



SP8T PIN Diode Switch Operating From 500 MHz to 40 GHz
Up to 0.1 Watts (+20 dBm) and Field Replaceable 2.92mm

PIN Diode Switches Technical Data Sheet

PE71S6229

Features

- SP8T Reflective Switch
- 0.5 GHz to 40.0 GHz
- Insertion Loss 9 dB typ
- Isolation 45 dB min
- Power Input 20 dBm CW max
- Switching Speed 50 nsec max

Applications

- Test & Measurement
- Military Communication
- Commercial Communication

Description

The PE71S6229 is a Single Pole Eight Throw (SP8T) Reflective PIN Diode Switch that operates from 0.5 to 40 GHz. Performance includes 9 dB typ insertion loss, 45 dB min Isolation, and 50 nsec max switching speed. The design incorporates TTL-compatible driver circuitry for accurate logic control. Operational temperature range is -40°C to +85°C and dual voltage controls of +5 VDC and -5 VDC are required. The rugged package design is compact, features field replaceable female 2.92mm connectors, and is designed to meet MIL-STD 202F environmental test conditions which include humidity, shock, vibration, altitude, and temperature cycle.

Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|----------------------------|---------|---------|---------|-------|
| Frequency Range | 0.5 | | 40 | GHz |
| Impedance | | 50 | | Ohms |
| Insertion Loss | | 9 | | dB |
| Isolation | 45 | | | dB |
| Switching Time | | | 50 | ns |
| Input Power (CW) | | | 0.1 | Watts |
| Survival Power | | | 1 | Watts |
| Positive Operating Voltage | | 5 | | Vdc |
| Negative Operating Voltage | | -5 | | Vdc |
| Current @ 5 Vdc | | 100 | | mA |
| Current @ -5 Vdc | | 50 | | mA |
| Operating Temperature | -40 | | +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: [SP8T PIN Diode Switch Operating From 500 MHz to 40 GHz Up to 0.1 Watts \(+20 dBm\) and Field Replaceable 2.92mm PE71S6229](#)



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Mechanical Specifications

Size

| | |
|--------|----------------------|
| Length | 4 in [101.6 mm] |
| Width | 1.5 in [38.1 mm] |
| Height | 0.4 in [10.16 mm] |
| Weight | 0.246 lbs [111.58 g] |
| Finish | Blue Paint |

Configuration

| | |
|-----------------------|-------------------|
| Design | Reflective, SP8T |
| RF Connector | 2.92mm Female |
| RF Connector Option | Field Replaceable |
| TTL Control Connector | Solder Pin |

Environmental Specifications

Temperature

| | |
|-----------------|-------------------|
| Operating Range | -40 to +85 deg C |
| Storage Range | -55 to +125 deg C |

Humidity

Shock

Vibration

Altitude

Temperature Cycling

ESD Sensitivity

MIL-STD-202F, Method 103B, Condition B
MIL-STD-202F, Method 213B, Condition B
MIL-STD-202F, Method 204D, Condition B
MIL-STD-202F, Method 105C, Condition B
MIL-STD-202F, Method 107D, Condition A
ESD Sensitive Material, Transport material in Approved
ESD bags. Handle only in ESD Workstation.



Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

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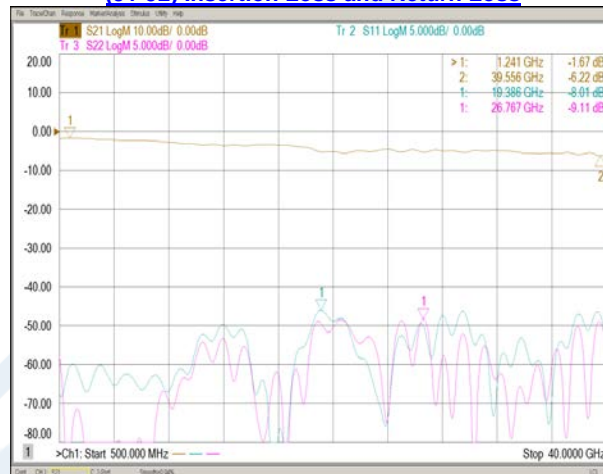
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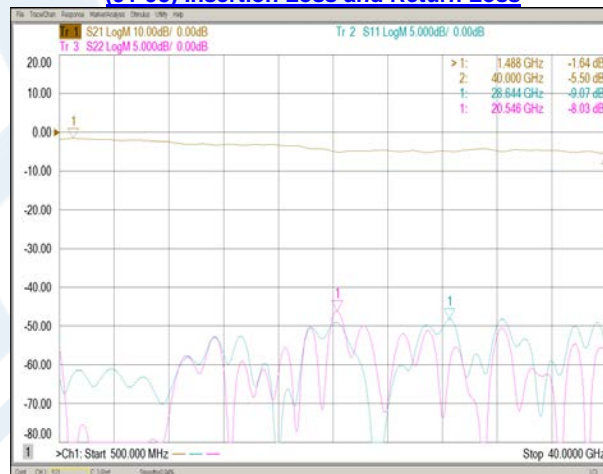
PE71S6229

