



SP6T Electromechanical Relay Latching Switch  
DC to 18 GHz, SMA, 100 Watts, 30V Indicator, 28V  
Control with Self Cut Off, Auto Reset, Diodes

## Electromechanical Relay Switches Technical Data Sheet

PE71S6077

### Features

- Single Pole Six Throw Relay Switch
- DC to 18 GHz Frequency Range
- 5M Cycle Min Operating Life
- 100 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.5 dB Max
- VSWR 1.5:1 Max

### Applications

- High Performance Relay Switch
- Military Communications
- Communications Systems
- Test & Measurement

### Description

The PE71S6077 is a Single Pole Six Throw Electromechanical Relay Switch that operates from DC to 18 GHz and can handle up to 240 Watts of CW input power in a Break Before Make condition. The design features a Latching Actuator with Position Indicators, Auto Reset, Diodes and Self Cut Off circuitry and is rated for 5M Life Cycles for high reliability operation. Insertion loss is specified from 0.2 dB max and Isolation from 80 dB min, with +28 Vdc operating voltage. Performance is guaranteed over -40°C to +85°C and the switch assembly is RoHS and REACH compliant. The package interface uses solder terminals and SMA Female connectors.

### Electrical Specifications

|                    |  |
|--------------------|--|
| Switch Type        | SP6T, Reflective                             |
| Actuator Type      | Latching                                     |
| Switching Sequence | Break before Make                            |
| Actuator Options   | Indicators, Self Cut Off, Auto Reset, Diodes |
| Polarity           | Negative Common                              |
| Indicator Rating   | 1 Watts / 30 Volts / 100 mA                  |
| Self Cut-Off Time  | 40 ms < CT < 120 ms                          |

| Description                  | Minimum | Typical | Maximum | Units |
|------------------------------|---------|---------|---------|-------|
| Frequency Range              | DC      |         | 18      | GHz   |
| Impedance                    |         | 50      |         | Ohms  |
| Operating Voltage            | 24      | 28      | 30      | Volts |
| Actuating Current @ 28 Volts |         | 375     |         | mA    |
| VSWR                         |         |         | 1.5:1   |       |
| Insertion Loss               |         |         | 0.5     | dB    |
| Isolation                    | 60      |         |         | dB    |
| Input Power (CW)             |         |         | 100     | Watts |

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 DC to 18 GHz, SMA, 100 Watts, 30V Indicator, 28V Control with Self Cut Off, Auto Reset, Diodes PE71S6077](#)



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### Performance by Frequency

| Description           | F1      | F2     | F3        | F4         | F5 | Units |
|-----------------------|---------|--------|-----------|------------|----|-------|
| Frequency Range       | DC to 3 | 3 to 8 | 8 to 12.4 | 12.4 to 18 |    | GHz   |
| VSWR, Max             | 1.2:1   | 1.3:1  | 1.4:1     | 1.5:1      |    |       |
| Insertion Loss, Max   | 0.2     | 0.3    | 0.4       | 0.5        |    | dB    |
| Isolation, Min        | 80      | 70     | 60        | 60         |    | dB    |
| Input Power, Max (CW) | 240     | 150    | 120       | 100        |    | Watts |

Electrical Specification Notes:  
Average Power and Actuating Current values at 25°C.

### Mechanical Specifications

#### Size

|                |                      |
|----------------|----------------------|
| Length         | 2.19 in [55.63 mm]   |
| Width/Diameter | 2.25 in [57.15 mm]   |
| Height         | 2.25 in [57.15 mm]   |
| Weight         | 0.49 lbs [222.26 g]  |
| Package Type   | Connectorized Module |
| Operating Life | 5,000,000 Cycles     |
| Switching Time | 40 ms Max            |

#### Connectors

|                            |             |
|----------------------------|-------------|
| RF Connector Type          | SMA Female  |
| RF Connector Specification | MIL C 39012 |
| Control Connector          | Solder Pins |

Mechanical Specification Notes:  
Solder Pins: 250°C max/30sec.

