



SP4T High Power PIN Diode Switch Operating from 30 MHz to 512 MHz up to 200 Watts Average Power (+53 dBm) and N Type

PIN Diode Switches Technical Data Sheet

PE71S8003

Features

- Single Pole Four Throw (SP4T) High Power PIN Diode Switch
- Frequency Range 30 MHz to 512 MHz
- Reflective Design
- TTL Control Logic
- Hot Switching up to 200 Watts Average Power
- Cold Switching up to 200 Watts Average Power and 500 Watts Peak Power
- Insertion Loss 0.6 dB typ
- Isolation 65 dB typ
- VSWR 1.3:1 typ
- Switching Speed 12 microseconds typ
- Operating Voltages +15 Vdc @ 450 MA and +5 Vdc @ 175 mA typ
- 50 Ohm Design
- -20°C to +70°C Operating Temperature
- N-Type Female Connectors
- Solder Pins for DC and TTL Control
- Rugged Mil Grade Aluminum Package Design

Applications

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

Description

The PE71S8003 is a Single Pole Four Throw (SP4T) High Power PIN Diode Switch that operates over the frequency range of 30 MHz to 512 MHz. The 50 ohm reflective design supports TTL control logic and is rated for cold switching up to 200 watts average power and 500 watts peak power (1 usec pulse width). The switch also supports up to 20 watts average power for hot switching. Impressive typical performance includes 0.6 dB insertion loss, 65 dB isolation, 1.3:1 VSWR, and 12 microsecond switching speed. Operating voltages are +15 Vdc @ 450 mA nominal, and +5 Vdc @ 175 mA nominal. The rugged Mil Grade package design supports N type female connectors, and solder pins for DC and TTL control logic. The operational temperature range is -20°C to +70°C.

Electrical Specifications

TTL Control

Off/Isolation: 0 to 0.8 V
 On/Low Loss: 2 to 5 V
 TTL Control Current +/- 1.3 mA

Description	Minimum	Typical	Maximum	Units
Frequency Range	30		512	MHz
Impedance		50		Ohms
VSWR		1.3:1	1.4:1	
Insertion Loss		0.6	0.75	dB
Isolation	50	65		dB
Input Power (Peak) @ 1 usec pulse width			500	Watts
Positive Operating Voltage		15		Vdc
Positive Operating Voltage 2		5		Vdc
Current @ 15 Vdc		200		mA
Current @ 5 Vdc		175		mA
Operating Temperature	-20		+70	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 High Power PIN Diode Switch Operating from 30 MHz to 512 MHz up to 200 Watts Average Power \(+53 dBm\) and N Type PE71S8003](#)



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Description	Minimum	Typical	Maximum	Units
Average Power, Cold Switching			200	Watts
Average Power, Hot Switching			20	Watts
Switching Time (50% TTL to 10% or 90% RF)		12	30	usec
(50% TTL to specified isolation)			40	usec

Mechanical Specifications

Size

Weight	1.55 lbs [703.07 g]
Design	SP4T
RF Connector	N Female
TTL Control Connector	Solder Pin

Environmental Specifications

Temperature

Operating Range	-20 to +70 deg C
Storage Range	-55 to +85 deg C

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

Plotted and Other Data

Notes:

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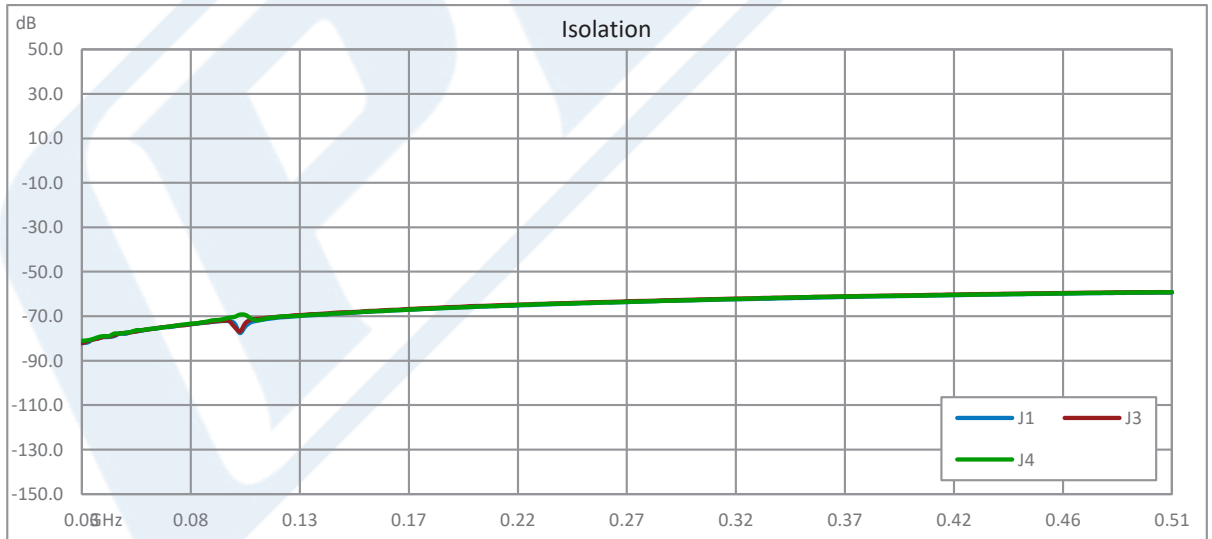
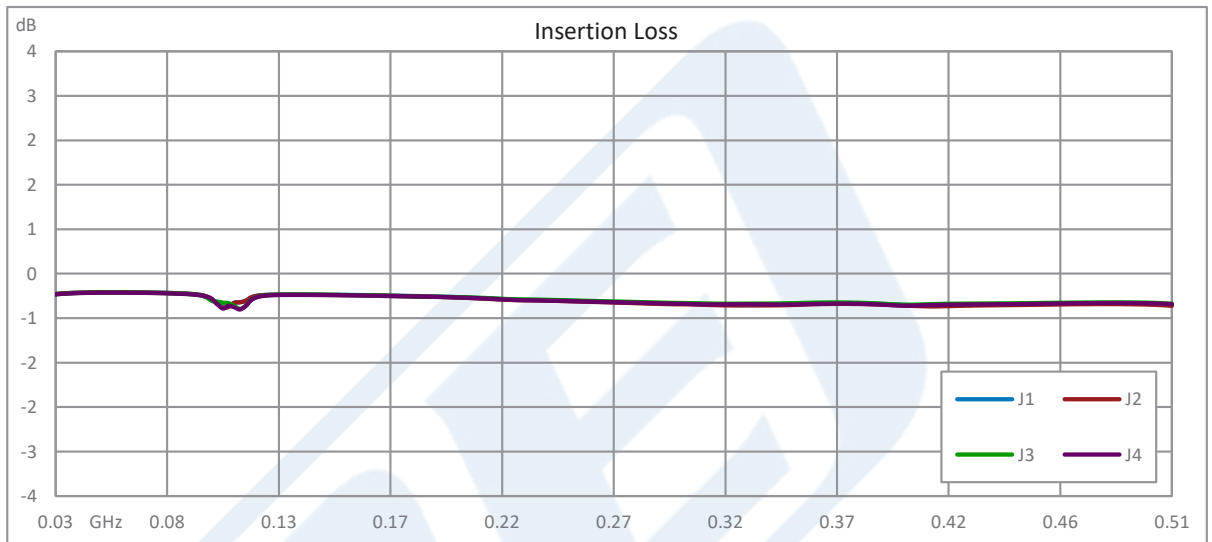


