

# REED SWITCH

## ORD221

### Miniature Offset-type

#### ■ GENERAL DESCRIPTION

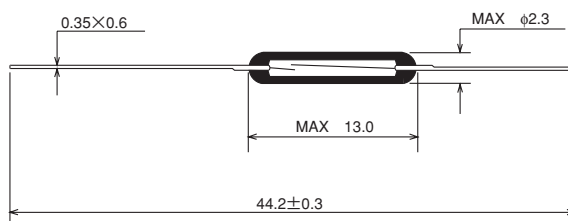
The ORD221 is a small single-contact reed switch designed for general control of medium-level loads less than 100 V. The contacts are sealed within the glass tube with inert gas to maintain contact reliability.

#### ■ 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 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.

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#### ■ EXTERNAL DIMENSIONS (Unit: mm)



#### ■ APPLICATIONS

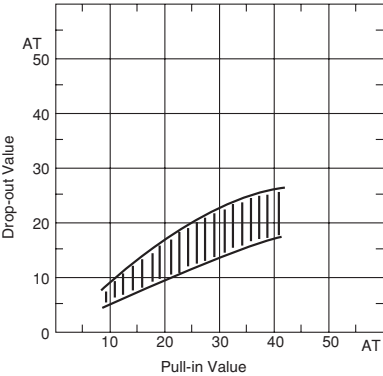
- Automotive electronic devices
- Control equipment
- Communication equipment
- Measurement equipment
- Household appliances

■ ELECTRICAL CHARACTERISTICS

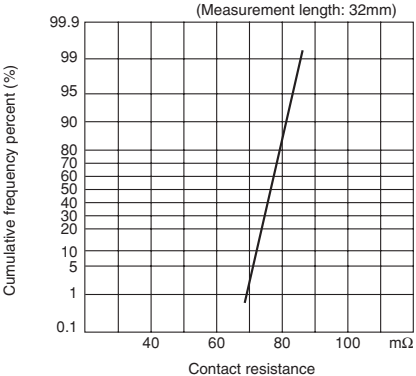
Parameter	Rated value	Unit
Pull-in Value (PI)	10~30	AT
Drop-out Value (DO)	5min	AT
Contact resistance (CR)	100max	mΩ
Breakdown voltage	200 min (PI≥20)	VDC
	150min (PI<20)	VDC
Insulation resistance	10 <sup>9</sup> min	Ω
Electrostatic capacitance	0.3max	pF
Contact rating	10	VA
Maximum switching voltage	100 ( $\frac{DC}{AC}$ )	V
Maximum switching current	0.3	A
Maximum carry current	1.0	A

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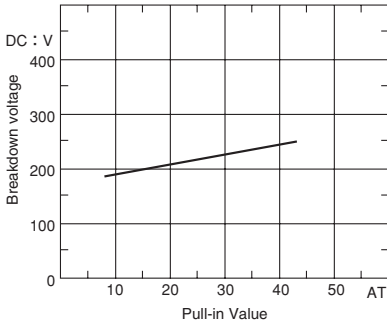
(1) Drop-out Value vs. Pull-in Value



