

# REED SWITCH

## ORD311

Super Ultra Miniature Long Life

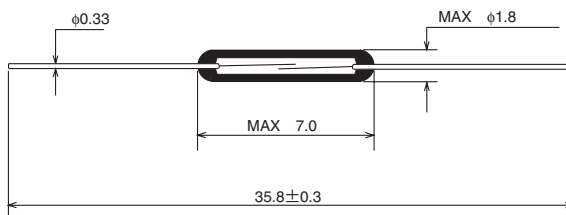
### ■ GENERAL DESCRIPTION

The ORD311 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 switches 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

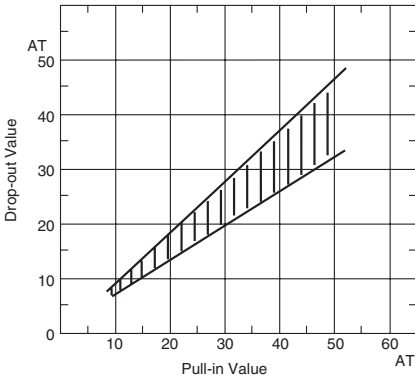
- Automotive electronic devices
- Control equipment
- Communication equipment
- Measurement equipment
- Household appliances

■ ELECTRICAL CHARACTERISTICS

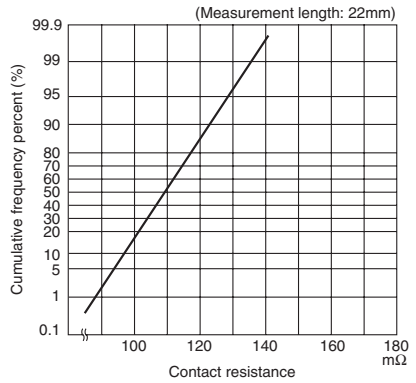
Parameter	Rated value	Unit
Pull-in Value (PI)	10~30	AT
Drop-out Value (DO)	5min	AT
Contact resistance (CR)	200max	mΩ
Breakdown voltage	250min	VDC
Insulation resistance	10 <sup>9</sup> min	Ω
Electrostatic capacitance	0.4max	pF
Contact rating	10	VA
Maximum switching voltage	100 $\frac{DC}{AC}$	V
Maximum switching current	1.0	A
Maximum carry current	0.5	A

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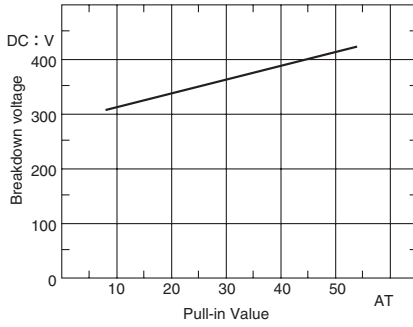
(1) Drop-out Value vs. Pull-in Value



