

# REED SWITCH

## ORD228VL

General Purpose Miniature (Medium-level Load 100 V Max.)

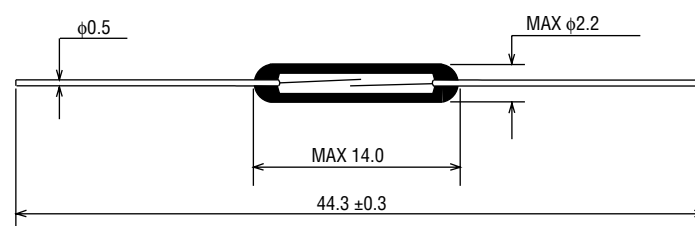
### GENERAL DESCRIPTION

The ORD228VL is a small single-contact reed switch designed for general control of medium-level loads less than 100 V. The contacts are sealed within the glass tube with inert gas to maintain contact reliability.

### Features

- (1) Reed contacts are hermetically sealed within a glass tube with inert gas and do not receive any influence from the external atmospheric environment.
- (2) Quick response
- (3) The structure comprises an operating system and electrical circuits coaxially. Reed switches are suited to applications in radio frequency.
- (4) Reed switches are compact and light weight.
- (5) Superior corrosion resistance and wear resistance of the contacts assures stable switching operation and long life.
- (6) With a permanent magnet installed, reed switches economically and easily become proximity switches.

### External Dimensions (Unit:mm)



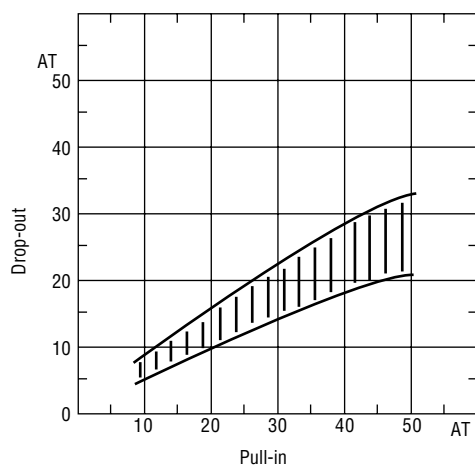
### APPLICATIONS OF REED SWITCHES

1. Automotive electronic devices
2. Control equipment
3. Communication equipment
4. Measurement equipment
5. Household appliances

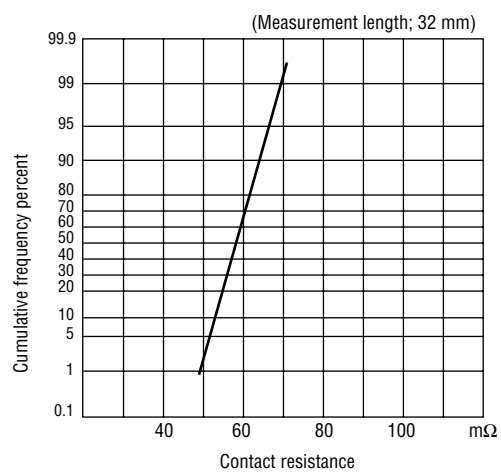
## ELECTRICAL CHARACTERISTICS

| Parameter                 | Symbol | Condition | Rated Value     |      |                                 | Unit |
|---------------------------|--------|-----------|-----------------|------|---------------------------------|------|
|                           |        |           | Min.            | Typ. | Max.                            |      |
| Pull-in Value             | PI     | —         | 10              | —    | 45                              | AT   |
| Drop-out Value            | DO     | —         | 5               | —    | —                               | AT   |
| Contact Resistance        | CR     | —         | —               | —    | 100                             | mΩ   |
| Breakdown Voltage         | —      | PI>20     | 200             | —    | —                               | VDC  |
| Breakdown Voltage         | —      | PI<20     | 150             | —    | —                               | VDC  |
| Insulation Resistance     | —      | —         | 10 <sup>9</sup> | —    | —                               | Ω    |
| Electrostatic Capacitance | —      | —         | —               | —    | 0.3                             | pF   |
| Contact Rating            | —      | —         | —               | —    | 10                              | VA   |
| Maximum Switching Voltage | —      | —         | —               | —    | 100 <sub>AC</sub> <sup>DC</sup> | V    |
| Maximum Switching Current | —      | —         | —               | —    | 0.5                             | A    |
| Maximum Carry Current     | —      | —         | —               | —    | 1.0                             | A    |

