

# REED SWITCH

## ORT551

### Ultraminiature Transfer

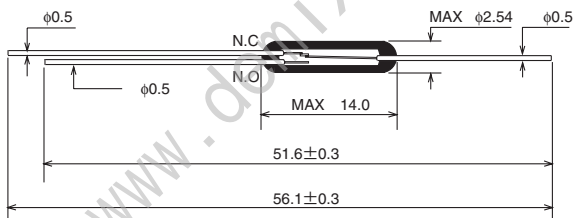
#### ■ GENERAL DESCRIPTION

The OR551 is a ultraminiature two-contacts reed switch designed for transfer type operation. 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

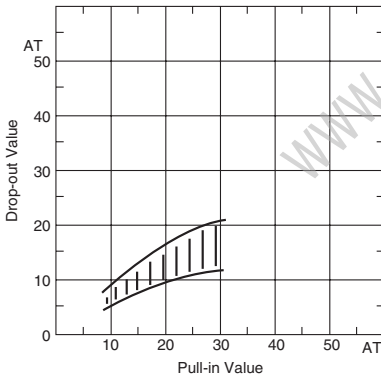
- Automotive electronic devices
- Control equipment
- Communication equipment
- Measurement equipment
- Household appliances

■ ELECTRICAL CHARACTERISTICS

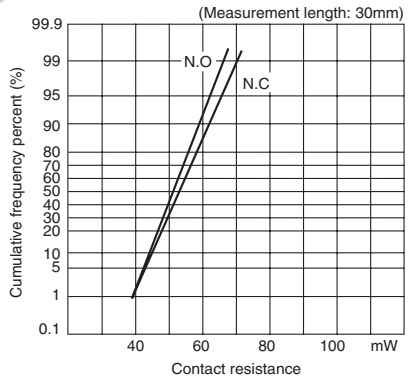
| Parameter                 | Rated value            | Unit |
|---------------------------|------------------------|------|
| Pull-in Value (PI)        | 10~30                  | AT   |
| Drop-out Value (DO)       | 4min                   | AT   |
| Contact resistance (CR)   | 100max                 | mW   |
| Breakdown voltage         | 200min (PI $\geq$ 20)  | VDC  |
|                           | 150min (PI<20)         | VDC  |
| Insulation resistance     | 10 <sup>9</sup> min    | W    |
| Electrostatic capacitance | 1.5max                 | pF   |
| Contact rating            | 3                      | VA   |
| Maximum switching voltage | 30 ( $\frac{DC}{AC}$ ) | V    |
| Maximum switching current | 0.2                    | A    |
| Maximum carry current     | 0.5                    | A    |

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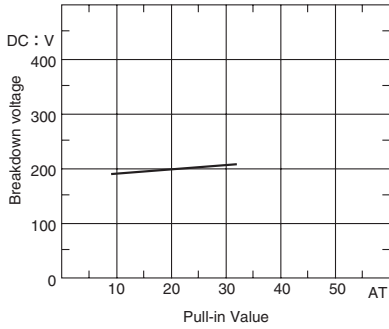
(1) Drop-out Value vs. Pull-in Value



