

# REED SWITCH

## ORD312

High Power Long Life

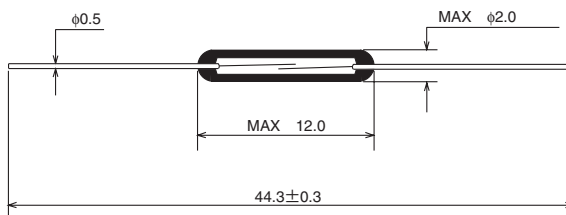
### ■ GENERAL DESCRIPTION

The ORD312 is a small single-contact reed switch designed for general control of medium level loads less than 200 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 the operating parts and electrical circuits arranged coaxially. Reed switches are suited to applications in radio frequency operation.
- (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

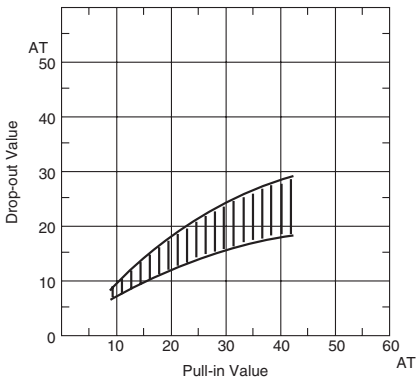
- Automotive electronic devices
- Control equipment
- Communication equipment
- Measurement equipment
- Household appliances

■ ELECTRICAL CHARACTERISTICS

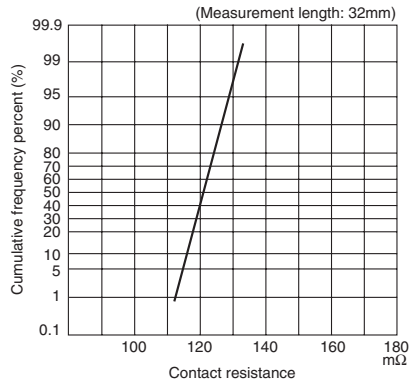
| Parameter                 | Rated value         | Unit |
|---------------------------|---------------------|------|
| Pull-in Value (PI)        | 10~30               | AT   |
| Drop-out Value (DO)       | 5min                | AT   |
| Contact resistance (CR)   | 100max              | mΩ   |
| Breakdown voltage         | 250min              | VDC  |
| Insulation resistance     | 10 <sup>9</sup> min | Ω    |
| Electrostatic capacitance | 0.3max              | pF   |
| Contact rating            | 30                  | VA   |
| Maximum switching voltage | 200DC 100AC         | V    |
| Maximum switching current | 0.5                 | A    |
| Maximum carry current     | 1.0                 | A    |

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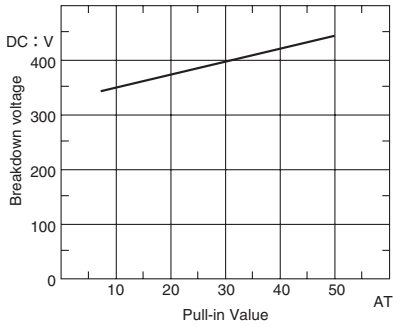
(1) Drop-out Value vs. Pull-in Value



