



SP6T Electromechanical Relay Latching Switch,
 Terminated, DC to 26.5 GHz, up to 90W, 12V, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6378

Features

- Single Pole Six Throw
- DC to 26.5 GHz Frequency Range
- Isolation greater than 80 dB typical
- 5M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Latching Actuator
- Internally Terminated
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.2 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- 15 Pin D-Sub Connector 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 PE71S6378 is a Single Pole Six Throw (SP6T) 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 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 80 dB typical. The Latching actuator has 50 Ohm Terminations and a +12 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 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

| | |
|--------------------|-------------------|
| Switch Type | SP6T, Terminated |
| Actuator Type | Latching |
| Switching Sequence | Break before Make |

| Description | Minimum | Typical | Maximum | Units |
|------------------------------|---------|---------|---------|--------|
| Frequency Range | DC | | 26.5 | GHz |
| Impedance | | 50 | | Ohms |
| Termination Impedance | | 50 | | Ohms |
| Operating Voltage | 11 | 12 | 13 | Volts |
| Actuating Current @ 12 Volts | | 200 | | mA |
| VSWR | | 1.2:1 | 1.7:1 | |
| Insertion Loss | | 0.15 | 0.7 | dB |
| Isolation | 70 | 80 | | dB |
| Input Power (CW) | | | 50 | Watts |
| Termination Input Power (CW) | | | 5 | 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: [SP6T Electromechanical Relay Latching Switch, Terminated, DC to 26.5 GHz, up to 90W, 12V, SMA PE71S6378](#)



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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 | 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 |
| Input Power, Typ (CW) | 90 | 75 | 60 | 50 | | Watts |

Mechanical Specifications

Size

| | |
|----------------|------------------|
| Package Type | Connectorized |
| Operating Life | 5,000,000 Cycles |

Connectors

| | |
|-------------------|--------------|
| RF Connector Type | SMA Female |
| Control Connector | 15 Pin D-Sub |

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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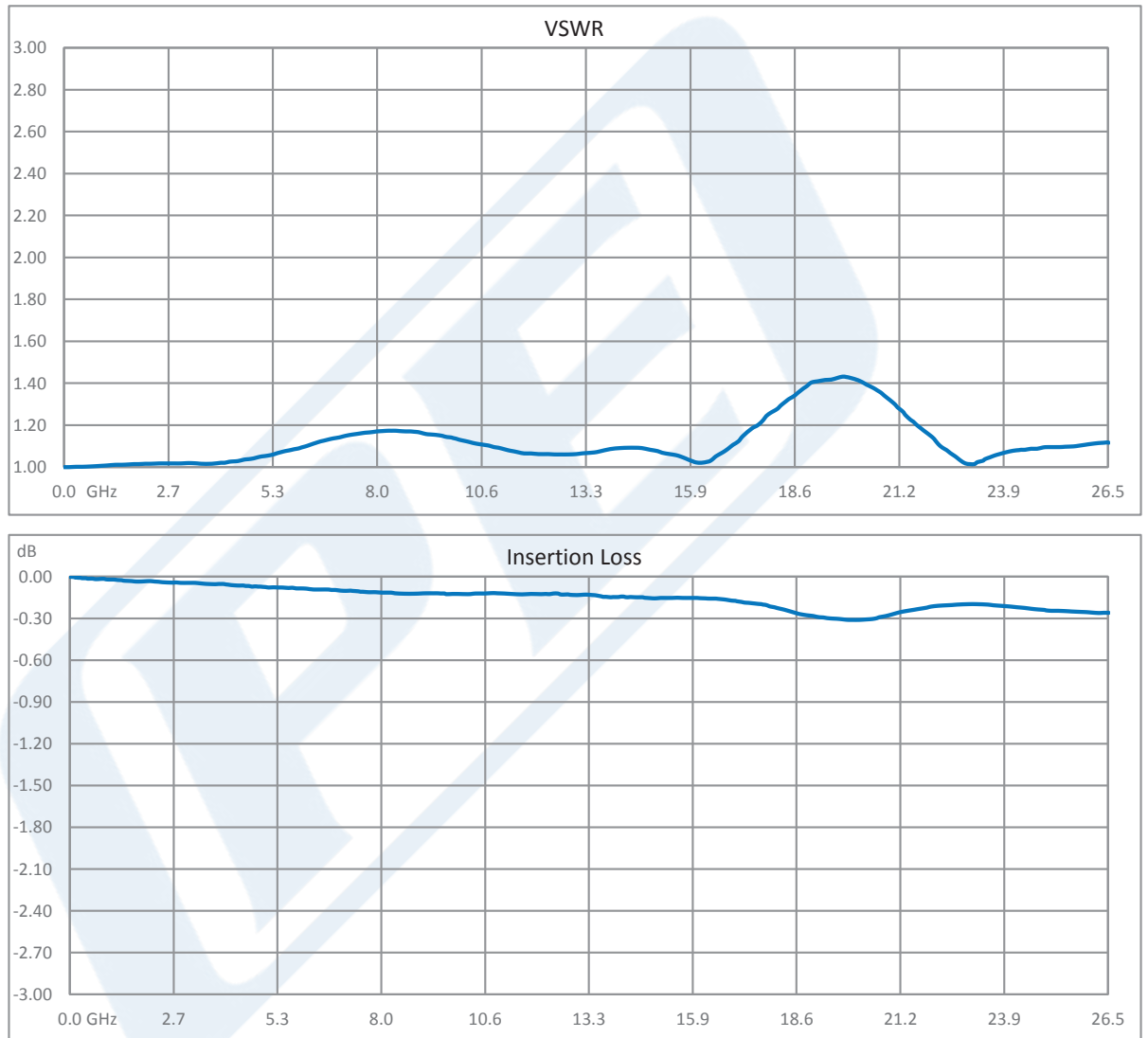