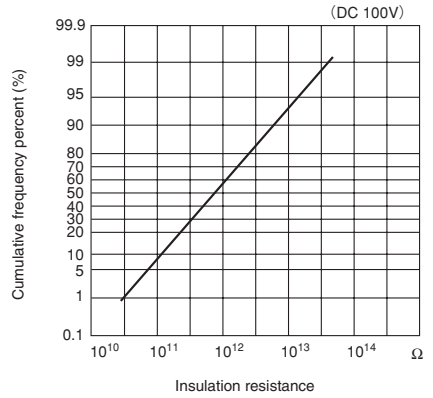
(2) Contact resistance



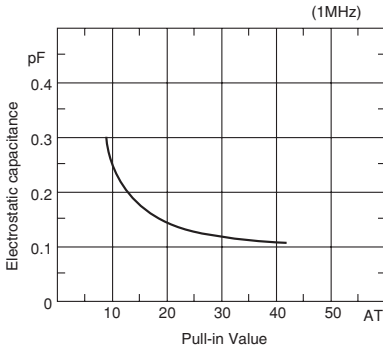
(3) Breakdown voltage



(4) Insulation resistance



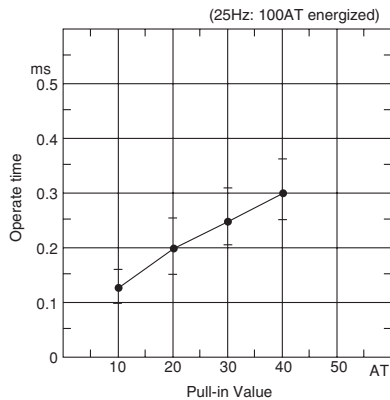
(5) Electrostatic capacitance



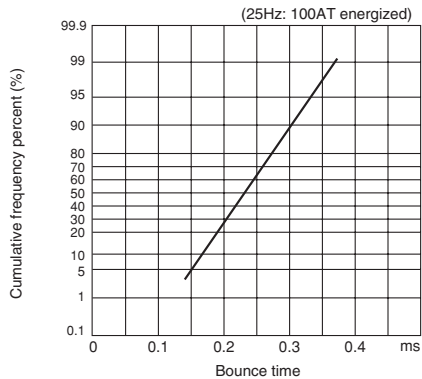
■ OPERATING CHARACTERISTICS

Parameter	Rated value	Unit
Operate time	0.4max	ms
Bounce time	0.5max	ms
Release time	0.05max	ms
Resonant frequency	2750±250	Hz
Maximum operating frequency	500	Hz

