



# Absorptive SP4T PIN Diode Switch Operating From 12 GHz to 18 GHz Up to +20 dBm and Field Replaceable SMA

## PIN Diode Switches Technical Data Sheet

PE71S6254

### Features

- SP4T Absorptive Switch
- 12.0 GHz to 18.0 GHz
- High Speed Switching
- Insertion Loss 3.75 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 PE71S6254 is a Single Pole Four Throw (SP4T) Absorptive PIN Diode Switch that operates from 12 GHz to 18 GHz. The output port is terminated in 50 ohms when switched in the isolation (off) state. Outstanding performance includes 3.75 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 DC and -15 DC 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	12		18	GHz
Impedance		50		Ohms
VSWR			2:1	
Insertion Loss			3.75	dB
Isolation	70			dB
Switching Time			100	ns
Input Power (CW)			0.1	Watts
Survival Power			1	Watts
Positive Operating Voltage		5		V
Negative Operating Voltage		-15		V
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: [Absorptive SP4T PIN Diode Switch Operating From 12 GHz to 18 GHz Up to +20 dBm and Field Replaceable SMA PE71S6254](#)





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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	Absorptive, 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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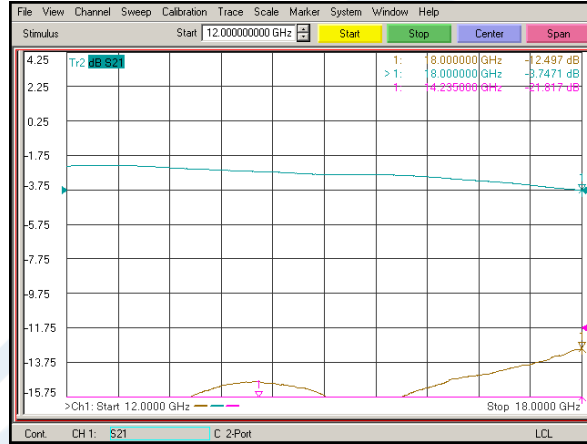
Absorptive SP4T PIN Diode Switch Operating From 12 GHz to 18 GHz Up to +20 dBm and Field Replaceable SMA

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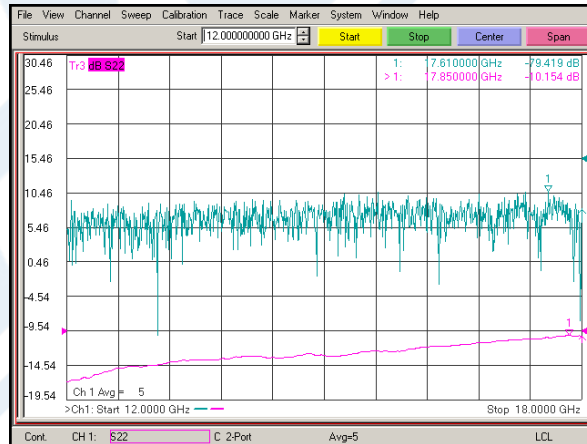
PE71S6254

Typical Performance Data

(J1 – J2) Insertion Loss and Return Loss



(J1 – J2) Isolation and Termination Return Loss



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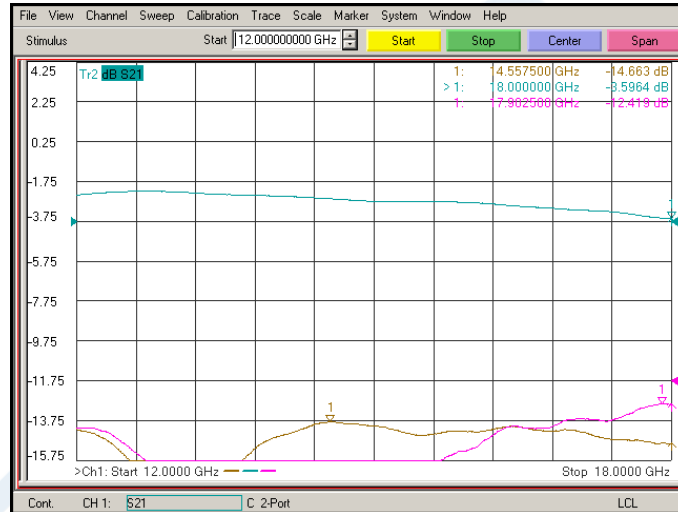


