Diameter | 1.5 in [38.1 mm]   |
| Height         | 0.52 in [13.21 mm] |
| Weight         | 0.1 lbs [45.36 g]  |

#### Connectors

|                   |               |
|-------------------|---------------|
| RF Connector Type | 2.92mm Female |
|-------------------|---------------|

### 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:

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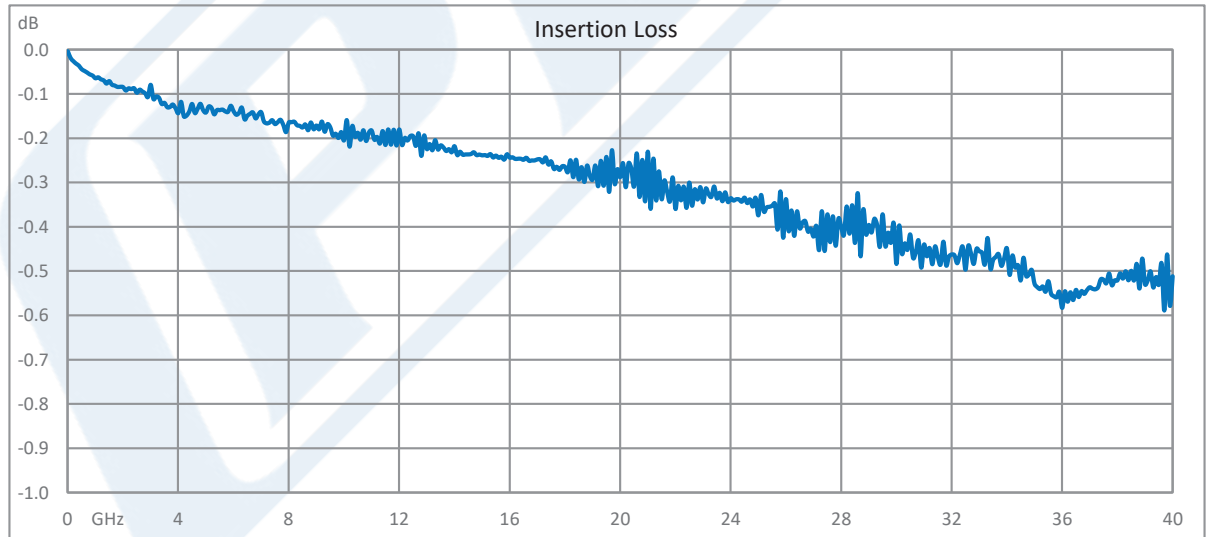
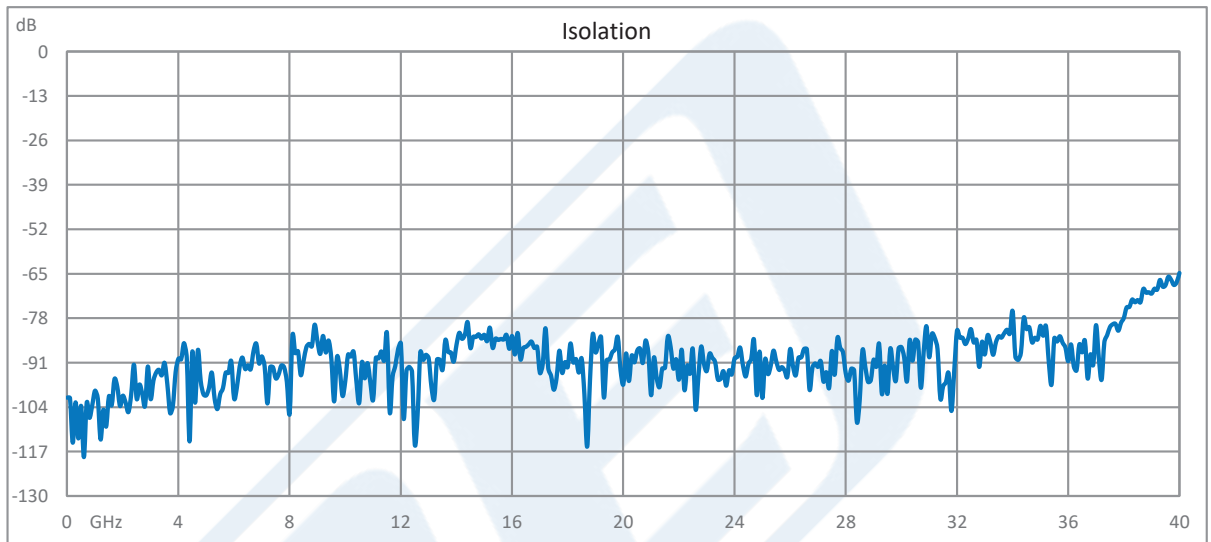