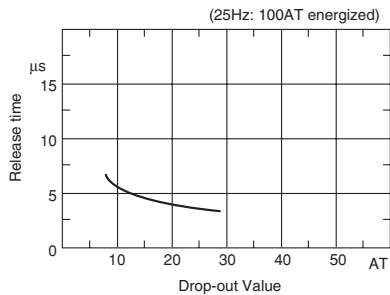
(1) Operate time



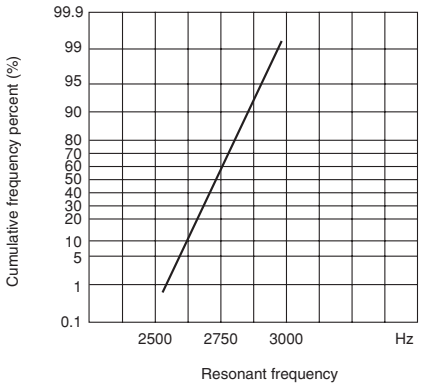
(2) Bounce time



(3) Release time

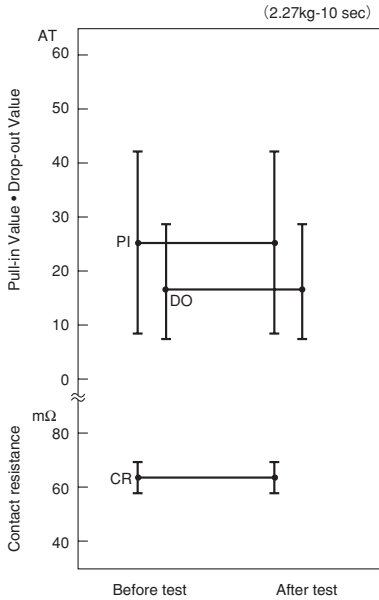


(4) Resonant frequency

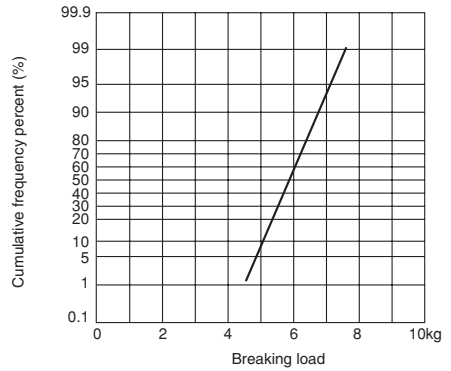


## MECHANICAL CHARACTERISTICS

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

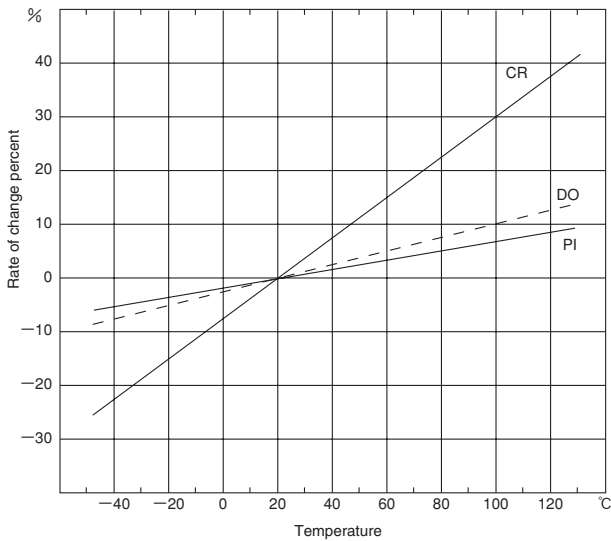


### (2) Lead tensile strength



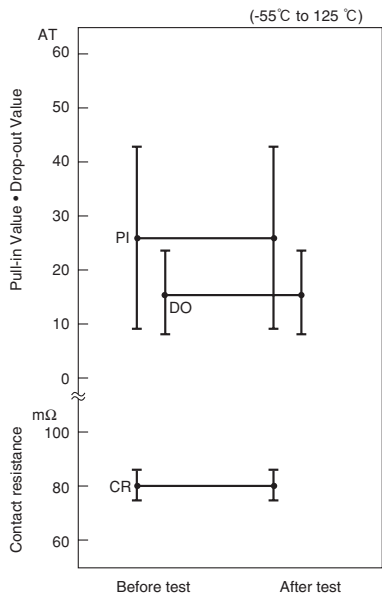
## ENVIRONMENTAL CHARACTERISTICS

### (1) Temperature characteristics

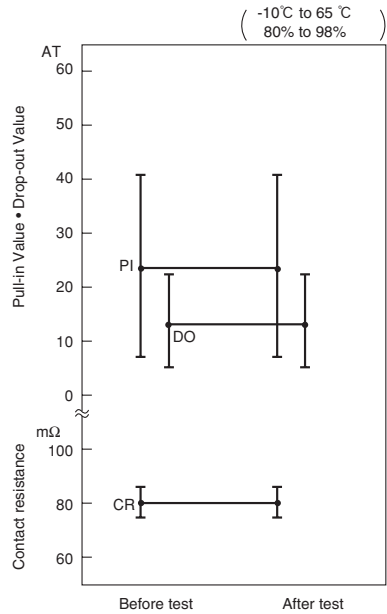


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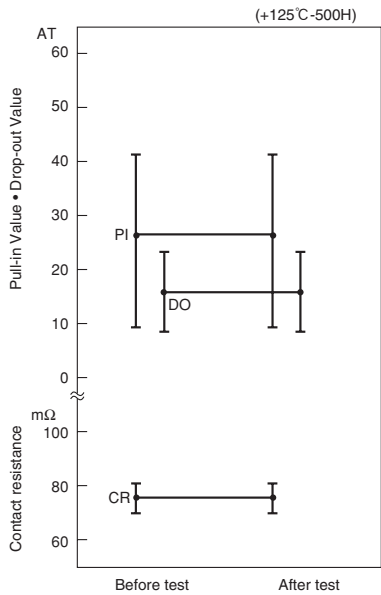
(2) Temperature cycle



