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SPDT PIN Diode Swtich Operating from 500 MHz to 3 GHz up to 30 Watts (+44.77 dBm) Hot Switching and SMA

PIN Diode Switches Technical Data Sheet PE71S8008

Features

- Single Pole Double Throw (SPDT) High Power PIN DIode Switch
- Frequency Range 500 MHz to 3 GHz
- Reflective Design
- TTL Control Logic
- Hot Switching up to 30 Watts Average Power
- Insertion Loss 0.7 dB
- Isolation 70 dB
- VSWR 1.3:1
- Switching Speed 6 microseconds typ
- Operating Voltages +15 Vdc @ 80 mA and +5 Vdc @ 40 mA typ
- 50 Ohm Design
- -20°C to +70°C Operating Temperature
- SMA Female Connectors
- Solder Pins for DC and TTL Control
- Rugged Mil Grade Package Design

Applications

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

Description

The PE71S8008 is a Single Pole Double Throw (SPDT) High Power PIN Diode Switch that operates over the frequency range of 500 MHz to 3 GHz . The 50 ohm reflective deisgn supports TTL control logic and is rated for hot swtiching up to 30 watts average power. Impressive typical performance includes 0.7 dB insertion loss, 70 dB isolation, 6 microsecond switching speed, and 1.3:1 VSWR. Operating voltages are +15Vdc @ 80 mA nominal and +5 Vdc @ 40 mA nominal. The rugged Mil Grade package design supports SMA 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: On: Common to J1
Off: Common to J2

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.5		3	GHz
Impedance		50		Ohms
VSWR		1.3:1	1.5:1	
Insertion Loss		0.7	1.25	dB
Isolation	55	70		dB
Switching Time*		6	10	us
Positive Operating Voltage		15		Vdc
Positive Operating Voltage 2		5		Vdc
Current @ 15 Vdc		80		mA
Current @ 5 Vdc		40		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: SPDT PIN Diode Swtich Operating from 500 MHz to 3 GHz up to 30 Watts (+44.77 dBm) Hot Switching and SMA PE71S8008

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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	0.5 to 1	1 to 2	2 to 3			GHz
Insertion Loss, Max	0.75	0.9	1.25			dB
Insertion Loss, Typ	0.5	0.6	0.9			dB
Isolation, Min	65	65	55			dB
Isolation, Typ	75	75	65			dB

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

Description	Minimum	Typical	Maximum	Units
Average Power, Hot Switching			30	Watts
Switching Transients		< 1.0		V Pk-Pk
		< 2.0		V Pk-Pk
Spurious Noise (Out of Band) 100-500 MHz		<-73		dBm
1-100 MHz		<-50		dBm