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### Typical Performance Data



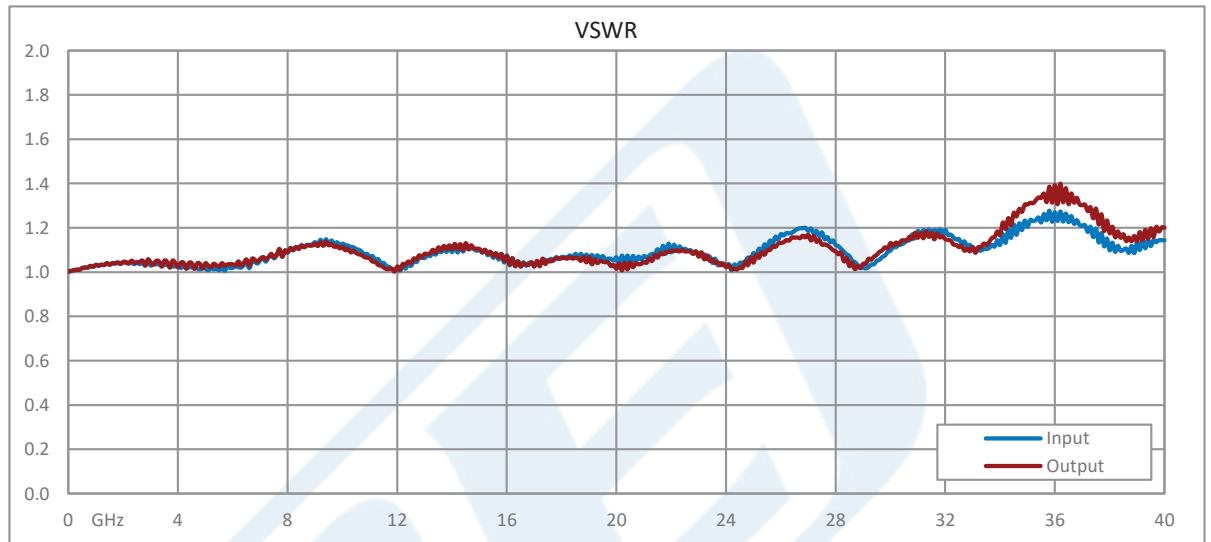
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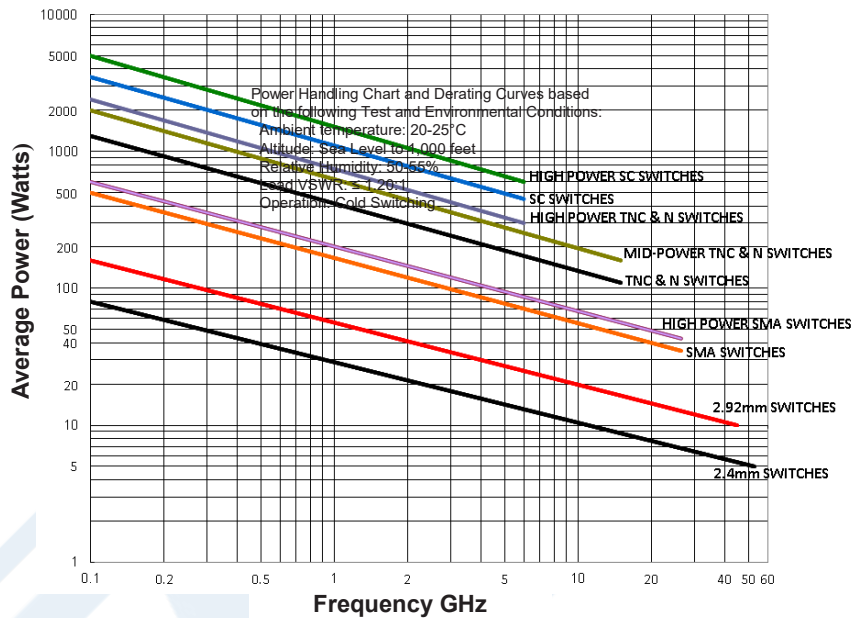


