



SP4T Electromechanical Relay Normally Open Switch,
DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6452

Features

- Single Pole Four Throw Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Normally Open Actuator
- 2M Lifecycle Rating
- Insertion Loss 0.35 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Control
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 90 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets Mil-STD-202 Test Conditions

Applications

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IoT

Description

The PE71S6452 is a Single Pole Four Throw (SP4T) electromechanical relay switch that operates across a wide frequency range of DC to 26.5 GHz and can handle up to 90 Watts of Average power in a break before make condition. The 50 Ohm design is rated for 2 million lifecycles and features a Normally Open Actuator where the selected position remains active with constant voltage, all positions are open when voltage is removed. Impressive typical performance includes 0.35 dB insertion loss and isolation greater than 80 dB. This switch requires +12Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports SMA female connectors and solder terminal pins for DC control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

Electrical Specifications

Switch Type	SP4T
Actuator Type	Normally Open
Switching Sequence	Break Before Make
Actuator Options	Solder Pins

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Set Current @ 12 Volts			250	mA
VSWR		1.3:1	1.7:1	
Insertion Loss		0.35	0.7	dB
Isolation	70	80		dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T Electromechanical Relay Normally Open Switch, DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, SMA PE71S6452](#)



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Switching Time	20	ms Max
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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12	12 to 18	18 to 26.5		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.7:1		
Insertion Loss, Max	0.15	0.25	0.4	0.7		dB
Isolation, Min	80	80	80	70		dB

Mechanical Specifications

Size

Length	1.75 in [44.45 mm]
Width/Diameter	1.75 in [44.45 mm]
Height	1.75 in [44.45 mm]

Finish	NICKEL
Package Type	Connectorized
Operating Life	2,000,000 Cycles

Connectors

RF Connector Type	SMA Female
Control Connector	D-Subminiature

Environmental Specifications

Temperature

Operating Range	-25 to +65 deg C
Storage Range	-55 to +100 deg C

Humidity	Moisture resistant or immersion sealing available
Shock	MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration	MIL-STD-202 Method 214, Condition D, 10G RMS (non oper)

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

Plotted and Other Data

Notes:

