



SPDT Electromechanical Relay Latching Switch, Terminated,
 DC to 18 GHz, up to 90W, 24V, Indicators, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6406

Features

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 85 dB typical
- 5M Cycle Min Operating Life
- +24 Volt DC
- 90 Watt average Power
- Latching Actuator
- 1 Watt Indicators
- Internally Terminated
- -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 for 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 PE71S6406 is a Single Pole Double Throw (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 Latching actuator and is rated for 5M life cycles for high reliability operation. Impressive performance includes insertion loss less than 0.15 dB typical and isolation greater than 85 dB typical. The Latching actuator includes Indicators and a +24 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 Solder Pins 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

| | |
|--------------------|-----------------------------|
| Switch Type | SPDT, Terminated |
| Actuator Type | Latching |
| Switching Sequence | Break before Make |
| Actuator Options | Indicators |
| Indicator Rating | 1 Watts / 32 Volts / 125 mA |

| Description | Minimum | Typical | Maximum | Units |
|------------------------------|---------|---------|---------|-------|
| Frequency Range | DC | | 18 | GHz |
| Impedance | | 50 | | Ohms |
| Termination Impedance | | 50 | | Ohms |
| Operating Voltage | 22 | 24 | 26 | Volts |
| Actuating Current @ 24 Volts | | 110 | | mA |
| VSWR | | 1.2:1 | 1.4:1 | |
| Insertion Loss | | 0.15 | 0.35 | dB |
| Isolation | 65 | 85 | | dB |
| Input Power (CW) | | | 60 | Watts |
| Termination Input Power (CW) | | | 5 | 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 Latching Switch, Terminated, DC to 18 GHz, up to 90W, 24V, Indicators, SMA PE71S6406](#)



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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 | | | GHz |
| VSWR, Max | 1.2:1 | 1.3:1 | 1.4:1 | | | |
| Insertion Loss, Max | 0.15 | 0.25 | 0.35 | | | dB |
| Isolation, Min | 85 | 70 | 65 | | | dB |
| Input Power, Typ (CW) | 90 | 75 | 60 | | | Watts |

Mechanical Specifications

Size

Package Type Connectorized
Operating Life 5,000,000 Cycles

Connectors

RF Connector Type SMA Female
Control Connector Solder Pin

Environmental Specifications

Temperature

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

Shock

MIL-STD-202 Method 213, Cond. D 500G Non Operating

Vibration

MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

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

Plotted and Other Data

Notes:

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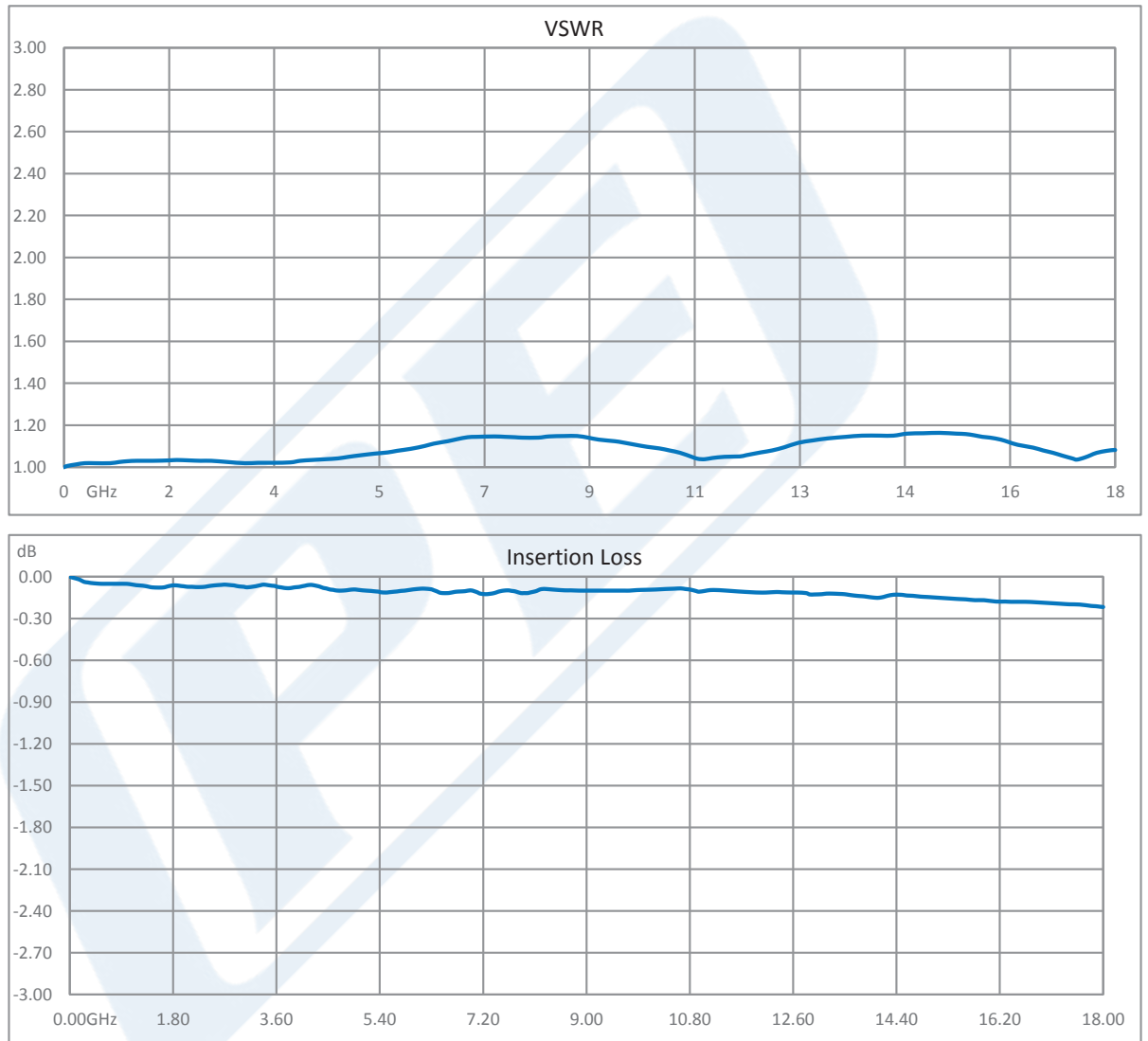