Typical Performance Data

(J1-J2) Insertion Loss and Return Loss



(J1-J3) Insertion Loss and Return Loss



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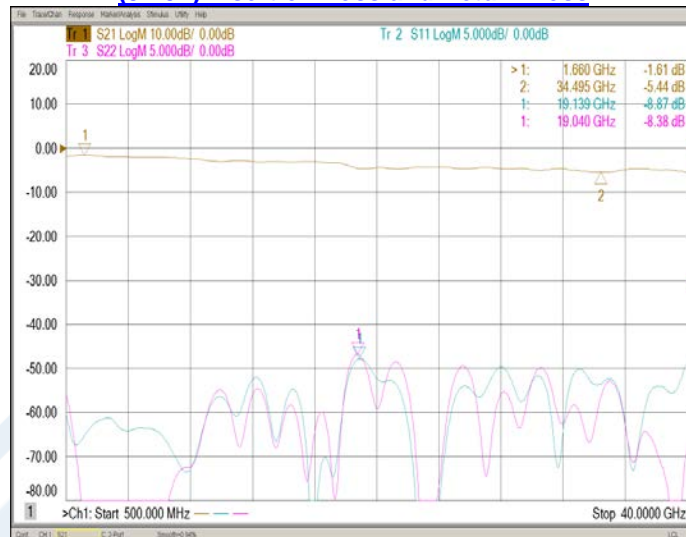


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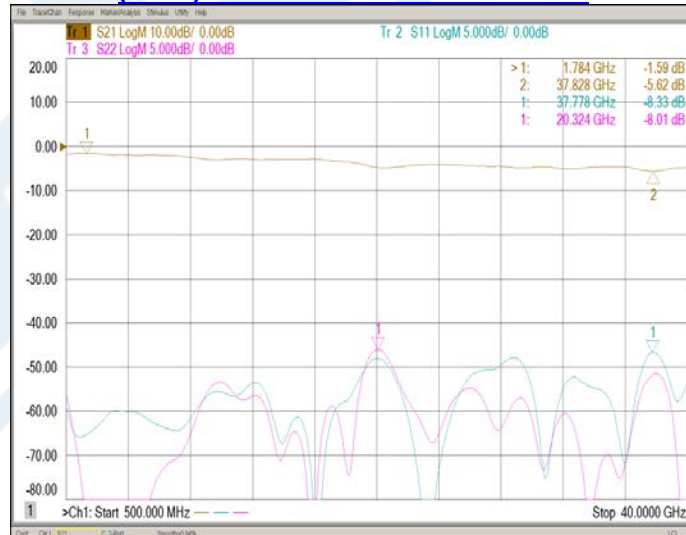
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(J1-J4) Insertion Loss and Return Loss



(J1-J5) Insertion Loss and Return Loss



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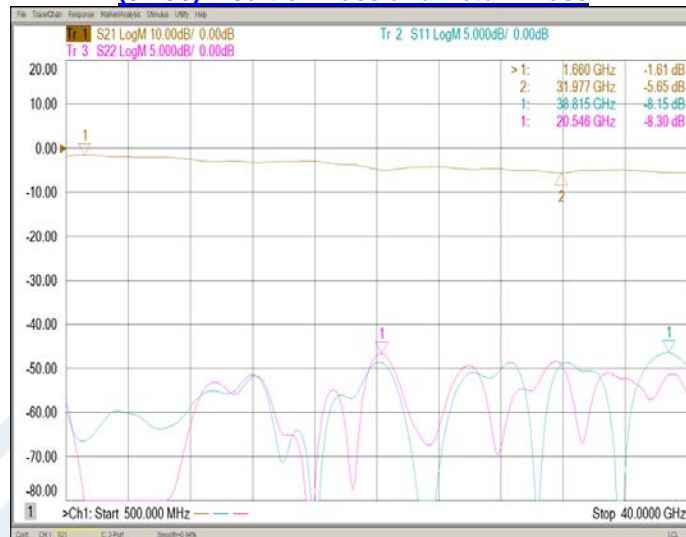


