



SP4T NO DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, 90W, 12V, 2M Lifecycles, Suppression Diodes, Indicators, SMA

## Electromechanical Relay Switches Technical Data Sheet

PE71S6423

### Features

- Single Pole Four Throw Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Normally Open Actuator
- TTL Logic Control
- Suppression Diodes
- Indicators
- 2M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 80 dB typ
- VSWR 1.4:1 typ
- 15 Pin D-Sub Connector for Command Control Functions
- +12 Volt DC Bias
- SMA Female Connectors
- -25°C to +70°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 PE71S6423 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 CW input 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. Additional features include TTL logic control, suppression diodes which limit voltage spikes or reverse current, and Indicators to monitor the switch position. Impressive typical performance includes 0.4 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 +70°C. The rugged and compact package assembly supports SMA female connectors and a 15 pin D-Sub Connector for all 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

Switch Type	SP4T
Actuator Type	Normally Open
Switching Sequence	Break before Make
Actuator Options	TTL Logic
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts

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

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T NO DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, 90W, 12V, 2M Lifecycles, Suppression Diodes, Indicators, SMA PE71S6423](#)



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At +20°C

VSWR		1.4:1	1.7:1	
Insertion Loss		0.4	0.7	dB
Isolation	70	80		dB
Input Power (CW)			90	Watts
Switching Time			20	ms Max

### 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

Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	2,000,000 Cycles

#### Connectors

RF Connector Type	SMA Female
Control Connector	Solder Terminals

### Environmental Specifications

#### Temperature

Operating Range	-25 to +70 deg C
Storage Range	-55 to +100 deg C

Humidity	Moisture Resistance
Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 204, Cond. D 10G RMS Non Operating

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Electromechanical Relay Switches Technical Data