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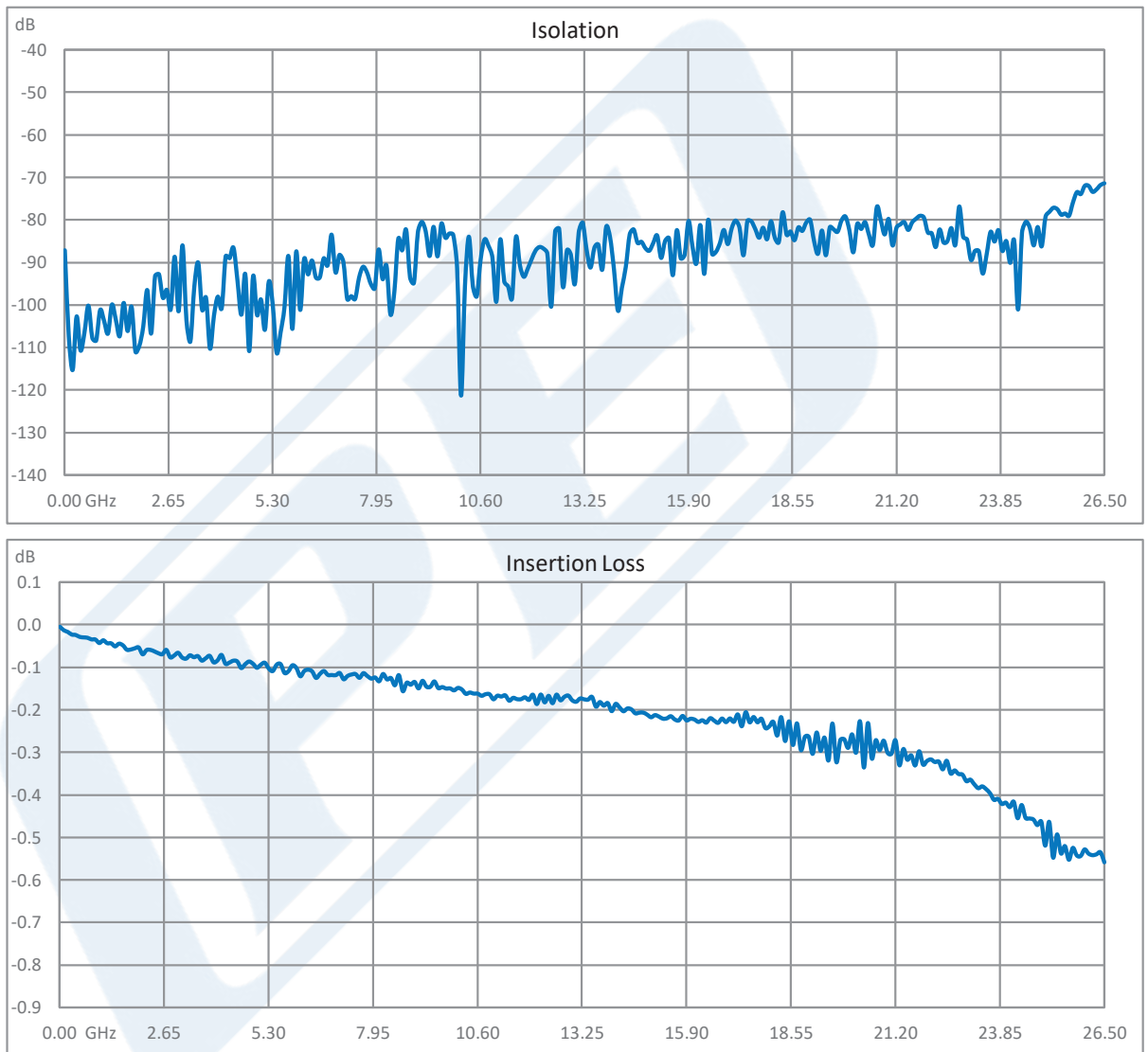


