

# REED SWITCH

## ORD211

General Purpose Ultraminiature (Low-level Load 24 V Max.)

### GENERAL DESCRIPTION

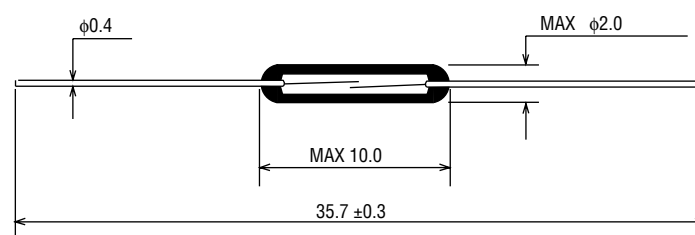
The ORD211 is a small single-contact reed switch designed for general control of low-level loads less than 24 V. The contacts are sealed within the glass tube with inert gas to maintain contact reliability.

### 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.

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### External Dimensions (Unit:mm)



### APPLICATIONS OF REED SWITCHES

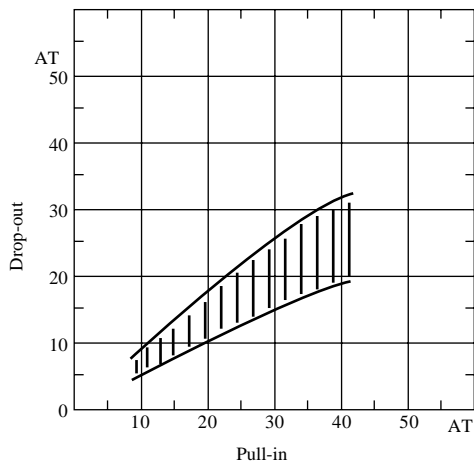
1. Automotive electronic devices
2. Control equipment
3. Communication equipment
4. Measurement equipment
5. Household appliances

**ELECTRICAL CHARACTERISTICS**

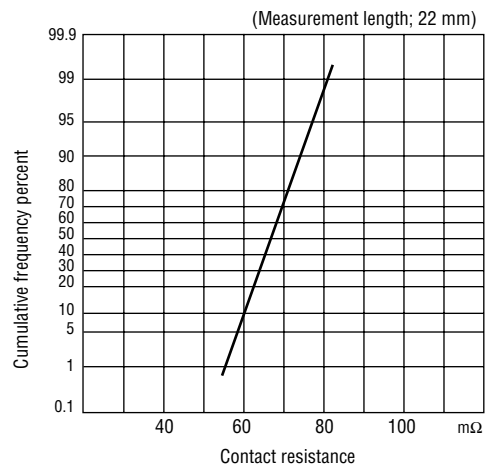
Parameter	Symbol	Condition	Rated Value			Unit
			Min.	Typ.	Max.	
Pull-in Value	PI	—	10	—	40	AT
Drop-out Value	DO	—	5	—	—	AT
Contact Resistance	CR	—	—	—	100	mΩ
Breakdown Voltage	—	—	150	—	—	VDC
Insulation Resistance	—	—	10 <sup>9</sup>	—	—	Ω
Electrostatic Capacitance	—	—	—	—	0.2	pF
Contact Rating	—	—	—	—	1.0	VA
Maximum Switching Voltage	—	—	—	—	24 <sup>DC</sup> <sub>AC</sub>	V
Maximum Switching Current	—	—	—	—	0.1	A
Maximum Carry Current	—	—	—	—	0.3	A

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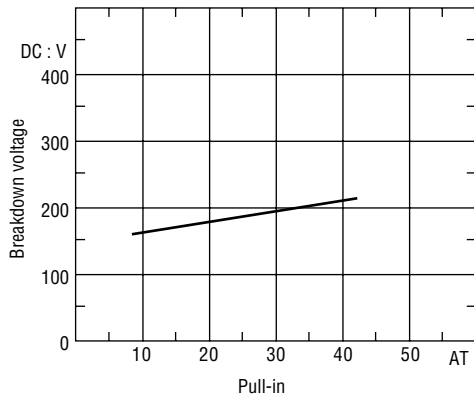
(1) Drop-out vs. Pull-in



