



SPDT Electromechanical Relay Failsafe Switch DC to 26.5 GHz,  
SMA, 20 Watts, 12V Control, TTL, Diodes, Indicators

## Electromechanical Relay Switches Technical Data Sheet

**PE71S6096**

### Features

- Single Pole Double Throw Relay Switch
- DC to 26.5 GHz Frequency Range
- 1M Cycle Min Operating Life
- Failsafe Actuator
- TTL Logic Driver, Position Indicators, Suppression Diodes
- Insertion Loss 0.5 dB max
- Isolation 50 dB min
- 20 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications

- Test & Measurement
- Communications System
- Instrumentation

### Description

The PE71S6096 is a Single Pole Double Throw Electromechanical Relay Switch that operates from DC to 26.5 GHz and has a rating of 20 Watts input power (CW) in a Break Before Make condition. The design features a Failsafe Actuator with TTL Logic Driver, Position Indicators, Suppression Diodes and is rated for 1M Life Cycles for high reliability operation. Insertion loss is specified from 0.2 dB max and Isolation from 80 dB min, with +12 Vdc operating voltage. Performance is guaranteed over -55°C to +85°C and the switch assembly is RoHS compliant. The package interface uses solder terminals and SMA Female connectors.

### Electrical Specifications

Switch Type	SPDT, Reflective
Actuator Type	Failsafe
Switching Sequence	Break Before Make
Actuator Options	TTL Logic, Diodes, Indicators
TTL Control	on: 2.4 to 5 Volts off: 0 to 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage		12		Volts
Actuating Current @ 12 Volts		300		mA
VSWR			1.5:1	
Insertion Loss			0.5	dB
Isolation	50			dB
Input Power (CW) (at 26.5 GHz)			20	Watts

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 26.5 GHz, SMA, 20 Watts, 12V Control, TTL, Diodes, Indicators PE71S6096](#)



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### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 4	4 to 8	8 to 12	12 to 18	18 to 26.5	GHz
VSWR, Max	1.25:1	1.25:1	1.3:1	1.35:1	1.5:1	
Insertion Loss, Max	0.2	0.25	0.3	0.4	0.5	dB
Isolation, Min	80	75	70	60	50	dB

### Mechanical Specifications

#### Size

Length	1.83 in [46.48 mm]
Width/Diameter	1.27 in [32.26 mm]
Height	0.5 in [12.7 mm]
Weight	0.136 lbs [61.69 g]
Body Material and Plating	Aluminum
Package Type	Connectorized Module
Operating Life	1,000,000 Cycles
Switching Time	35 ms Max

#### Connectors

RF Connector Type	SMA Female
RF Connector Contact Material and Plating	Beryllium Copper, Gold
RF Connector Body Material and Plating	Passivated Stainless Steel
Control Connector	Solder Pin

### Environmental Specifications

#### Temperature

Operating Range	-55 to +85 deg C
ESD Sensitivity	ESD Sensitive Material. Transport material in Approved ESD bags. Handle in approved ESD Workstation.



Environmental Specification Notes:  
Designed to Meet MIL-DTL-3928

**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)  
RoHS Compliant

### Plotted and Other Data

Notes:

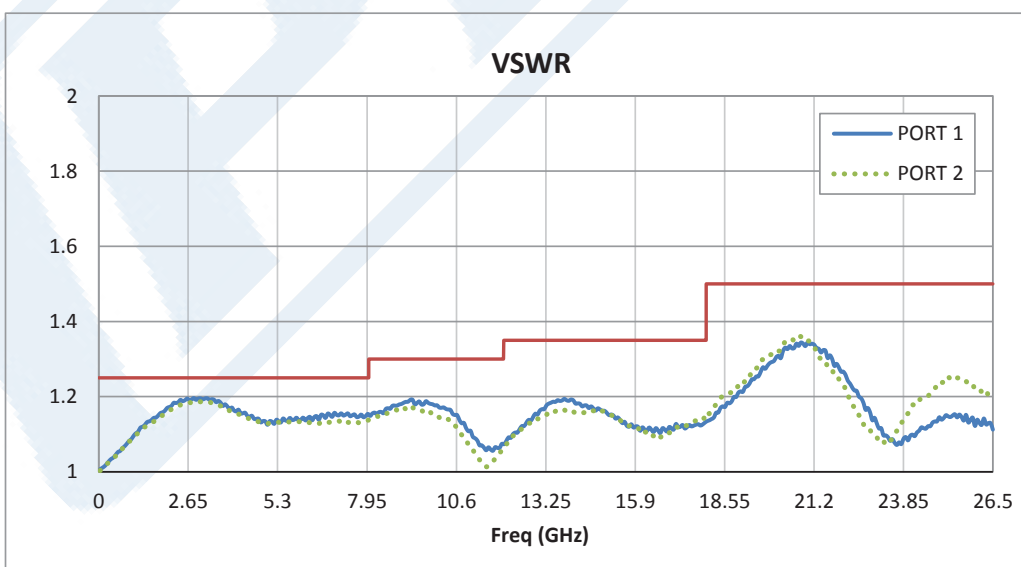
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The graph displays the insertion loss for two ports across a frequency range from 0 to 26.5 GHz. The y-axis represents the loss in dB, ranging from -2 to 0. The x-axis represents the frequency in GHz, with major ticks every 2.65 GHz. PORT 1 (blue line) shows a relatively stable loss, starting near 0 dB and gradually decreasing to approximately -0.4 dB at 26.5 GHz. PORT 2 (green dotted line) shows more significant fluctuations, starting near 0 dB and generally decreasing to approximately -0.5 dB at 26.5 GHz, with a notable sharp drop around 13.25 GHz.

Freq (GHz)	PORT 1 (dB)	PORT 2 (dB)
0	-0.05	0.00
2.65	-0.05	-0.05
5.3	-0.05	-0.05
7.95	-0.05	-0.05
10.6	-0.05	-0.10
13.25	-0.10	-0.25
15.9	-0.10	-0.20
18.55	-0.15	-0.25
21.2	-0.20	-0.30
23.85	-0.25	-0.35
26.5	-0.40	-0.50



Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623  
**Phone:** (866) 727-8376 or (949) 261-1920 • **Fax:** (949) 261-7451  
[Sales@Pasternack.com](mailto:Sales@Pasternack.com) • [Techsupport@Pasternack.com](mailto:Techsupport@Pasternack.com)

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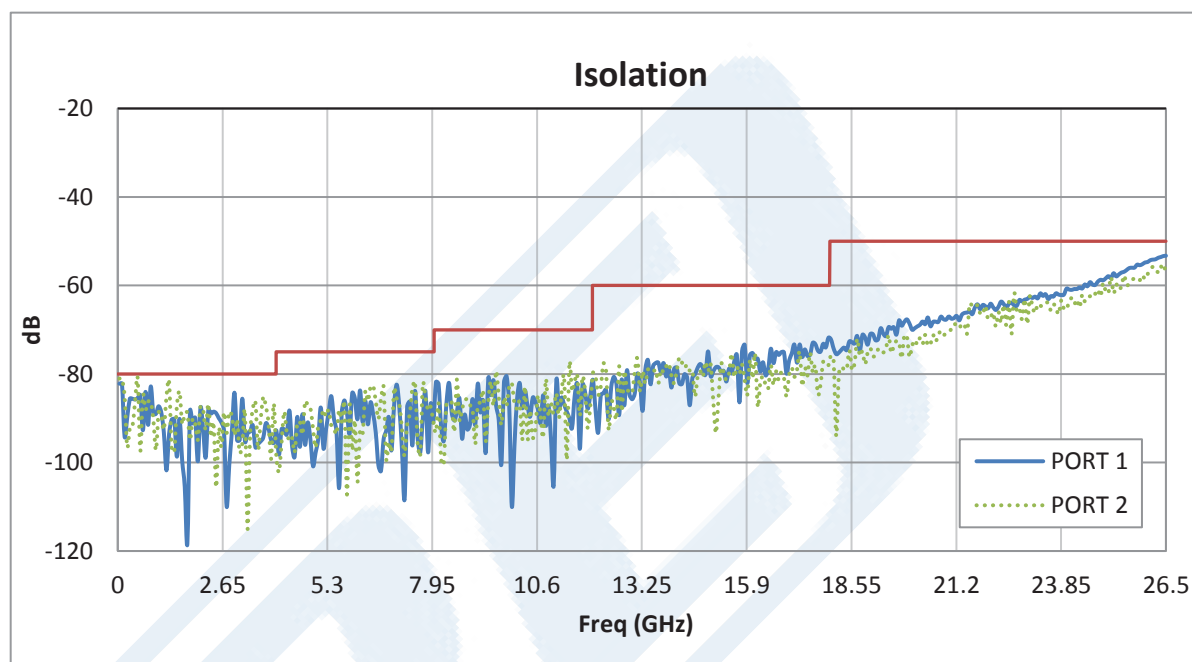