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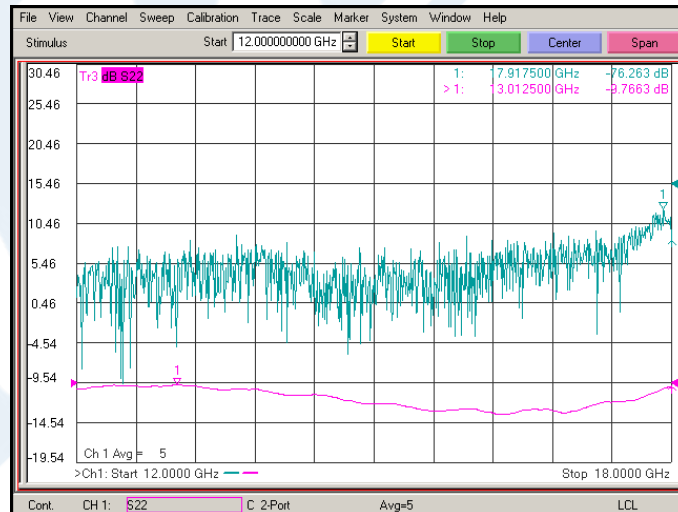
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PE71S6254

(J1 – J3) Insertion Loss and Return Loss



(J1 – J3) Isolation and Termination Return Loss



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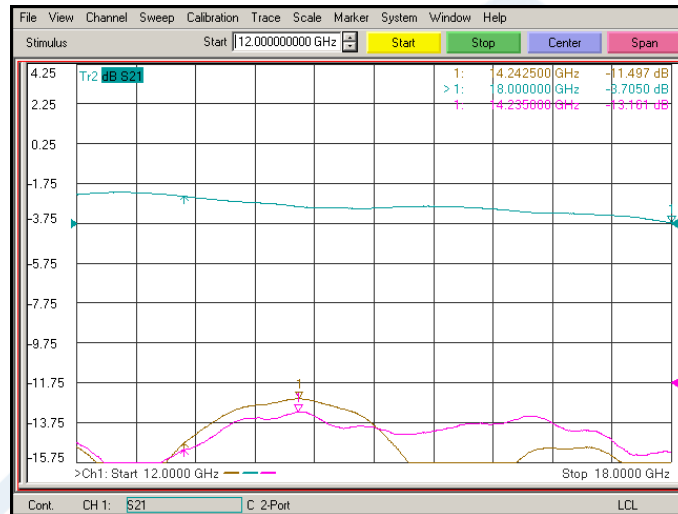


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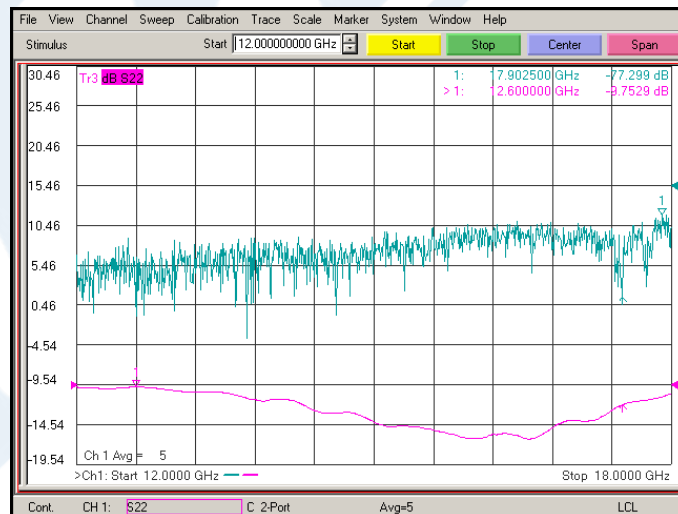
PIN Diode Switches Technical Data Sheet