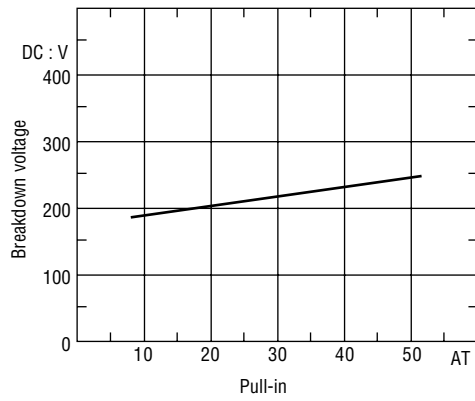
(1) Drop-out vs. Pull-in



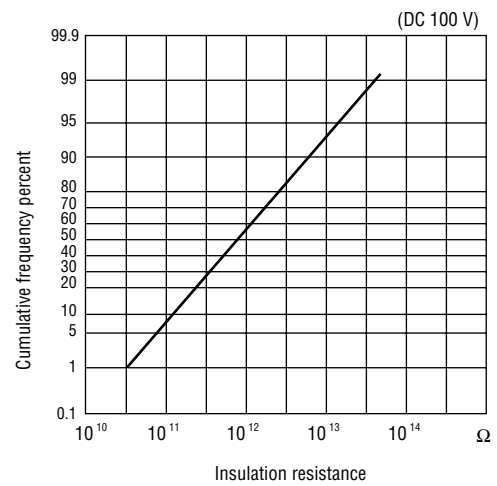
(2) Contact resistance



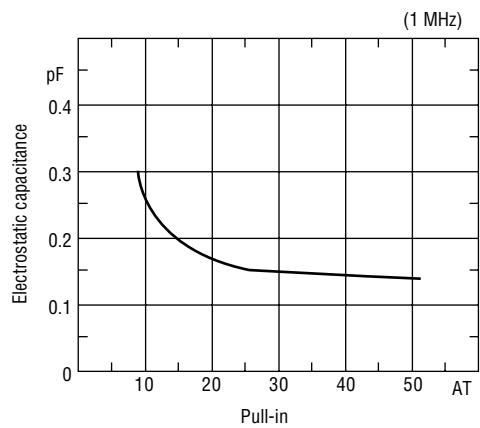
(3) Breakdown voltage



(4) Insulation resistance



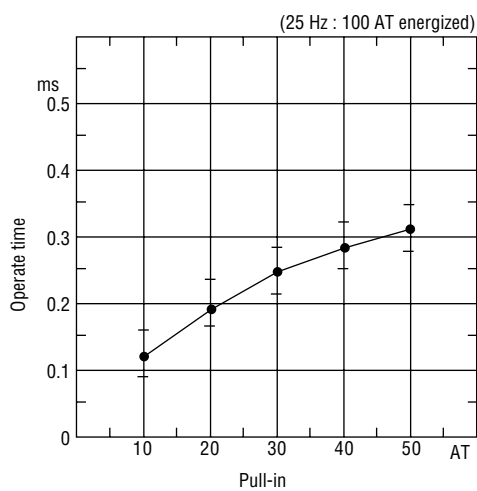
(5) Electrostatic capacitance



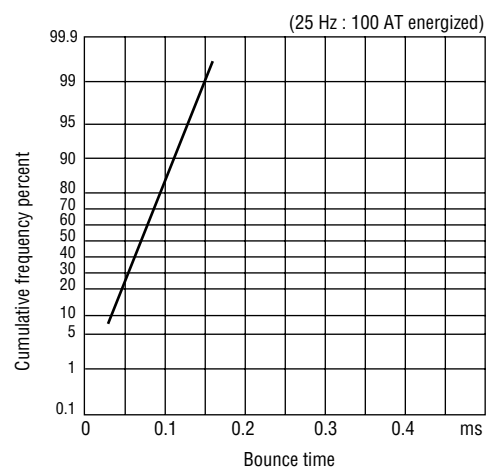
## OPERATING CHARACTERISTICS

| Parameter                   | Rated Value |      |      | Unit |
|-----------------------------|-------------|------|------|------|
|                             | Min.        | Typ. | Max. |      |
| Operate Time                | —           | —    | 0.4  | ms   |
| Bounce Time                 | —           | —    | 0.3  | ms   |
| Release Time                | —           | —    | 0.05 | ms   |
| Resonant Frequency          | 4600        | 5000 | 5400 | Hz   |
| Maximum Operating Frequency | —           | —    | 500  | Hz   |