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Typical Performance Data



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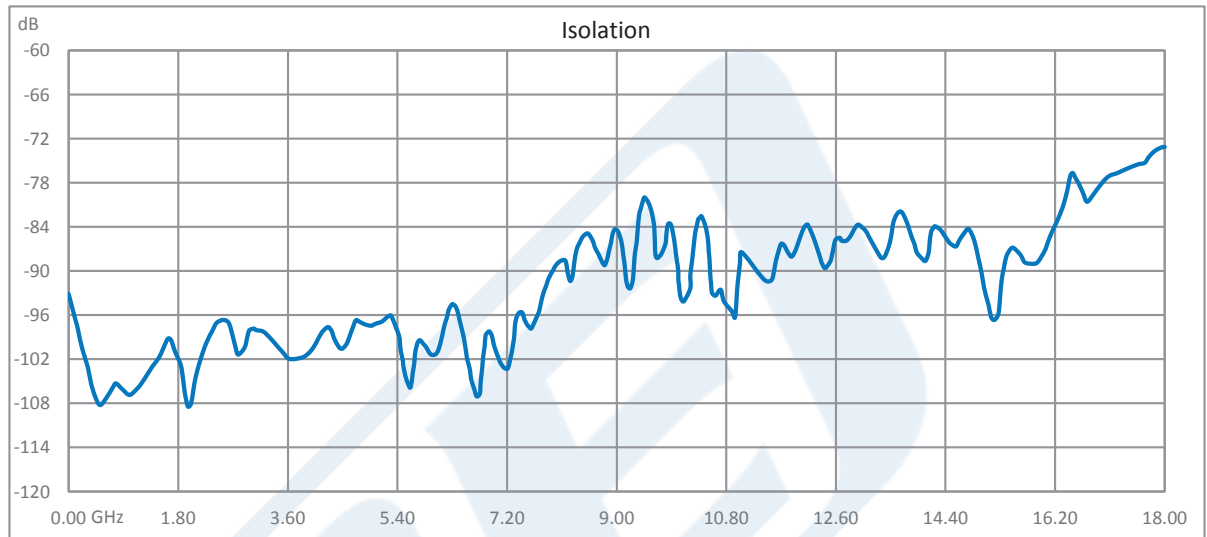