### Environmental Specifications

#### Temperature

|                 |                                  |
|-----------------|----------------------------------|
| Operating Range | -40 to +85 deg C                 |
| Storage Range   | -55 to +85 deg C                 |
| Construction    | Splashproof                      |
| Humidity        | MIL-DTE-3928E, Cond.B            |
| Shock           | MIL-STD-202, Method 213B, Cond.C |

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Vibration  
ESD Sensitivity



Environmental Specification Notes:  
Environmental specifications are guaranteed but not tested.

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

RoHS Compliant  
REACH Compliant

12/17/2014

### Plotted and Other Data

Notes:

- Values shown are typical at 25°C.

MIL-STD-202, Method 204D, Cond.D  
ESD Sensitive Material. Transport material in approved  
ESD bags. Handle in approved ESD Workstation.

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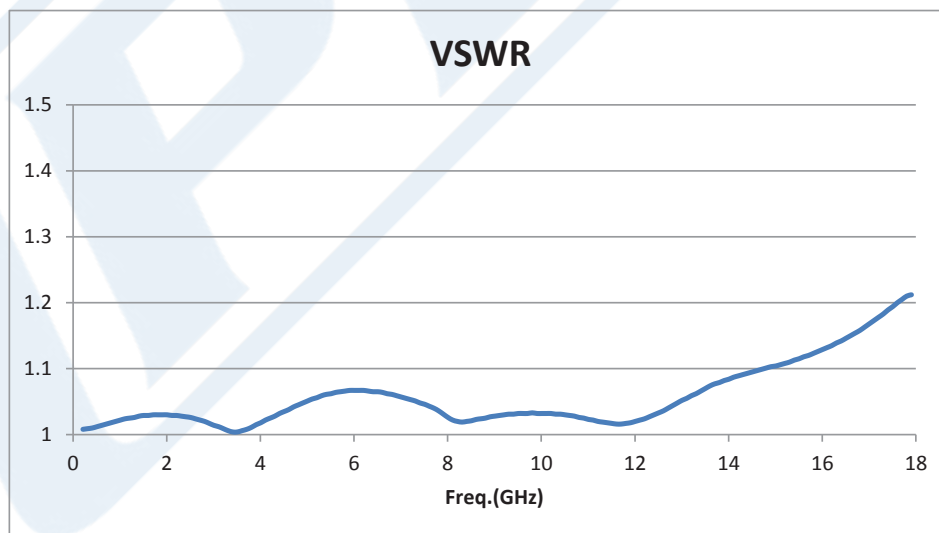
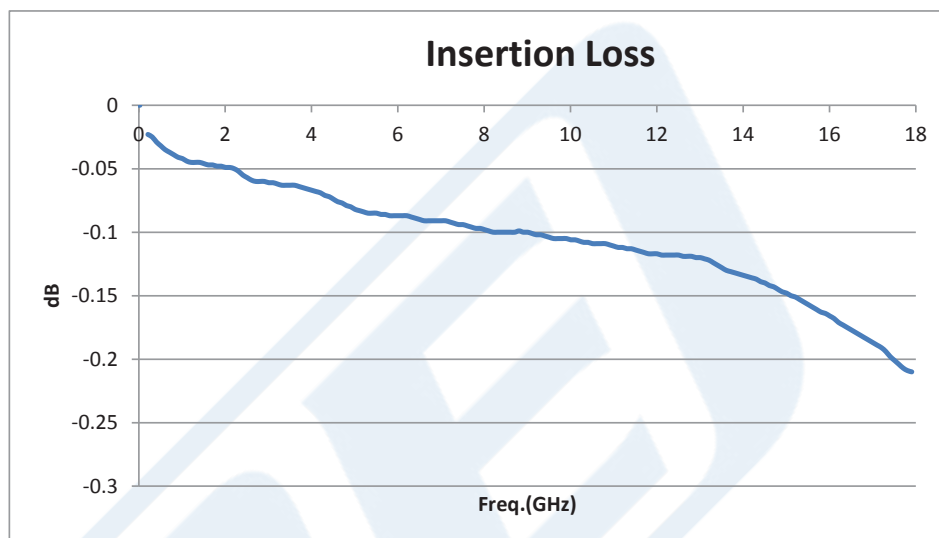


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### Typical Performance Data