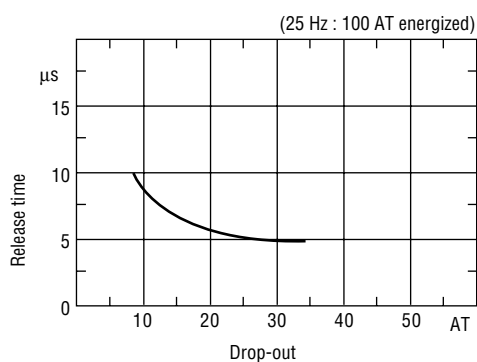
(1) Operate time



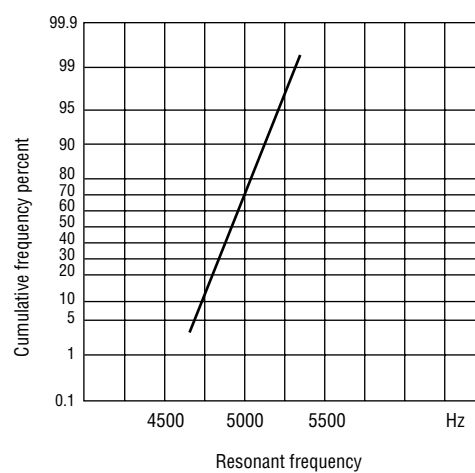
(2) Bounce time



(3) Release time

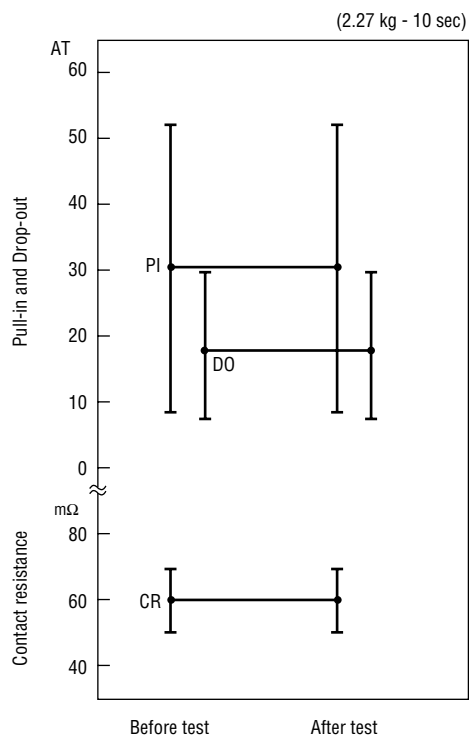


(4) Resonant frequency

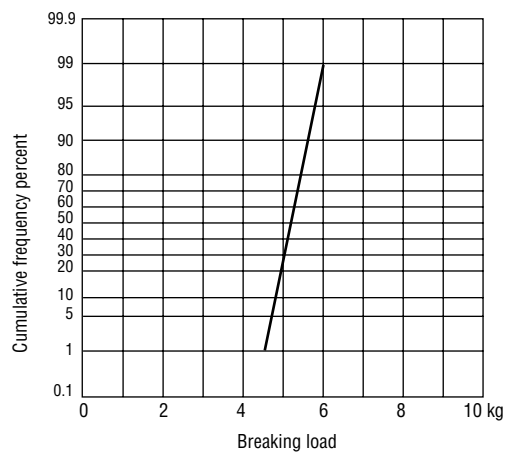


## MECHANICAL CHARACTERISTICS

### (1) Lead tensile test (static load)

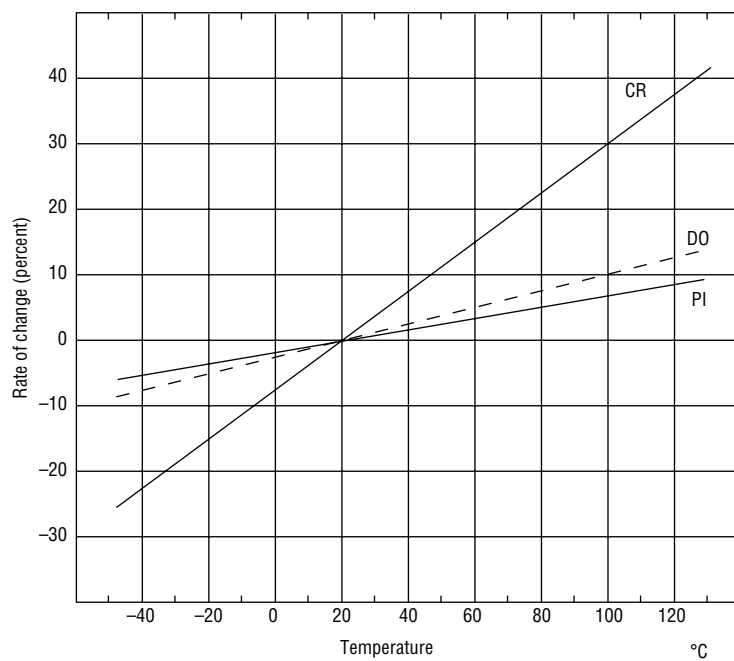