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Typical Performance Data



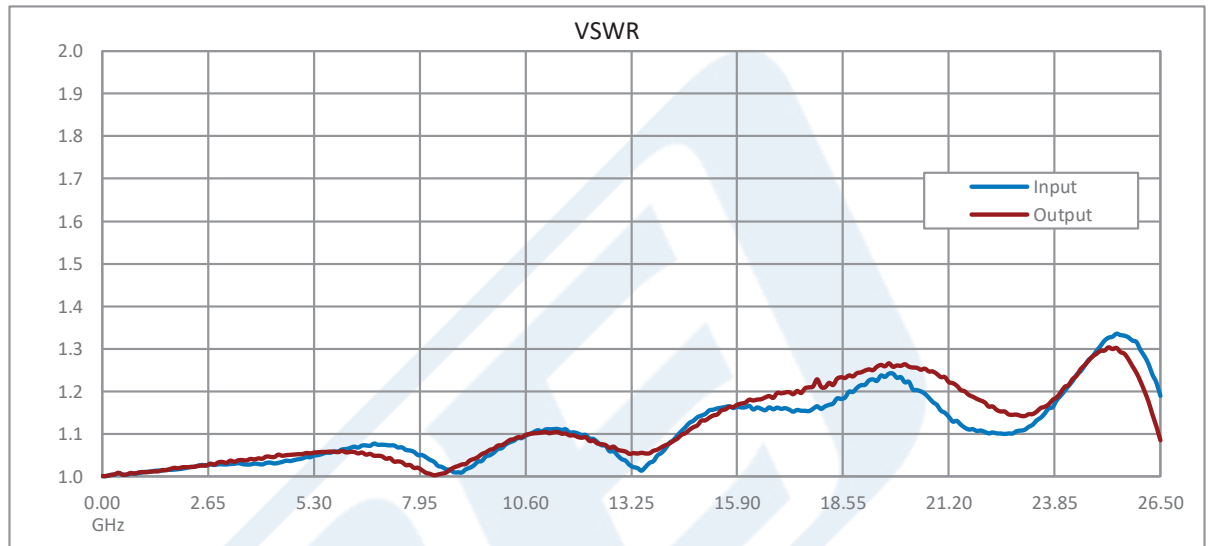
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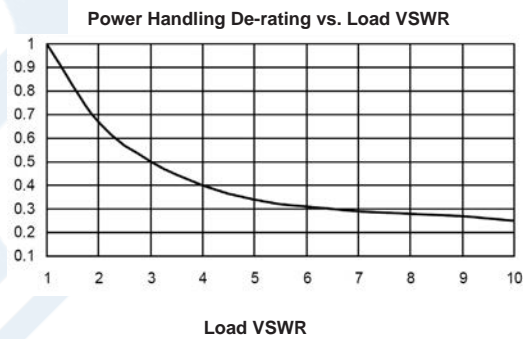
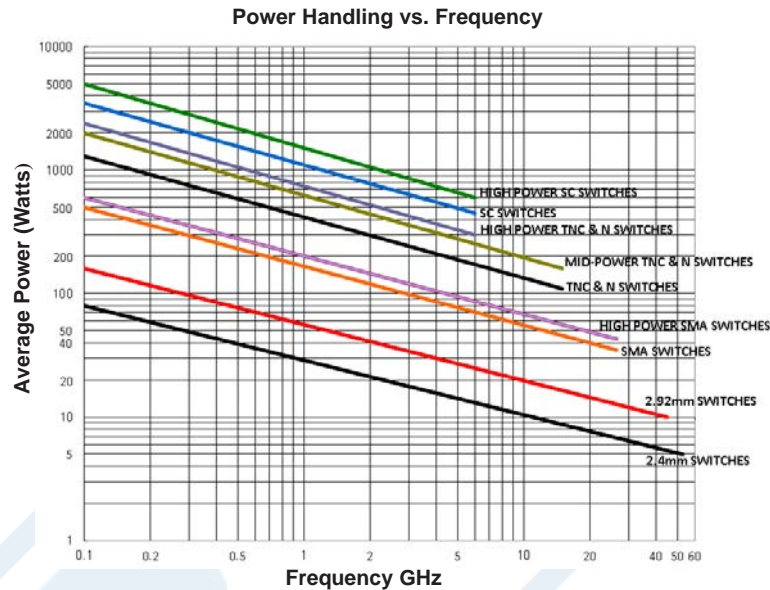
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Power Handling Chart and Derating Curves based on the following Test and Environmental Conditions:
 Ambient temperature: 20 - 25°C
 Altitude: Sea Level to 1,000 feet
 Relative Humidity: 50 - 55%
 Load VSWR: ≤ 1.20:1
 Operation: Cold Switching

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SP4T Electromechanical Relay Normally Open Switch, DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, 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.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T Electromechanical Relay Normally Open Switch, DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, SMA PE71S6452](https://www.pasternack.com/sp4t-electromechanical-relay-normally-open-switch-26.5-ghz-up-to-90w-2m-lifecycles-12v-sma-pe71s6452)

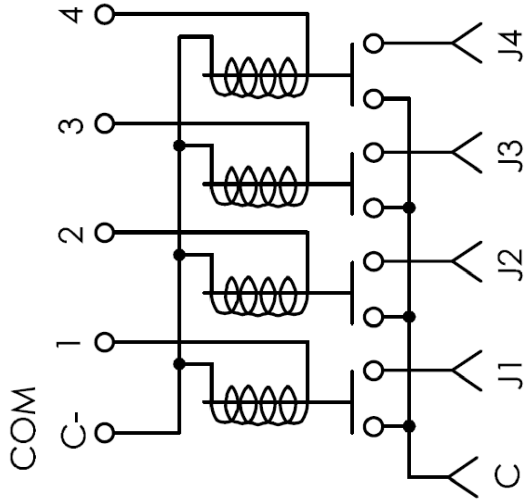
URL: <https://www.pasternack.com/sp4t-electromechanical-relay-normally-open-switch-26.5-ghz-12v-solder-pins-sma-pe71s6452-p.aspx>

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.

