



# Absorptive SP3T PIN Diode Switch Operating From 12 GHz to 18 GHz Up to 0.1 Watts (+20 dBm) and Field Replaceable SMA

## PIN Diode Switches Technical Data Sheet

PE71S6247

### Features

- SP3T Absorptive Switch
- 12.0 GHz to 18.0 GHz
- 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 PE71S6247 is a Single Pole Triple Throw (SP3T) 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. 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 -40°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		Vdc
Negative Operating Voltage		-15		Vdc
Current @ 5 Vdc		150		mA
Current @ -15 Vdc		100		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: [Absorptive SP3T PIN Diode Switch Operating From 12 GHz to 18 GHz Up to 0.1 Watts \(+20 dBm\) and Field Replaceable SMA PE71S6247](#)



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**Mechanical Specifications**

**Size**

Length	1.5 in [38.1 mm]
Width	1.5 in [38.1 mm]
Height	0.4 in [10.16 mm]
Weight	0.095 lbs [43.09 g]
Finish	Blue Paint

**Configuration**

Design	Absorptive, SP3T
RF Connector	SMA 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	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** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

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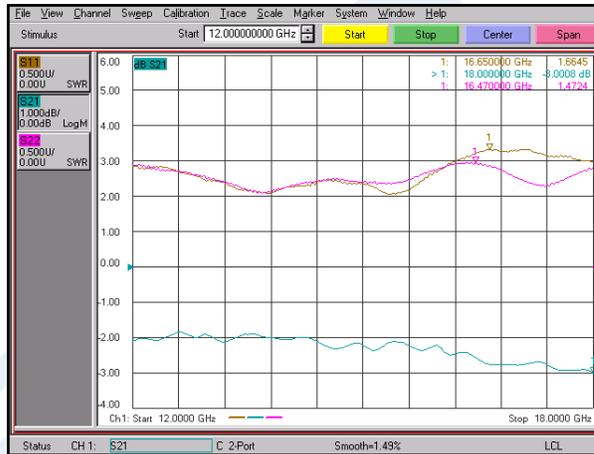
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PIN Diode Switches Technical Data Sheet

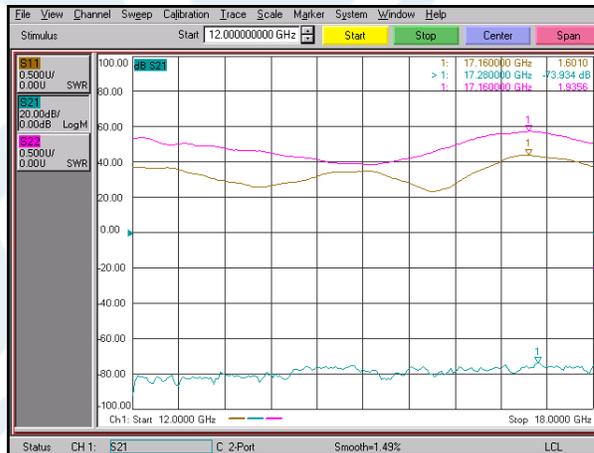
PE71S6247

Typical Performance Data

(J1 – J2) Insertion Loss and Return Loss



(J1 – J2) Isolation and Return Loss



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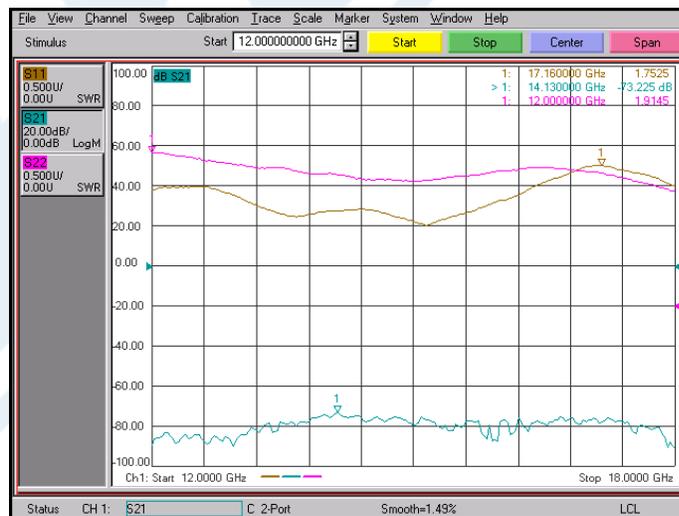
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(J1 – J3) Insertion Loss and Return Loss



(J1 – J3) Isolation and Return Loss



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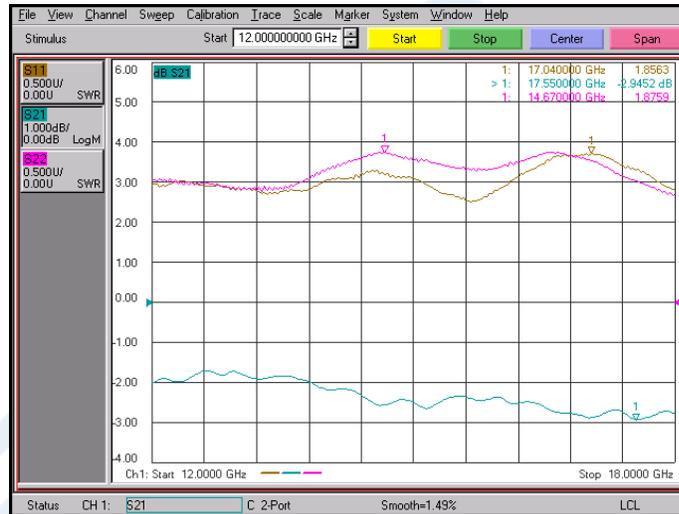


