



Transfer Electromechanical Relay Failsafe Switch,  
 DC to 12 GHz, up to 430W, 28V, N

## Electromechanical Relay Switches Technical Data Sheet

PE71S6385

### Features

- Transfer (DPDT)
- DC to 12 GHz Frequency Range
- Isolation greater than 80 dB typical
- 2M Cycle Min Operating Life
- +28 Volt DC
- 430 Watt average Power
- Failsafe Actuator
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.2 dB Max
- VSWR as low as 1.2:1 max
- N Female RF connectors
- 9 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 PE71S6385 is a Transfer (DPDT) electromechanical relay switch that operates across a wide frequency range of DC to 12 GHz and can handle up to 430 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. Insertion loss is specified from 0.7 dB maximum and Isolation from 60 dB minimum. 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 N Female connectors and a 9 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        | Transfer          |
| Actuator Type      | Failsafe          |
| Switching Sequence | Break before Make |

| Description                  | Minimum | Typical | Maximum | Units  |
|------------------------------|---------|---------|---------|--------|
| Frequency Range              | DC      |         | 12      | GHz    |
| Impedance                    |         | 50      |         | Ohms   |
| Operating Voltage            | 26      | 28      | 30      | Volts  |
| Actuating Current @ 28 Volts |         | 90      |         | mA     |
| VSWR                         |         | 1.2:1   | 1.7:1   |        |
| Insertion Loss               |         | 0.2     | 0.7     | dB     |
| Isolation                    | 60      | 80      |         | dB     |
| Input Power (CW)             |         |         | 200     | 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: [Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 430W, 28V, N PE71S6385](#)



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### Performance by Frequency

| Description           | F1      | F2     | F3     | F4      | F5 | Units |
|-----------------------|---------|--------|--------|---------|----|-------|
| Frequency Range       | DC to 2 | 2 to 4 | 4 to 8 | 8 to 12 |    | GHz   |
| VSWR, Max             | 1.2:1   | 1.4:1  | 1.5:1  | 1.7:1   |    |       |
| Insertion Loss, Max   | 0.2     | 0.4    | 0.5    | 0.7     |    | dB    |
| Isolation, Min        | 80      | 80     | 70     | 60      |    | dB    |
| Input Power, Typ (CW) | 430     | 300    | 230    | 200     |    | Watts |

### Mechanical Specifications

#### Size

|                |                  |
|----------------|------------------|
| Package Type   | Connectorized    |
| Operating Life | 2,000,000 Cycles |