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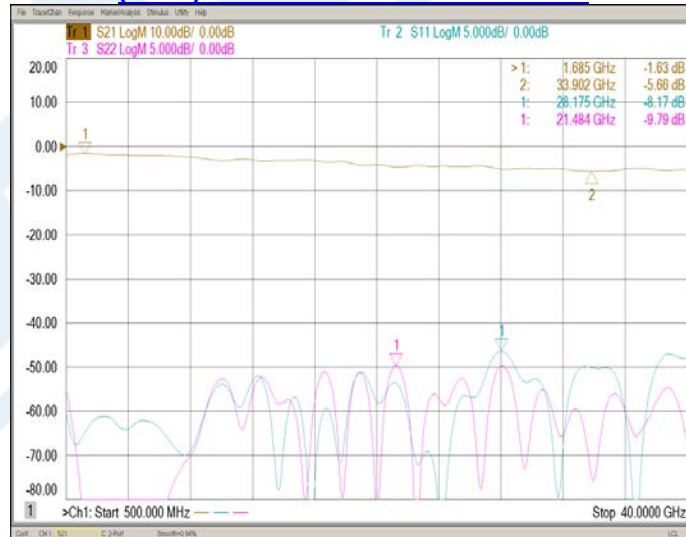
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(J1-J6) Insertion Loss and Return Loss



(J1-J7) Insertion Loss and Return Loss



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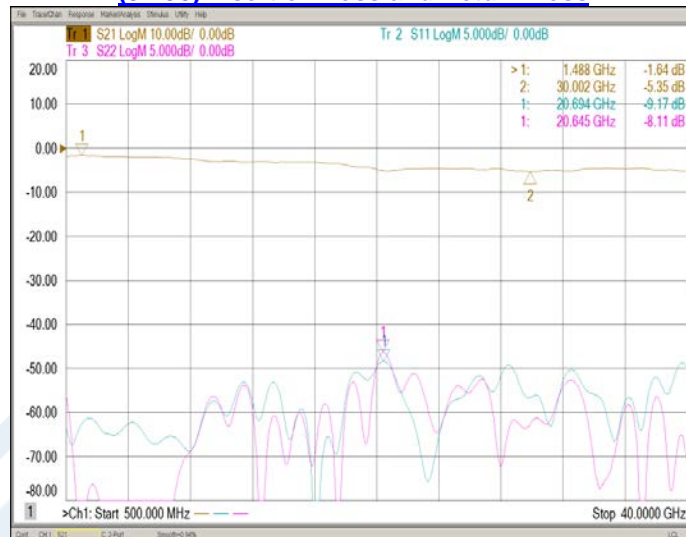


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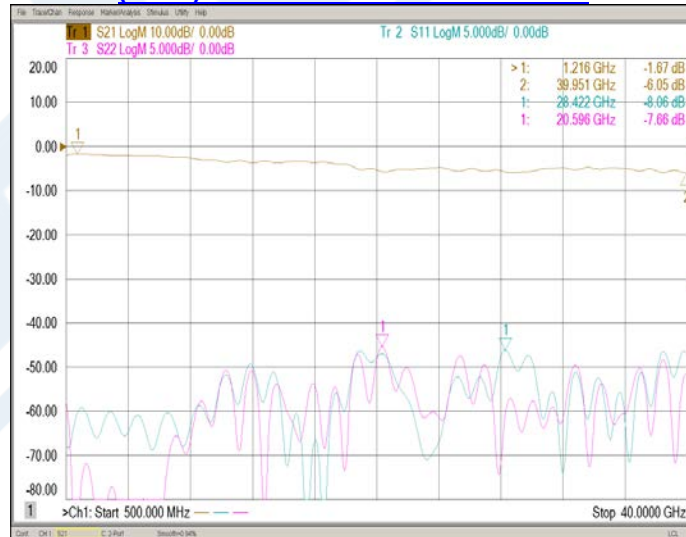
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(J1-J8) Insertion Loss and Return Loss