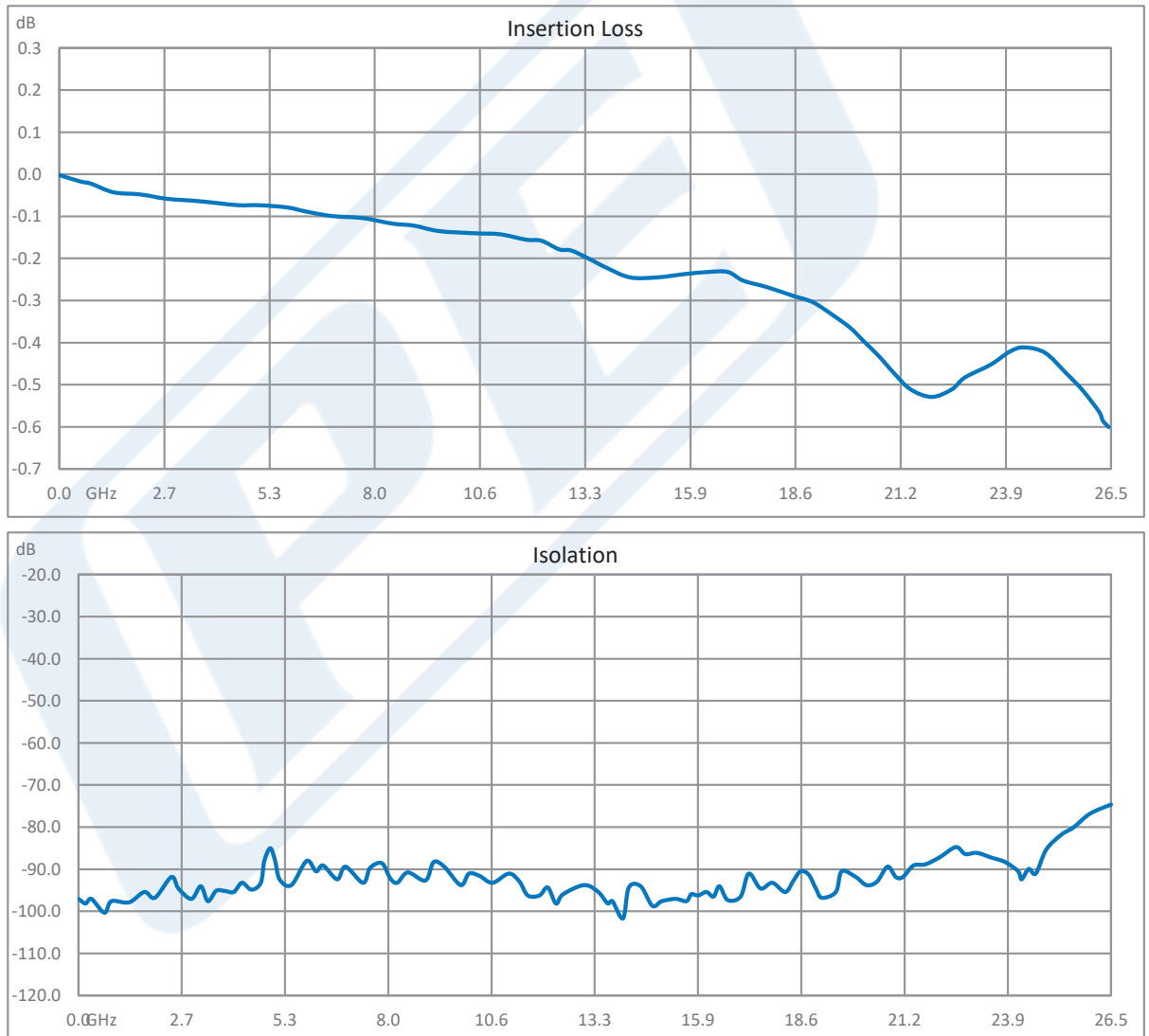
PE71S6423

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

**Plotted and Other Data**

Notes:

**Typical Performance Data**



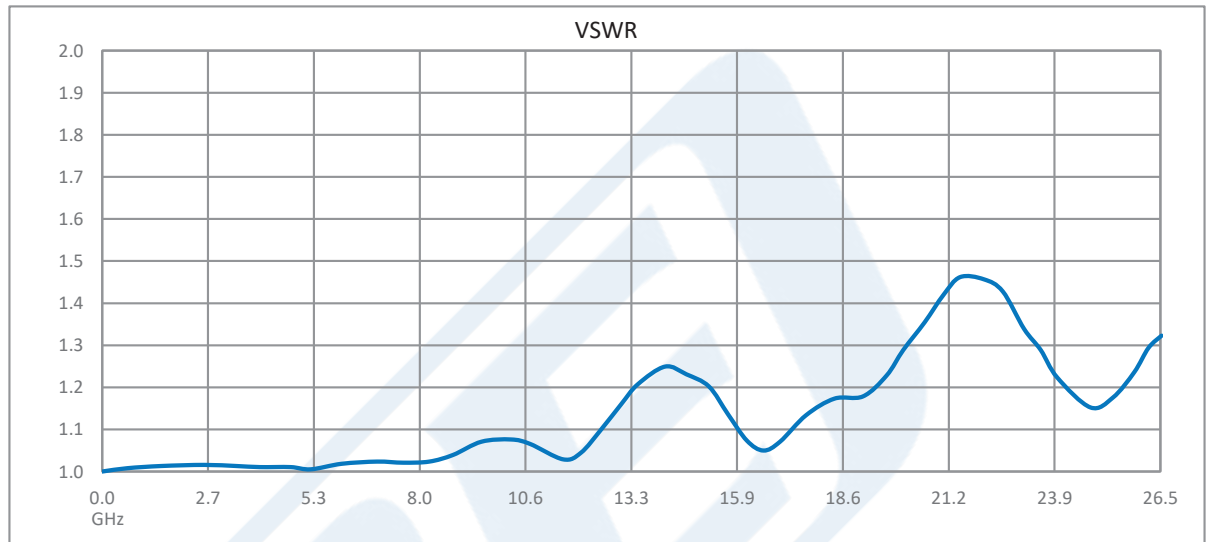
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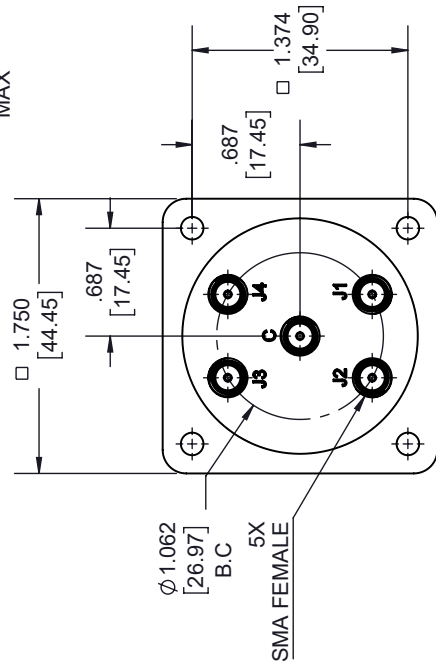
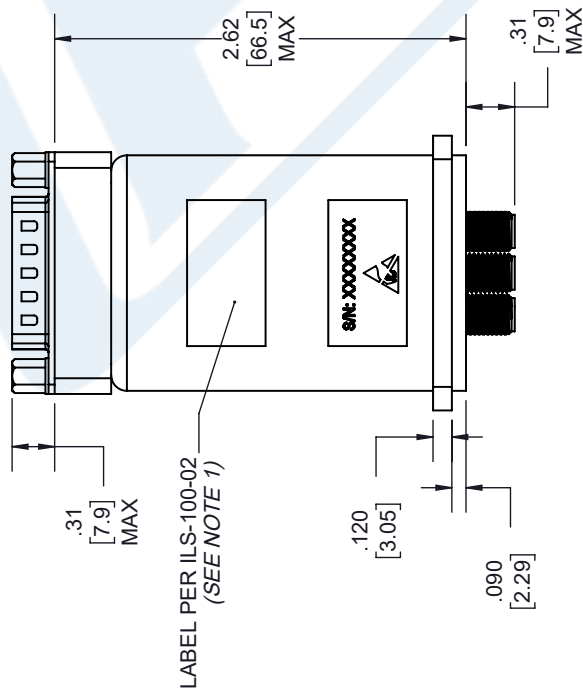
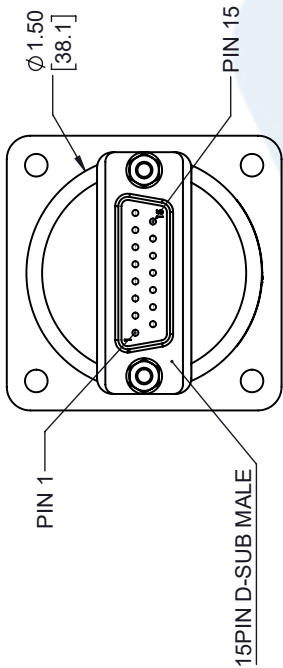
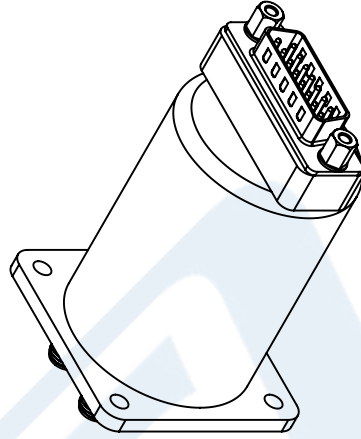
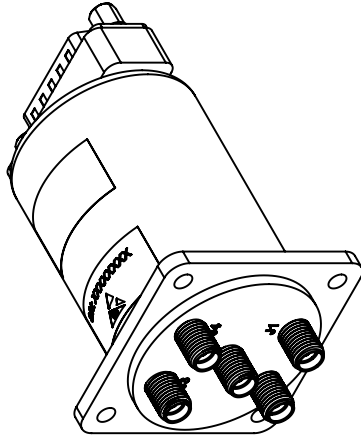
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# PE71S6423 CAD Drawing

