



SP4T PIN Diode Switch Operating From 1 GHz to 18 GHz  
Up to 0.1 Watts (+20 dBm) and Field Replaceable SMA

## PIN Diode Switches Technical Data Sheet

**PE71S6283**

### Features

- SP4T Reflective Switch
- 1 GHz to 18 GHz
- Insertion Loss 3.0 dB max
- Isolation 70 dB min
- Power Input 20 dBm CW max
- Field Replaceable Connectors

### Applications

- Test & Measurement
- Military Communication
- Commercial Communication
- Wireless Communications
- SATCOM
- Military Electronic Systems
- RF Test Stations

### Description

The PE71S6283 is a Single Pole Four Throw (SP4T) Reflective PIN Diode Switch that operates from 1 GHz to 18 GHz. Performance includes 3.0 dB max insertion loss, 70 dB min isolation, and 100 nsec max switching speed. The design incorporates TTL compatible driver circuitry for accurate logic control. Operational temperature range is -55°C to +85°C and dual voltage controls of +5 VDC and -15 VDC are required. The rugged package is designed to meet a series of MIL-STD-202F environmental conditions including humidity, shock, vibration, and temperature cycle. Package interfaces include solder terminals and female SMA connectors.

### Electrical Specifications

| Description                | Minimum | Typical | Maximum | Units |
|----------------------------|---------|---------|---------|-------|
| Frequency Range            | 1       |         | 18      | GHz   |
| Impedance                  |         | 50      |         | Ohms  |
| VSWR                       |         |         | 2:1     |       |
| Insertion Loss             |         |         | 3       | dB    |
| Isolation                  | 70      |         |         | dB    |
| Switching Time             |         |         | 100     | ns    |
| Input Power (CW)           |         |         | 0.1     | Watts |
| Survival Power             |         |         | 1       | Watts |
| Positive Operating Voltage |         | 5       |         | Vdc   |
| Negative Operating Voltage |         | -15     |         | Vdc   |
| Operating Temperature      | -55     |         | +85     | deg C |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T PIN Diode Switch Operating From 1 GHz to 18 GHz Up to 0.1 Watts \(+20 dBm\) and Field Replaceable SMA PE71S6283](#)



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### Mechanical Specifications

#### Size

|        |                    |
|--------|--------------------|
| Length | 1.25 in [31.75 mm] |
| Width  | 1.25 in [31.75 mm] |
| Height | 0.4 in [10.16 mm]  |
| Weight | 0.07 lbs [31.75 g] |
| Finish | Blue Paint         |

#### Configuration

|                       |                   |
|-----------------------|-------------------|
| Design                | Reflective, SP4T  |
| RF Connector          | SMA Female        |
| RF Connector Option   | Field Replaceable |
| TTL Control Connector | Solder Pin        |

### Environmental Specifications

#### Temperature

|                 |                   |
|-----------------|-------------------|
| Operating Range | -55 to +85 deg C  |
| Storage Range   | -65 to +125 deg C |

#### Humidity

MIL-STD-202F, Method 103B, Condition B

#### Shock

MIL-STD-202F, Method 213B, Condition B

#### Vibration

MIL-STD-202F, Method 204D, Condition B

#### Altitude

MIL-STD-202F, Method 105C, Condition B

#### Temperature Cycling

MIL-STD-202F, Method 107D, Condition A

#### ESD Sensitivity

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.



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

Not RoHS Compliant

REACH Compliant

12/17/2015

### Plotted and Other Data

Notes:

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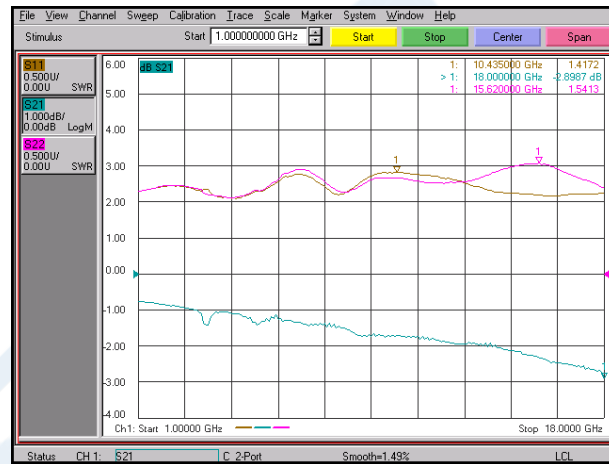
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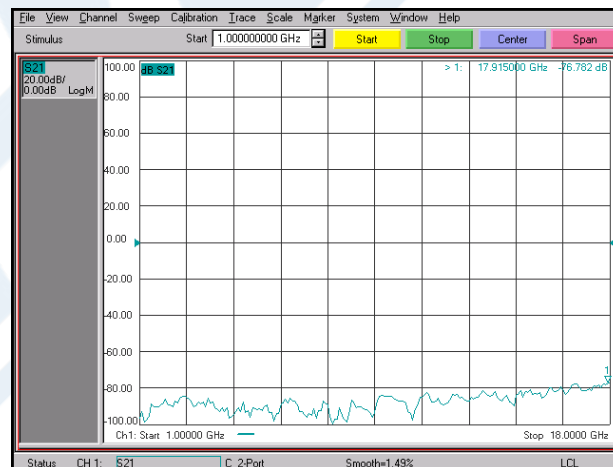
**PE71S6283**

### Typical Performance Data

(J1 – J2) Insertion Loss and Return Loss



(J1 – J2) Isolation



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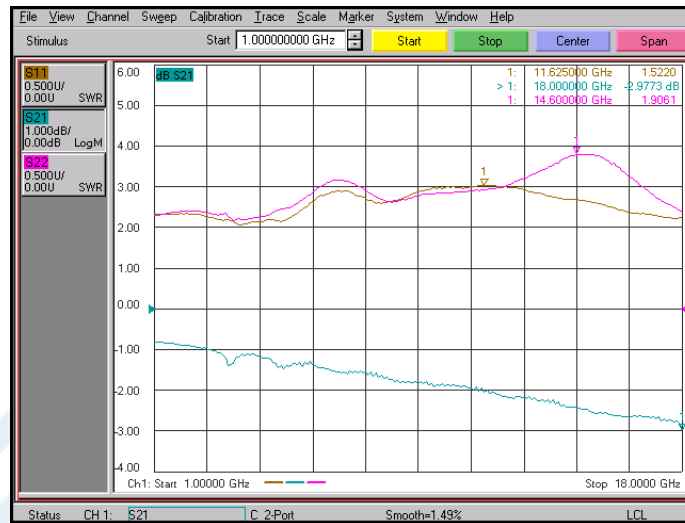


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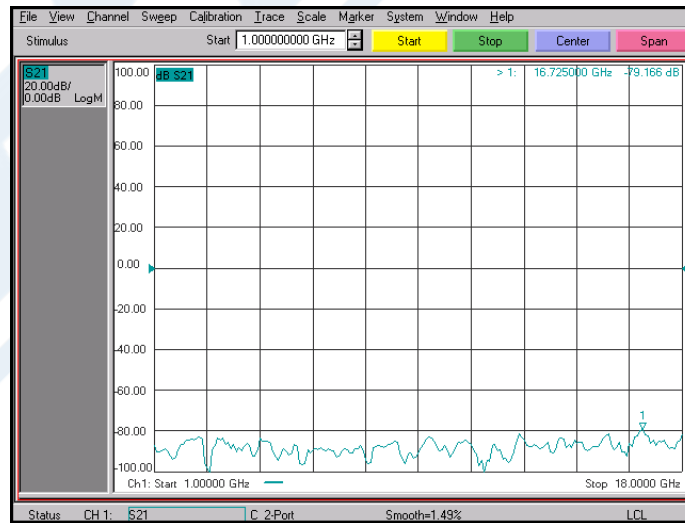
## PIN Diode Switches Technical Data Sheet

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(J1 – J3) Insertion Loss and Return Loss



(J1 – J3) Isolation



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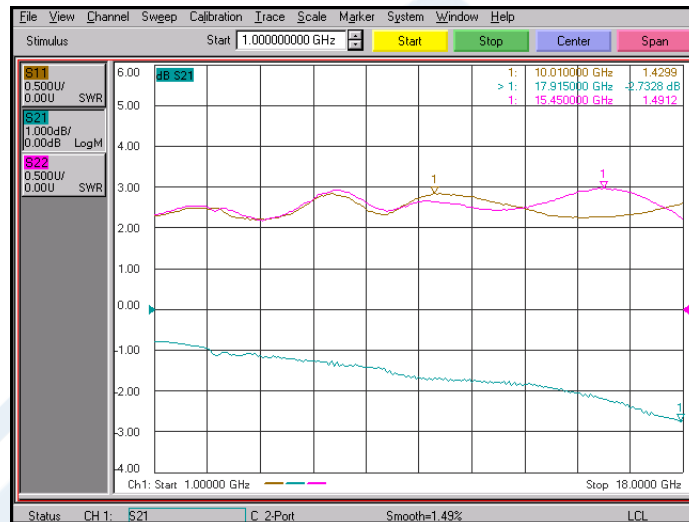