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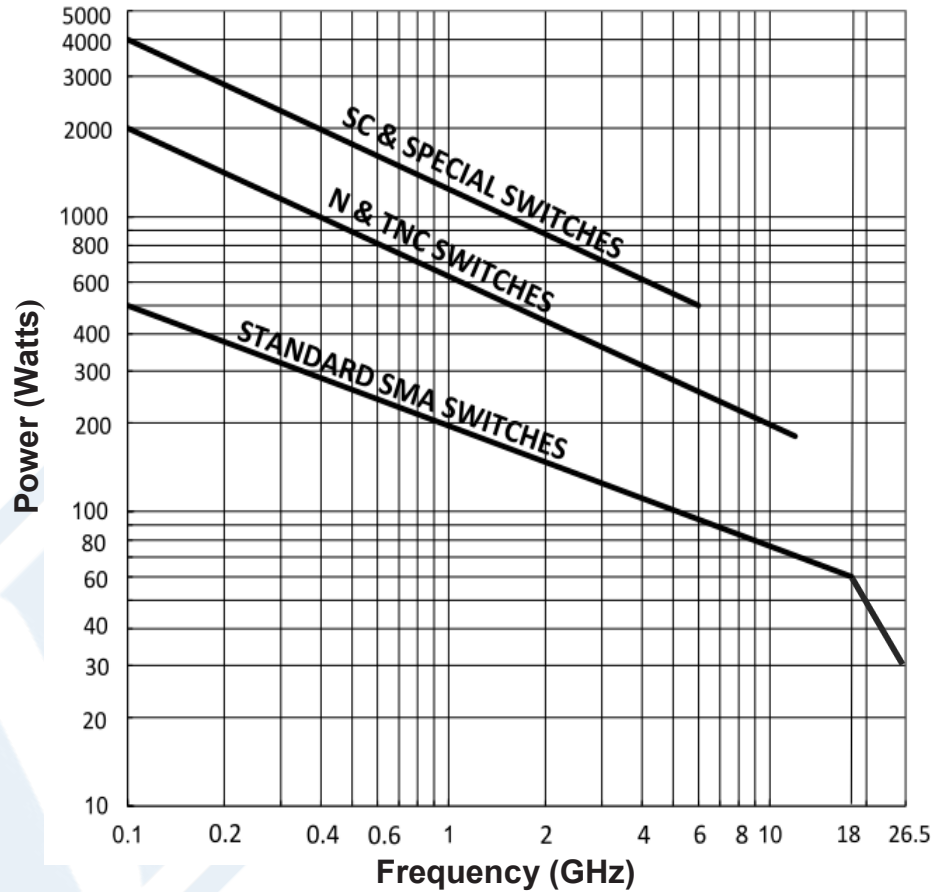


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Power Handling vs. Frequency & Connector Type



Environmental and Test Conditions:

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

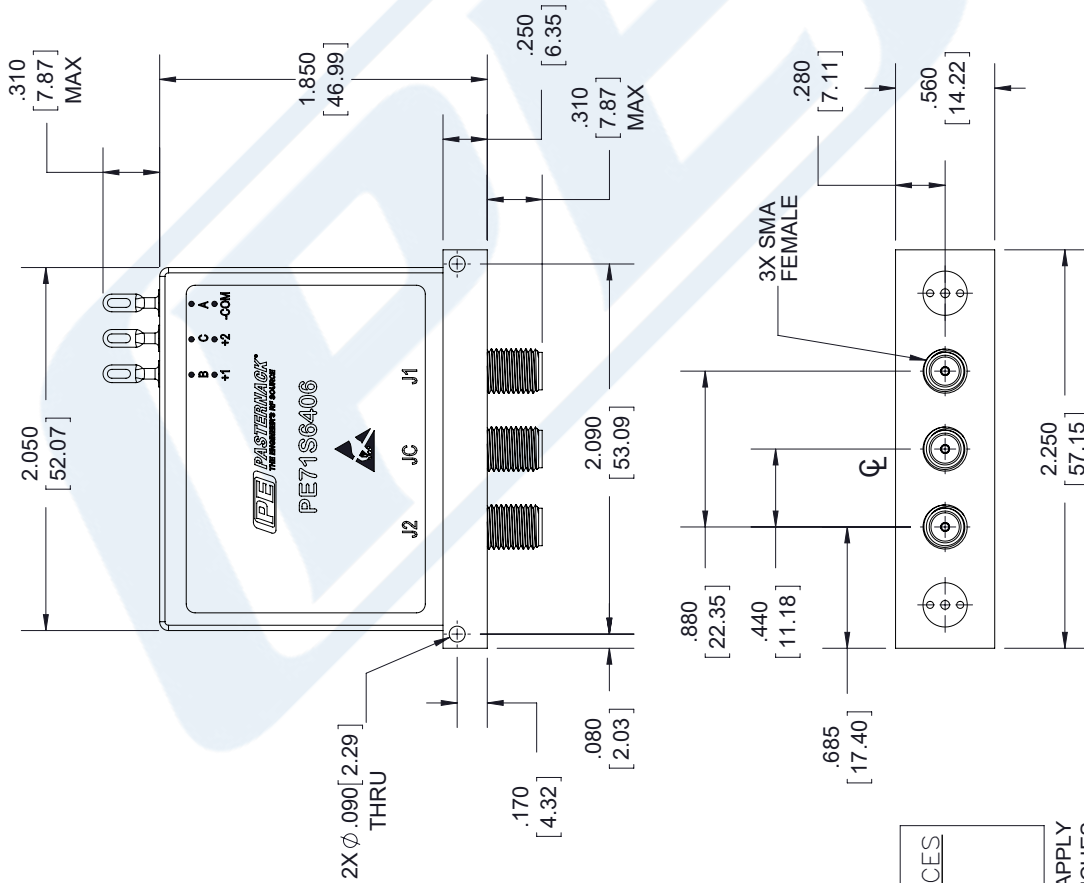
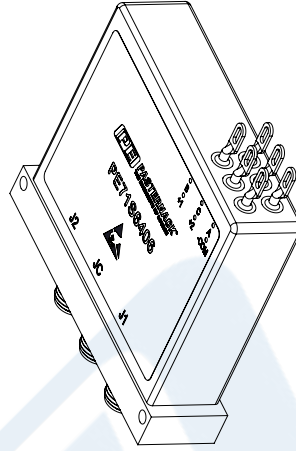
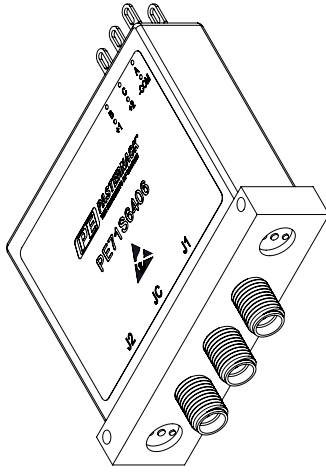
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PE71S6406 CAD Drawing