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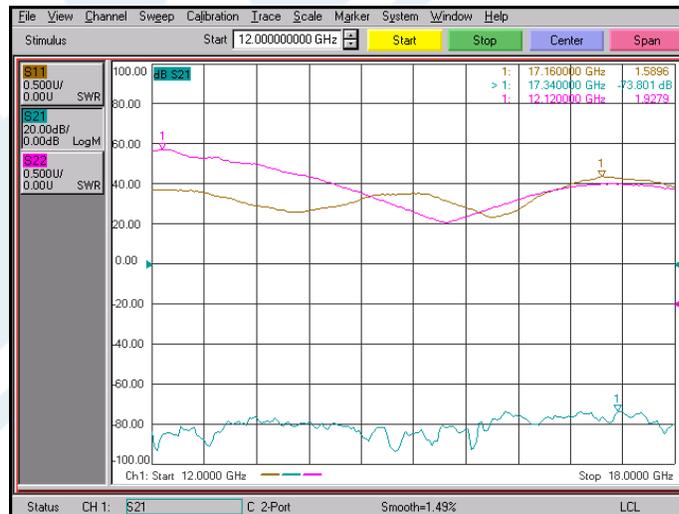
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(J1 – J4) Insertion Loss and Return Loss



(J1 – J4) Isolation and Return Loss



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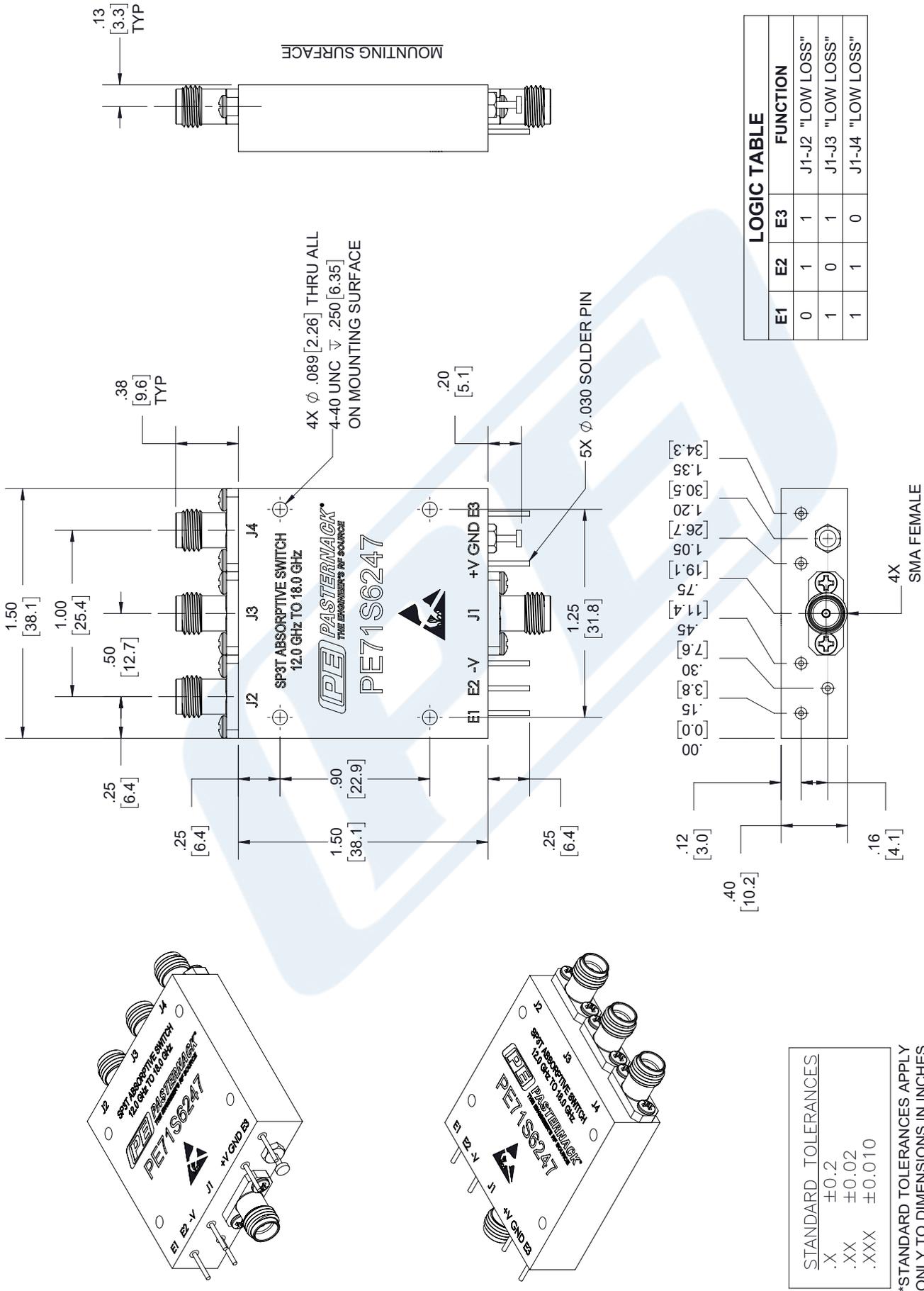
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# PE71S6247 CAD Drawing

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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  
**PE71S6247**

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CAD FILE 04/02/18 SCALE N/A SIZE A 7361

CAGE CODE **53919**

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