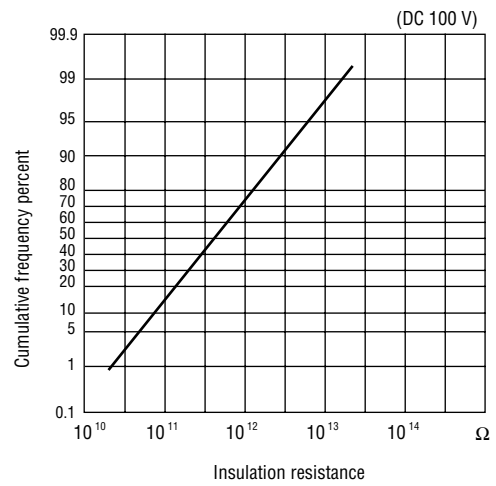
(2) Contact resistance



(3) Breakdown voltage

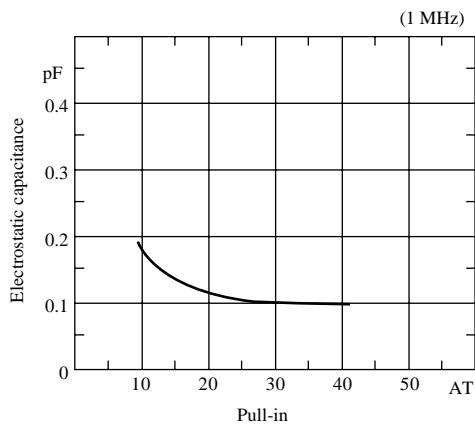


(4) Insulation resistance



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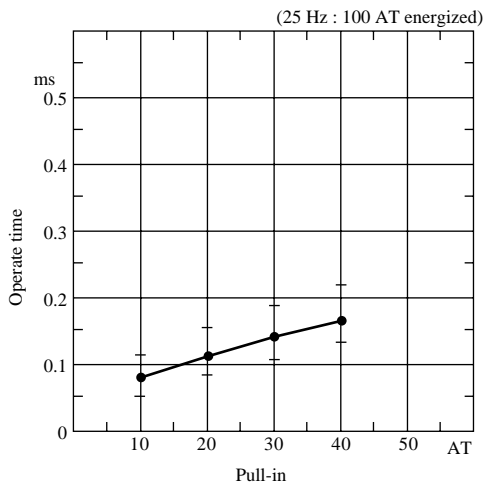
(5) Electrostatic capacitance



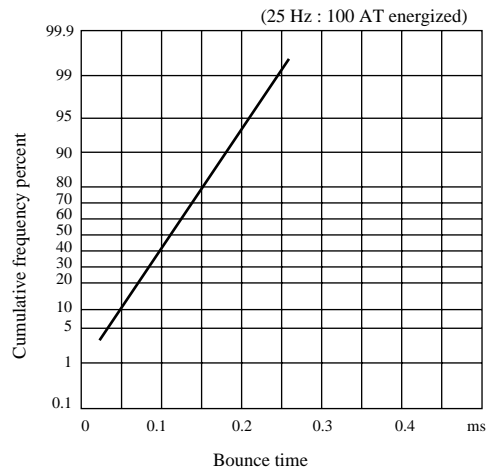
**OPERATING CHARACTERISTICS**

Parameter	Rated Value			Unit
	Min.	Typ.	Max.	
Operate Time	—	—	0.3	ms
Bounce Time	—	—	0.3	ms
Release Time	—	—	0.05	ms
Resonant Frequency	7000	7500	8000	Hz
Maximum Operating Frequency	—	—	500	Hz

