



Absorptive SPDT PIN Diode Switch Operating from 20 MHz to 6 GHz up to +26 dBm Hot Switching and SMA

PIN Diode Switches Technical Data Sheet

PE71S8009

Features

- Single Pole Double Throw (SPDT) High Power PIN Diode Switch
- Frequency Range 20 MHz to 6 GHz
- Absorptive Design
- TTL Control Logic
- Hot Switching up to +26 dBm Average Power
- Insertion Loss 1.75 dB typ
- Isolation 70 dB typ
- VSWR 1.3:1 typ
- Switching Speed 4 microseconds typ
- Operating Voltage +5 Vdc @ 10 mA typ
- 50 Ohm Design
- -40°C to +85°C Operating Temperature
- SMA Female Connectors
- 4 Pin Molex Socket Connector for DC and TTL Control
- Rugged Mil Grade Package Design

Applications

- Military & Commercial Communication Systems
- Radar Systems
- Test & Measurement
- Research & Development
- RF Wideband Front Ends

Description

The PE71S8009 is a Single Pole Double Throw (SPDT) Absorptive High Power PIN Diode Switch that operates over the frequency range of 20 MHz to 6 GHz. The 50 ohm absorptive design supports TTL control logic and is rated for hot switching up to +26 dBm average power. Impressive typical performance includes 1.75 dB insertion loss, 70 dB isolation, 4 microsecond switching speed, and 1.3:1 VSWR. Operating voltage is +5 Vdc @ 10 mA nominal. The rugged Mil Grade package design supports SMA female connectors, and a 4 pin Molex connector for DC and TTL control logic. A mating Molex connector is included. The operational temperature range is -40°C to +85°C.

Electrical Specifications

TTL Control

Off/Isolation: 0 to 8 V COM-J2 & J1 Terminated
On/Low Loss: 2 to 5 V COM-J1 & J2 Terminated

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.02		6	GHz
Impedance		50		Ohms
VSWR		1.3:1	1.8:1	
Insertion Loss		1.75	2.5	dB
Isolation	55	70		dB
Positive Operating Voltage		5		Vdc
Current @ 5 Vdc		10		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 SPDT PIN Diode Switch Operating from 20 MHz to 6 GHz up to +26 dBm Hot Switching and SMA PE71S8009](#)



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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	0.02 to 2	2 to 4	4 to 6			GHz
VSWR, Typ	1.25:1	1.5:1	1.5:1			
Insertion Loss, Typ	1.25	1.25	1.75			dB
Isolation, Min	75	70	65			dB
Isolation, Typ	75	70	65			dB

Electrical Specification Notes:

*Switching Speed: 50% TTL to 10% or 90% RF

Descriptiton	Minimum	Typical	Maximum	Units
Average Power, Hot Switching			26	Watts
Switching Time* (On-Off)		2	10	usec
(Off-On)		5	10	usec

Mechanical Specifications

Size

Weight	0.1 lbs [45.36 g]
Design	Absorptive, SPDT
RF Connector	SMA Female
TTL Control Connector	Solder Pin

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +90 deg C

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

Plotted and Other Data

Notes:

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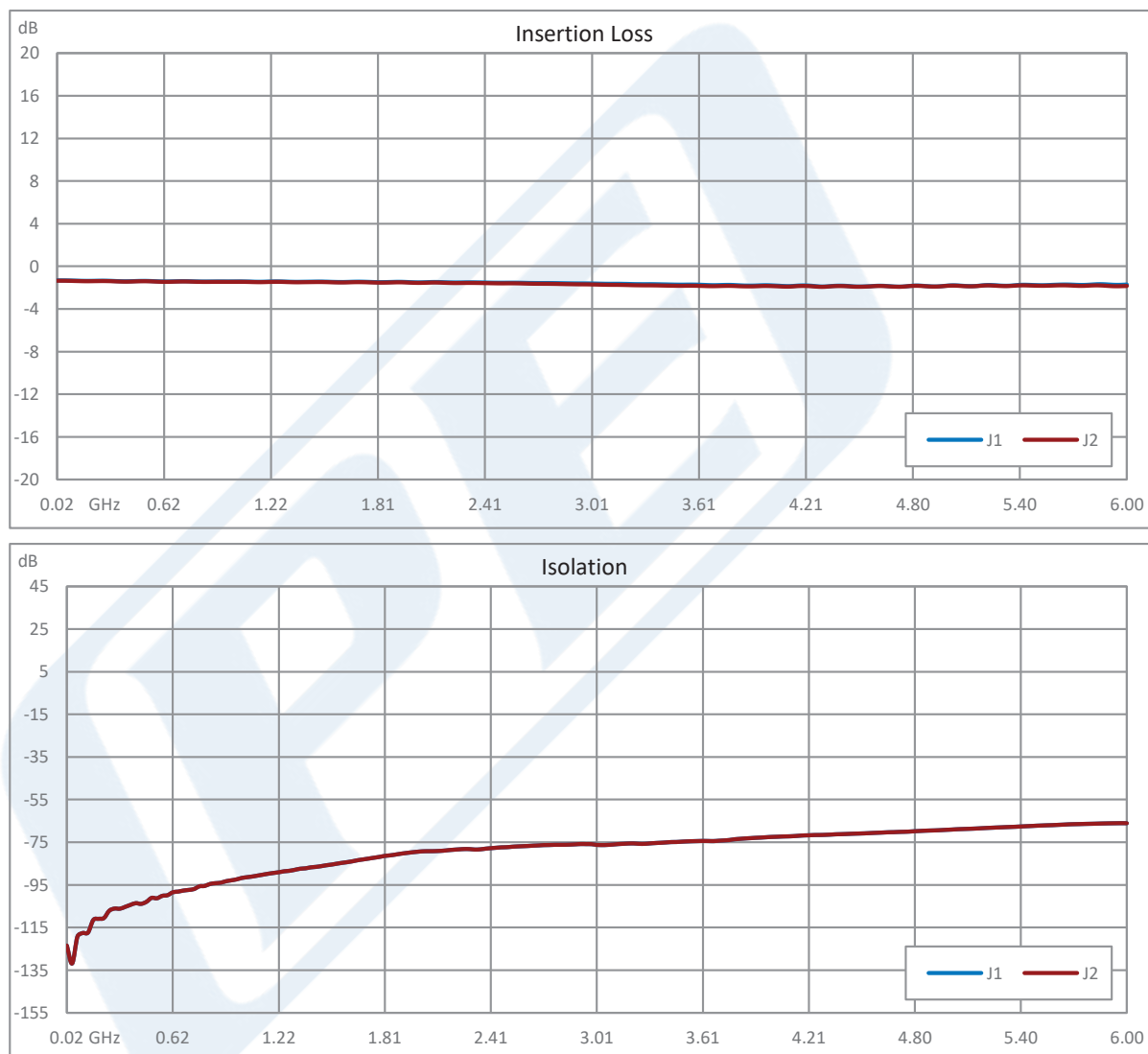