SPDT Electromechanical Relay Latching Switch, Terminated,
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6X SOLDER TERMINALS
SOLDER WIRE USING SN96,
MAXIMUM TEMP 250°C FOR
NO MORE THAN 5 SEC.



| STANDARD TOLERANCES | |
|---------------------|--------|
| .X | ±0.2 |
| .XX | ±0.01 |
| .XXX | ±0.005 |

*STANDARD TOLERANCES APPLY
ONLY TO DIMENSIONS IN INCHES

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].

DWG TITLE
PE71S6406

PE PASTERNAK®
THE ENGINEER'S RF SOURCE
Pasternack Enterprises, Inc.
P.O. Box 16759 | Irvine | CA | 92623
Phone: (949) 261-1920 | Fax: (949) 261-7451
Website: www.pasternack.com | E-Mail: sales@pasternack.com

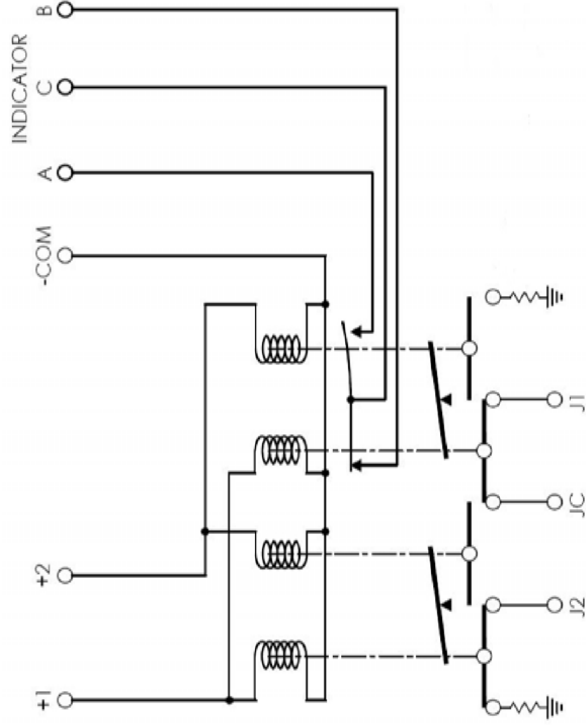
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CAGE CODE **53919**

SIZE A 7361

PE71S6406 CAD Drawing

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SCHEMATIC SHOWN IN LATCHING POSITION

| OPERATIONAL LOGIC TABLE | | | | | | |
|-------------------------|-----------|-----------|-----------|-----------|---------------|---------------|
| TERMINALS | RF PORTS | | INDICATOR | | TERMINATION | |
| | J1-JC | J2-JC | B-C | A-C | J2 TERMINATED | J1 TERMINATED |
| 1 2 | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | J2 TERMINATED | J1 TERMINATED |
| 0 0 | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE |
| 0 1 | OFF | ON | OFF | ON | OFF | ON |
| 1 0 | ON | OFF | ON | OFF | ON | OFF |
| 1 1 | FORBIDDEN | FORBIDDEN | FORBIDDEN | FORBIDDEN | FORBIDDEN | FORBIDDEN |

STANDARD TOLERANCES

.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



Pasternack Enterprises, Inc.
P.O. Box 16759 | Irvine | CA | 92623
Phone: (949) 261-1920 | Fax: (949) 261-7451
Website: www.pasternack.com | E-Mail: sales@pasternack.com

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