(1) Operate time

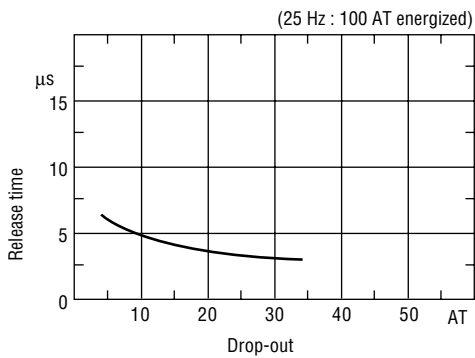


(2) Bounce time

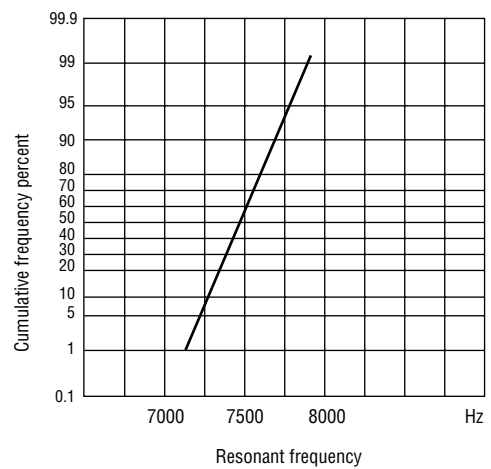


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(3) Release time



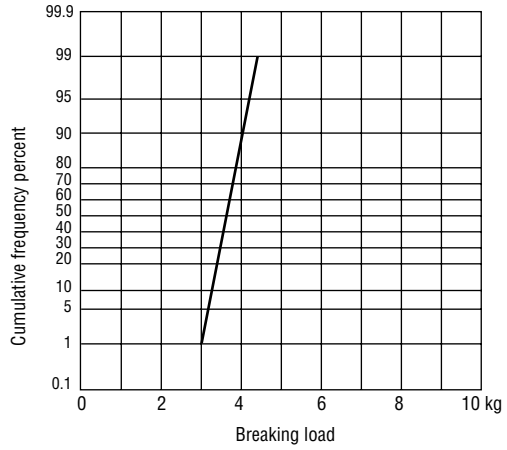
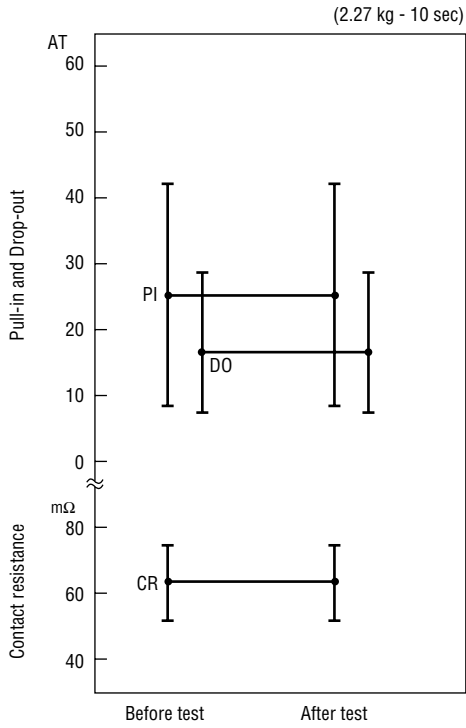
(4) Resonant frequency



**MECHANICAL CHARACTERISTICS**

(1) Lead tensile test (static load)

