



SPDT Electromechanical Relay Failsafe Switch,  
DC to 18 GHz, up to 90W, 28V, SMA

## Electromechanical Relay Switches Technical Data Sheet

PE71S6391

### Features

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 2M Cycle Min Operating Life
- +28 Volt DC
- 90 Watt average Power
- Failsafe Actuator
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.15 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- Solder Pins DC Control
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request

### Applications

- High Performance Relay Switch
- Military Communications
- Communications Systems
- Test & Measurement

### Description

The PE71S6391 is a (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 18 GHz and can handle up to 90 Watts of CW input power in a break before make condition. The design features a Failsafe actuator and is rated for 2M life cycles for high reliability operation. Impressive performance includes insertion loss less than 0.15 dB typical and isolation greater than 80 dB typical. The Failsafe actuator has a +28 Vdc 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 Solder Pins 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	SPDT
Actuator Type	Failsafe
Switching Sequence	Break before Make

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	26	28	30	Volts
Actuating Current @ 28 Volts		90		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.35	dB
Isolation	65	80		dB
Input Power (CW)			60	Watts
Switching Time			20	ms Max

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT Electromechanical Relay Failsafe Switch, DC to 18 GHz, up to 90W, 28V, SMA PE71S6391](#)



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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	1.2:1	1.3:1	1.4:1			
Insertion Loss, Max	0.15	0.25	0.4			dB
Isolation, Min	80	75	65			dB
Input Power, Typ (CW)	90	75	60			Watts

### Mechanical Specifications

#### Size

Body Material and Plating

Aluminum

Package Type

Connectorized

Operating Life

2,000,000 Cycles

#### Connectors

RF Connector Type

SMA Female

RF Connector Contact Material and Plating

Beryllium Copper, Gold

RF Connector Body Material and Plating

Aluminum, Nickel

Control Connector

Solder Pin

### Environmental Specifications

#### Temperature

Operating Range

-25 to +70 deg C

Storage Range

-55 to +100 deg C

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

### Plotted and Other Data

Notes:

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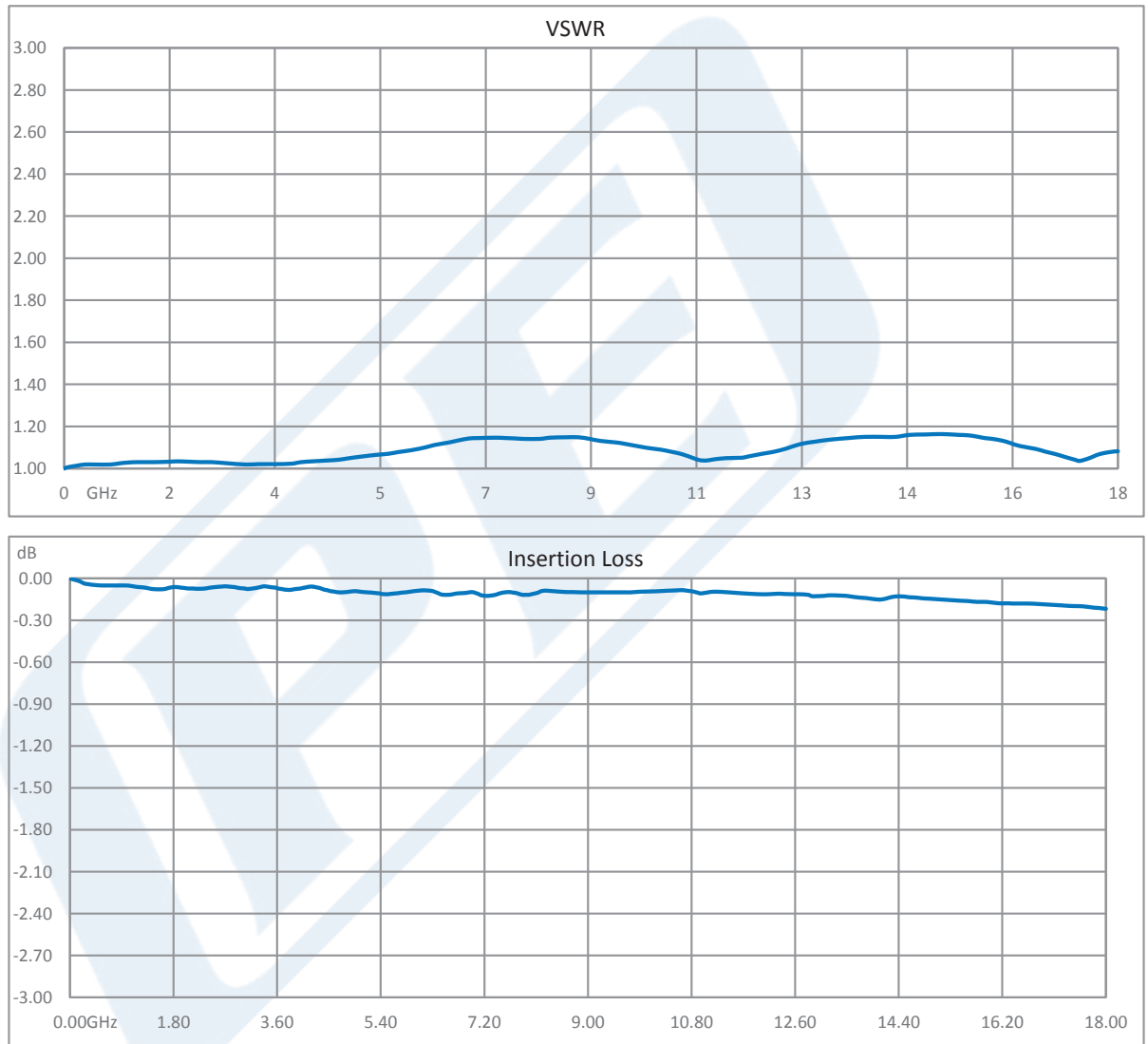