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Typical Performance Data



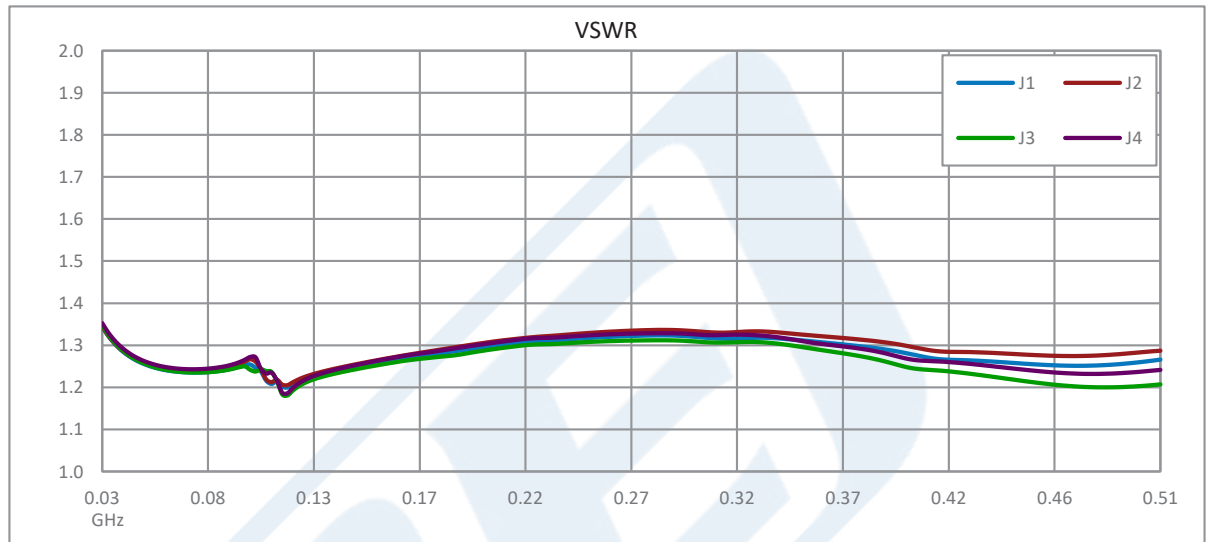
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SP4T High Power PIN Diode Switch Operating from 30 MHz to 512 MHz up to 200 Watts Average Power (+53 dBm) and N Type from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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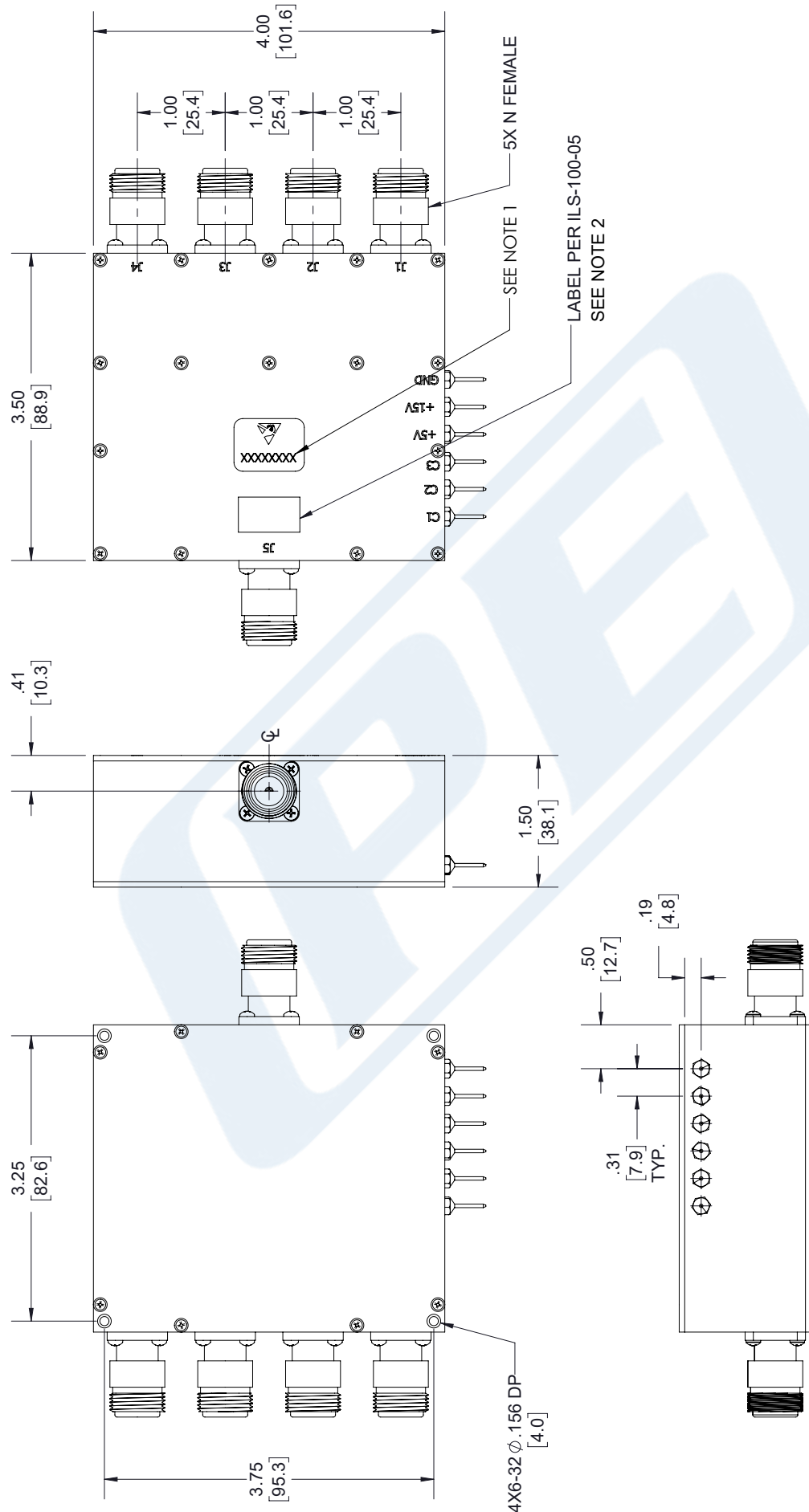
URL: <https://www.pasternack.com/sp4t-electromechanical-relay-switch-accessory-pwb-512-mhz-500w-15v-sma-pe71s8003-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