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**Power Handling vs. Frequency**



**Power Handling De-rating vs. Load VSWR**



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: ≤ 1.20:1  
Operation: Cold Switching

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SPDT Electromechanical Relay Failsafe Switch DC to 40 GHz, 2M Lifecycles, 2.92mm, 10 Watts, 28V, Indicators, TTL, Diodes, Solder Pins 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.

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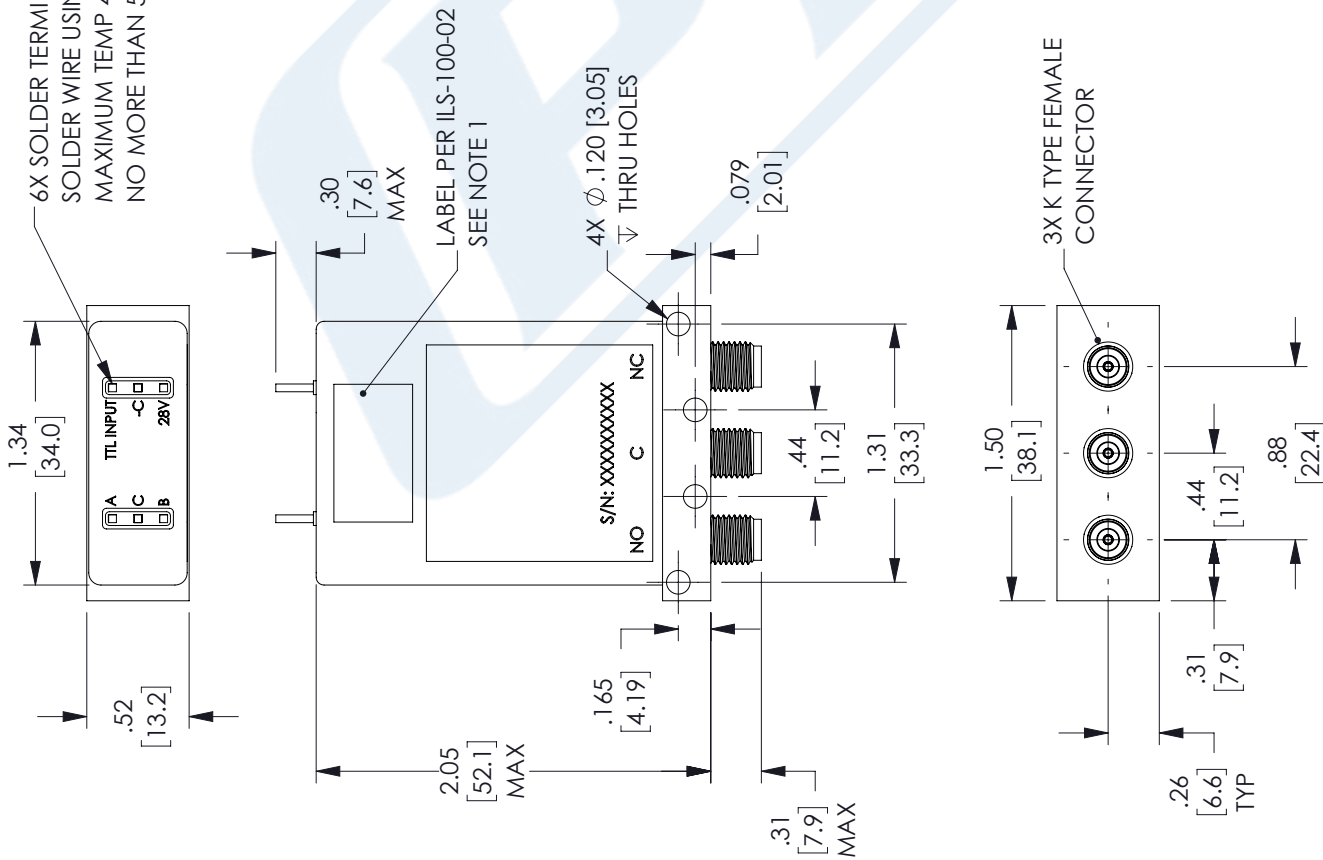
# PE71S6479 CAD Drawing

