



SPDT Electromechanical Relay Latching Switch DC to 12.4 GHz,  
N, 160 Watts, 12V Control, Indicators, TTL, Diodes, Self Cut Off

## Electromechanical Relay Switches Technical Data Sheet

**PE71S6164**

### Features

- Single Pole Double Throw Relay Switch
- DC to 12.4 GHz Frequency Range
- 1M Cycle Min Operating Life
- Latching Actuator
- Self Cut Off, TTL Logic Driver, Position Indicators, Suppression Diodes
- Insertion Loss 0.6 dB max
- Isolation 60 dB min
- 160 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications

- Test & Measurement
- Communications System
- Instrumentation

### Description

The PE71S6164 is a Single Pole Double Throw Electromechanical Relay Switch that operates from DC to 12.4 GHz and has a rating of 160 Watts input power (CW) in a Break Before Make condition. The design features a Latching Actuator with Self Cut Off circuitry, TTL Logic Driver, Position Indicators, Suppression Diodes and is rated for 1M Life Cycles for high reliability operation. Insertion loss is specified from 0.2 dB max and Isolation from 80 dB min, with +12 Vdc operating voltage and performance is guaranteed over -55°C to +85°C. The package interface uses solder terminals and N Female connectors.

### Electrical Specifications

|                    |                                             |
|--------------------|---------------------------------------------|
| Switch Type        | SPDT, Reflective                            |
| Actuator Type      | Latching                                    |
| Switching Sequence | Break Before Make                           |
| Actuator Options   | Indicators, TTL Logic, Diodes, Self Cut Off |
| TTL Control        | on: 2.4 to 5 Volts<br>off: 0 to 0.8 Volts   |

| Description                       | Minimum | Typical | Maximum | Units |
|-----------------------------------|---------|---------|---------|-------|
| Frequency Range                   | DC      |         | 12.4    | GHz   |
| Impedance                         |         | 50      |         | Ohms  |
| Operating Voltage                 |         | 12      |         | Volts |
| Actuating Current @ 12 Volts      |         | 200     |         | mA    |
| VSWR                              |         |         | 1.6:1   |       |
| Insertion Loss                    |         |         | 0.6     | dB    |
| Isolation                         | 60      |         |         | dB    |
| Input Power (CW)<br>(at 12.4 GHz) |         |         | 160     | Watts |

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 Latching Switch DC to 12.4 GHz, N, 160 Watts, 12V Control, Indicators, TTL, Diodes, Self Cut Off PE71S6164](#)



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### Performance by Frequency

| Description         | F1      | F2     | F3        | F4 | F5 | Units |
|---------------------|---------|--------|-----------|----|----|-------|
| Frequency Range     | DC to 2 | 2 to 4 | 4 to 12.4 |    |    | GHz   |
| VSWR, Max           | 1.15:1  | 1.2:1  | 1.6:1     |    |    |       |
| Insertion Loss, Max | 0.2     | 0.25   | 0.6       |    |    | dB    |
| Isolation, Min      | 80      | 80     | 60        |    |    | dB    |

### Mechanical Specifications

#### Size

|                           |                      |
|---------------------------|----------------------|
| Length                    | 2.2 in [55.88 mm]    |
| Width/Diameter            | 2.46 in [62.48 mm]   |
| Height                    | 0.9 in [22.86 mm]    |
| Weight                    | 0.53 lbs [240.4 g]   |
| Body Material and Plating | Aluminum             |
| Package Type              | Connectorized Module |
| Operating Life            | 1,000,000 Cycles     |
| Switching Time            | 20 ms Max            |

#### Connectors

|                                           |                            |
|-------------------------------------------|----------------------------|
| RF Connector Type                         | N Female                   |
| RF Connector Contact Material and Plating | Beryllium Copper, Gold     |
| RF Connector Body Material and Plating    | Passivated Stainless Steel |
| Control Connector                         | Solder Pin                 |

### Environmental Specifications

#### Temperature

|                 |                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------|
| Operating Range | -55 to +85 deg C                                                                                     |
| ESD Sensitivity | ESD Sensitive Material. Transport material in Approved ESD bags. Handle in approved ESD Workstation. |



Environmental Specification Notes:  
Designed to meet MIL-DTL-3928

**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)  
Not RoHS Compliant

### 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: [SPDT Electromechanical Relay Latching Switch DC to 12.4 GHz, N, 160 Watts, 12V Control, Indicators, TTL, Diodes, Self Cut Off PE71S6164](#)