PE71S6254

(J1 – J4) Insertion Loss and Return Loss



(J1 – J4) Isolation and Termination Return Loss



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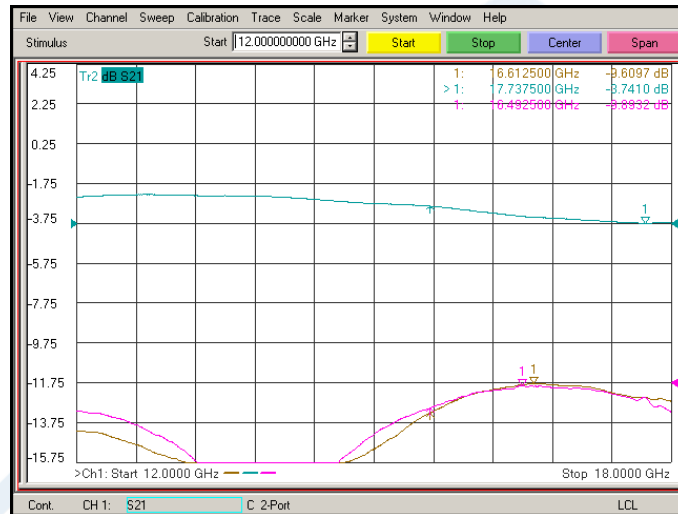


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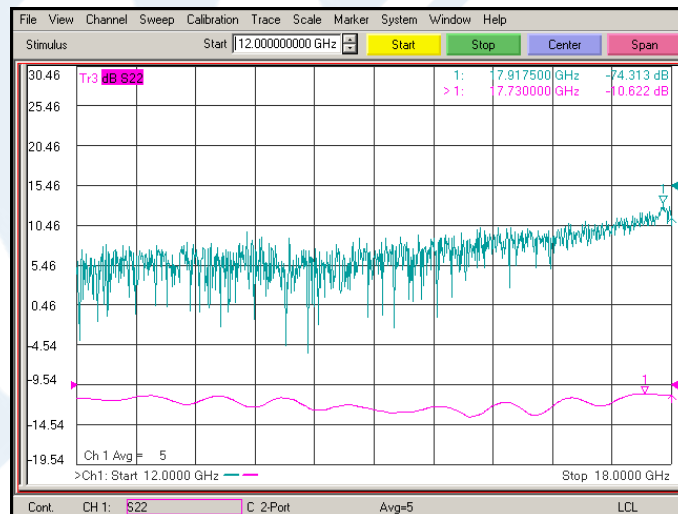
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PE71S6254