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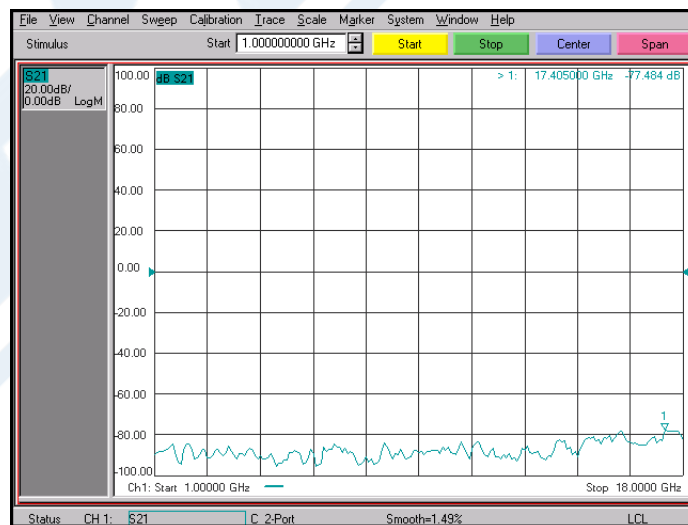
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(J1 – J4) Insertion Loss and Return Loss



(J1 – J4) Isolation



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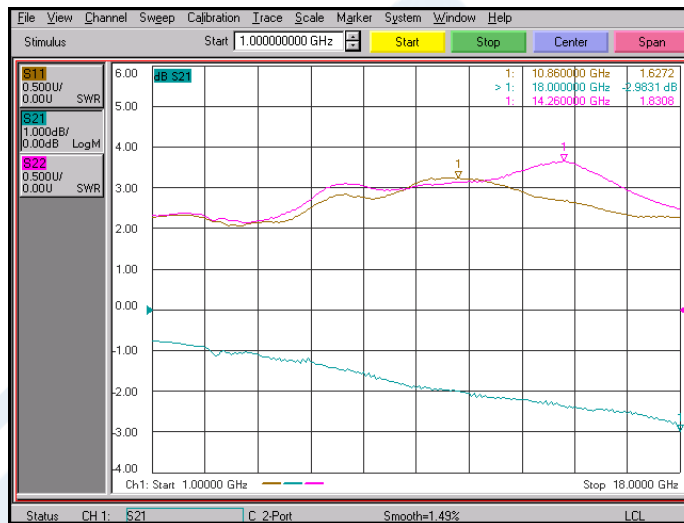


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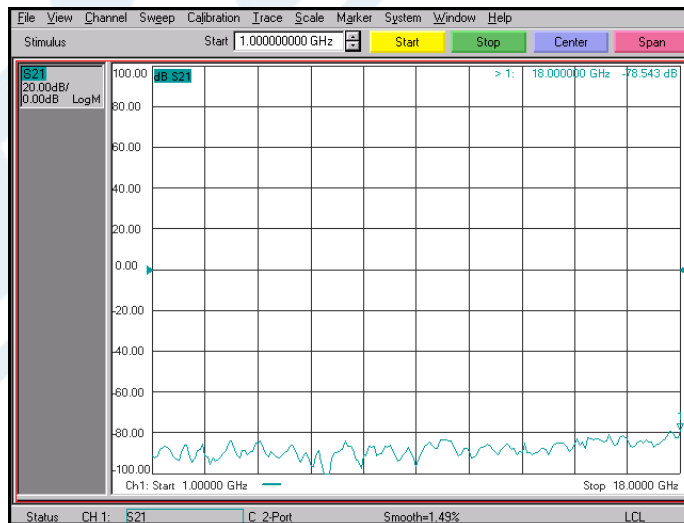
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### (J1 – J5) Insertion Loss and Return Loss