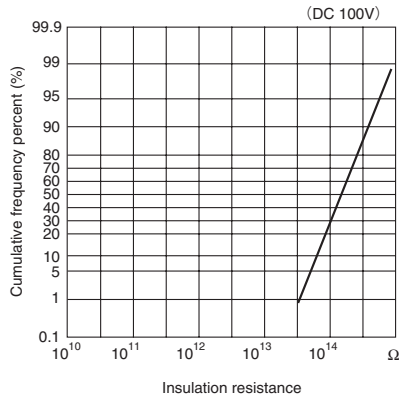
(2) Contact resistance



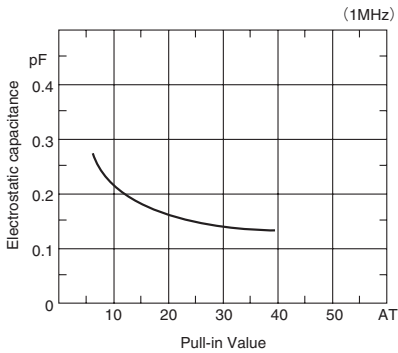
(3) Breakdown voltage



(4) Insulation resistance



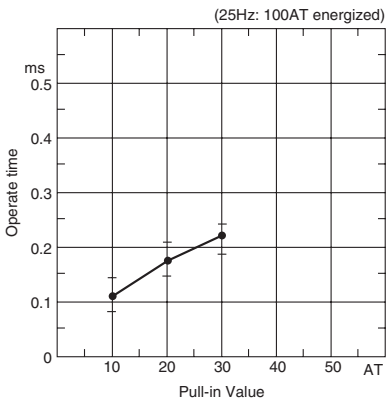
(5) Electrostatic capacitance



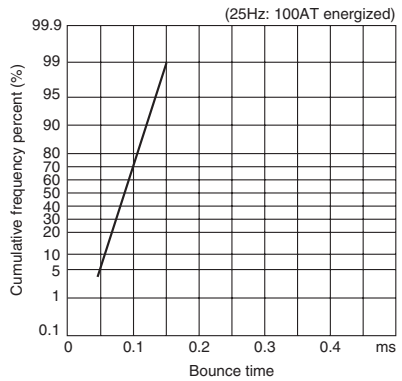
■ OPERATING CHARACTERISTICS

| Parameter                   | Rated value | Unit |
|-----------------------------|-------------|------|
| Operate time                | 0.4max      | ms   |
| Bounce time                 | 0.3max      | ms   |
| Release time                | 0.05max     | ms   |
| Resonant frequency          | 5900±400    | Hz   |
| Maximum operating frequency | 500         | Hz   |

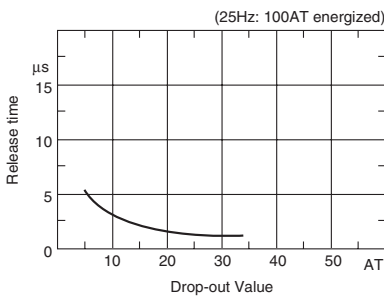
(1) Operate time



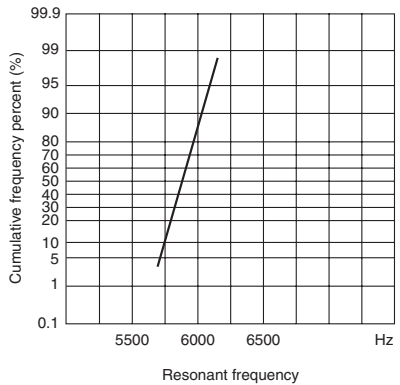
(2) Bounce time



(3) Release time



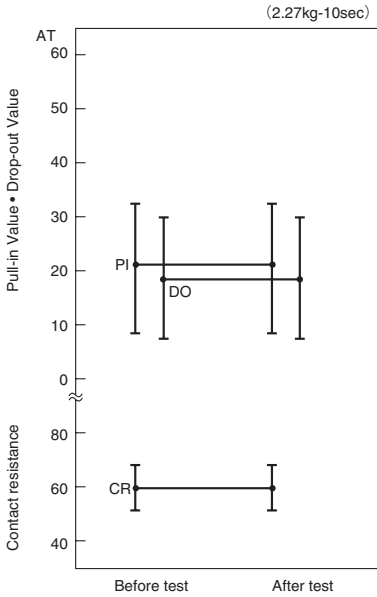
(4) Resonant frequency



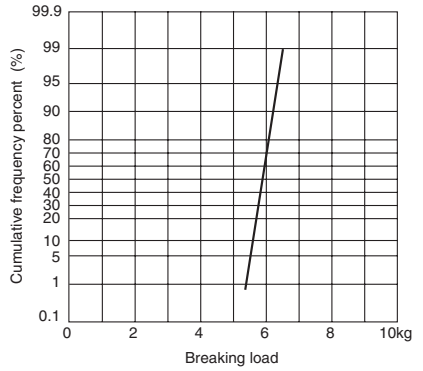
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■ MECHANICAL CHARACTERISTICS

(1) Lead tensile test (static load)