#### Connectors

|                   |             |
|-------------------|-------------|
| RF Connector Type | N Female    |
| Control Connector | 9 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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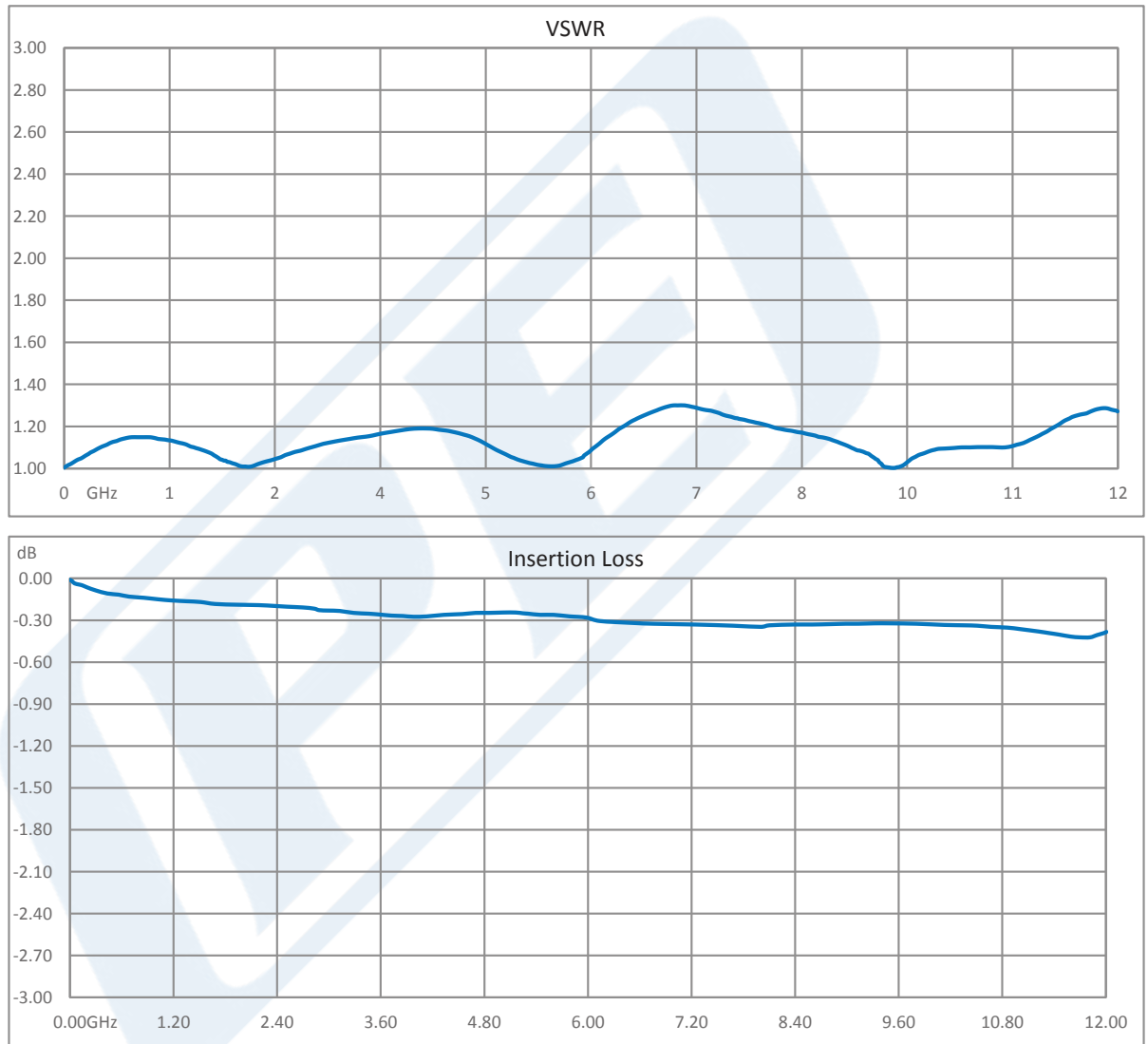