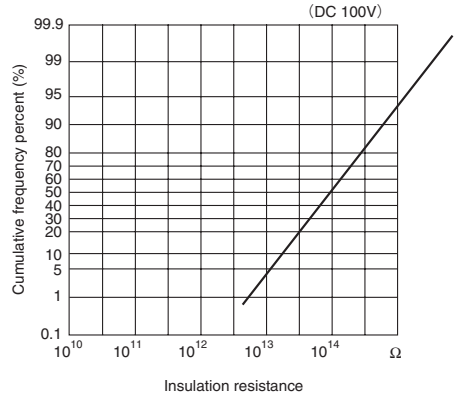
(2) Contact resistance



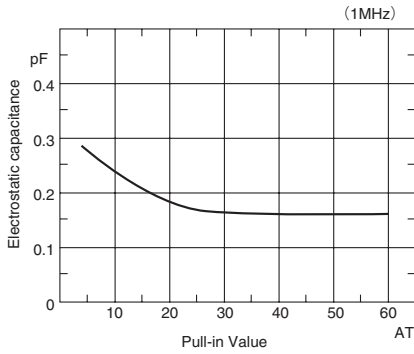
## (3) Breakdown voltage



## (4) Insulation resistance



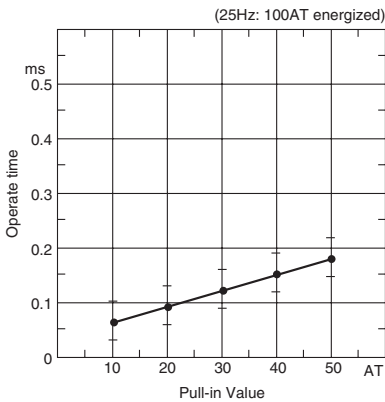
## (5) Electrostatic capacitance



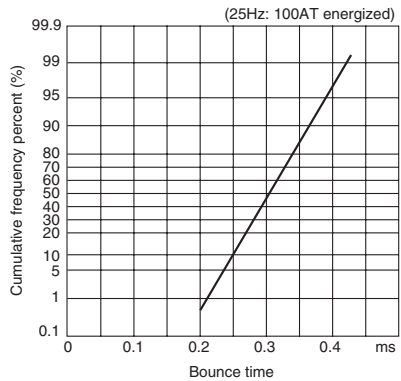
■ OPERATING CHARACTERISTICS

Parameter	Rated value	Unit
Operate time	0.3max	ms
Bounce time	0.3max	ms
Release time	0.05max	ms
Resonant frequency	13000±2000	Hz
Maximum operating frequency	500	Hz

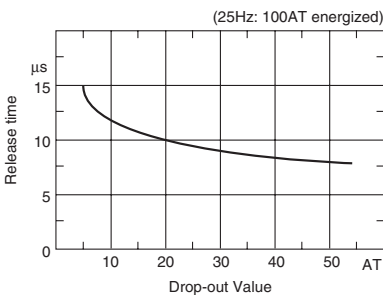
(1) Operate time



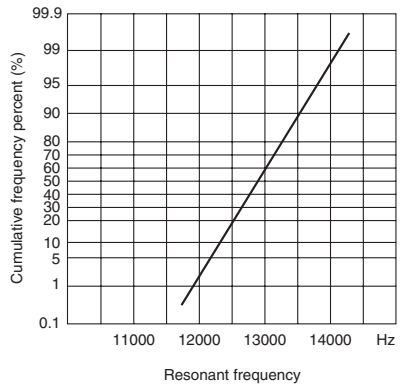
(2) Bounce time



(3) Release time

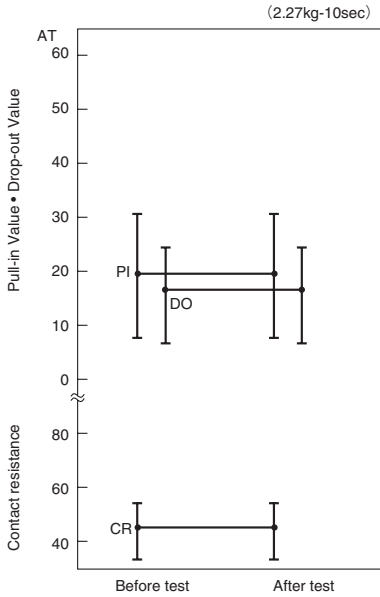


(4) Resonant frequency

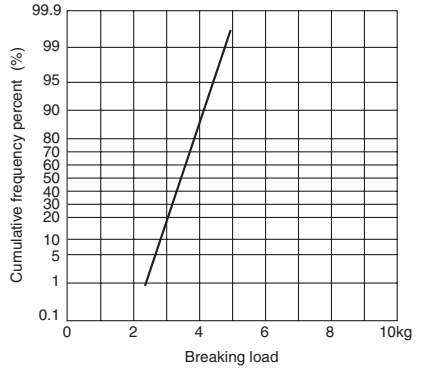


■ MECHANICAL CHARACTERISTICS

(1) Lead tensile test (static load)