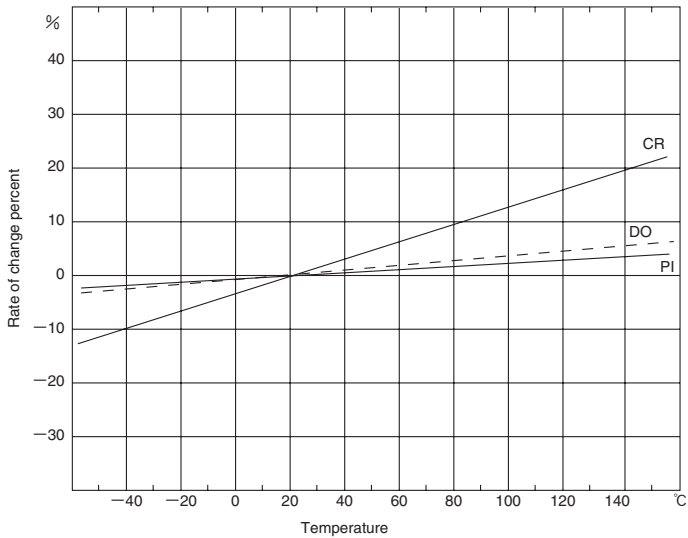
(2) Lead tensile strength



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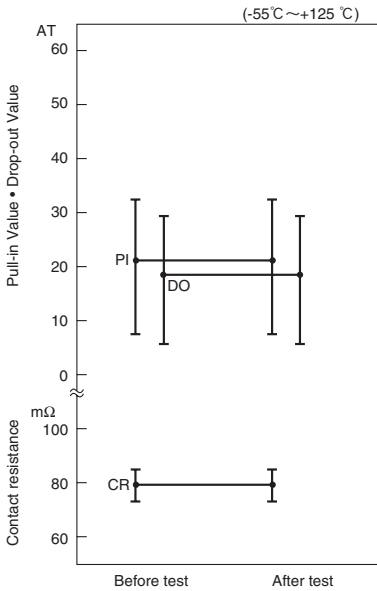
■ ENVIRONMENTAL CHARACTERISTICS

(1) Temperature characteristics

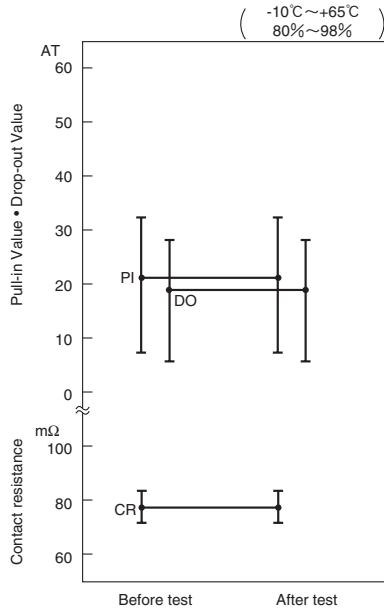


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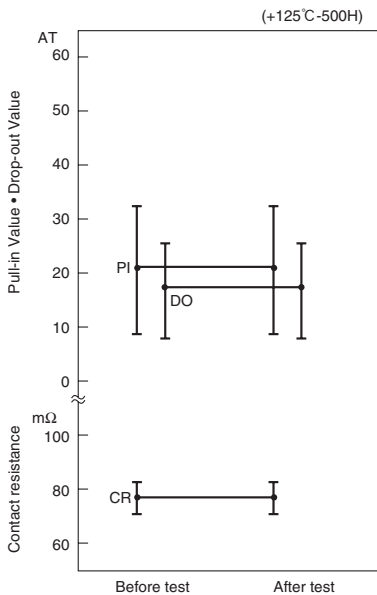
(2) Temperature cycle