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Typical Performance Data



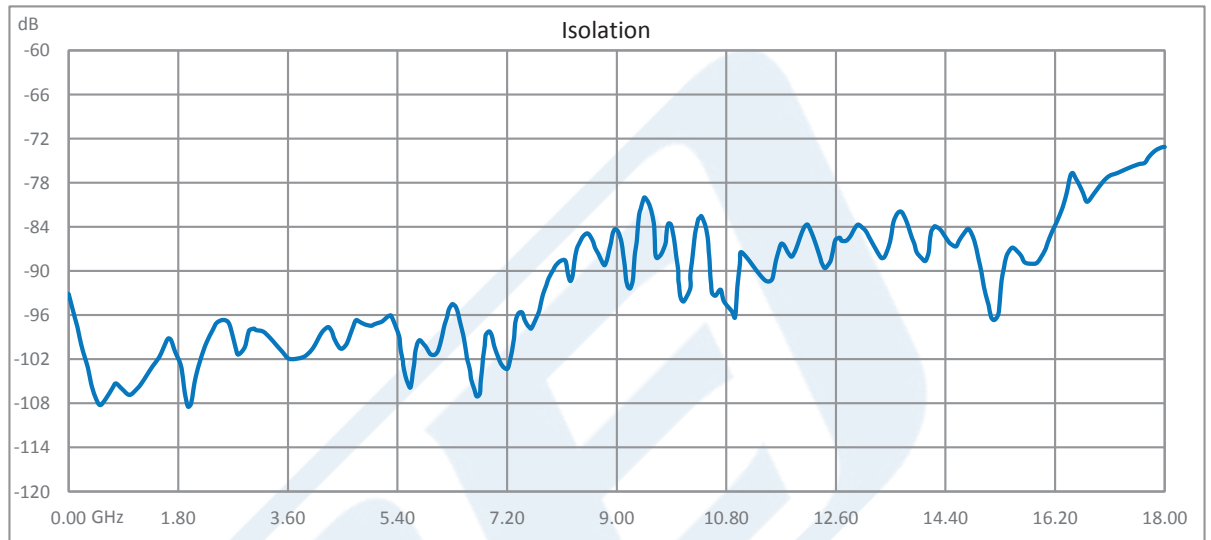
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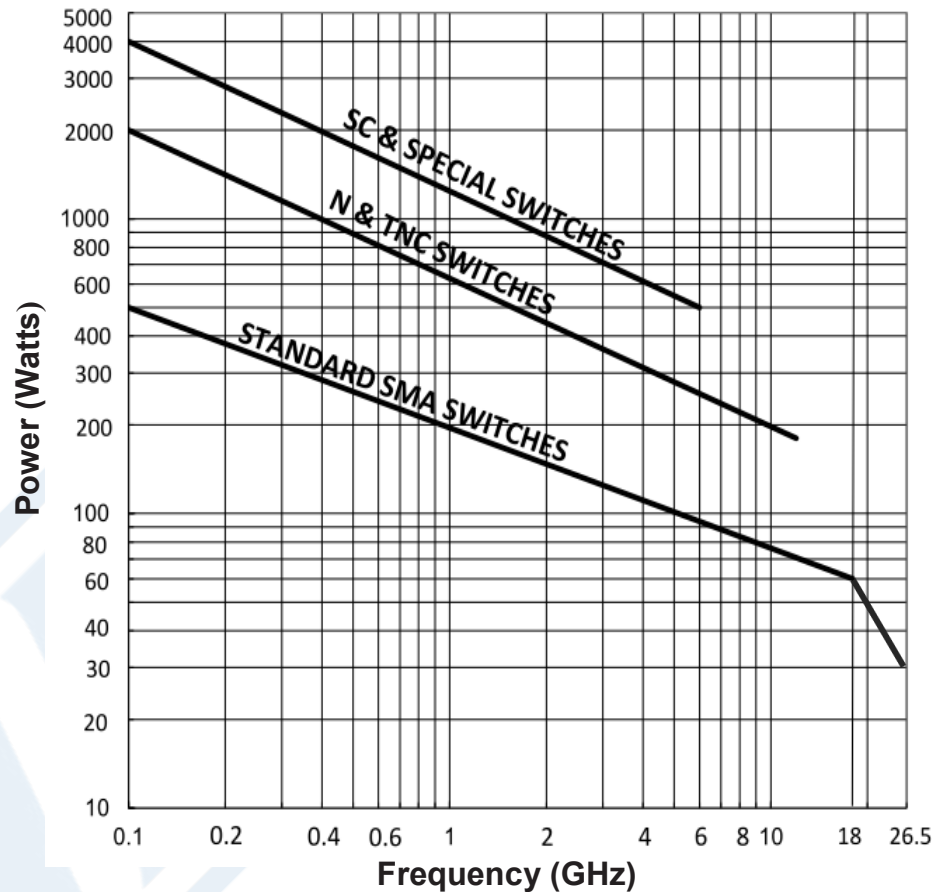


