



SP6T, Electromechanical Relay Latching Switch, DC to 43 GHz,
28VDC, 5W, Reset, Diodes, Self Cut-Off, D-Sub, 2.92mm

Electromechanical Relay Switches Technical Data Sheet

PE71S7292

Features

- Single Pole Six Throw (SP6T) Electromechanical Relay Switch
- DC to 43 GHz Frequency Range
- Latching Self Cut-Off Actuator
- Suppression Diodes
- 2M Lifecycle Rating
- Insertion Loss 0.6 dB typ
- Isolation > 70 dB typ
- VSWR as low as 1.25:1 max
- 15 Pin D-Sub Connector for all DC Command Control Functions
- +28 Volt DC Bias
- 2.92mm Female Connectors
- -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 PE71S7292 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across an ultra wide frequency range from DC to 43 GHz and can handle up to 5 Watts of Average Power in a break before make condition. The 50 Ohm design has a Latching Actuator with Self Cut-Off that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Additional features include Suppression Diodes which limit voltage spikes or reverse current, and Reset/Set functionality. Impressive typical performance includes 0.6 dB insertion loss and isolation greater than 70 dB. This switch requires +12 Vdc bias voltage and operates over a temperature range of -25°C to +65°C. 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	SP6T
Actuator Type	Latching
Actuator Options	Reset, Diodes, Self Cut Off

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		43	GHz
Operating Voltage	26	28	30	Volts
Actuating Set Current			400	mA
VSWR		1.4:1	2.1:1	
Insertion Loss		0.6	1.6	dB
Isolation	40	85		dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP6T, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Reset, Diodes, Self Cut-Off, D-Sub, 2.92mm PE71S7292](#)



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Input Power	5	Watts
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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	0.28 lbs [127.01 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)

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Vibration

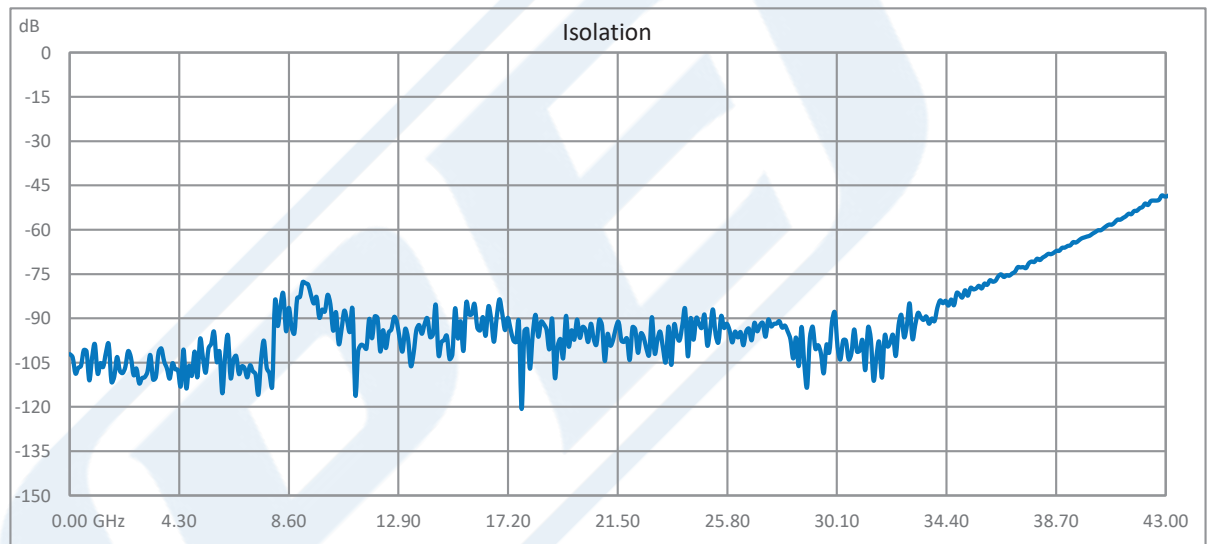
MIL-STD-202 Method 204, Condition D, 10G RMS (non operational)

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

Plotted and Other Data

Notes:

Typical Performance Data



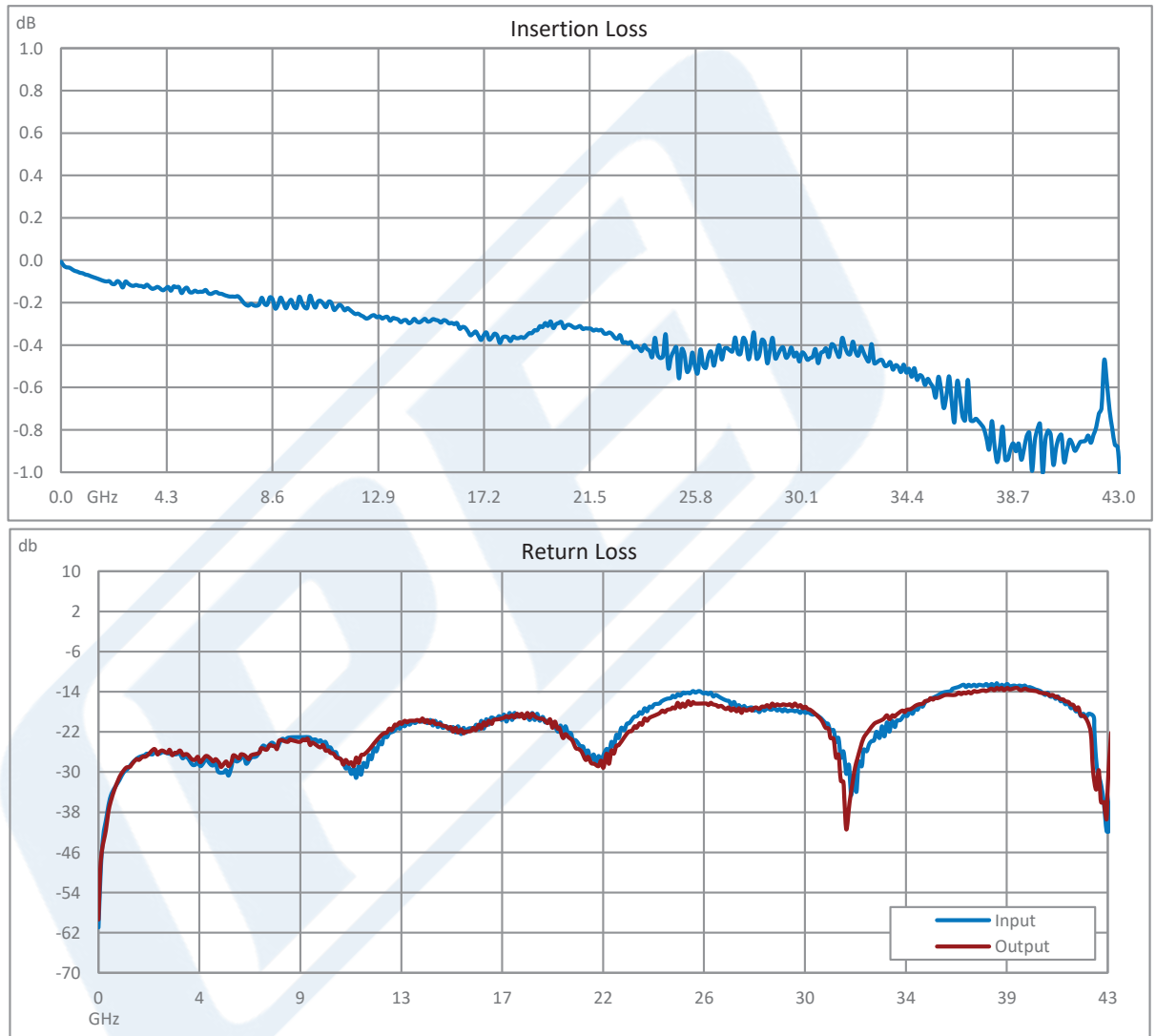
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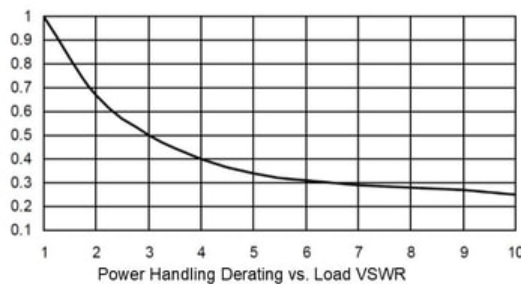


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Power Handling vs. Frequency



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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SP6T, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Reset, Diodes, Self Cut-Off, 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.

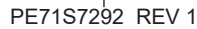
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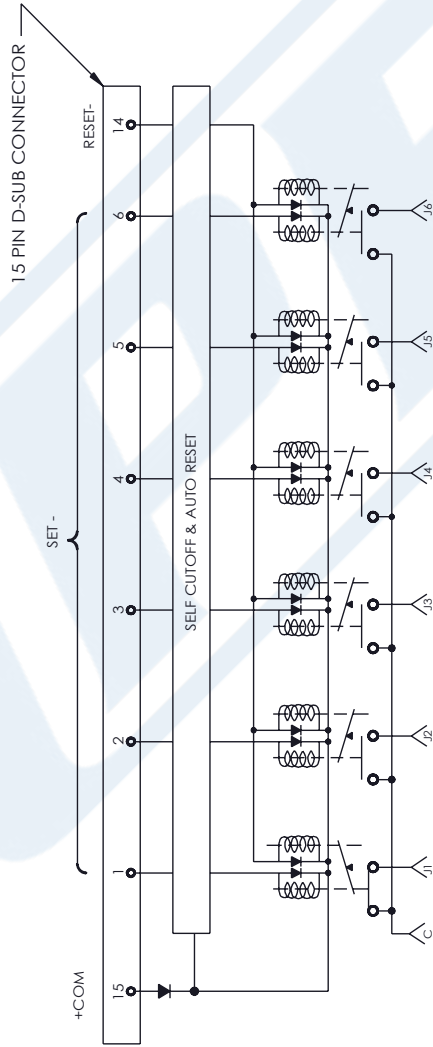
1. LABEL PER ILS-100-02 FOR INTERNAL REFERENCE ONLY
LABEL LOCATION FOR REFERENCE ONLY

T-Rev.D2

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PE71S7292 CAD Drawing

SP6T, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC,
5W, Reset, Diodes, Self Cut-Off, D-Sub, 2.92mm



SCHEMATIC

(J1 SHOWN LAST ENERGIZED)

TRUTH TABLE/PIN ASSIGNMENT :

TERMINALS	RF PATH					
	J1	J2	J3	J4	J5	J6
D-SUB PIN ASSIGNMENT						
1 (SET-)	ON	OFF	OFF	OFF	OFF	OFF
2 (SET-)	OFF	ON	OFF	OFF	OFF	OFF
3 (SET-)	OFF	OFF	ON	OFF	OFF	OFF
4 (SET-)	OFF	OFF	OFF	ON	OFF	OFF
5 (SET-)	OFF	OFF	OFF	OFF	ON	OFF
6 (SET-)	OFF	OFF	OFF	OFF	OFF	ON
14 (RESET-)						
PIN 15. +COM	ALL OFF					

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

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DESCRIPTION

SP6T, latching, 43GHz, 28VDC, SCO, Reset, diodes, 2.92mm, D-Sub

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