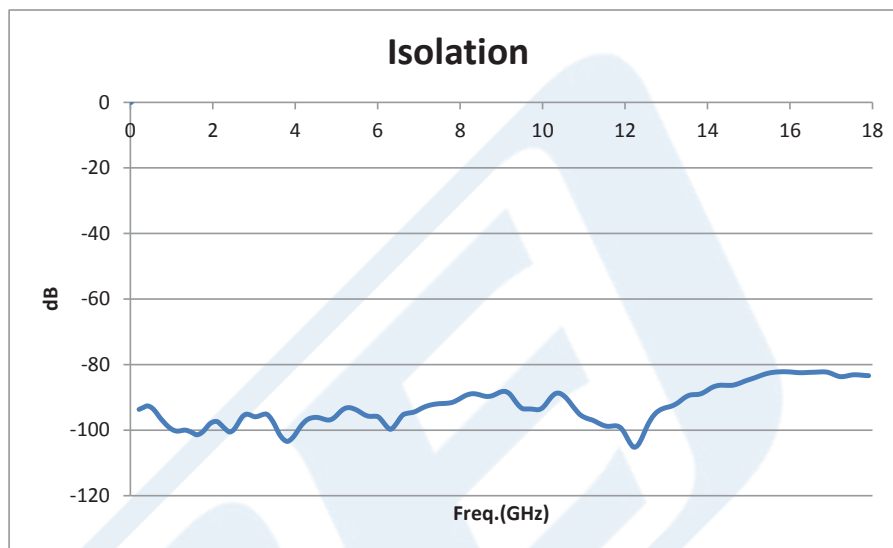
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SP6T Electromechanical Relay Latching Switch DC to 18 GHz, SMA, 100 Watts, 30V Indicator, 28V Control with Self Cut Off, Auto Reset, Diodes from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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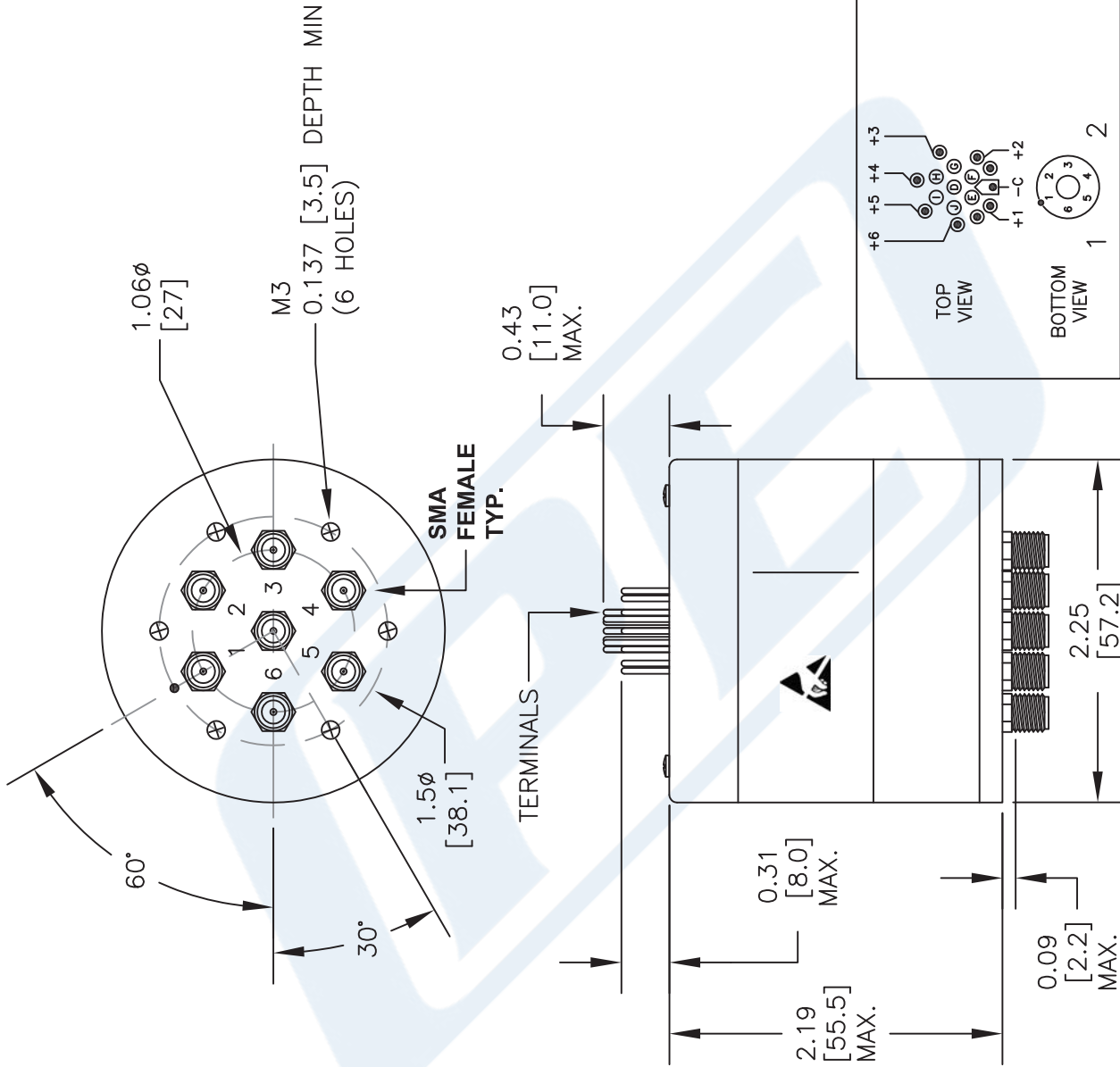
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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