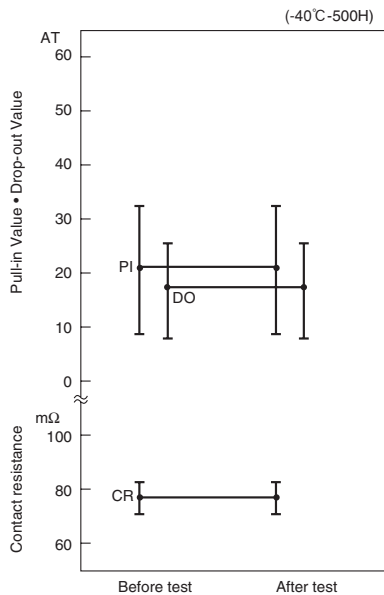
(3) Temperature and humidity cycle



(4) High temperature storage test

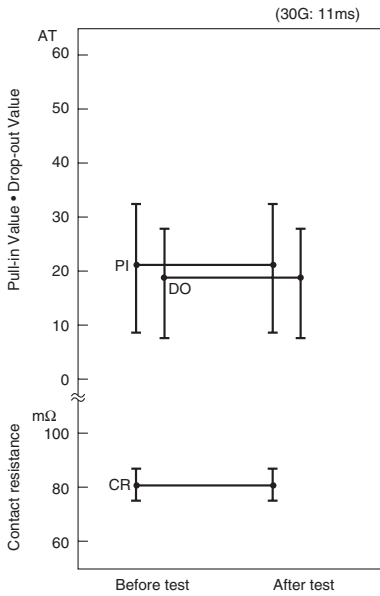


(5) Low temperature storage test

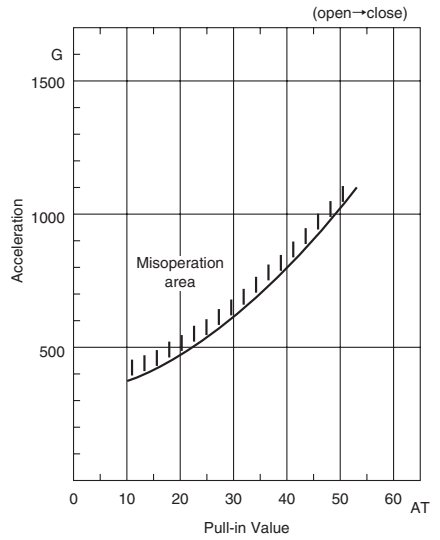


(6) Shock test

1) Electrical characteristics

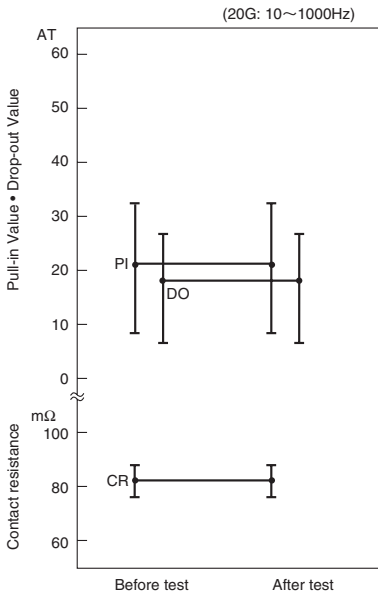


2) Misoperation area



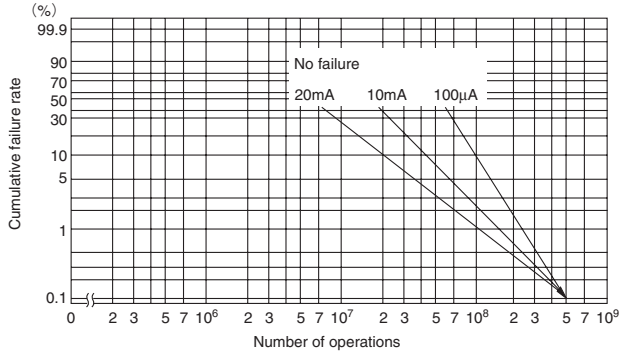
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(7) Vibration test



■ LIFE EXPECTANCY DATA: ORD312

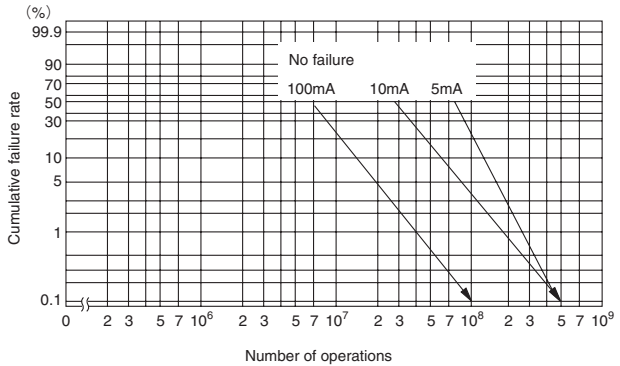
Load conditions  
 Voltage: 5VDC  
 Current: 100µA, 10mA, 20mA  
 Load: Resistive load



\* Arrow indicates number of operations where test was completed.

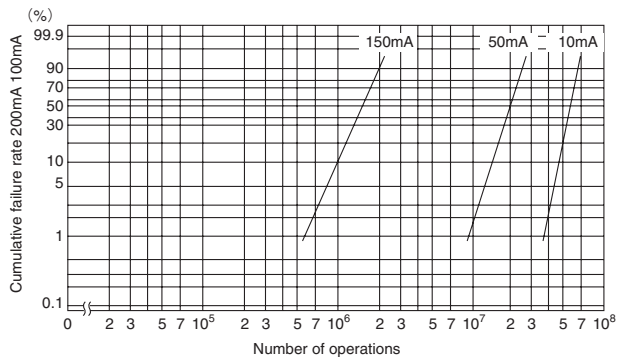
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Load conditions  
 Voltage: 12VDC  
 Current: 5mA, 10mA, 100mA  
 Load: Resistive load



\* Arrow indicates number of operations where test was completed.

Load conditions  
 Voltage: 200VDC  
 Current: 10mA, 50mA, 150mA  
 Load: Resistive load



\* Arrow indicates number of operations where test was completed.



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