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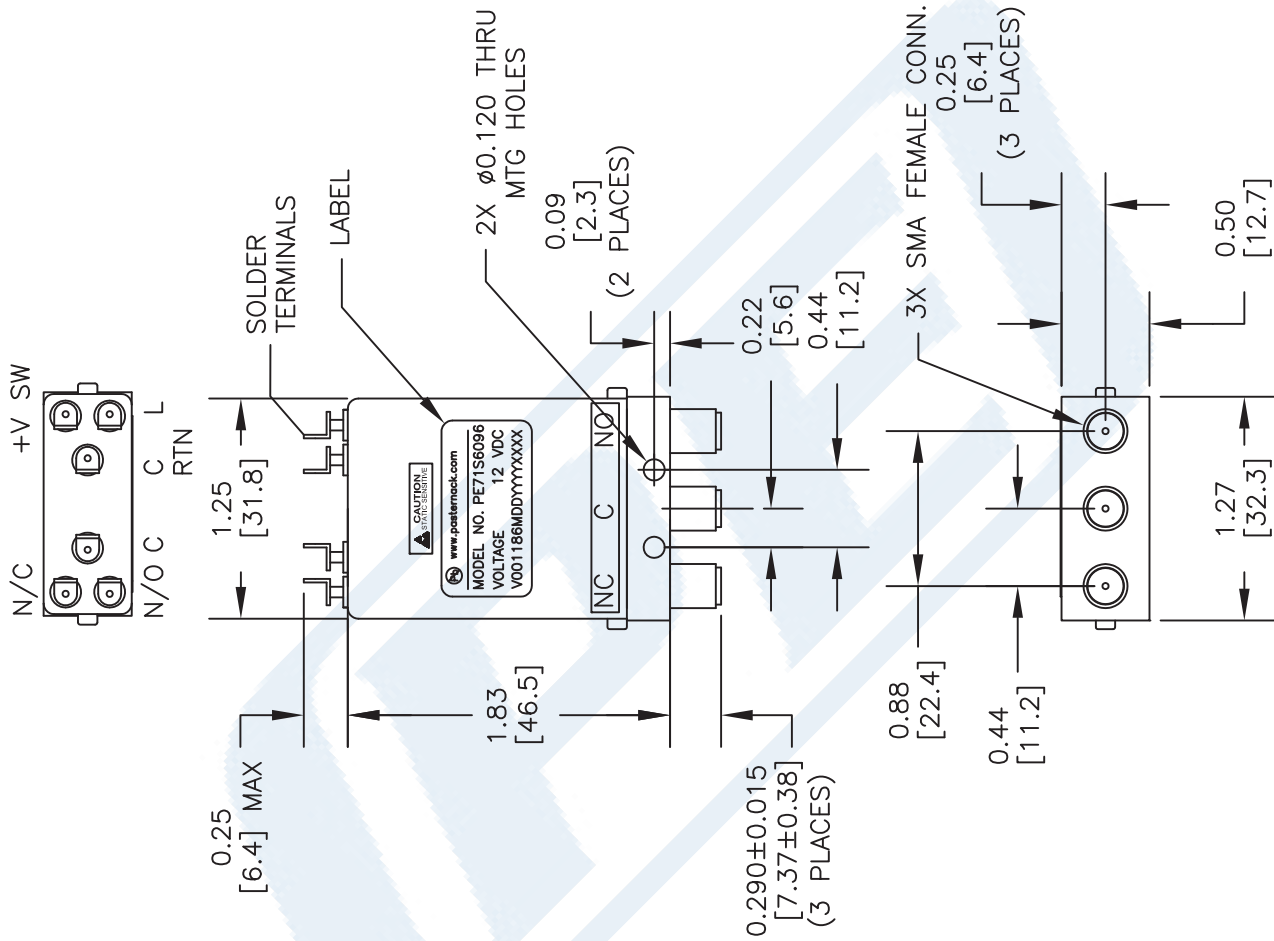
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# PE71S6096 CAD Drawing