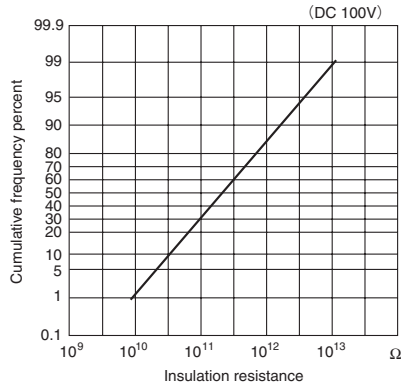
(2) Contact resistance



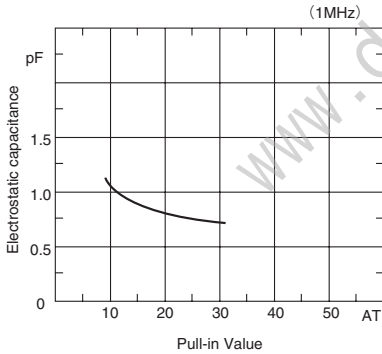
(3) Breakdown voltage



(4) Insulation resistance



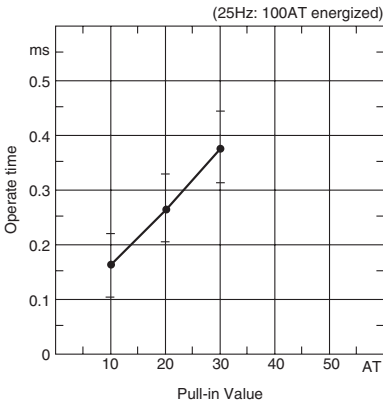
(5) Electrostatic capacitance



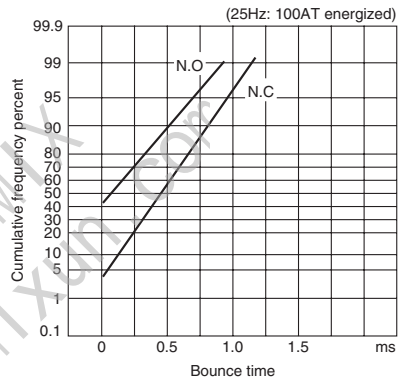
■ OPERATING CHARACTERISTICS

| Parameter                   | Rated value | Unit |
|-----------------------------|-------------|------|
| Operate time                | 1.0max      | ms   |
| Bounce time                 | NO 1.0max   | ms   |
|                             | NC 1.5max   | ms   |
| Release time                | 0.5max      | ms   |
| Resonant frequency          | 6000±4000   | Hz   |
| Maximum operating frequency | 200         | Hz   |

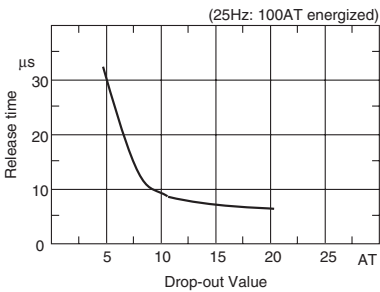
(1) Operate time



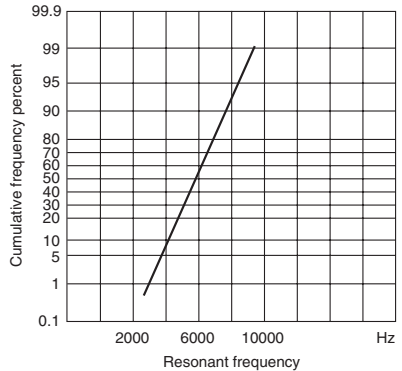
(2) Bounce time



(3) Release time



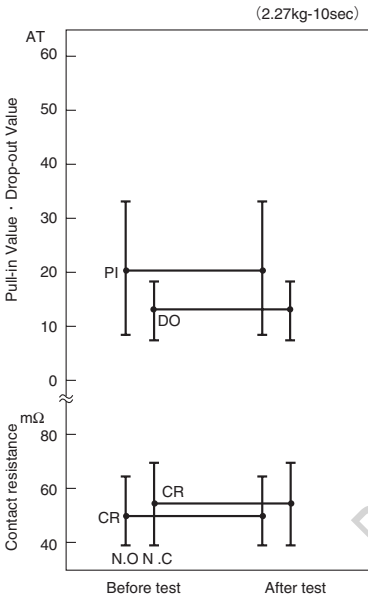
(4) Resonant frequency



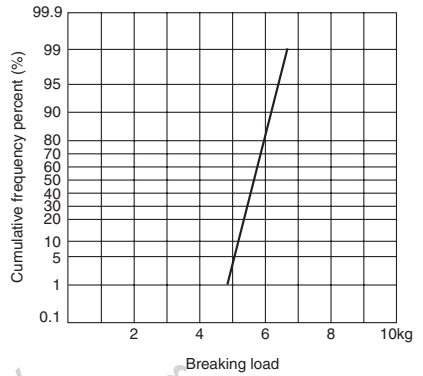
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■ MECHANICAL CHARACTERISTICS

(1) Lead tensile test (static load)