### (2) Lead tensile strength

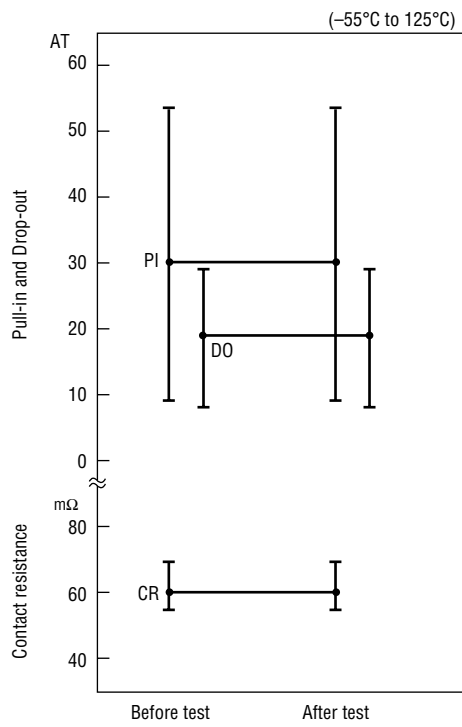


## ENVIRONMENTAL CHARACTERISTICS

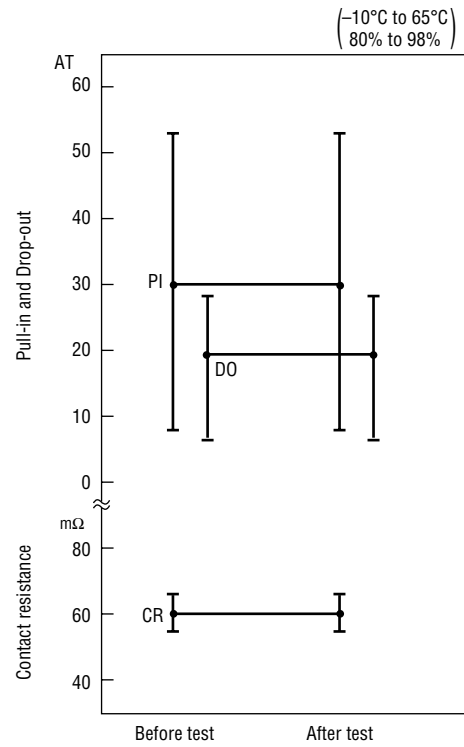
### (1) Temperature characteristics



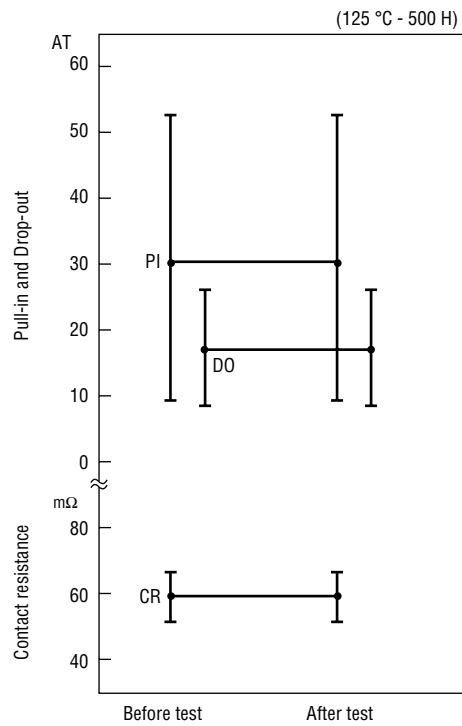
(2) Temperature cycle



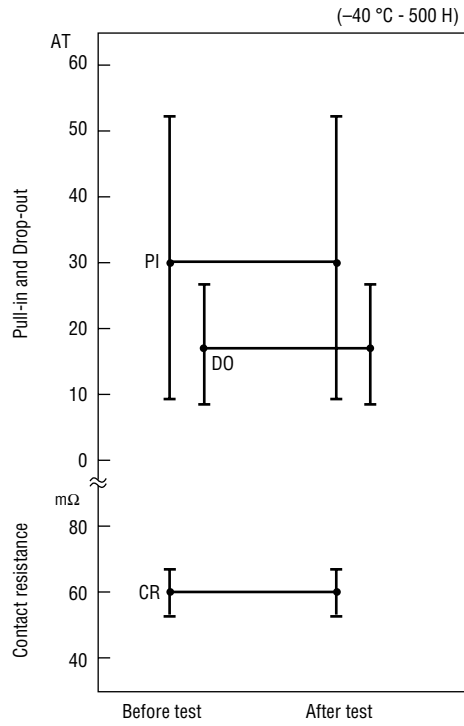
