



SP4T, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Reset, D-Sub, 2.92mm,

Electromechanical Relay Switches Technical Data Sheet

PE71S7286

Features

- SP4T Electromechanical Relay Switch
- DC to 43 GHz Frequency Range
- Latching Actuator
- 2M Lifecycle Rating
- Insertion Loss 0.6 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.15:1 max
- 2.92mm Female Connectors
- +28 Volt DC Bias
- 15 Pin D-Sub Connector for all DC Command Control Functions
- -25°C to +65°C Operating Temperature
- Up to 5 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
- Reset/Set Feature

Applications

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

Description

The PE71S7286 is a Single Pole Four Throw (SP4T) electromechanical relay switch that operates across an ultra wide frequency range from DC to 43 GHz and can handle up to 5W of Average Power in a break before make condition. The 50 Ohm design has a Latching Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. The switch has a Reset/Set function by input of a pulse voltage. Impressive typical performance includes 0.6 dB insertion loss and isolation greater than 80 dB. This switch requires +28Vdc bias voltage, operates over a temperature range of -25°C to +65°C, and is rated for 2 million lifecycles. The rugged and compact package assembly supports 2.92mm female connectors and a 15 Pin D-Sub connector for all DC command control functions. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

Electrical Specifications (TA = 25°C, DC Voltage = 28 Vdc)

Switch Type
 Actuator Type
 Actuator Options

SP4T
 Latching
 Reset

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		43	GHz
Operating Voltage	26	28	30	Volts
Actuating Set Current			110	mA
Actuating Reset Current			440	mA
VSWR		1.4:1	2.1:1	
Insertion Loss		0.6	1.6	dB
Isolation	40	85		dB
Input Power			5	Watts

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 Latching Switch, DC to 43 GHz, 28VDC, 5W, Reset, D-Sub, 2.92mm, PE71S7286](#)



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Switching Time	20	ms
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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	26.5 to 32	GHz
VSWR, Max	1.15:1	1.25:1	1.35:1	1.5:1	1.7:1	
Insertion Loss, Max	0.2	0.3	0.6	0.8	0.8	dB
Isolation, Min	80	75	70	70	60	dB

Performance by Frequency

Description	F6	F7	F8	F9	F10	Units
Frequency Range	32 to 40	40 to 43				GHz
VSWR, Max	1.8:1	2.1:1				
Insertion Loss, Max	1.1	1.6				dB
Isolation, Min	60	40				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]
Weight	0.22 lbs [99.79 g]
Finish	Electroless Nickel

Connectors

RF Connector Type	2.92mm Female
Control Connector	D-Subminiature

Environmental Specifications

Temperature

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

Shock

MIL-STD-202 Method 213, Condition D, 500G (non operational)

Vibration

MIL-STD-202 Method 204, Condition D, 10G RMS (non operational)

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Electromechanical Relay Switches Technical Data

