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SP4T Electromechanical Relay Latching Switch, +COM, DC to 18 GHz, 90W, 12VDC, SMA

Electromechanical Relay Switches Technical Data Sheet PE71S6567

Features

- Single Pole Four Throw (SP4T) Electromechancial Relay Switch
- DC to 18 GHz Frequency Range
- Latching Actuator
- Positive Common (+COM) Configuration
- 5M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.25:1 max
- 15 PIN D-SUB Connector for DC Control
- 12 Volt DC Bias
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- 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 PE71S6567 is a Single Pole Four Throw (SP4T) electromechanical relay switch that operates across an broadband frequency range from DC to 18 GHz and can handle 90W of average power in a break before make condition. The 50 Ohm design supports a positive common (+COM) biasing configuration and features a Latching Actuator with a 5 million lifecycle rating. The Latching Actuator magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Impressive typical performance includes 0.4 dB insertion loss and isolation greater than 80 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 SMA female connectors and a 15 Pin D-SUB Connector 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 (TA = 25°C, DC Voltage = 12 Vdc)

Switch Type SP4T
Actuator Type Latching

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Operating Voltage	12	12	13	Volts
Actuating Set Current @		280		mA
Actuating Reset Current		1.12		A
VSWR		1.25:1	1.5:1	
Insertion Loss		0.4	0.5	dB
Isolation		80		dB
Switching Time		<20		ms Typ

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, +COM, DC to 18 GHz, 90W, 12VDC, SMA PE71S6567

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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			GHz
VSWR, Max	1.25:1	1.4:1	1.5:1			
Insertion Loss, Max	0.2	0.4	0.5			dB
Isolation, Min	80	80	80			dB

Mechanical Specifications

Size

Length	2.05 in [52.07 mm]
Width/Diameter	1.5 in [38.1 mm]
Height	0.52 in [13.21 mm]
Weight	0.166 lbs [75.3 g]

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
Shock	MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration	MIL-STD-202 Method 204, Condition D, 10G RMS (non oper)

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

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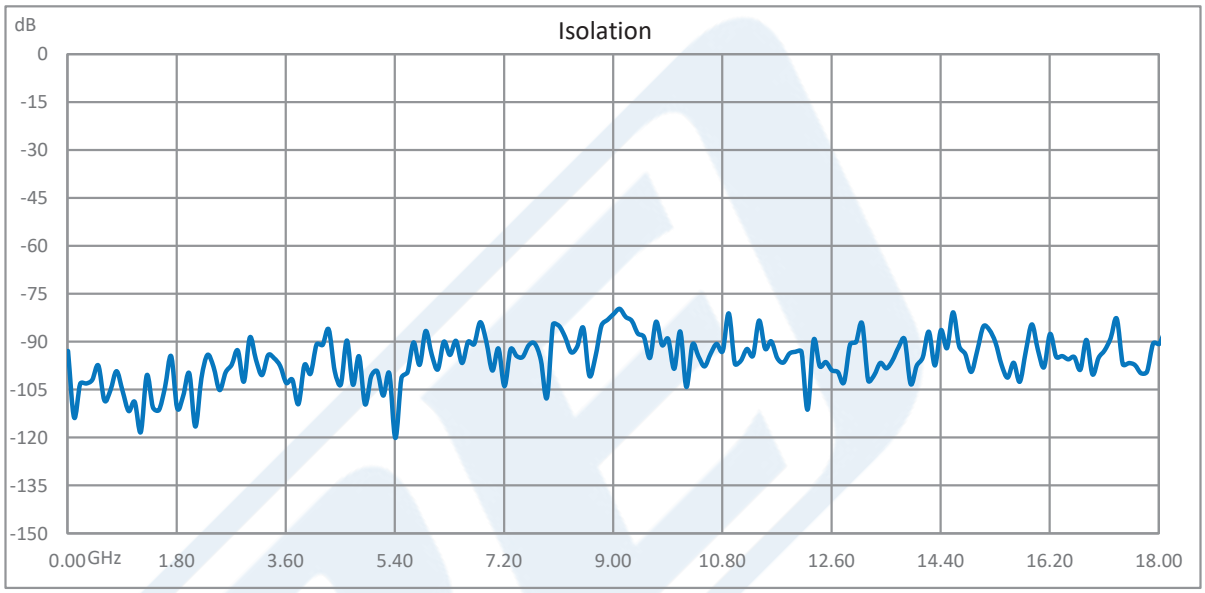
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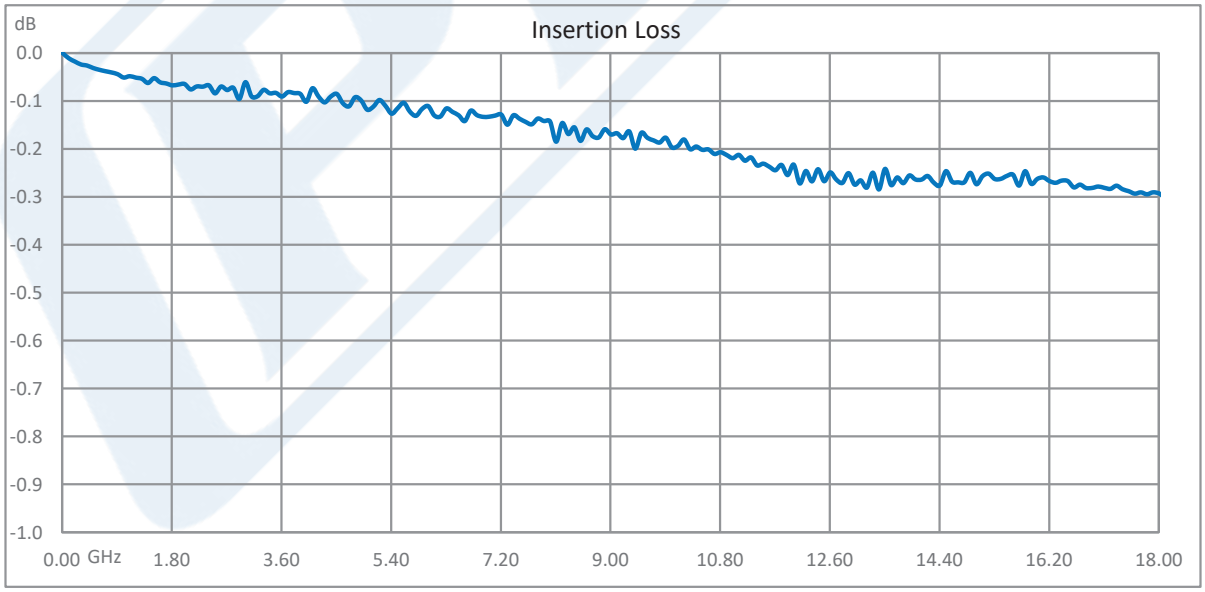