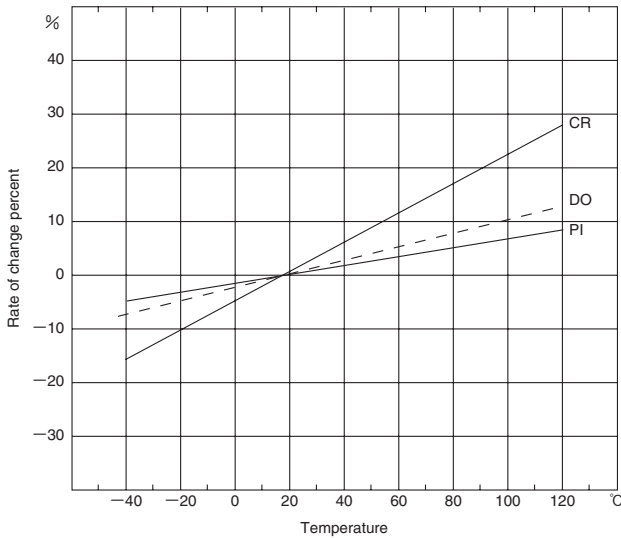
(2) Lead tensile strength



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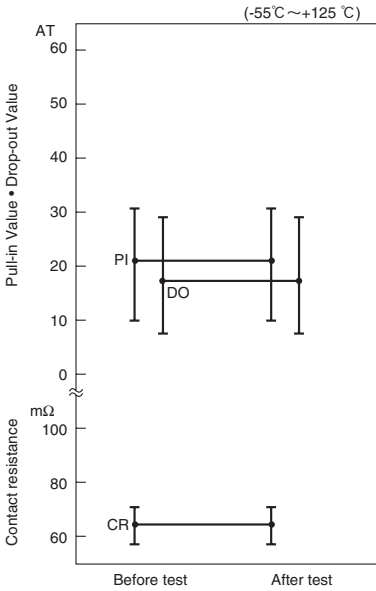
■ ENVIRONMENTAL CHARACTERISTICS

(1) Temperature characteristics

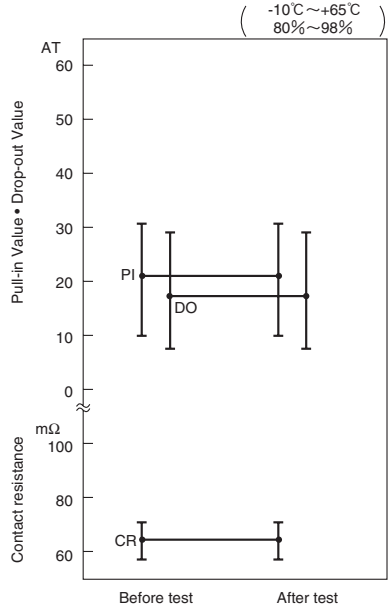


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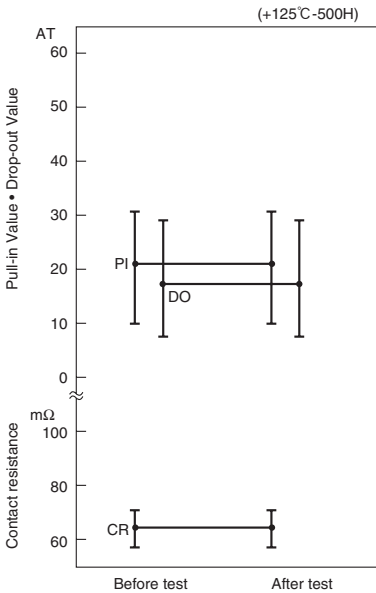
(2) Temperature cycle