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**Power Handling vs. Frequency & Connector Type**



**Environmental and Test Conditions:**

- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

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## Electromechanical Relay Switches Technical Data

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SPDT Electromechanical Relay Failsafe Switch, DC to 18 GHz, up to 90W, 28V, 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.

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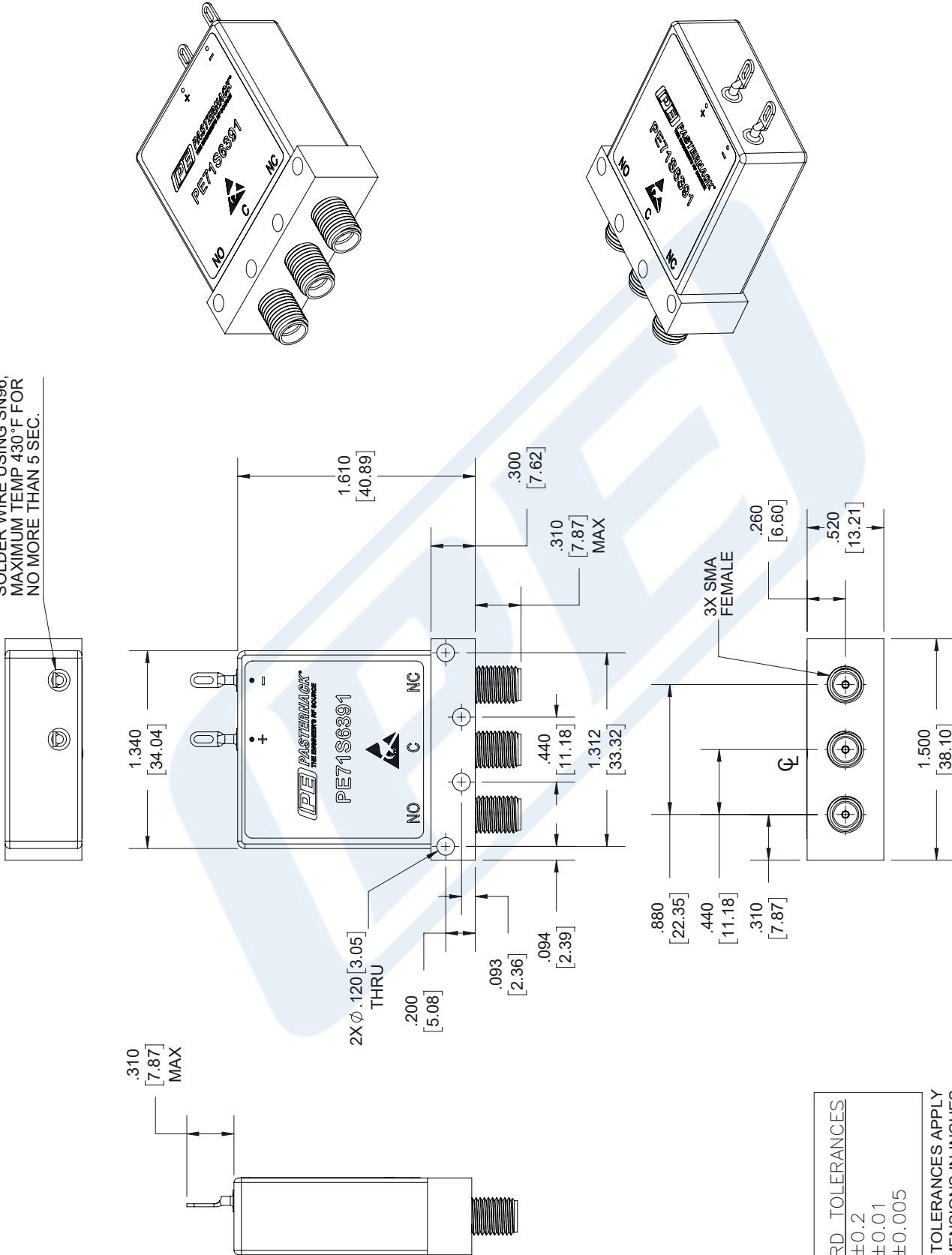
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

# PE71S6391 CAD Drawing

SPDT Electromechanical Relay Failsafe Switch, DC to 18 GHz, up to 90W, 28V, SMA

2X SOLDER TERMINALS  