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UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES.  
TOLERANCES ARE:

DECIMALS ANGLES  
.XX ±.03 ± 1°  
.XXX ±.010

HOLE DIAMETER	TOLERANCE
.0135 TO .125	+ .004 / - .001
.126 TO .250	+ .005 / - .001
.251 TO .500	+ .006 / - .001
.501 TO .750	+ .008 / - .001
.751 TO 1.000	+ .010 / - .001
1.001 TO 2.000	+ .012 / - .001

\* THESE DIMENSIONS AND TOLERANCES  
SUPERSEDE NOTE #1 ON TITLE BLOCK.

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Phone: (949) 261-1920 | Fax: (949) 261-7451  
Website: www.pasternack.com | E-Mail: sales@pasternack.com

DWG TITLE

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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].

FSCM NO. 53919

CAD FILE 012916

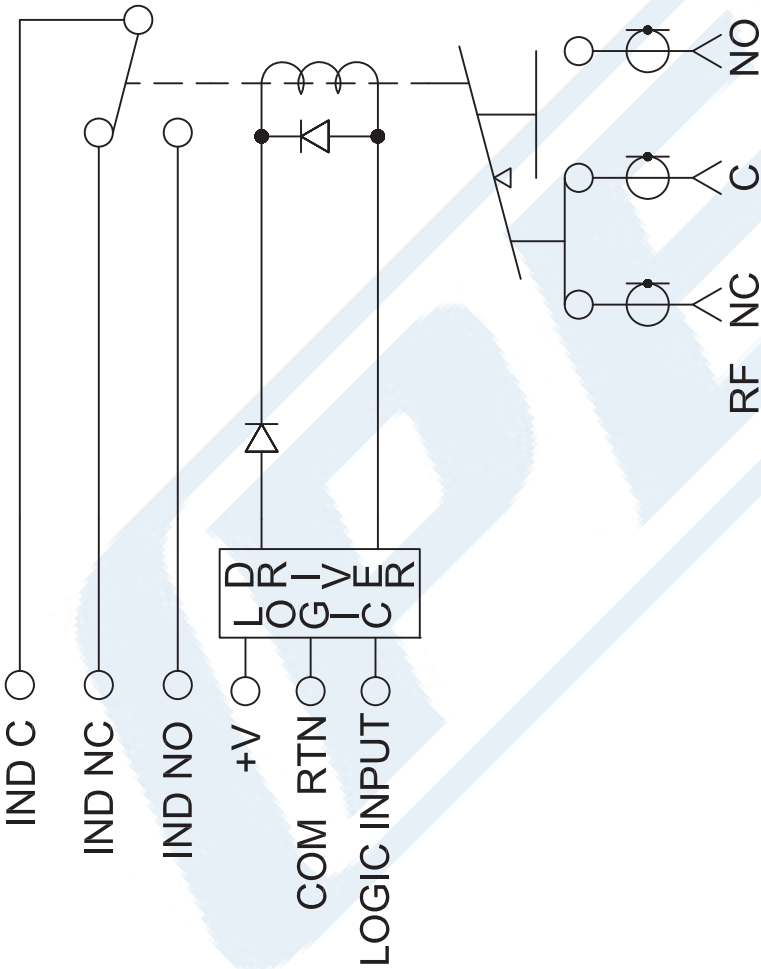
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SIZE A

150

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SCHEMATIC FAILSAFE SHOWN IN NORMALLY CLOSED POSITION

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Website: [www.pasternack.com](http://www.pasternack.com) | E-Mail: [sales@pasternack.com](mailto:sales@pasternack.com)