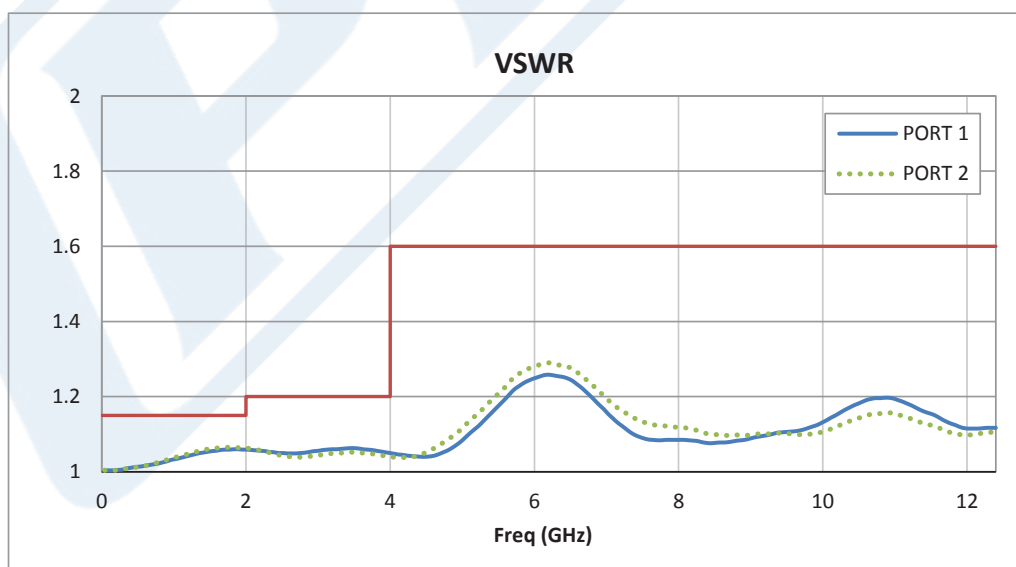
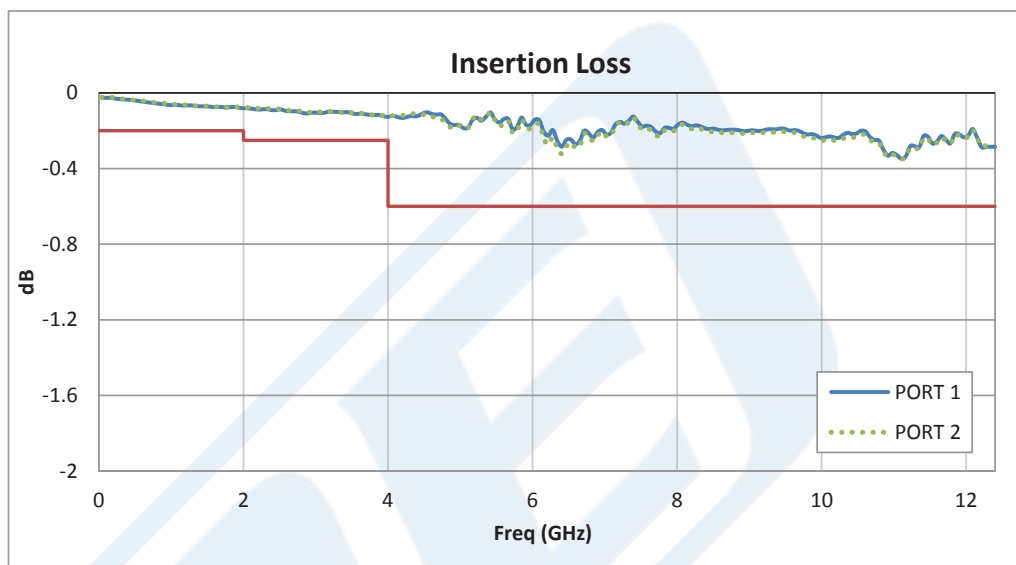


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### Typical Performance Data