Mechanical Specifications

Size

Weight	0.6 lbs [272.16 g]
Design	SPDT
RF Connector	SMA 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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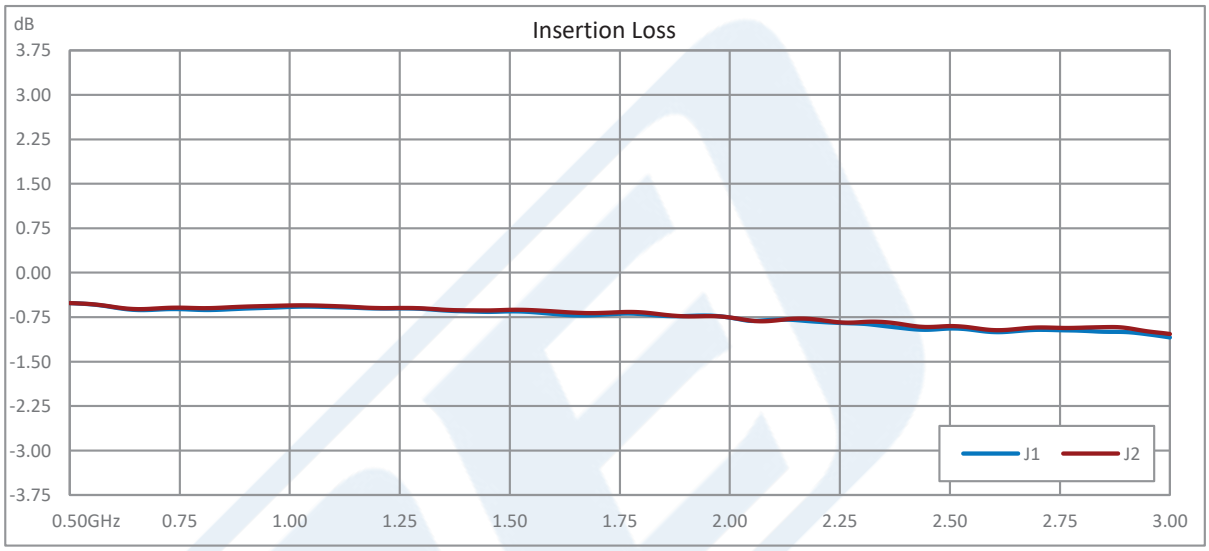
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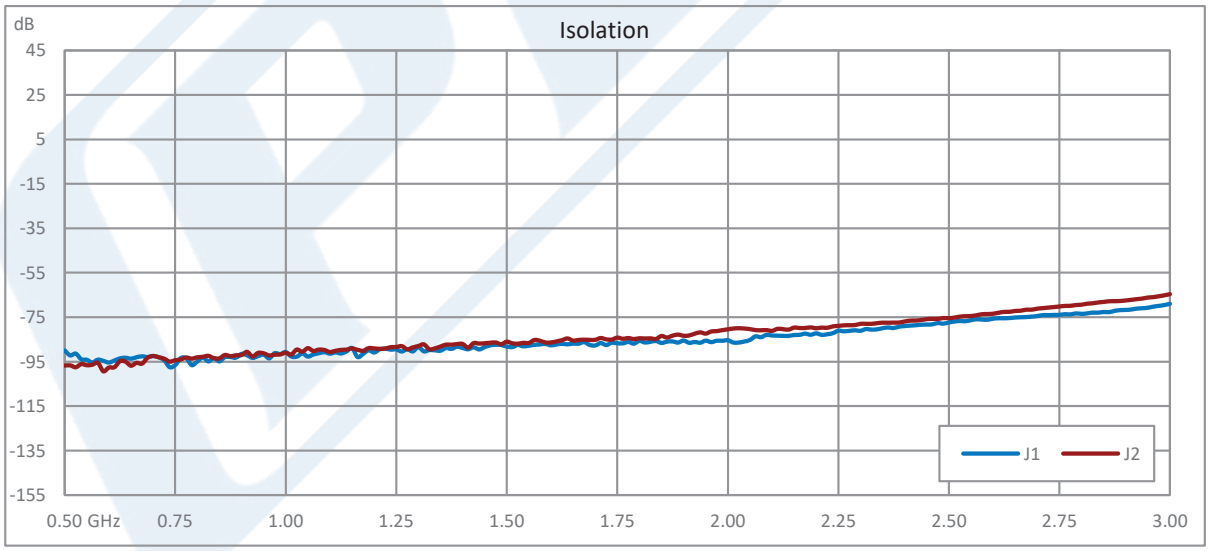


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Typical Performance Data





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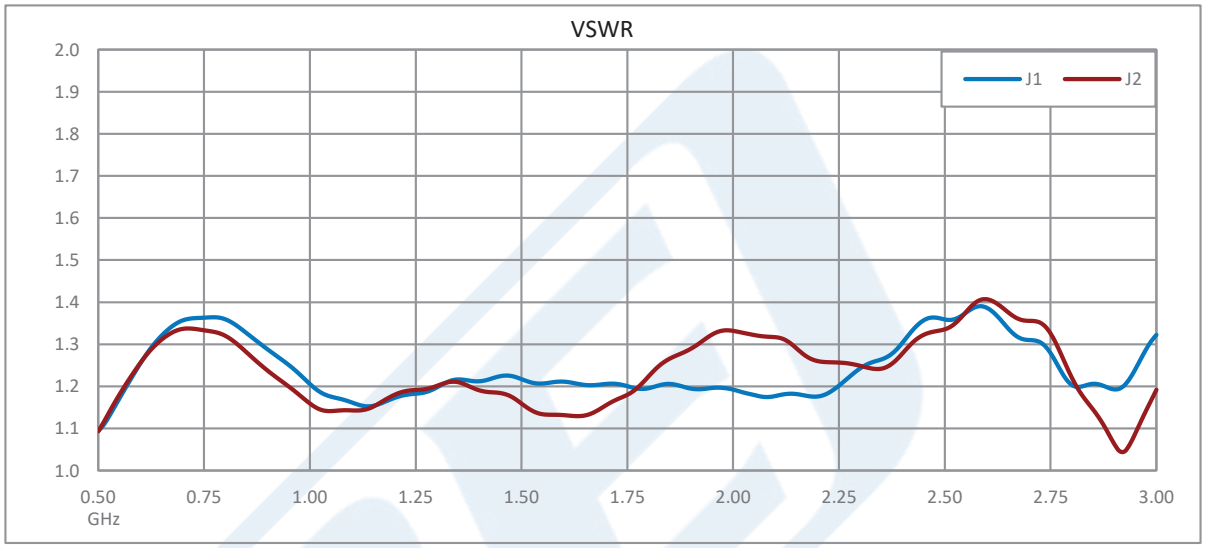
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URL: https://www.pasternack.com/spdt-electromechanical-relay-switch-accessory-pwb-3-ghz-15v-sma-pe71s8008-p.aspx