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Electromechanical Relay Switches Technical Data — PE71S6567

Typical Performance Data





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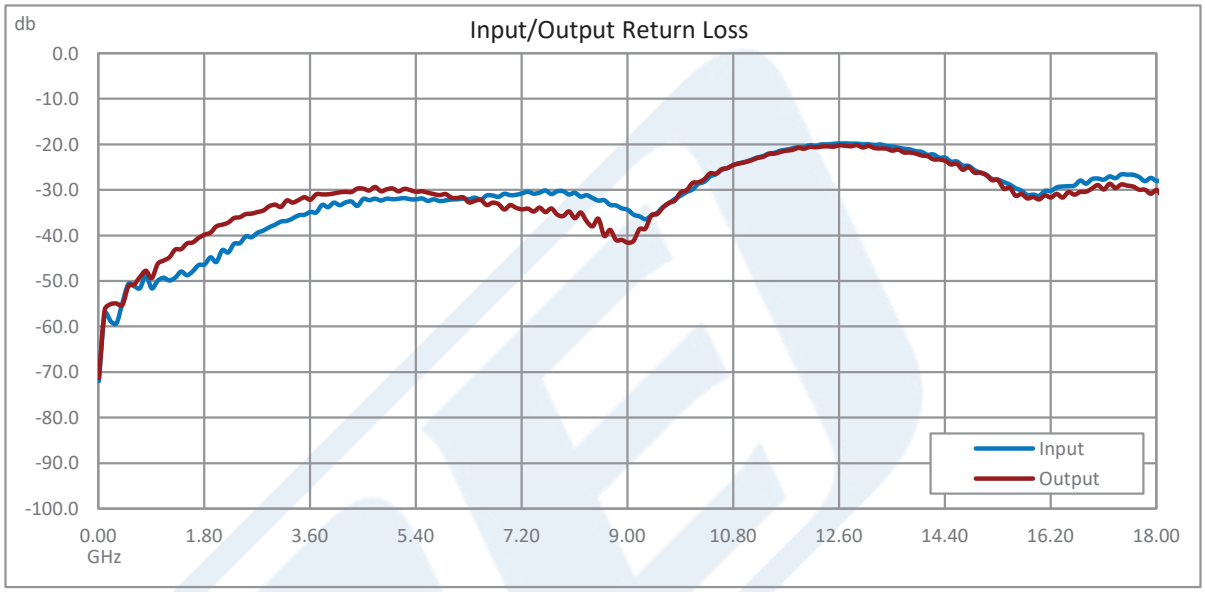
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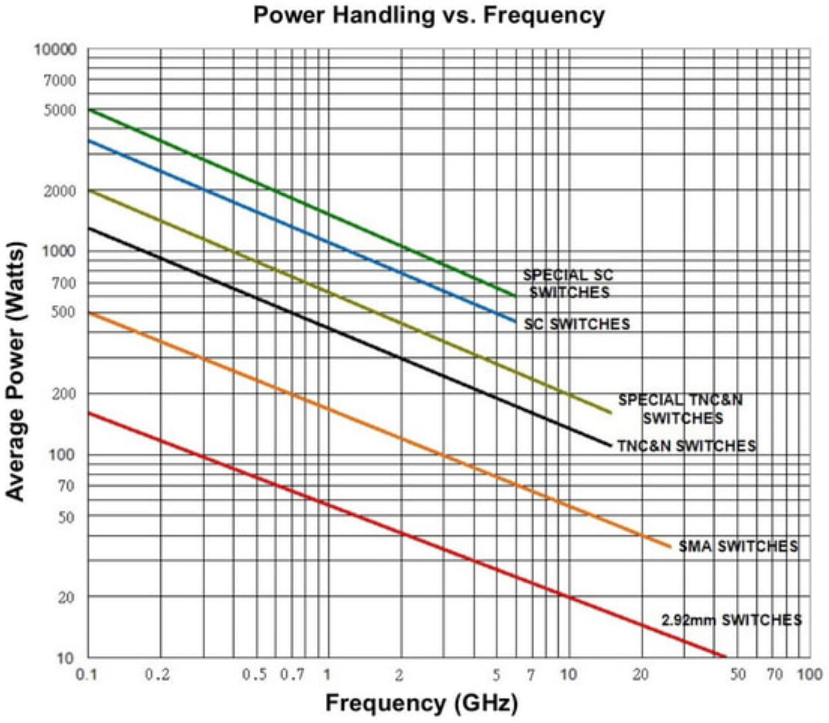
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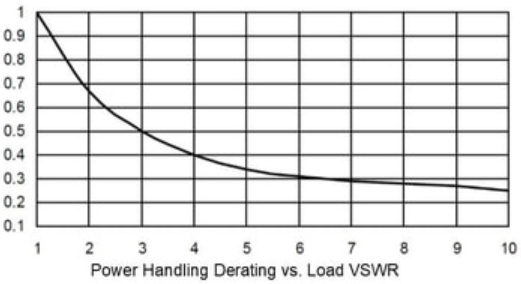