### (J1 – J5) Isolation



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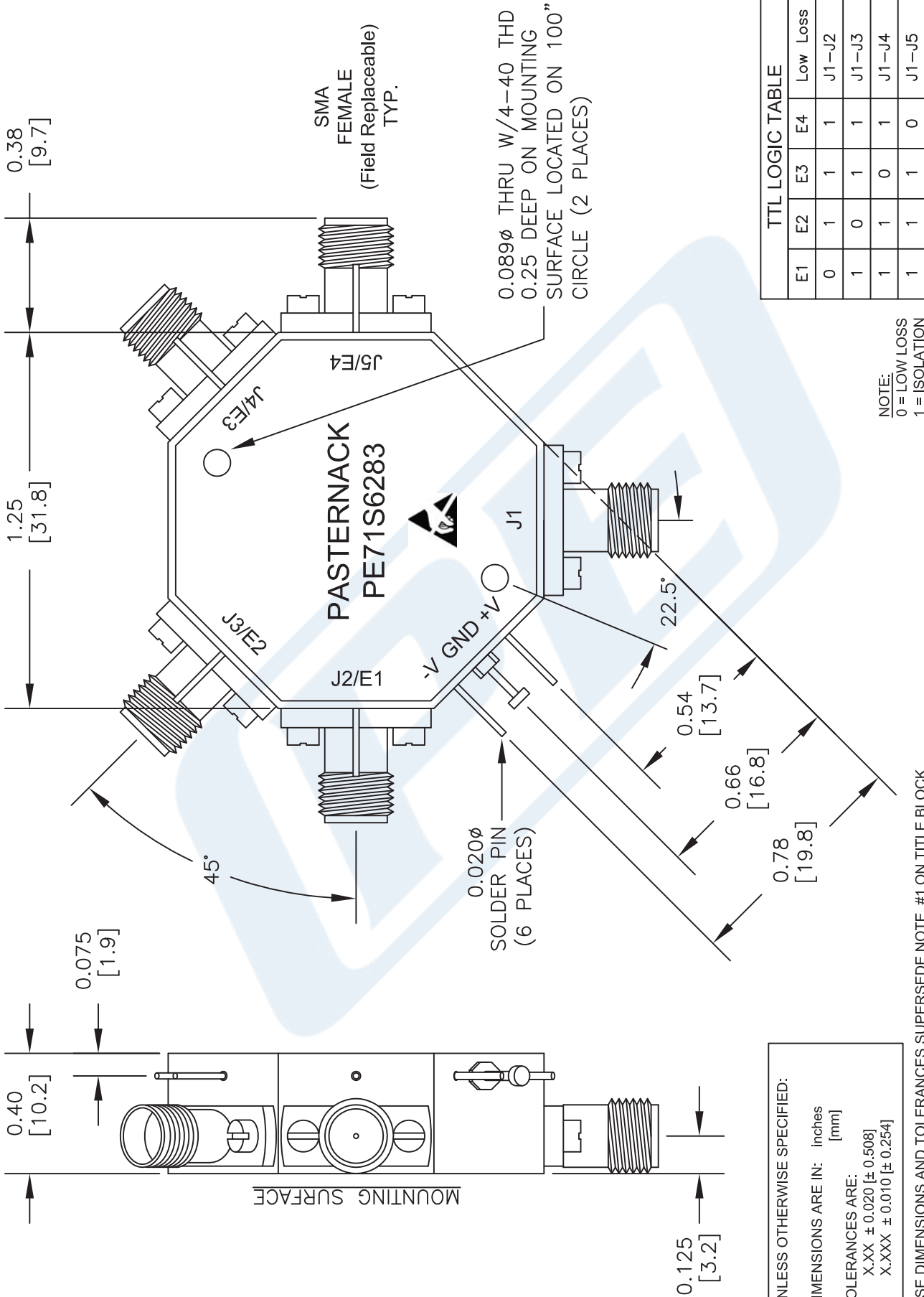
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# PE71S6283 CAD Drawing

SP4T PIN Diode Switch Operating From 1 GHz to 18 GHz Up  
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\* THESE DIMENSIONS AND TOLERANCES SUPERSEDE NOTE #1 ON TITLE BLOCK.

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DWG TITLE

**PE71S6283**

FSCM NO. 53919

CAD FILE 040116

SCALE N/A

SIZE A

2233