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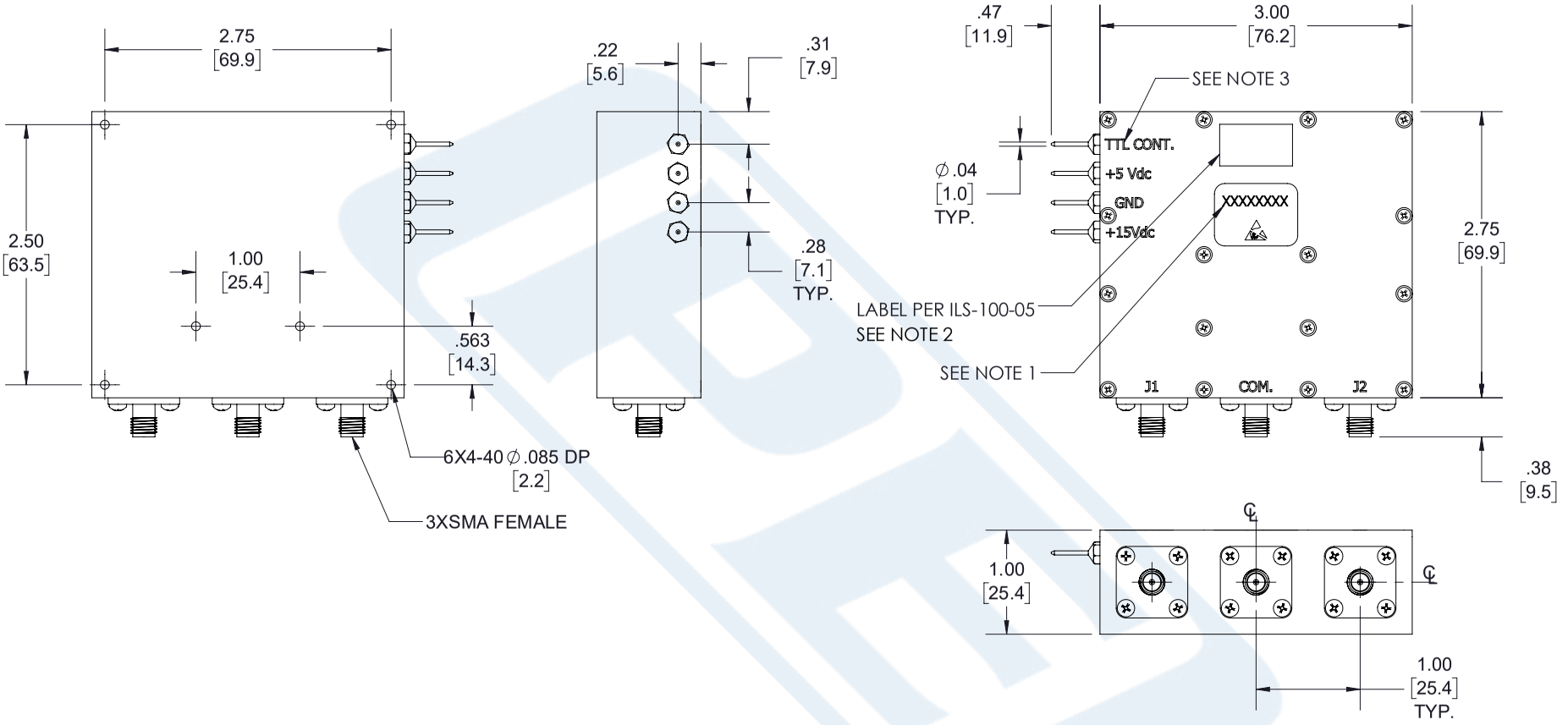
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PE71S8008 CAD Drawing

SPDT PIN Diode Swtich Operating from 500 MHz to 3 GHz up to 30 Watts (+44.77 dBm) Hot Switching and SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	14-08-2021	TGALLA



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.
3. TTL LOW= COMMON TO J1, TTL HIGH= COMMON TO J2

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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
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