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Typical Performance Data



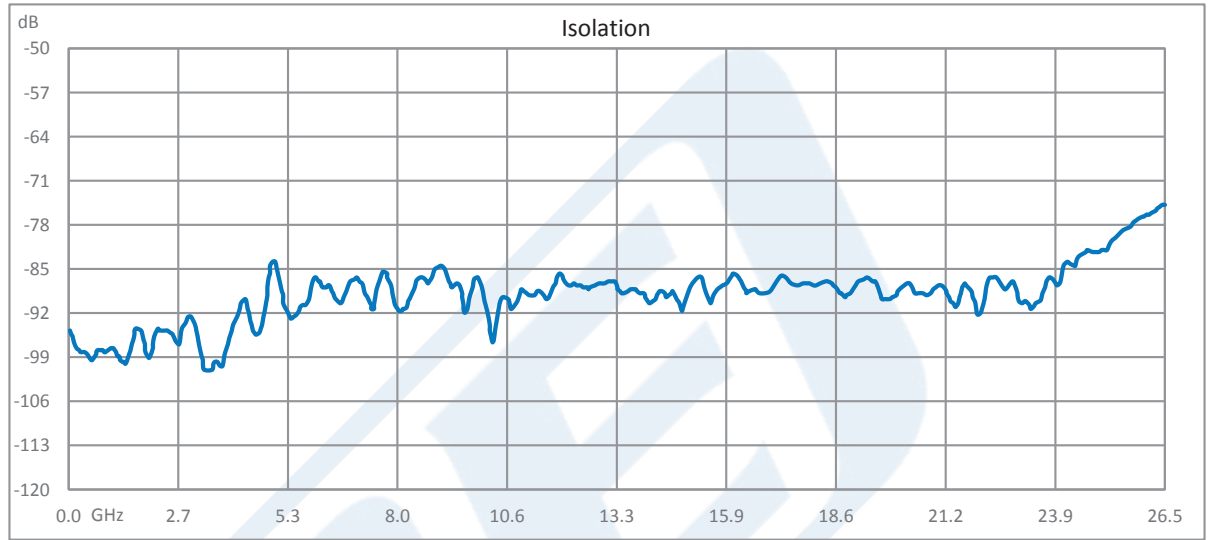
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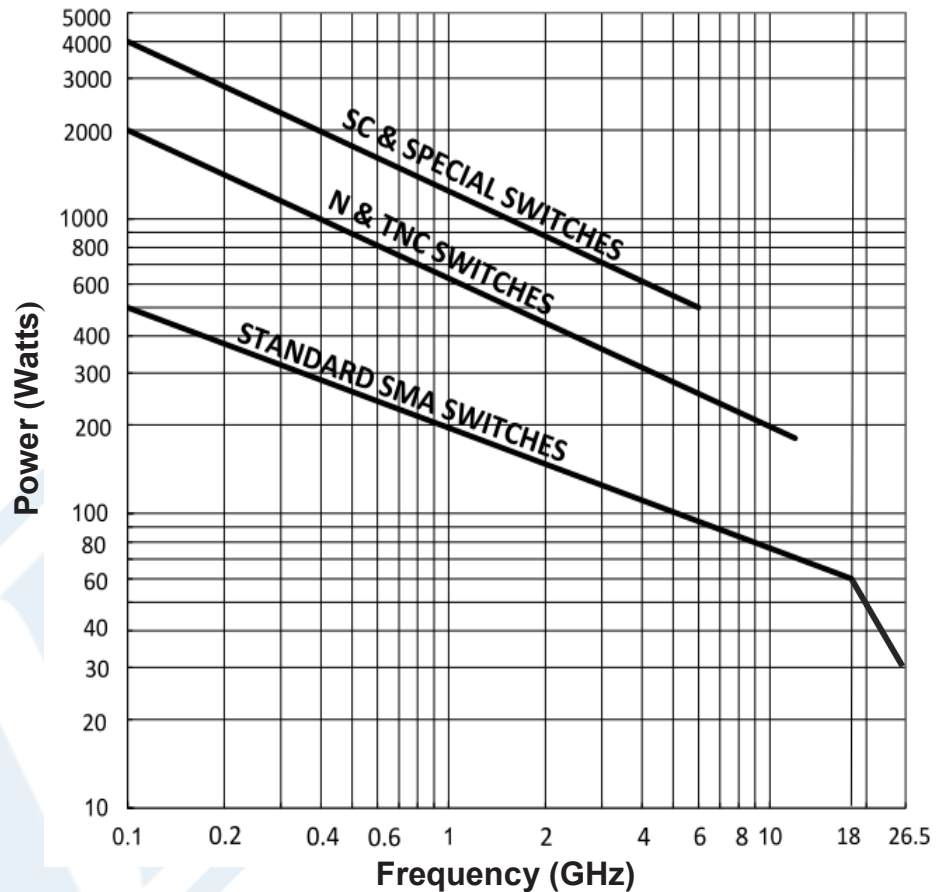