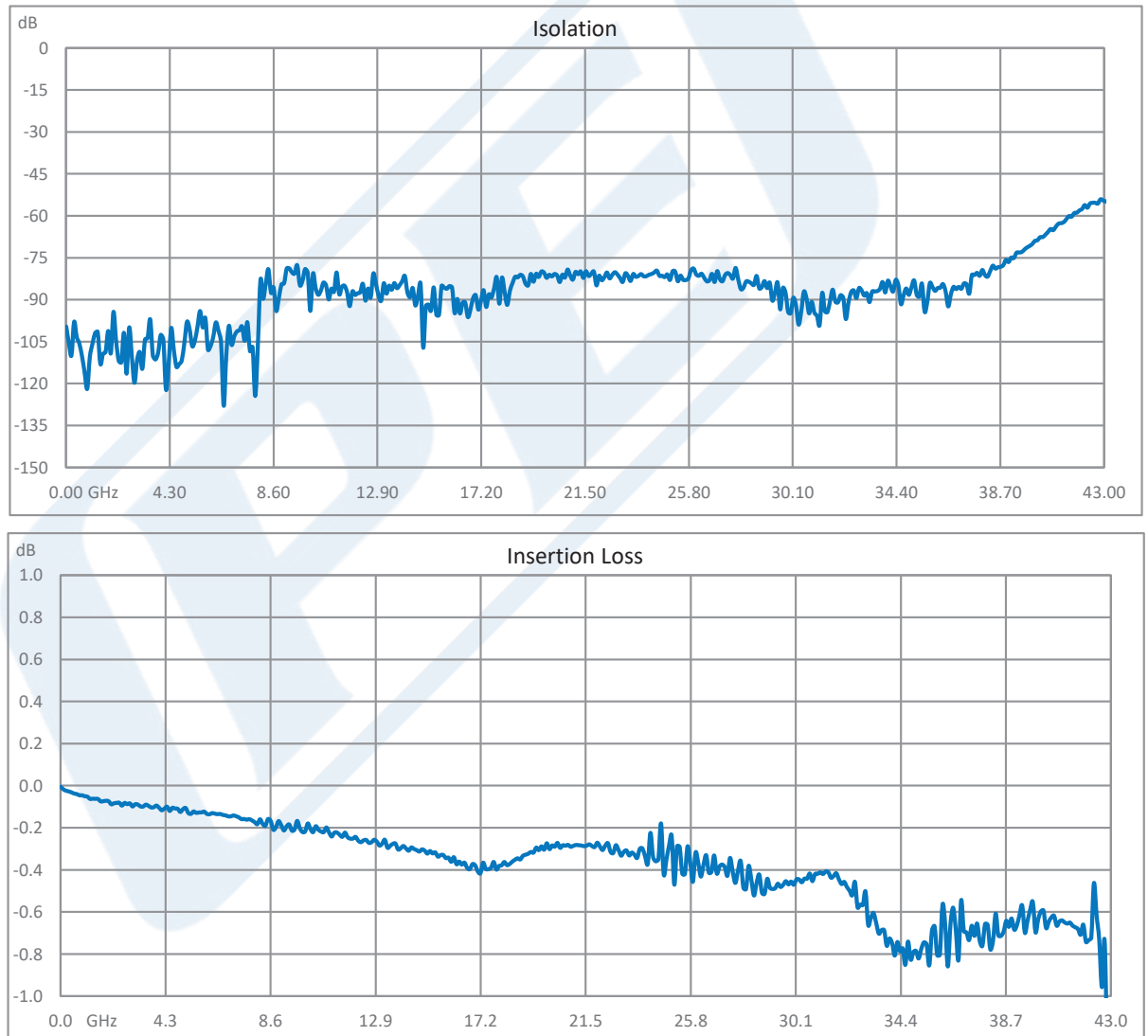
PE71S7286

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

Plotted and Other Data

Notes:

Typical Performance Data



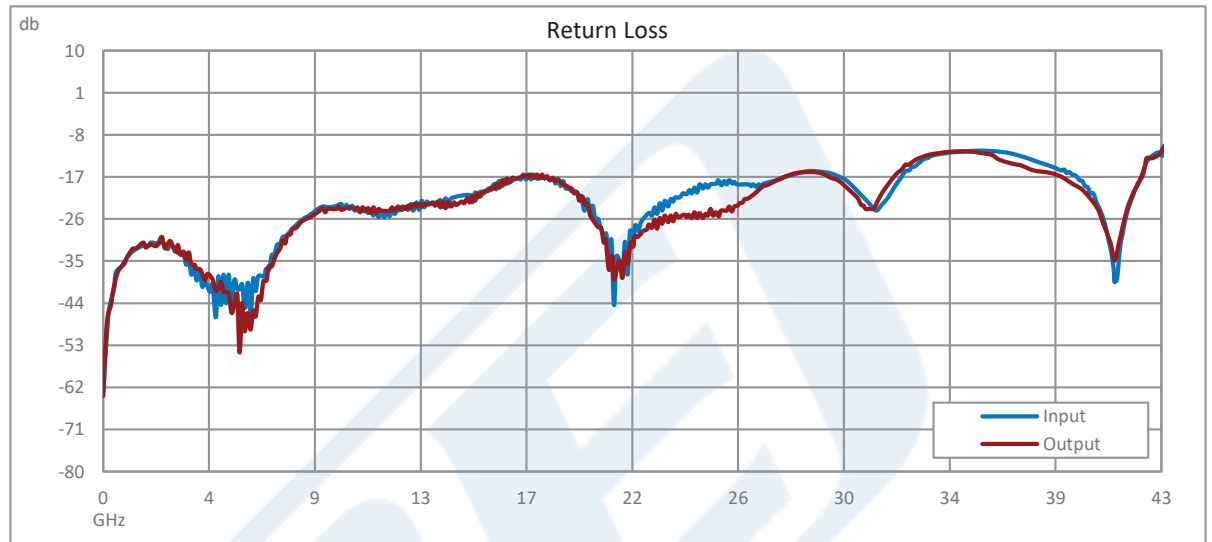
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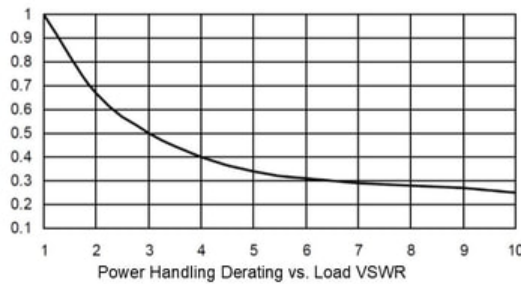
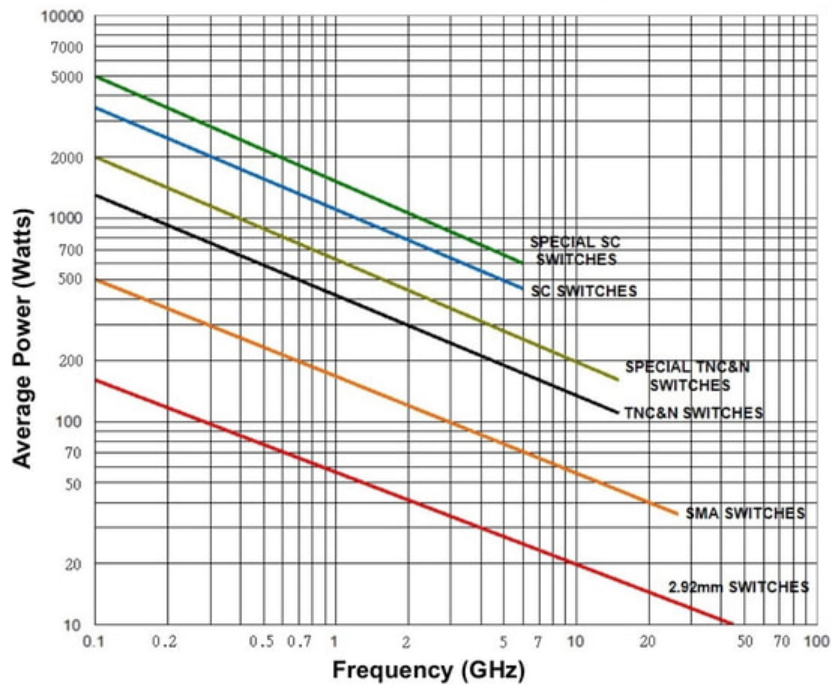


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Power Handling vs. Frequency



Power handling chart and derating curves based on the following conditions:

- Ambient temperature: 40°C or less
- Altitude: Sea level
- Load VSWR: 1.20:1 Maximum
- Relative Humidity: 40-50%
- Cold switching: RF signal off

Note: specifications subject to change without notice

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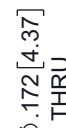
SP4T, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Reset, D-Sub, 2.92mm, from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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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.