(J1-J9) Insertion Loss and Return Loss



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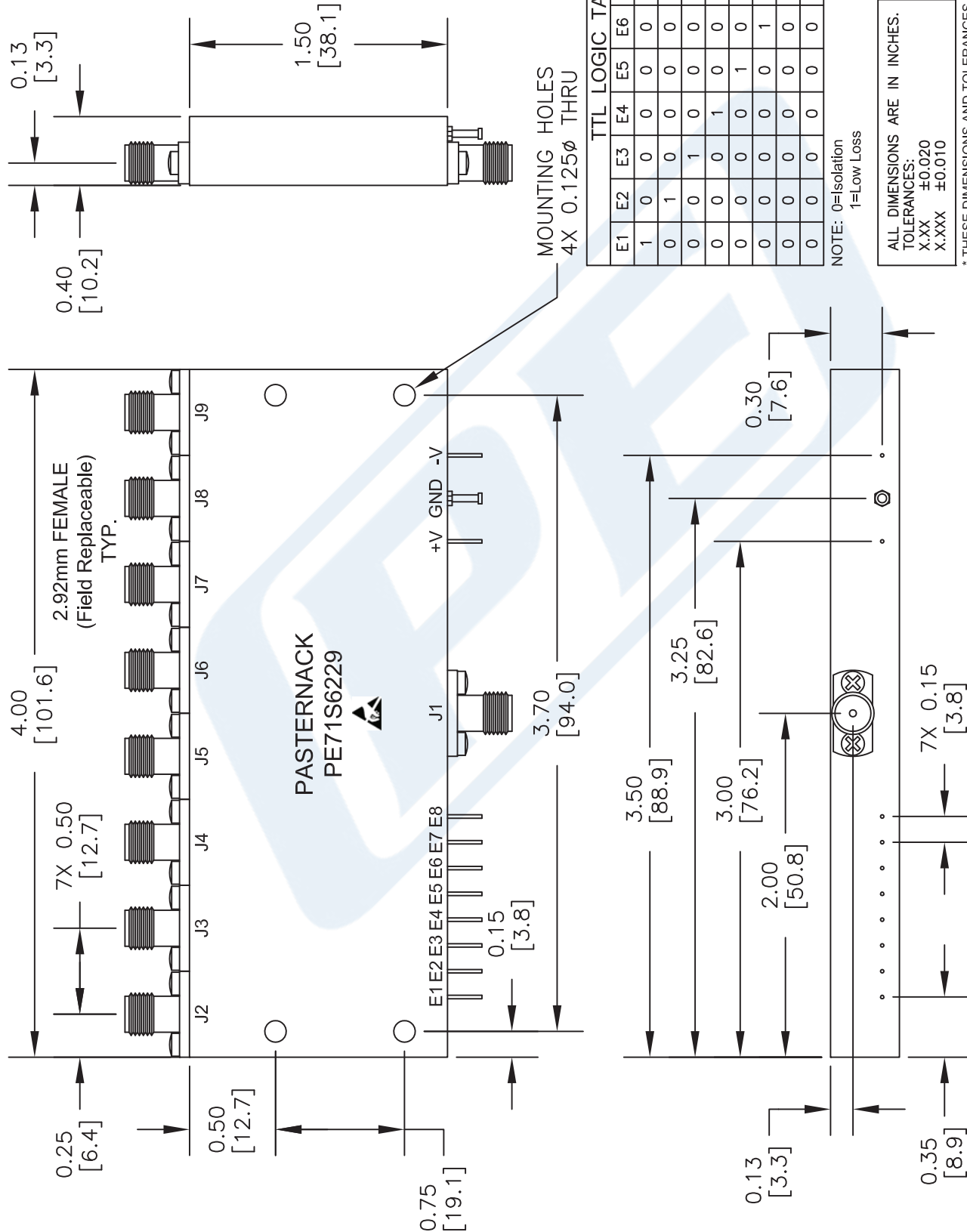
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PE71S6229 CAD Drawing

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DWG TITLE

PE71S6229

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].

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FSCM NO. 53919

CAD FILE 040416

SCALE N/A

SIZE A

2233