(3) Temperature and humidity cycle



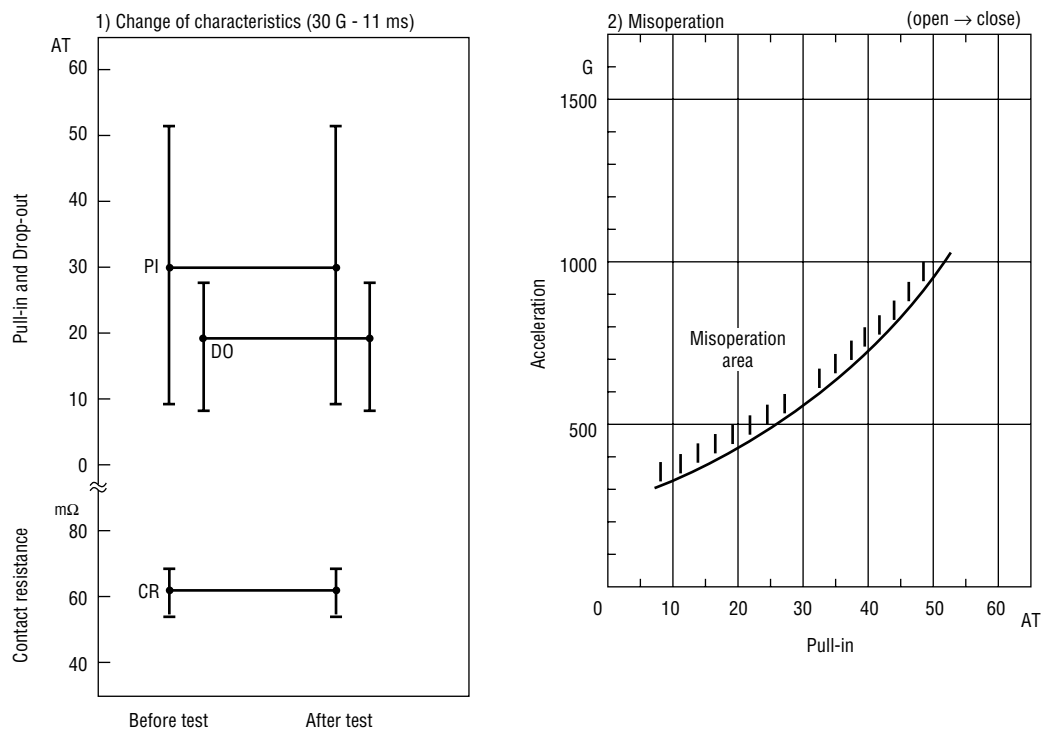
(4) High temperature storage test



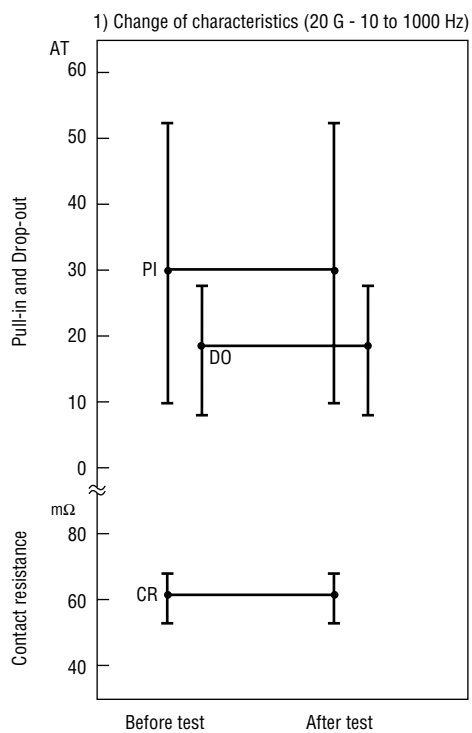
(5) Low temperature storage test



## (6) Shock test



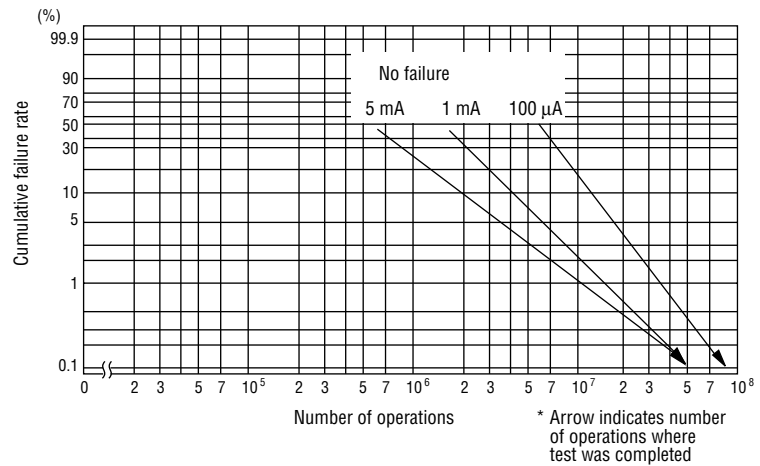
## (7) Vibration test



## LIFE EXPECTANCY DATA: ORD228VL

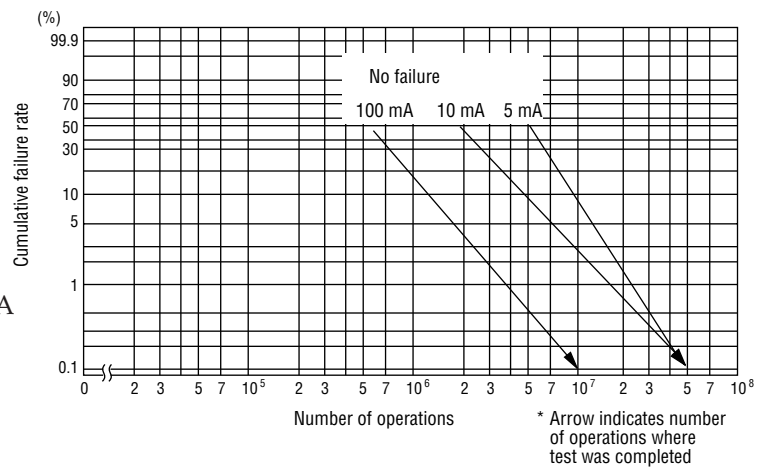
## Load conditions

Voltage : 5 VDC  
Current : 100  $\mu$ A, 1 mA, 5 mA  
Load : Resistive load



## Load conditions

Voltage : 12 VDC  
Current : 5 mA, 10 mA, 100 mA  
Load : Resistive load



## Load conditions

Voltage : 24 VDC  
Current : 100 mA, 200 mA, 400 mA  
Load : Resistive load