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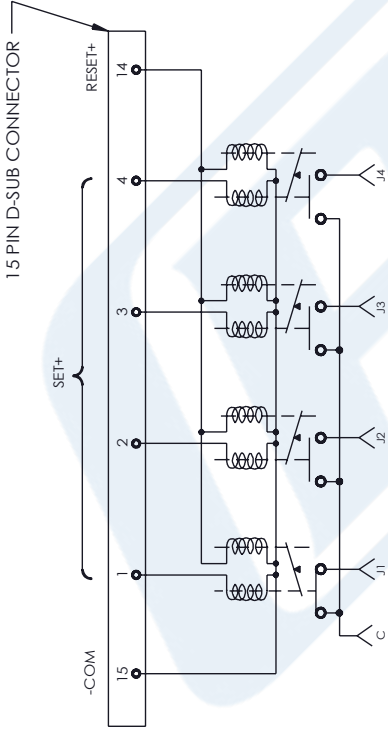
1. LABEL PER ILS-100-02 FOR INTERNAL REFERENCE ONLY
LABEL LOCATION FOR REFERENCE ONLY

T-Rev.D2

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	BPUCHASKI	PE71S7286	A

PE71S7286 CAD Drawing

SP4T, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Reset, D-Sub, 2.92mm,



TRUTH TABLE/PIN ASSIGNMENT :
PIN ASSIGNMENT

TERMINALS D-SUB PIN ASSIGNMENT	RF PATH			
	J1	J2	J3	J4
1 (SET+)	ON	OFF	OFF	OFF
2 (SET+)	OFF	ON	OFF	OFF
3 (SET+)	OFF	OFF	ON	OFF
4 (SET+)	OFF	OFF	OFF	ON
14 (RESET+)	OFF	OFF	OFF	ON

PIN 15. -COM

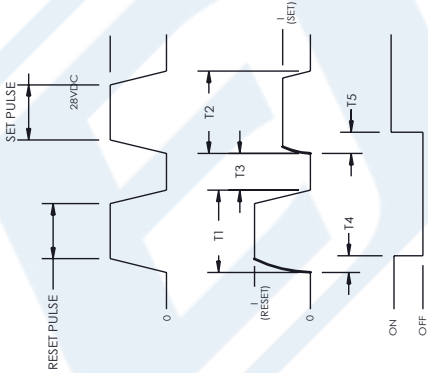
SCHMATIC

(J1 SHOWN LAST ENERGIZED)

ACTUATION

CHARACTERISTICS:

- REQUIRES TWO (2) SEQUENTIAL PULSES (RESET & SET)
- T1 & T2 = 30mSEC MIN
- T3 = 10mSEC MIN
- T4 & T5 = 20mSEC MAX



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

TOLERANCES:

X = ±.2	[.5]	FRACTIONS
XX = ±.02	[.5]	± 1/32
XXX = ±.005	[.13]	ANGLES ± 1°

CABLE LENGTH TOLERANCES:

≤12 [305]	±.1 [25]	-0	
>12 [305]	≤.60 [1524]	±.2 [51]	-0
>60 [1524]	≤.120 [3048]	±.4 [102]	-0
>120 [3048]	≤.300 [7620]	±.6 [152]	-0
>300 [7620]	±.5%	-0	

ALL DIMENSIONS ARE FOR REFERENCE ONLY
AND SUBJECT TO CHANGE WITHOUT NOTICE



Website: www.Pasternack.com
Phone: 1.866.727.8376 | 1.949.261.1920

DESCRIPTION
SP4T, 2.92mm-female, latching, 43GHz, 28VDC, D-Sub

INTERPRET ALL DIMENSIONS AND
TOLERANCES PER ASME Y14.5

SCALE
NONE

SHEET
2 OF 2

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SIZE
A

CAGE CODE
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