PE71S8003 CAD Drawing

SP4T High Power PIN Diode Switch Operating from 30 MHz to 512 MHz
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REVISIONS		
REV.	DESCRIPTION	DATE
A	INITIAL RELEASE	14-08-2021



<p>PE PASTERNAK an INFINITI brand</p> <p>Pasternack Enterprises, Inc. P. O. Box 16759, Irvine, CA 92623. Phone: 1.949.261.1920 1.866.727.8376 Fax: 1.949.261.7451 Website: www.pasternack.com E-mail: sales@pasternack.com</p>	<p>THIRD-ANGLE PROJECTION</p> <p>THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION ALL RIGHTS RESERVED.</p> <p>SHEET 1 OF 1</p> <p>SCALE N/A</p>																																								
	<p>UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS</p> <p>TOLERANCES:</p> <table border="0"> <tr> <td>.X = ±.2</td> <td>[5.08]</td> <td>FRACTIONS</td> </tr> <tr> <td>.XX = ±.02</td> <td>[.51]</td> <td>± 1/32</td> </tr> <tr> <td>.XXX = ±.005</td> <td>[.13]</td> <td>ANGLES ± 1°</td> </tr> </table> <p>CABLE LENGTH (L) TOLERANCES:</p> <table border="0"> <tr> <td>L ≤ 12</td> <td>[305]</td> <td>±.1</td> <td>[25.4]</td> <td>/-0</td> </tr> <tr> <td>12</td> <td>[305]</td> <td>< L ≤ 60</td> <td>[1524]</td> <td>±.2</td> <td>[51]</td> <td>/-0</td> </tr> <tr> <td>60</td> <td>[1524]</td> <td>< L ≤ 120</td> <td>[3048]</td> <td>±.4</td> <td>[102]</td> <td>/-0</td> </tr> <tr> <td>120</td> <td>[3048]</td> <td>< L ≤ 300</td> <td>[7620]</td> <td>±.6</td> <td>[152]</td> <td>/-0</td> </tr> <tr> <td>300</td> <td>[7620]</td> <td>< L =</td> <td>±.5%</td> <td>/-0</td> <td></td> </tr> </table> <p>ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.</p>	.X = ±.2	[5.08]	FRACTIONS	.XX = ±.02	[.51]	± 1/32	.XXX = ±.005	[.13]	ANGLES ± 1°	L ≤ 12	[305]	±.1	[25.4]	/-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%	/-0
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<p>SIZE A</p> <p>CAGE CODE 53919</p> <p>DRAWN BY MVEERAPPAN</p> <p>ITEM NO. PE71S8003</p>	<p>REV A</p>																																								

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

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