# PE71S6077 CAD Drawing

SP6T Electromechanical Relay Latching Switch DC to 18 GHz, SMA, 100 Watts,  
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PASTERNAK  
PE71S6077  
0 - 18 GHz  
Un: 28 V  
LOT: ----

## NOTES:

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

## DWG TITLE

**PE71S6077**

**PE PASTERNAK**  
THE ENGINEER'S RF SOURCE

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FSCM NO. 53919

CAD FILE 082214

SCALE N/A

SIZE A

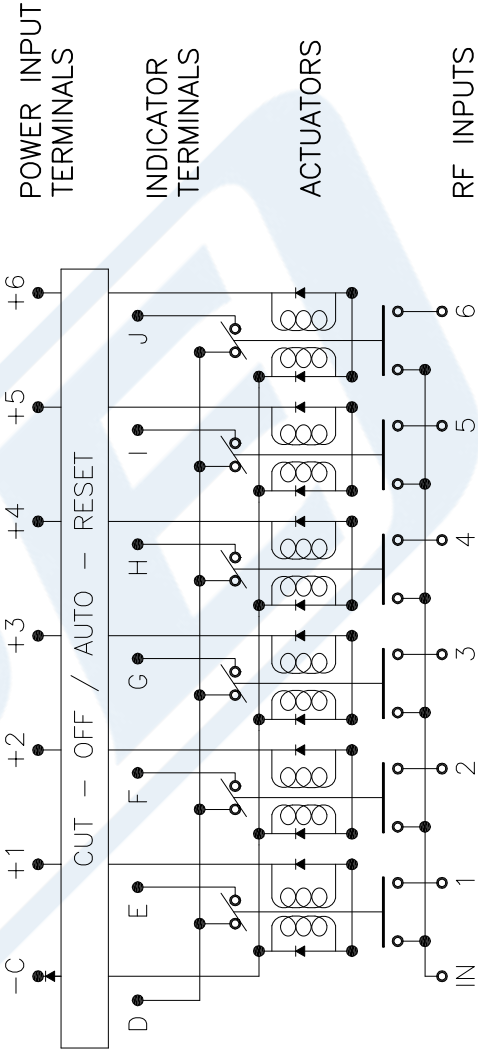
150

PE71S6077 CAD Drawing

SP6T Electromechanical Relay Latching Switch DC to 18 GHz, SMA, 100 Watts,  
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| Voltage | RF Continuity | Indicator |
|---------|---------------|-----------|
| - C + 1 | IN ↔ 1        | D.E       |
| - C + 2 | IN ↔ 2        | D.F       |
| - C + 3 | IN ↔ 3        | D.G       |
| - C + 4 | IN ↔ 4        | D.H       |
| - C + 5 | IN ↔ 5        | D.I       |
| - C + 6 | IN ↔ 6        | D.J       |

SCHEMATIC DIAGRAM



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FSCM NO. 53919

CAD FILE 120214

SCALE N/A

SIZE A

150