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Power handling chart and derating curves based on the following conditions:

- 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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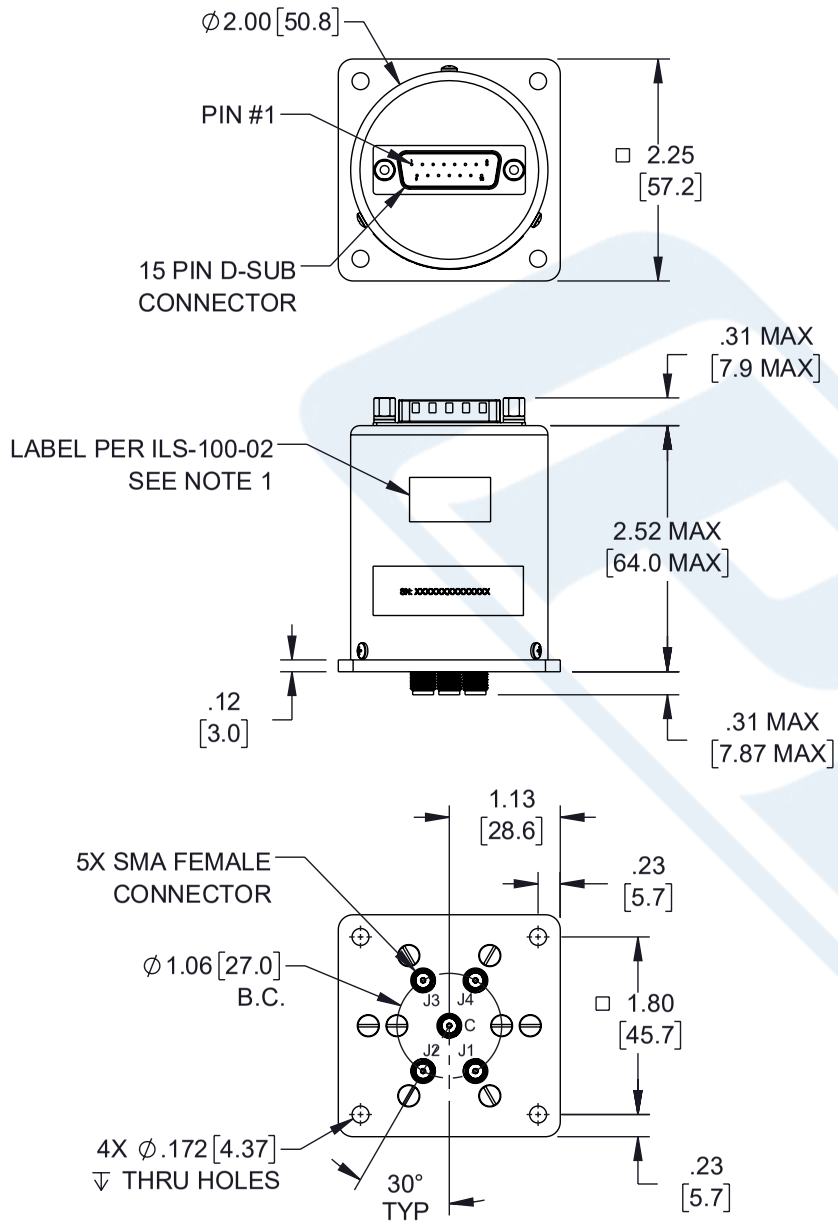
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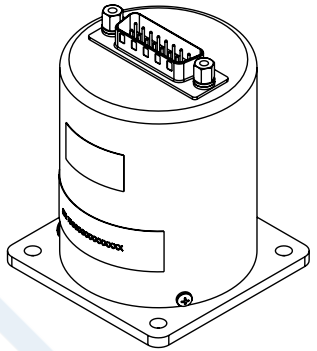
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	A	INITIAL RELEASE	02/16/2023	DMAY	TGALLA