SPDT Electromechanical Relay Failsafe Switch DC to 40 GHz, 2M Lifecycles,  
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### REVISIONS

| REV. | DESCRIPTION     | DATE       | APPROVED |
|------|-----------------|------------|----------|
| A    | INITIAL RELEASE | 05/17/2022 | TGALLA   |

6X SOLDER TERMINALS  
SOLDER WIRE USING SN96,  
MAXIMUM TEMP 430°F 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%L / -0

ALL DIMENSIONS SHOWN  
ARE FOR REFERENCE ONLY.

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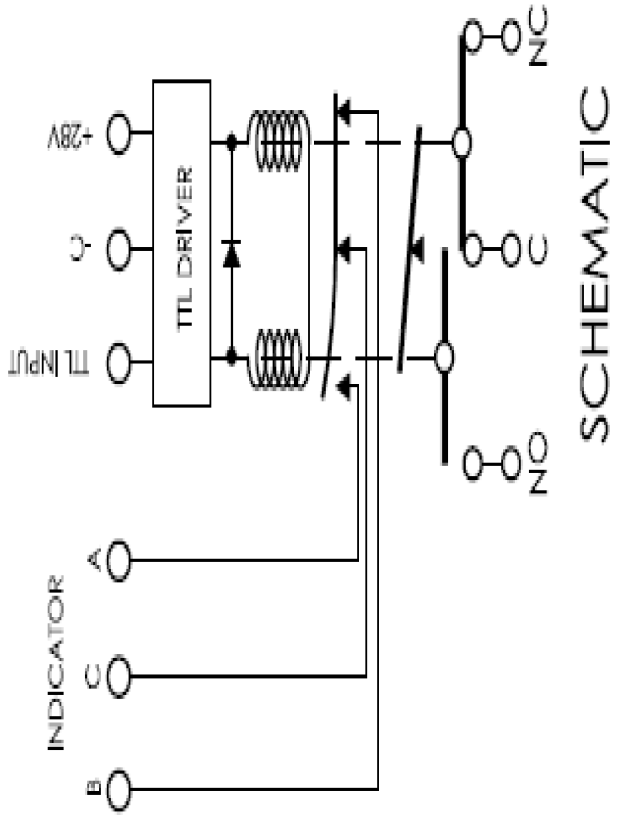
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.XXX = ±.005 [ .13 ]     ANGLES ± 1°

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60 [ 1524 ] < L ≤ 120 [ 3048 ] = +4 [ 102 ] / -0  
120 [ 3048 ] < L ≤ 300 [ 7620 ] = +6 [ 152 ] / -0  
300 [ 7620 ] < L = +5%L / -0

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