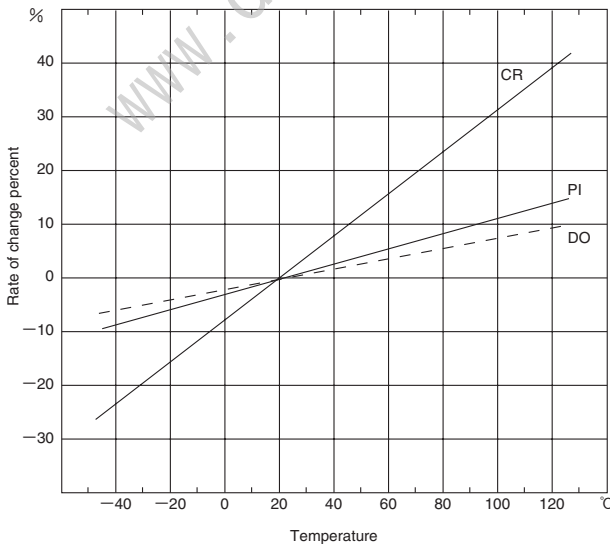
(2) Lead tensile strength



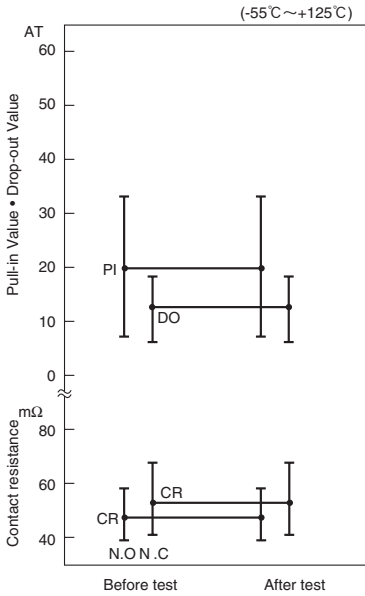
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■ ENVIRONMENTAL CHARACTERISTICS