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Power Handling vs. Frequency & Connector Type



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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SP6T Electromechanical Relay Latching Switch, Terminated, DC to 26.5 GHz, up to 90W, 12V, 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.

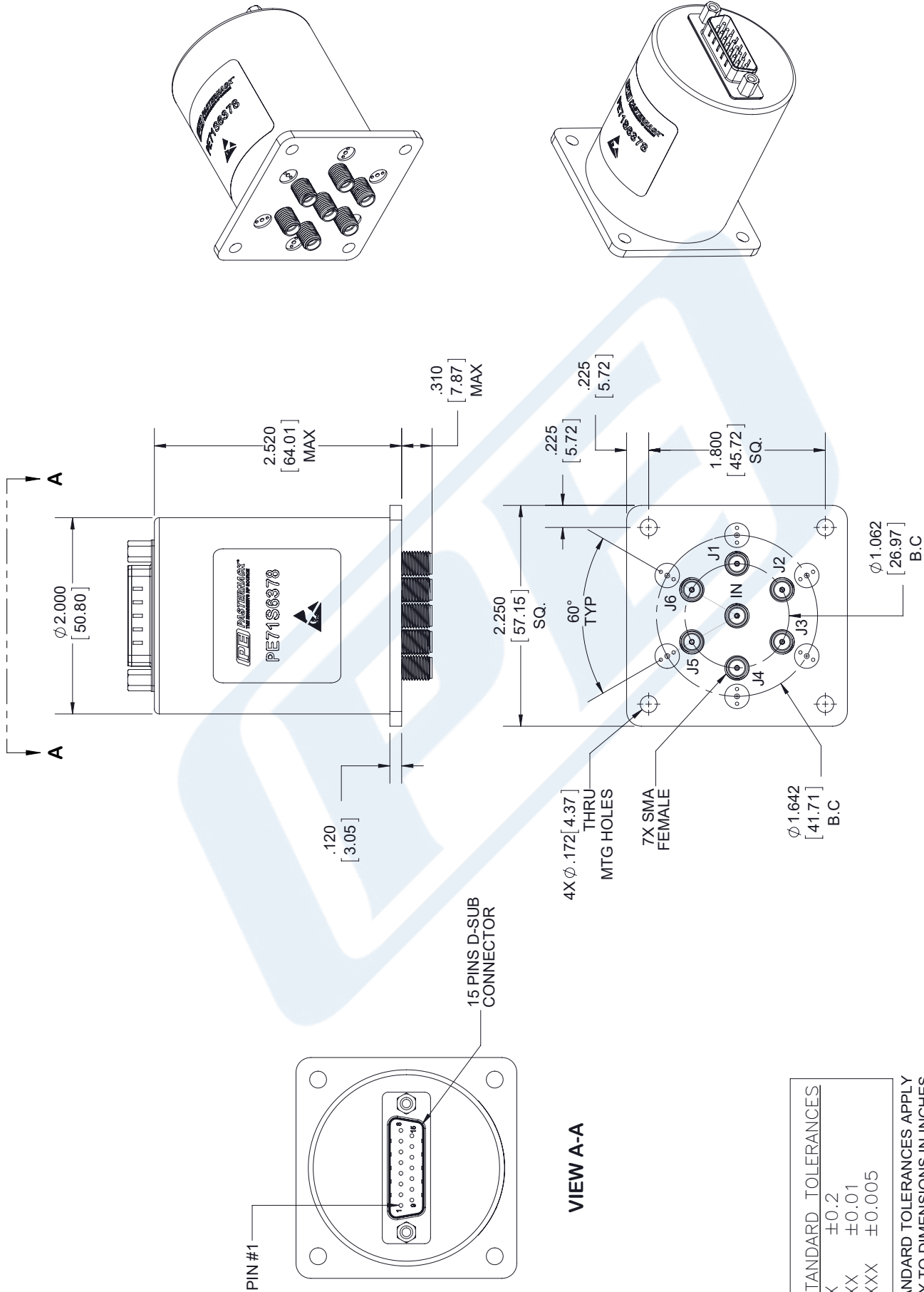
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

PE71S6378 CAD Drawing

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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].