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Typical Performance Data



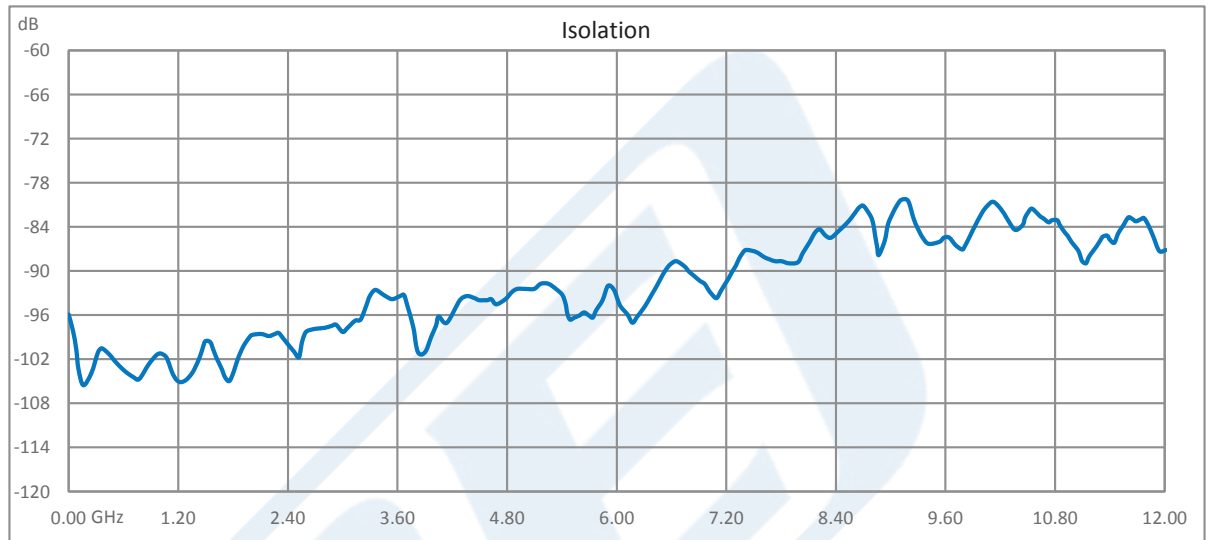
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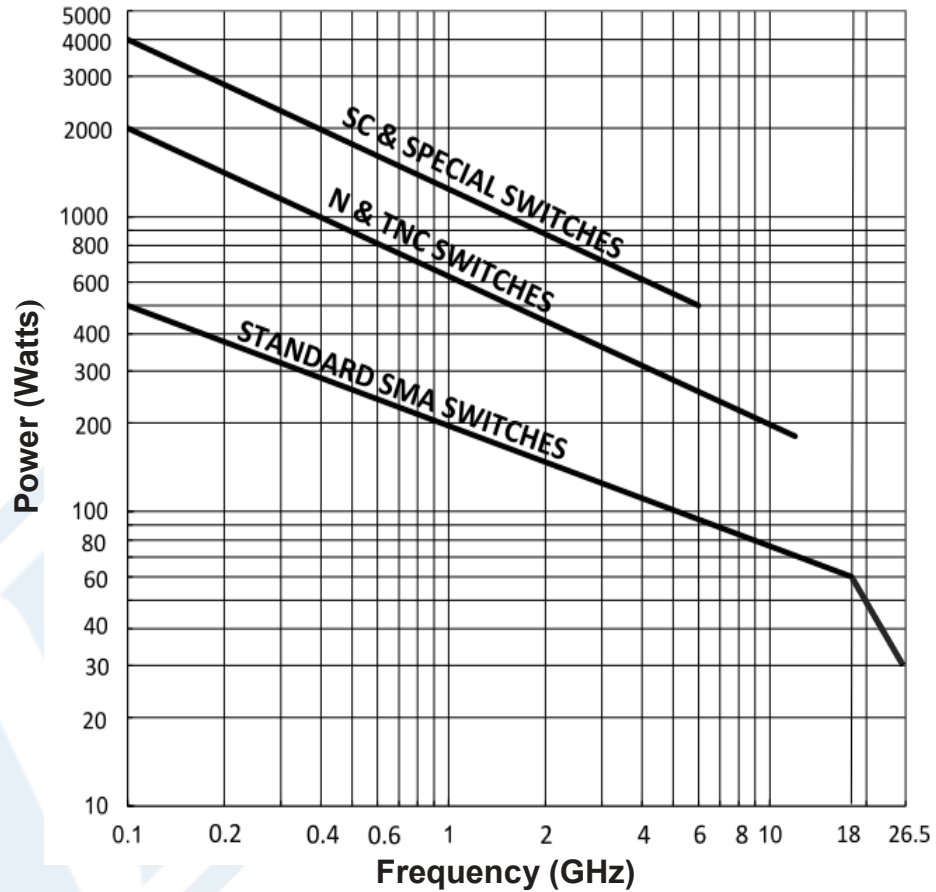


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**Power Handling vs. Frequency & Connector Type**



**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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Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 430W, 28V, N 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.