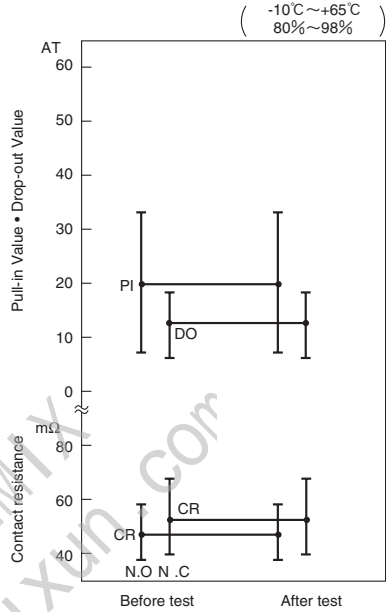
(1) Temperature characteristics



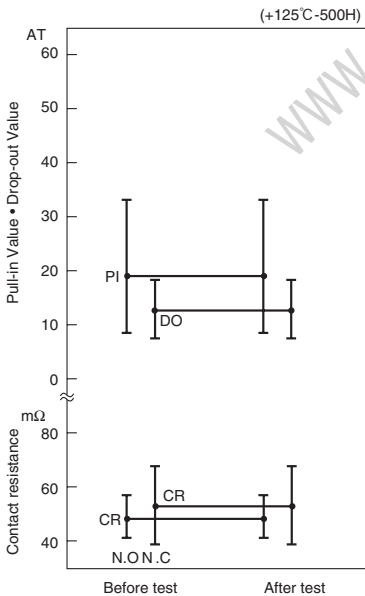
(2) Temperature cycle



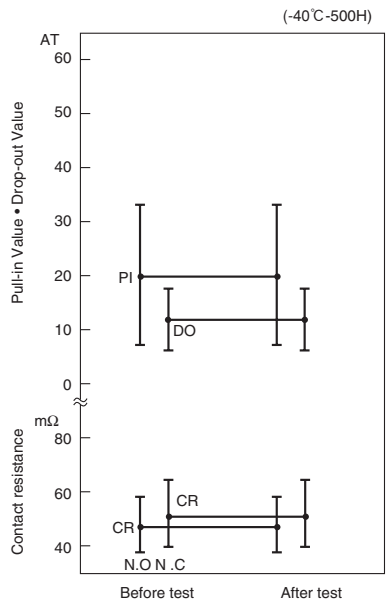
(3) Temperature and humidity cycle



(4) High temperature storage test

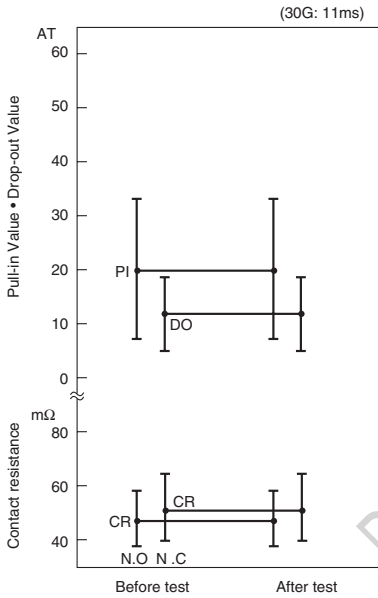


(5) Low temperature storage test

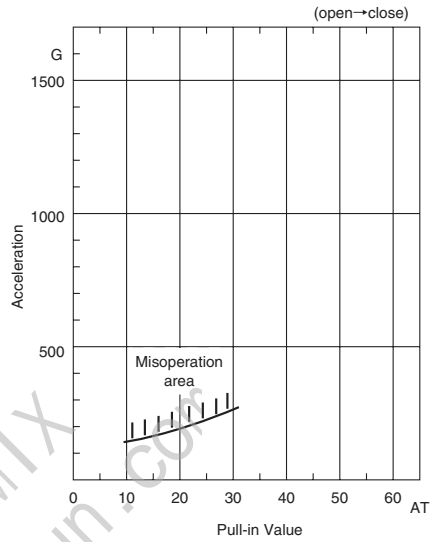


(6) Shock test

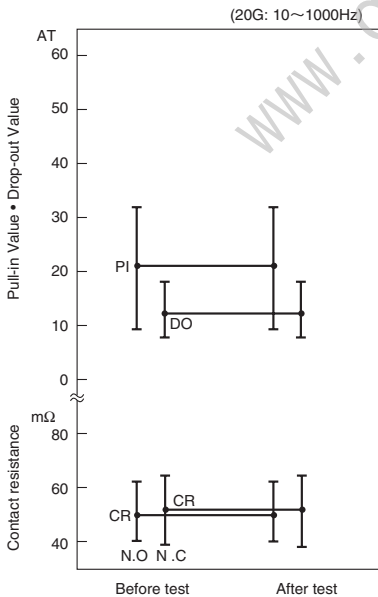
1) Electrical characteristics



2) Misoperation area

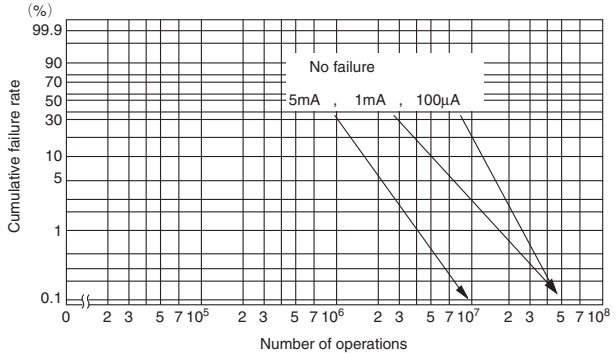


(7) Vibration test



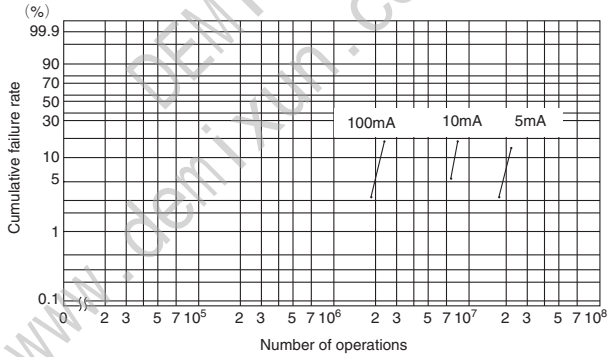
■ LIFE EXPECTANCY DATA: ORT551

Load conditions  
 Voltage: 5VDC  
 Current: 100μA, 1mA, 5mA  
 Load: Resistive load

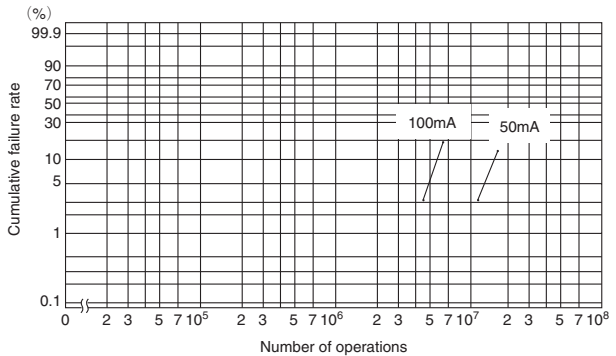


\* Arrow indicates number of operations where test was completed.

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



Load conditions  
 Voltage: 24VDC  
 Current: 50mA, 100mA  
 Load: Resistive load



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