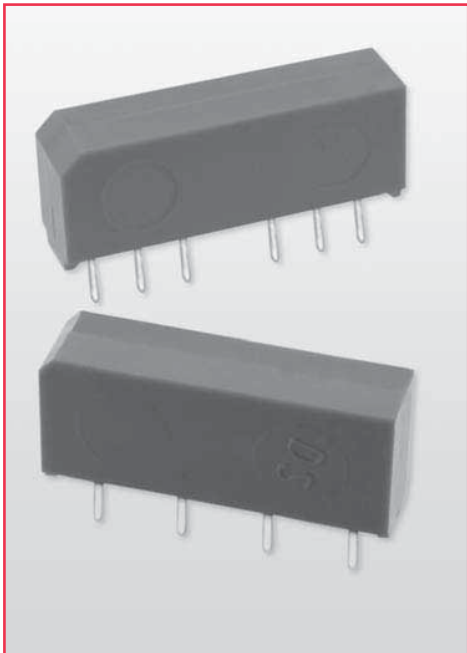


# 9000 Series / Molded SIP Reed Relays

**大豪电子**  
 电话: 0755-83233025  
<http://www.szdahao.com>  
<http://www.very-tec.com>



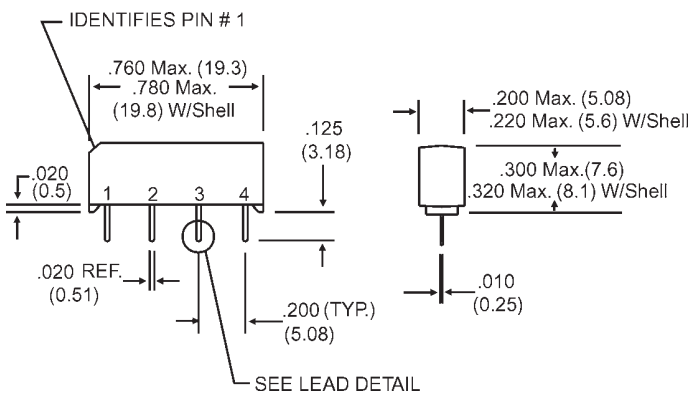
## High Performance SIP Reed Relays

The SIP relay is the industry standard when high reliability and consistent performance are desired in a compact package. The 9001 and 9002 are high performance relays ideally suited for Automatic Test Equipment, Instrumentation, RF and Telecommunications applications. The specification tables allow you to select the appropriate relay for your application.

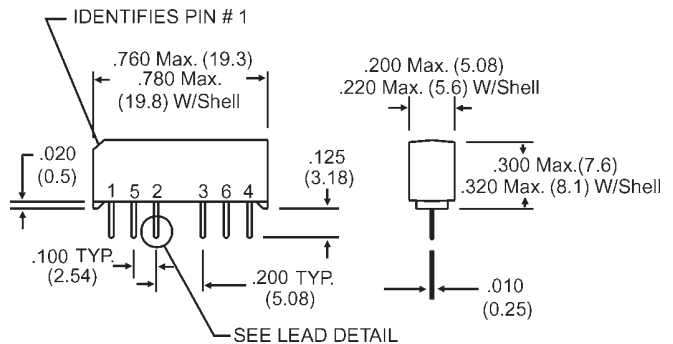
## Series Features

- ◆ High Insulation Resistance -  $10^{12} \Omega$  minimum ( $10^{13} \Omega$  typical)
- ◆ High reliability, hermetically sealed contacts for long life (tested to 1 Billion Operations)
- ◆ High dielectric strength available, consult factory
- ◆ High speed switching compared to electromechanical relays
- ◆ Molded thermoset body on integral lead frame design
- ◆ Coaxial Shield for 50  $\Omega$  impedance and switching of fast rise time digital pulses - 9002 only
- ◆ Optional Coil Suppression Diode - protects coil drive circuits
- ◆ UL File # E67117, CSA File # LR 28537

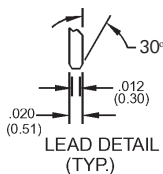
### Model 9001



### Model 9002



*Dimensions in Inches (Millimeters)*

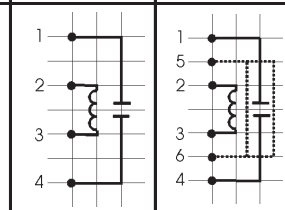


## Ordering Information

|                               |  |
|-------------------------------|--|
| <b>Part Number</b>            | <b>90XX-XX-XX</b>  |
| <b>Model Number</b>           | 9001 9002  |
| <b>Coil Voltage</b>           | 05=5 volts 12=12 volts   |
| <b>Magnetic Shield Option</b> | 0=No Shield<br>1=Shield  |
| <b>General Options</b>        | 0=No Diode<br>1=Diode <sup>2</sup><br>2=Form B Contacts (Normally Closed <sup>3</sup> )<br>(9001 & 9002 Models, 5V only) |