NOTES:

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TOLERANCES:

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

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SCALE	SHEET
NONE	1 OF 2

DESCRIPTION: SP4T, SMA, LATCHING, +COM, 18GHz, 12VDC, D-SUB

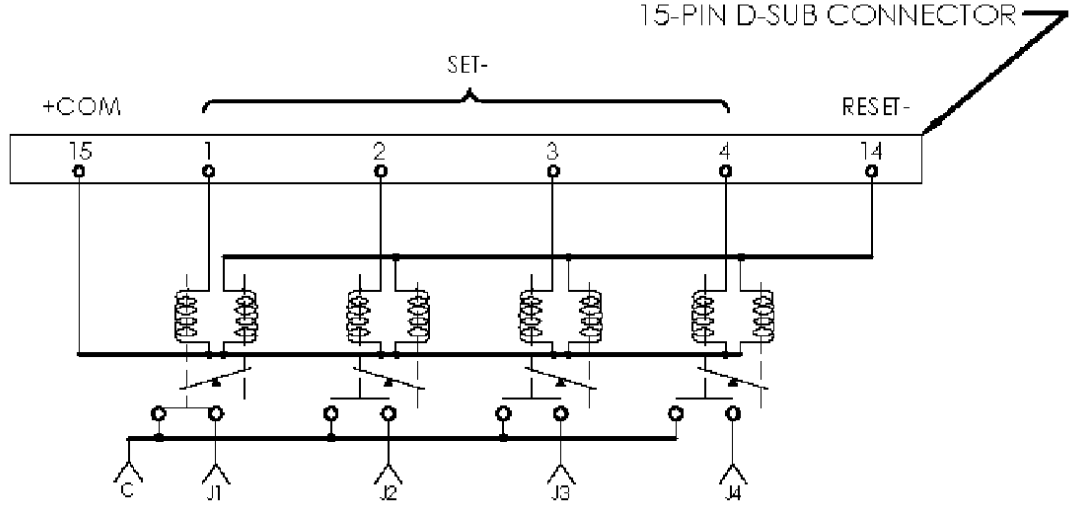
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PE71S6567 CAD Drawing

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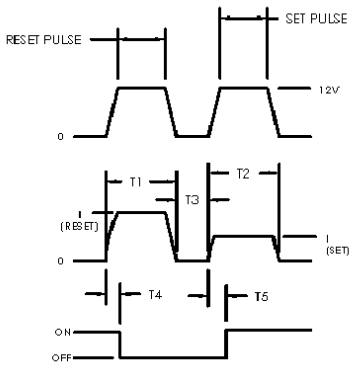


SCHEMATIC

(COIL 1 SHOWN LAST ENERGIZED)

ACTUATION CHARACTRISTICS:

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



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-)	ALL OFF			

PIN 15. +COM

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SCALE	SHEET
NONE	2 OF 2

DESCRIPTION: SP4T, SMA, LATCHING, +COM, 18GHz, 12VDC, D-SUB

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