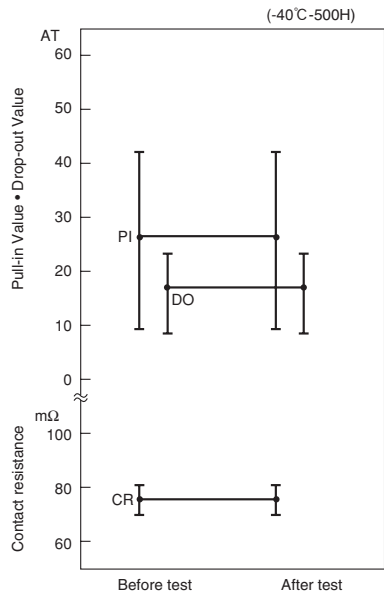
(3) Temperature and humidity cycle



(4) High temperature storage test

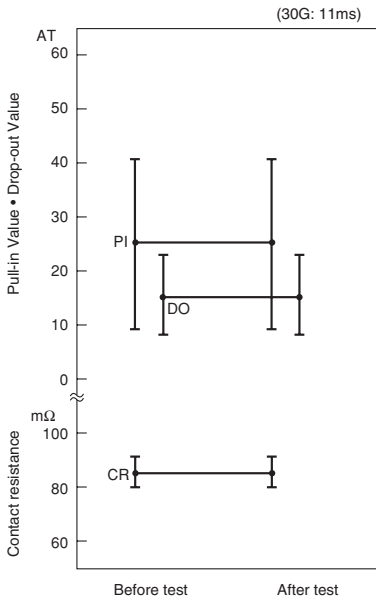


(5) Low temperature storage test

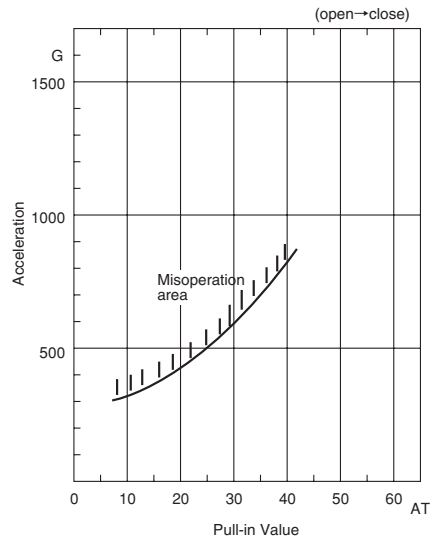


(6) Shock test

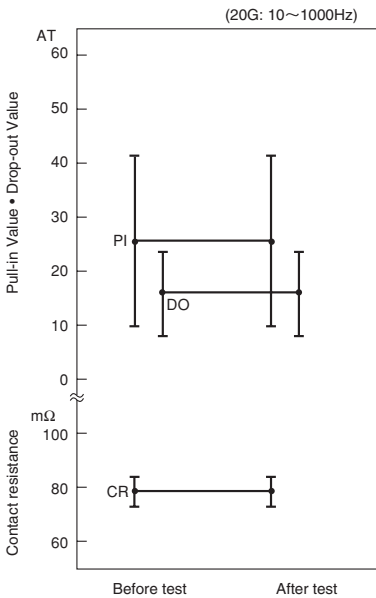
1) Electrical characteristics



2) Misoperation area

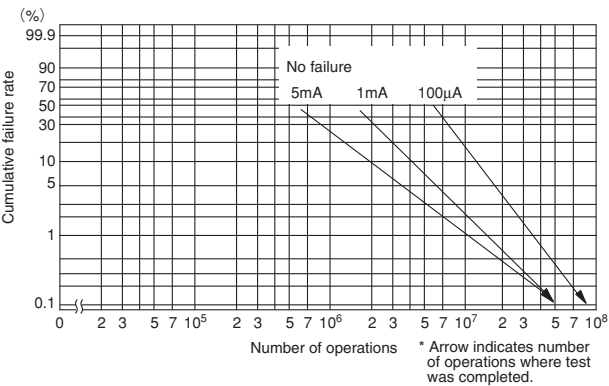


(7) Vibration test

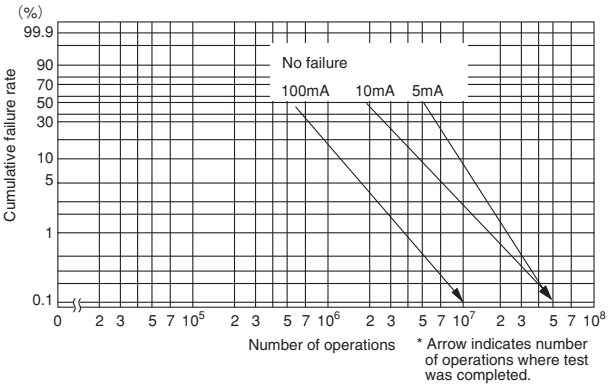


■ LIFE EXPECTANCY DATA: ORD221

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



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



Load conditions  
Voltage: 24VDC  
Current: 10mA , 100mA , 200mA  
Load: Resistive load