# 9000 Series / Molded SIP Reed Relays

| Model Number                               |   |                        | 9001 <sup>2</sup> | 9002 <sup>2</sup> |
|--|---|------------------------|-------------------|-------------------|
| Parameters                                 | Test Conditions                                 | Units                  | 4 Pin SIP         | 6 Pin SIP         |
| <b>COIL SPECS.</b>                         |   |                        |                   |                   |
| Nom. Coil Voltage                          |   | VDC                    | 5 12              | 5 12              |
| Max. Coil Voltage                          |   | VDC                    | 6.5 15.0          | 6.5 15.0          |
| Coil Resistance                            | +/- 10%, 25° C                                  | Ω                      | 500 1000          | 350 750           |
| Operate Voltage                            | Must Operate by                                 | VDC - Max.             | 3.75 9.0          | 3.75 9.0          |
| Release Voltage                            | Must Release by                                 | VDC - Min.             | 0.4 1.0           | 0.4 1.0           |
| <b>CONTACT RATINGS</b>                     |   |                        |                   |                   |
| Switching Voltage                          | Max DC/Peak AC Resist.                          | Volts                  | 200               | 200               |
| Switching Current                          | Max DC/Peak AC Resist.                          | Amps                   | 0.5               | 0.5               |
| Carry Current                              | Max DC/Peak AC Resist.                          | Amps                   | 1.5               | 1.5               |
| Contact Rating                             | Max DC/Peak AC Resist.                          | Watts                  | 10                | 10                |
| Life Expectancy-Typical <sup>1</sup>       | Signal Level 1.0V, 10.0mA                       | x 10 <sup>6</sup> Ops. | 1000              | 1000              |
| Static Contact Resistance (max. init.)     | 50mV, 10mA                                      | Ω                      | 0.150             | 0.150             |
| Dynamic Contact Resistance (max. init.)    | 0.5V, 50mA at 100 Hz, 1.5 msec                  | Ω                      | 0.200             | 0.200             |
| <b>RELAY SPECIFICATIONS</b>                |   |                        |                   |                   |
| Insulation Resistance (minimum)            | Between all Isolated Pins at 100V, 25°C, 40% RH | Ω                      | 10 <sup>12</sup>  | 10 <sup>12</sup>  |
| Capacitance - Typical Across Open Contacts | No Shield                                       | pF                     | 0.7               | -                 |
|  | Shield Floating                                 | pF                     | -                 | 0.8               |
|  | Shield Guarding                                 | pF                     | -                 | 0.1               |
| Open Contact to Coil                       | No Shield                                       | pF                     | 1.4               | -                 |
|  | Shield Floating                                 | pF                     | -                 | 1.4               |
|  | Shield Guarding                                 | pF                     | -                 | 0.5               |
| Contact to Shield                          | Contacts Open, Shield Floating                  | pF                     | -                 | 1.4               |
| Dielectric Strength (minimum)              | Between Contacts                                | VDC/peak AC            | 300               | 300               |
|  | Contacts to Shield                              | VDC/peak AC            | -                 | 1500              |
|  | Contacts/Shield to Coil                         | VDC/peak AC            | 1500              | 1500              |
| Operate Time - including bounce - Typical  | At Nominal Coil Voltage, 30 Hz Square Wave      | msec.                  | 0.35              | 0.35              |
| Release Time - Typical                     | Zener-Diode Suppression <sup>4</sup>            | msec.                  | 0.1               | 0.1               |



Top View:  
Dot stamped on relay refers to pin #1  
Grid = .1"x.1"  
(2.54mm x 2.54mm)

## Notes:

<sup>1</sup>Consult factory for life expectancy at other switching loads.

<sup>2</sup>Optional diode is connected to pin #2 (+) and pin #3(-). Correct coil polarity must be observed.

<sup>3</sup>9000 series part numbers designated with Form B contacts, these relays contain bias magnets. Correct coil polarity must be observed.

<sup>4</sup>Consists of 56V Zener diode and 1N4148 diode in series, connected in parallel with coil.

## Environmental Ratings:

Storage Temp: -35°C to +100°C; Operating Temp: -20°C to +85°C  
Solder Temp: 270°C max; 10 sec. max

The operate and release voltage and the coil resistance are specified at 25°C. These values vary by approximately 0.4%/°C as the ambient temperature varies.

Vibration: 20 G's to 2000 Hz; Shock: 50 G's