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Typical Performance Data



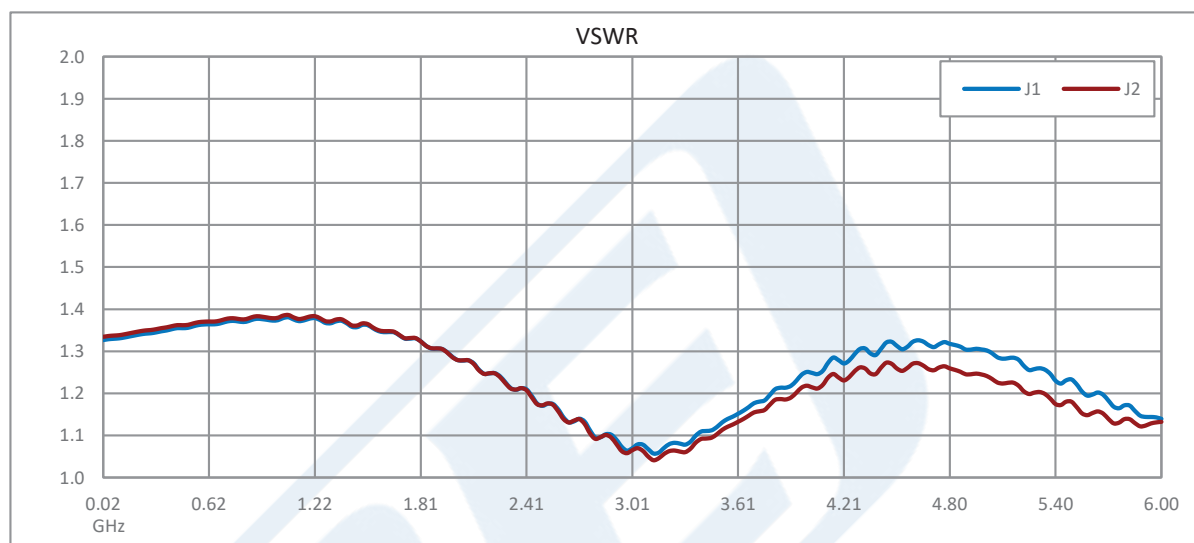
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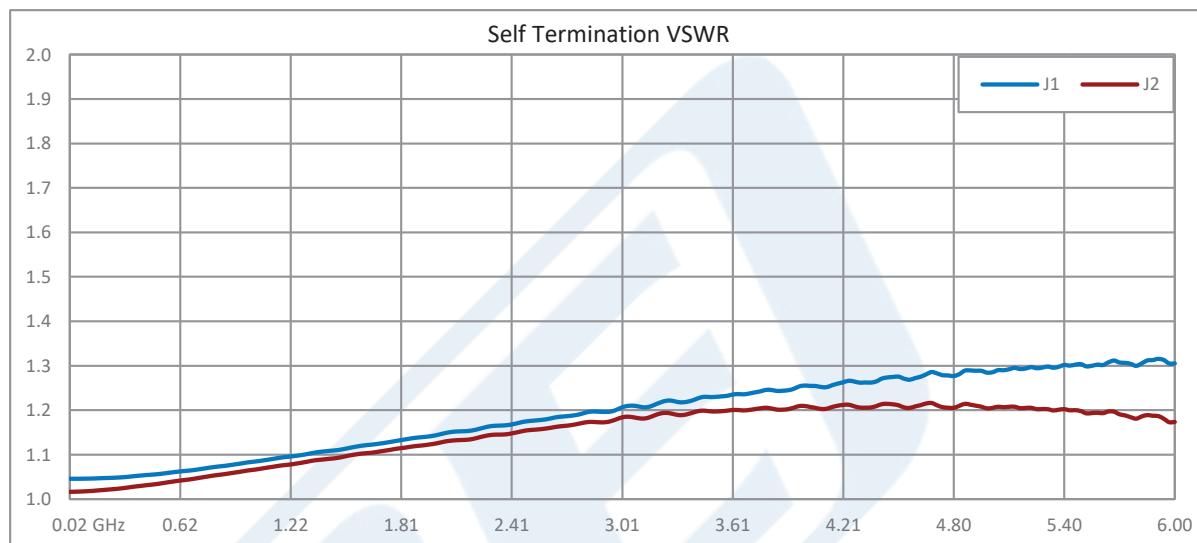
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Absorptive SPDT PIN Diode Switch Operating from 20 MHz to 6 GHz up to +26 dBm Hot Switching and SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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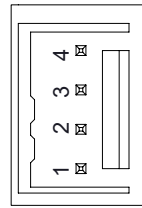
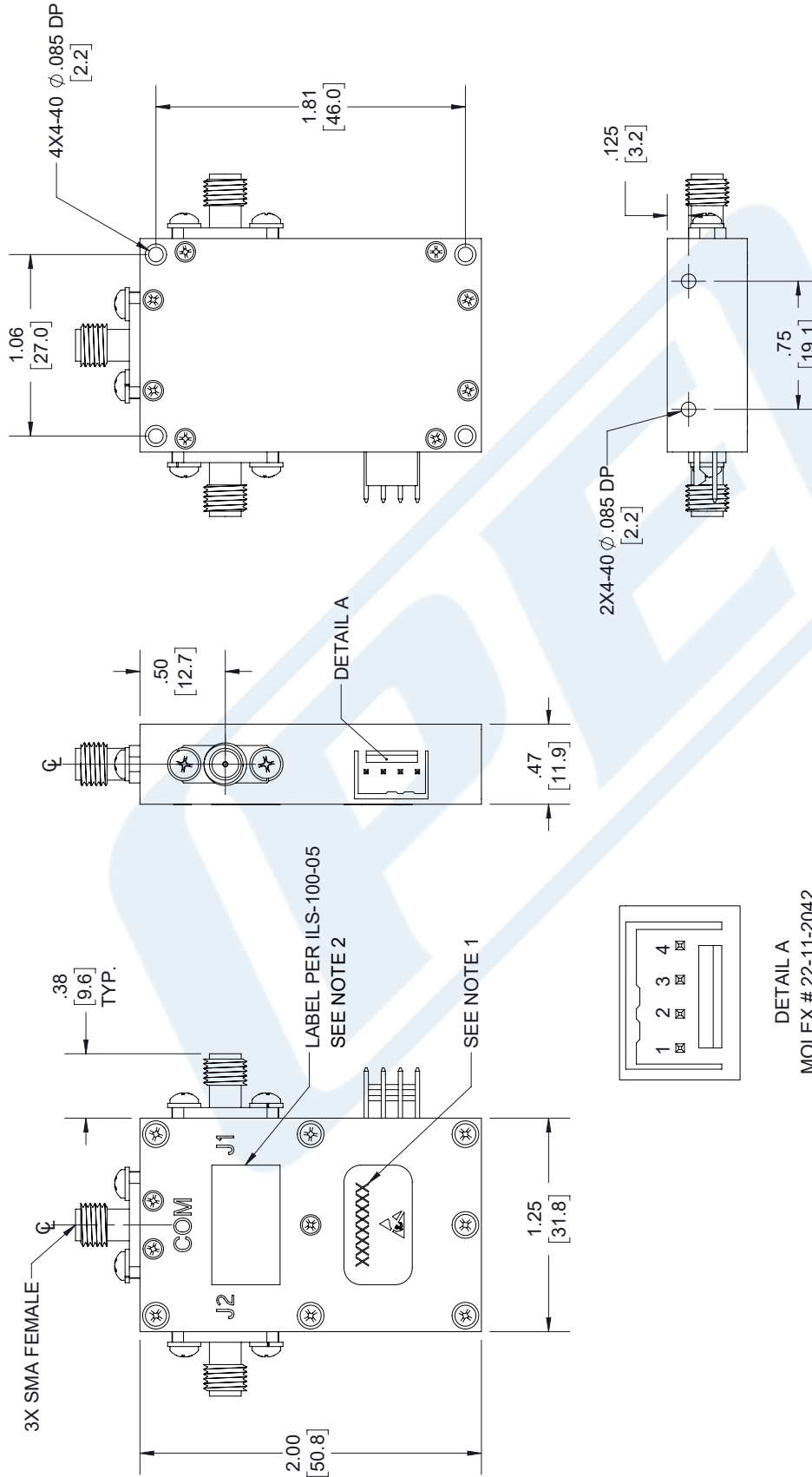
URL: <https://www.pasternack.com/spdt-electromechanical-relay-switch-accessory-pwb-terminated-6-ghz-5v-sma-pe71s8009-p.aspx>

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PE71S8009 CAD Drawing

Absorptive SPDT PIN Diode Switch Operating from 20 MHz
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	14-08-2021	TGALLA



DETAIL A
MOLEX # 22-11-2042

PIN	FUNCTION
1	GROUND
2	+5 Vdc
3	CONTROL
4	GROUND

NOTES:

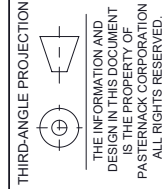
- SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.
- LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY.
LABEL LOCATION SHOULD BE SAME AS SHOWN.

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:
.X = ± .2 [5.08] FRACTIONS
.XX = ± .02 [.51] ± 1/32
.XXX = ± .005 [.13] ANGLES ± 1°
CABLE LENGTH (L) TOLERANCES:
L ≤ 12 [305] = +1 [25] / -0
12 [305] < L ≤ 60 [1524] = +2 [51] / -0
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0
ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.



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SHEET 1 OF 1

SCALE N/A

SIZE CAGE CODE DRAWN BY ITEM NO. REV
A 53919 MVEERAPPAN PE71S8009

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