PE71S6452 CAD Drawing

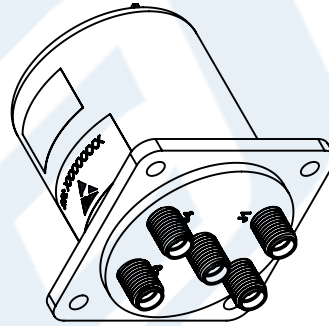
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/27/2021	T.GALLA



RF POSITION

SCHEMATIC



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

TOLERANCES:

.X = ±.2 [5.08] FRACTIONS ±.1/32

.XX = ±.02 [.51] ANGLES ± 1°

.XXX = ±.005 [.13] 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% / -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

REV A

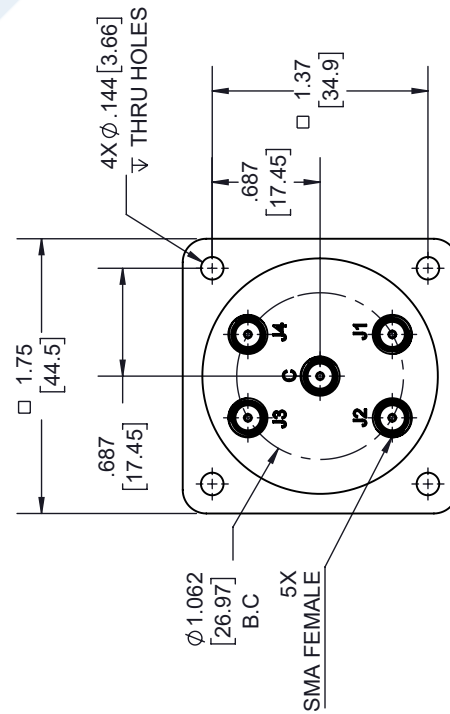
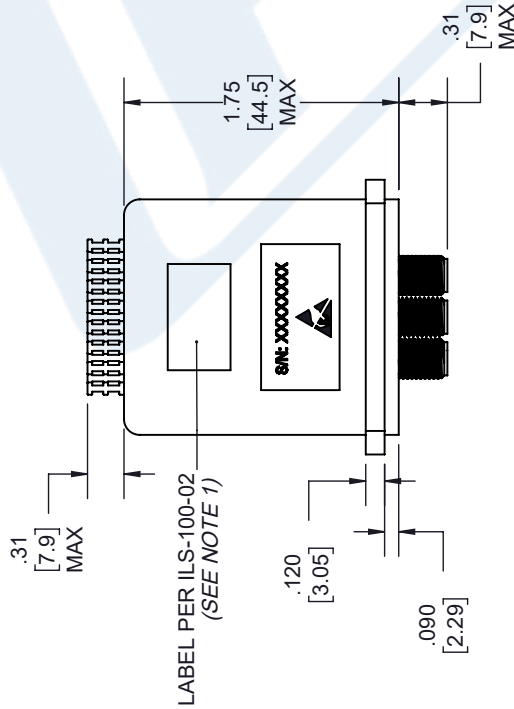
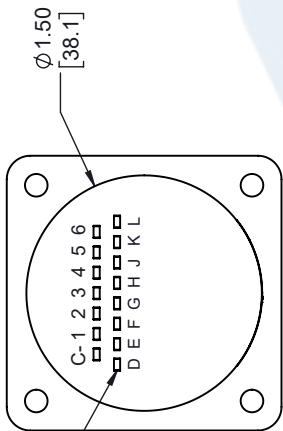
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DRAWN BY K.DANG

CAGE CODE 53919

SIZE A

REVISIONS



NOTES:

- LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY. LABEL LOCATION FOR REFERENCE ONLY.
- PINS 5, 6, D, E, F, G, H, J, K, L ARE NO CONNECTION (N/C).

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