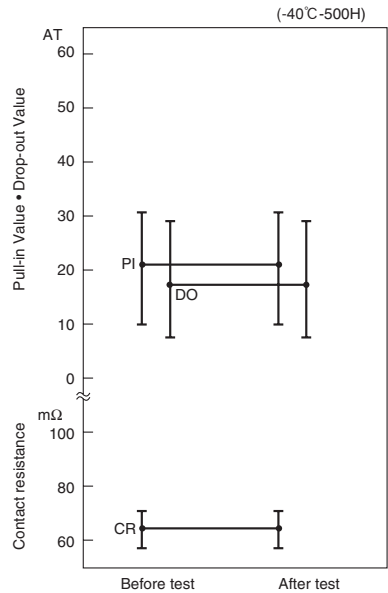
(3) Temperature and humidity cycle



(4) High temperature storage test

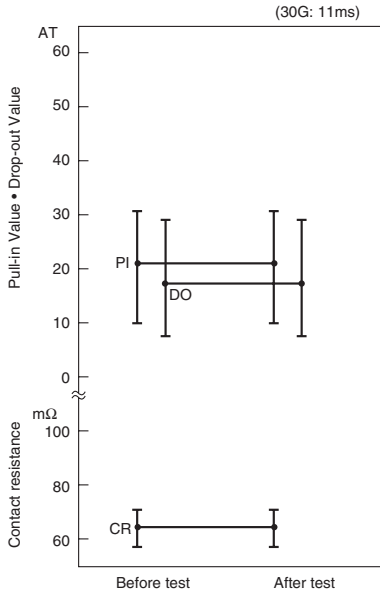


(5) Low temperature storage test

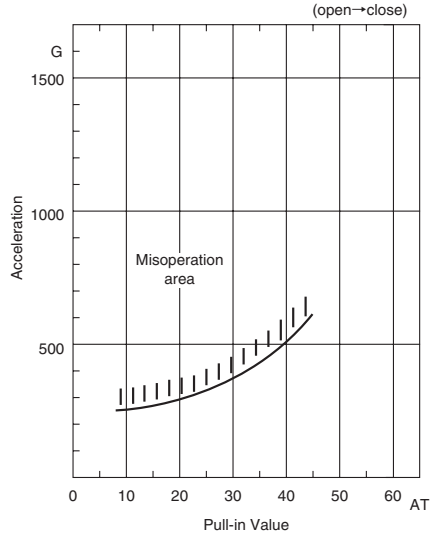


(6) Shock test

1) Electrical characteristics

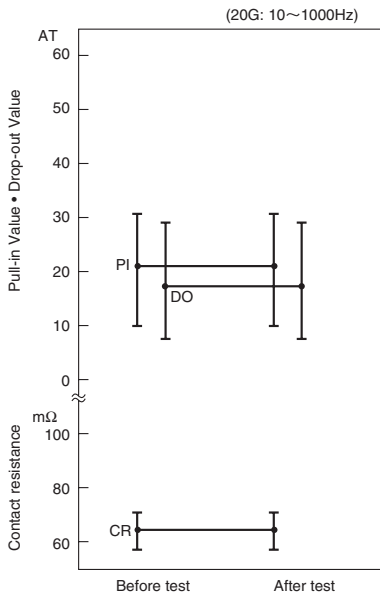


2) Misoperation area



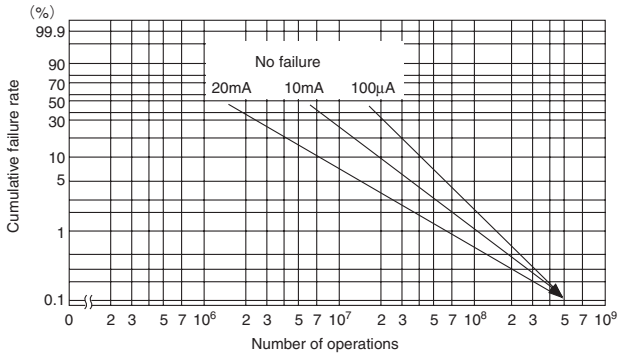
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(7) Vibration test



■ LIFE EXPECTANCY DATA: ORD311

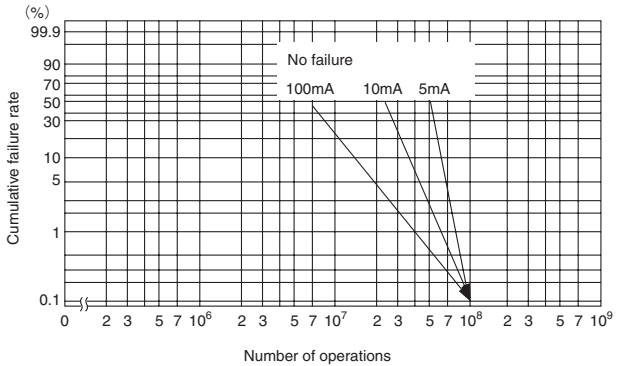
Load conditions  
 Voltage: 5VDC  
 Current: 100µA, 10mA, 20mA  
 Load: Resistive load



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

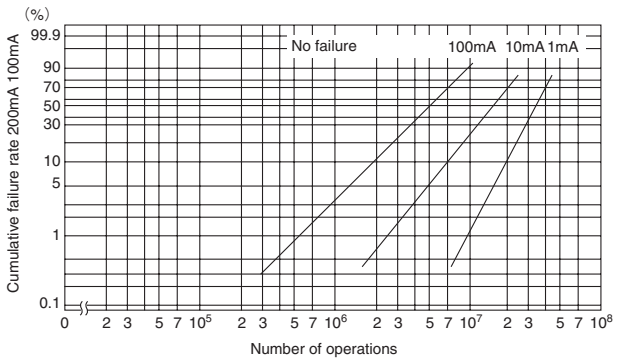
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Load conditions  
 Voltage: 12 VDC  
 Current: 5mA, 10mA, 100mA  
 Load: Resistive load



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

Load conditions  
 Voltage: 24 VDC  
 Current: 1mA, 10mA, 100mA  
 Load: Resistive load



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