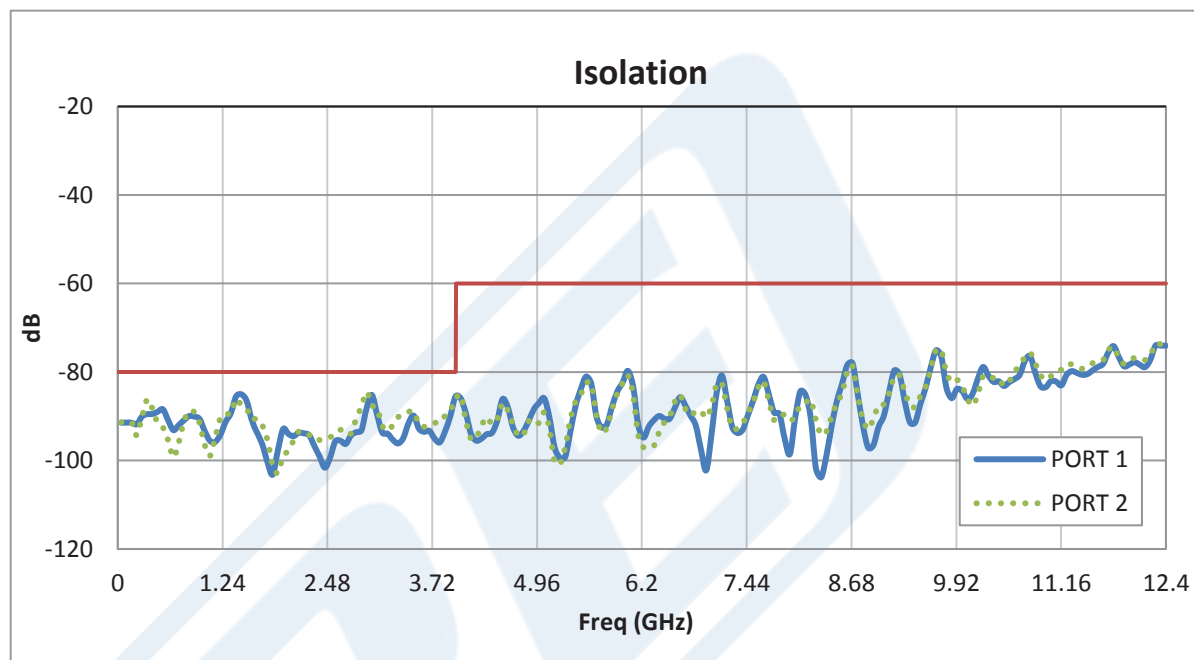
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SPDT Electromechanical Relay Latching Switch DC to 12.4 GHz, N, 160 Watts, 12V Control, Indicators, TTL, Diodes, Self Cut Off from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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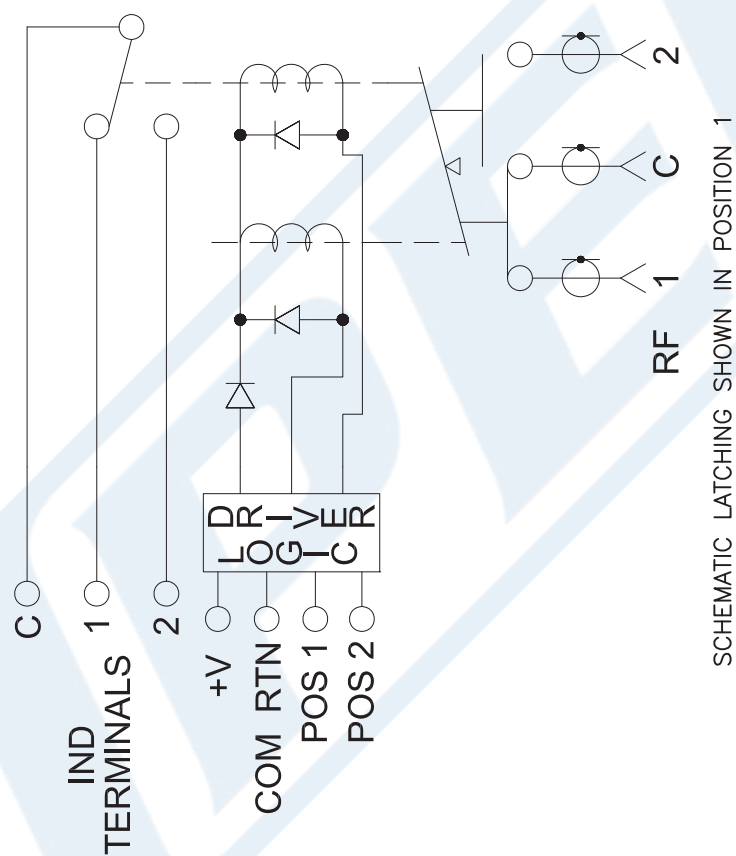
URL: <http://www.pasternack.com/n-spdt-electromechanical-relay-switch-12.4-ghz-indicators-latching-ttl-logic-pe71s6164-p.aspx>

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.



PE71S6164 CAD Drawing

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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  
**PE71S6164**

FSCM NO. 53919

CAD FILE 051315

SCALE N/A

SIZE A

2233

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