DWG TITLE
PE71S6378

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CAD FILE 091117

CAGE CODE **53919**

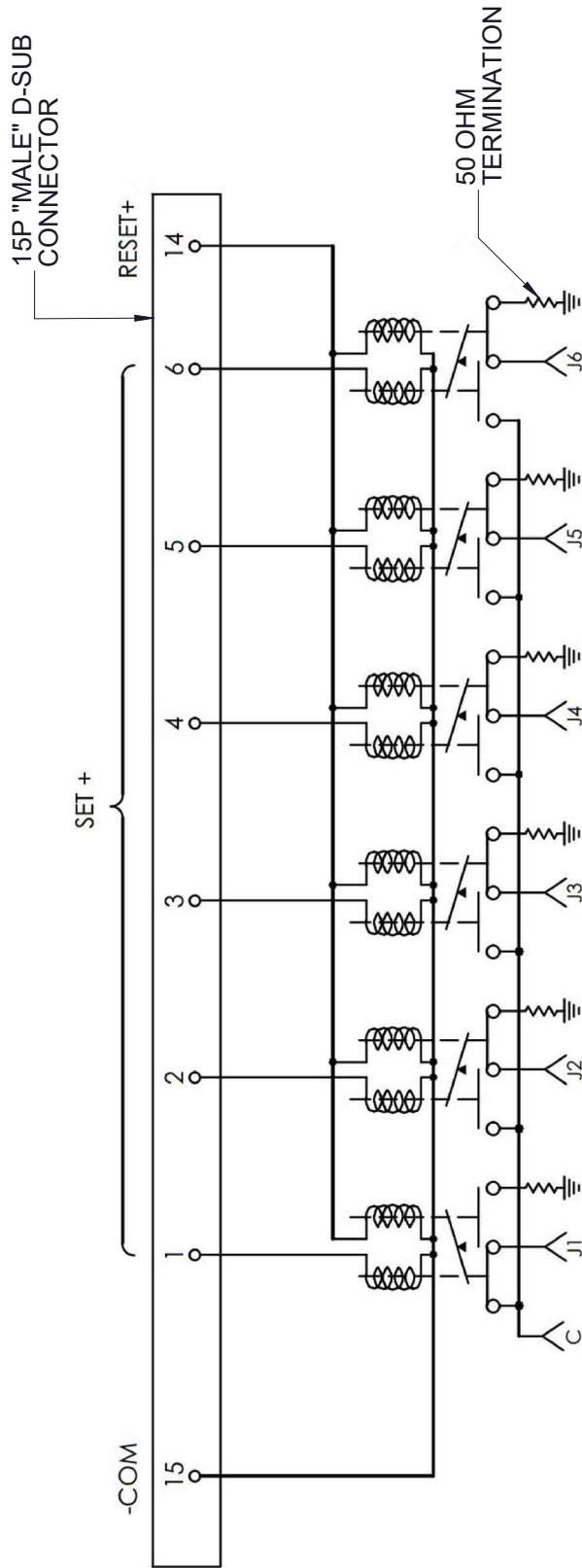
SCALE N/A

SIZE A

7361

PE71S6378 CAD Drawing

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SCHEMATIC SHOWN IN LATCHING POSITION

(COIL 1 SHOWN LAST ENERGIZED)

| TERMINALS D-SUB PIN ASSIGNMENT | RF PATH | | | | | |
|--------------------------------------|---------|-----|-----|-----|-----|-----|
| | J1 | J2 | J3 | J4 | J5 | J6 |
| 1 (SET+) | ON | OFF | OFF | OFF | OFF | OFF |
| 2 (SET+) | OFF | ON | OFF | OFF | OFF | OFF |
| 3 (SET+) | OFF | OFF | ON | OFF | OFF | OFF |
| 4 (SET+) | OFF | OFF | OFF | ON | OFF | OFF |
| 5 (SET+) | OFF | OFF | OFF | OFF | ON | OFF |
| 6 (SET+) | OFF | OFF | OFF | OFF | OFF | ON |
| 14 (RESET+) | ALL OFF | | | | | |

PIN 15. -COM

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

*STANDARD TOLERANCES APPLY
ONLY TO DIMENSIONS IN INCHES



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