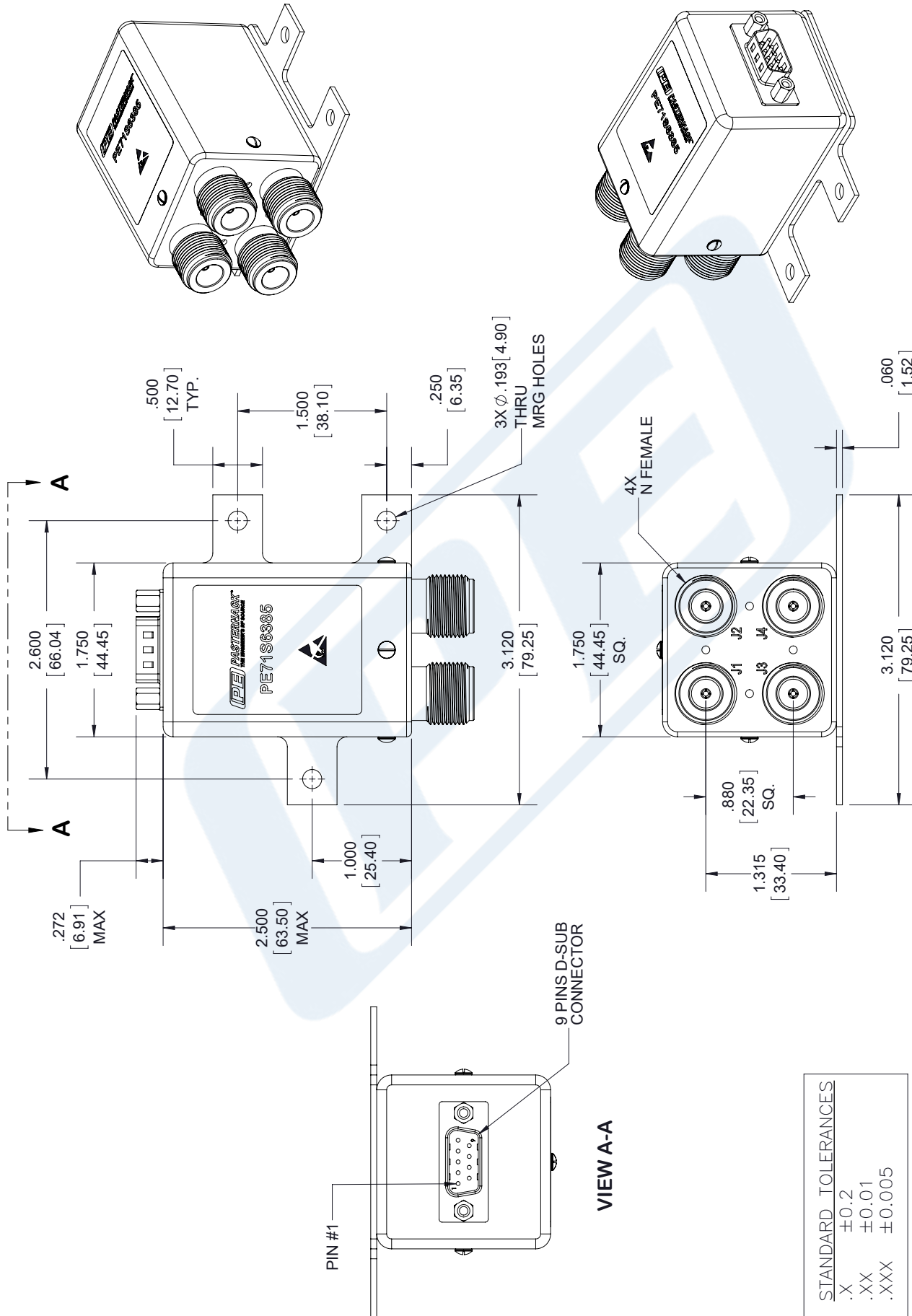
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

# PE71S6385 CAD Drawing

Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 430W, 28V, N



**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**  
 PE71S6385

**CAGE CODE** 53919

**SCALE** N/A

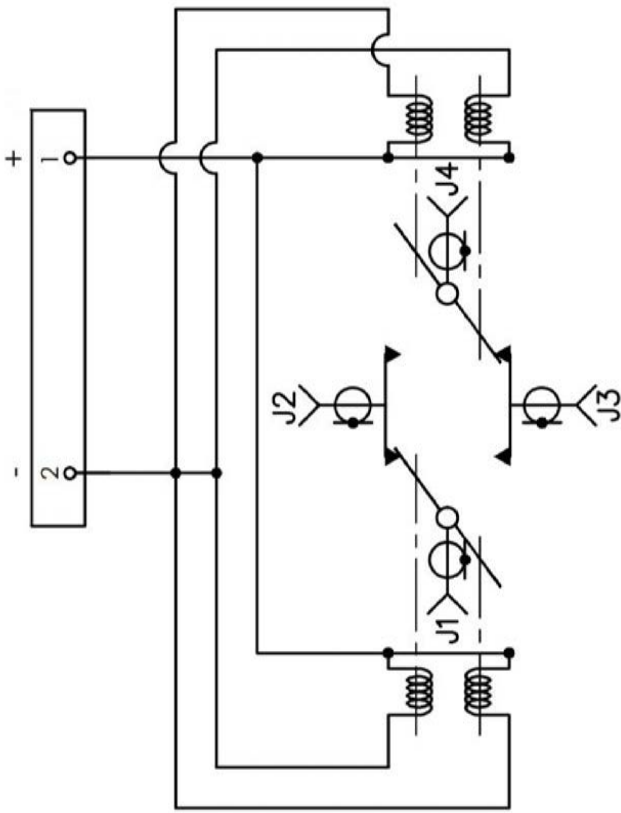
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**SIZE** A

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# PE71S6385 CAD Drawing

Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 430W, 28V, N



**SCHEMATIC SHOWN IN FAILSAFE POSITION**

|              |              |
|--------------|--------------|
| VOLTAGE      | RF PATH      |
| DE-ENERGIZED | J1-J2, J3-J4 |
| ENERGIZED    | J1-J3, J2-J4 |

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

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