SP4T NO DC to 26.5 GHz Electro-Mechanical Relay Switch, TTL, 90W,  
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	10/20/2020	T.GALLA



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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

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THIRD-ANGLE PROJECTION

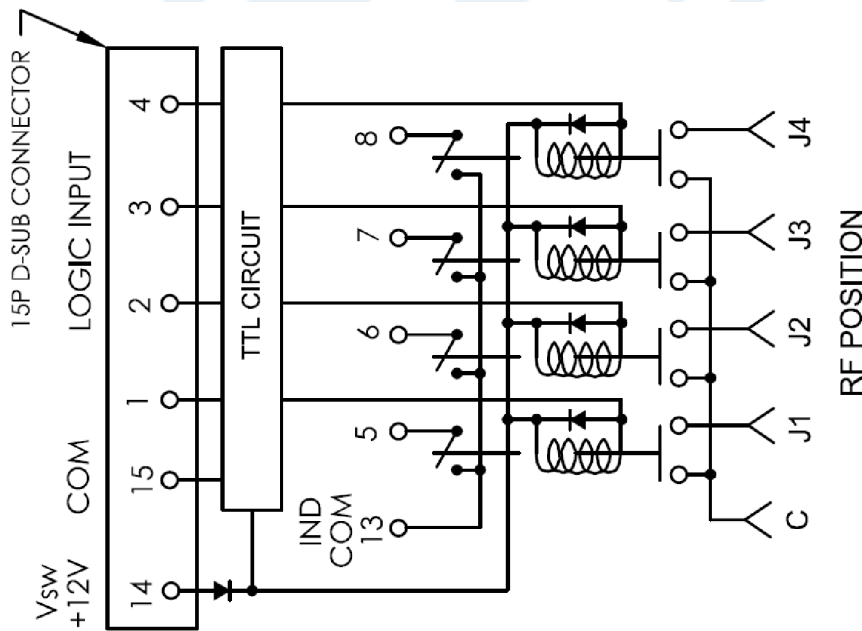
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## SCHEMATIC

### PIN ASSIGNMENT

TERMINALS LOGIC INPUT PINS	RF PATH				INDICATOR
	J1	J2	J3	J4	
1 ("1")	ON	OFF	OFF	OFF	ON OFF OFF OFF
2 ("1")	OFF	ON	OFF	OFF	OFF ON OFF OFF
3 ("1")	OFF	OFF	ON	OFF	OFF OFF ON OFF
4 ("1")	OFF	OFF	OFF	ON	OFF OFF OFF ON

PIN 15. COM  
PIN 14. Vsw +12VDC  
PIN 13. IND COM

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DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:  
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 300 [7620] < L = +5% / -0

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THIRD-ANGLE PROJECTION

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