(J1 – J5) Insertion Loss and Return Loss



(J1 – J5) Isolation and Termination Return Loss



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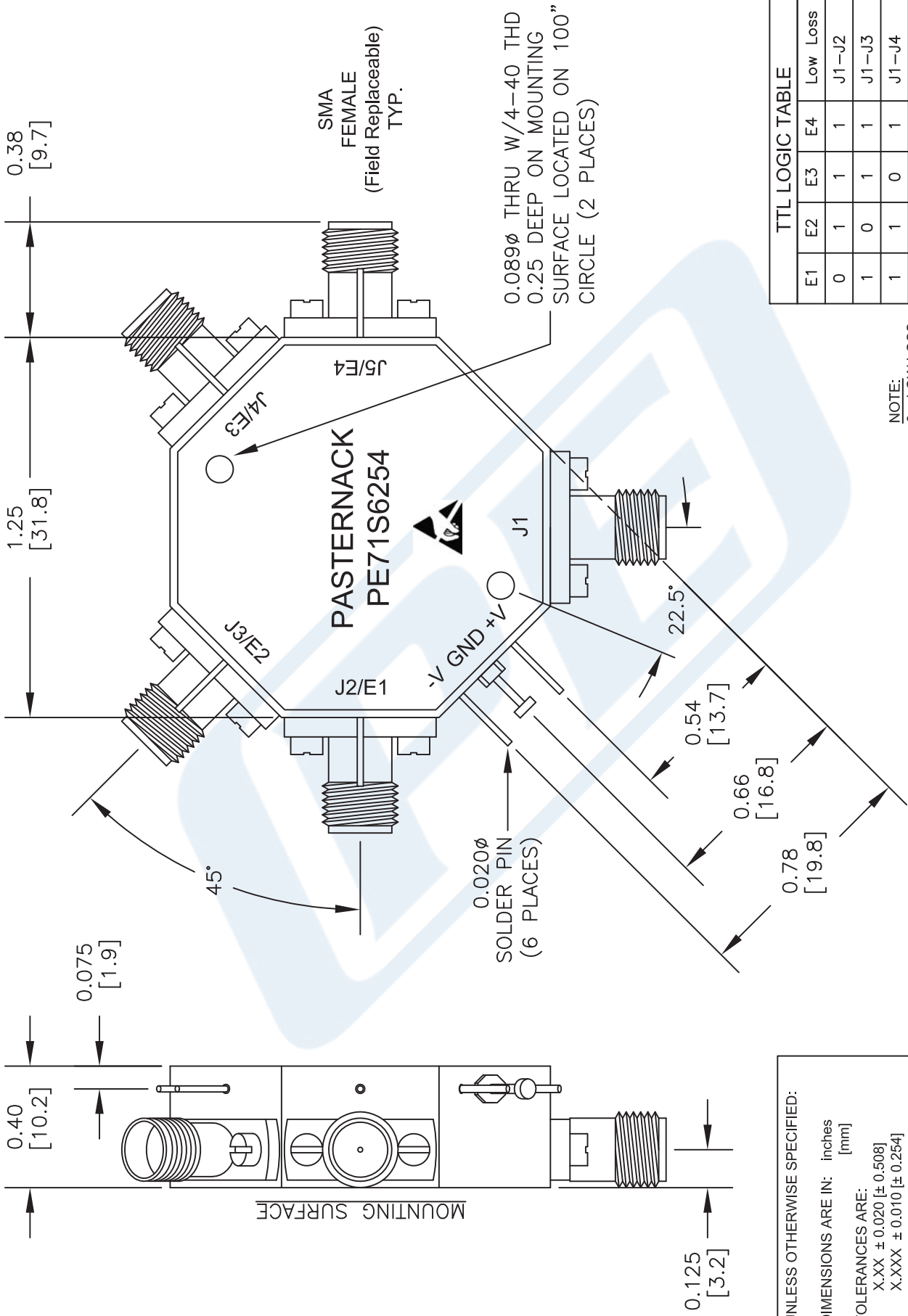
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# PE71S6254 CAD Drawing

Absorptive SP4T PIN Diode Switch Operating From 12 GHz to 18 GHz Up to +20 dBm and Field Replaceable SMA



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN: inches [mm]  
 TOLERANCES ARE:  
 X.XX ± 0.020 [± 0.508]  
 X.XXX ± 0.010 [± 0.254]

TTL LOGIC TABLE

E1	E2	E3	E4	Low Loss
0	1	1	1	J1-J2
1	0	1	1	J1-J3
1	1	0	1	J1-J4
1	1	1	0	J1-J5

NOTE:  
 0 = LOW LOSS  
 1 = ISOLATION

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  
**PE71S6254**

**PE PASTERNAK**  
 THE ENGINEER'S RF SOURCE  
 Pasternack Enterprises, Inc.  
 P.O. Box 16759 | Irvine | CA | 92623  
 Phone: (949) 261-1920 | Fax: (949) 261-7451  
 Website: www.pasternack.com | E-Mail: sales@pasternack.com

FSCM NO. 53919

CAD FILE 033116

SCALE N/A

SIZE A

2233