SOLDER WIRE USING SN96,  
MAXIMUM TEMP 430°F FOR  
NO MORE THAN 5 SEC.



STANDARD TOLERANCES
.X $\pm 0.2$
.XX $\pm 0.01$
.XXX $\pm 0.005$

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



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DWG TITLE

PE71S6391

CAGE CODE 53919

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME  
3. DIMENSIONS ARE IN INCHES [mm].

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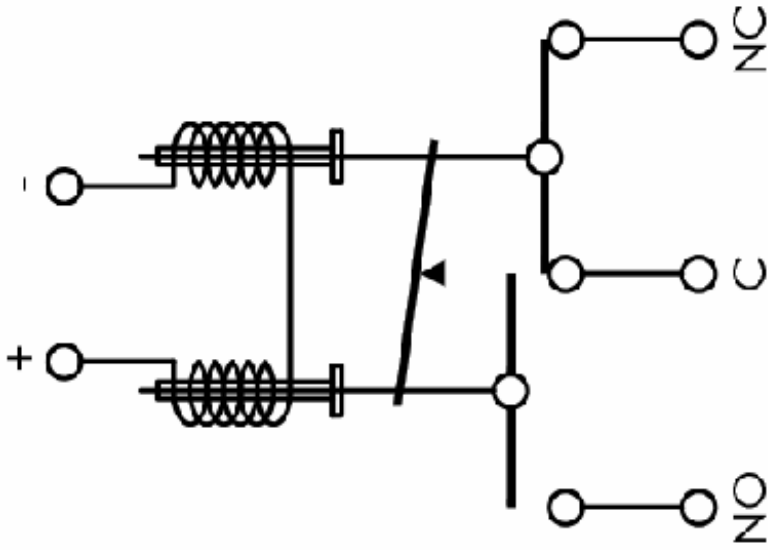
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# PE71S6391 CAD Drawing

SPDT Electromechanical Relay Failsafe Switch, DC to 18 GHz, up to 90W, 28V, SMA



**SCHEMATIC SHOWN IN FAILSAFE POSITION**

**STANDARD TOLERANCES**

.X ±0.2  
 .XX ±0.01  
 .XXX ±0.005

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