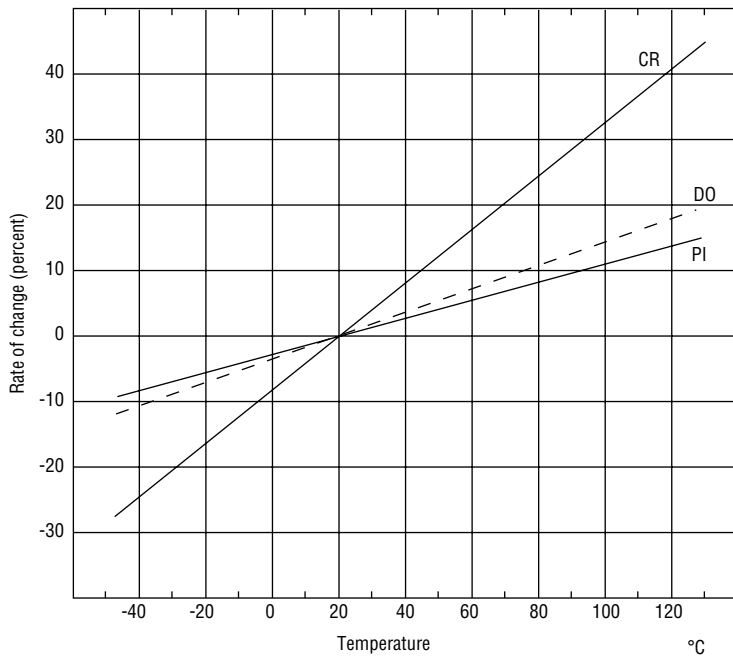
(2) Lead tensile strength



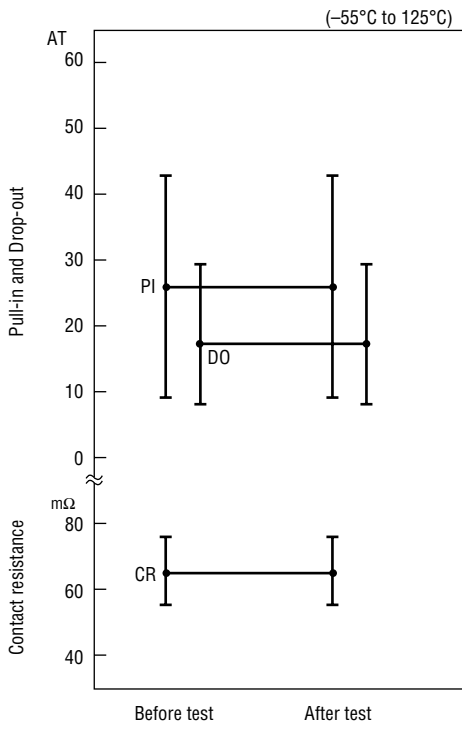
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**ENVIRONMENTAL CHARACTERISTICS**

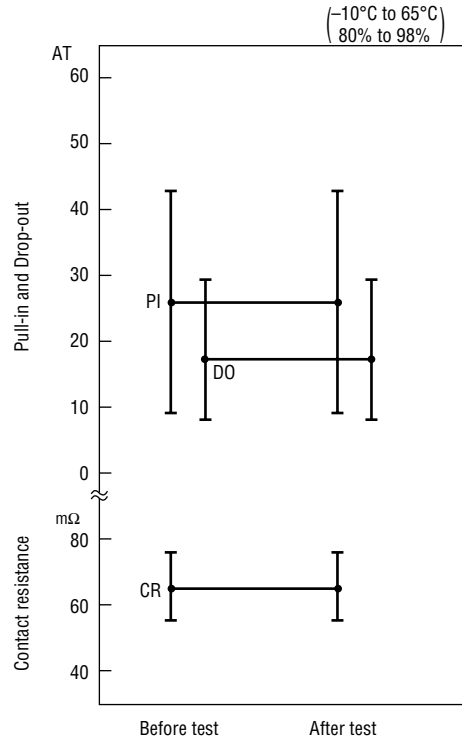
(1) Temperature characteristics



(2) Temperature cycle

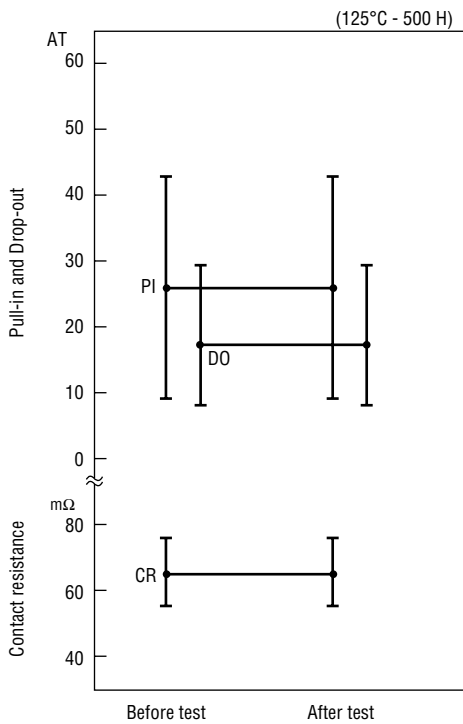


(3) Temperature and humidity cycle

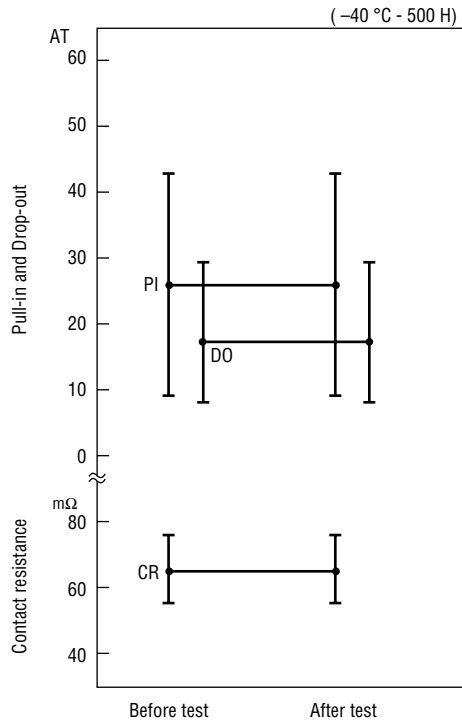


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(4) High temperature storage test

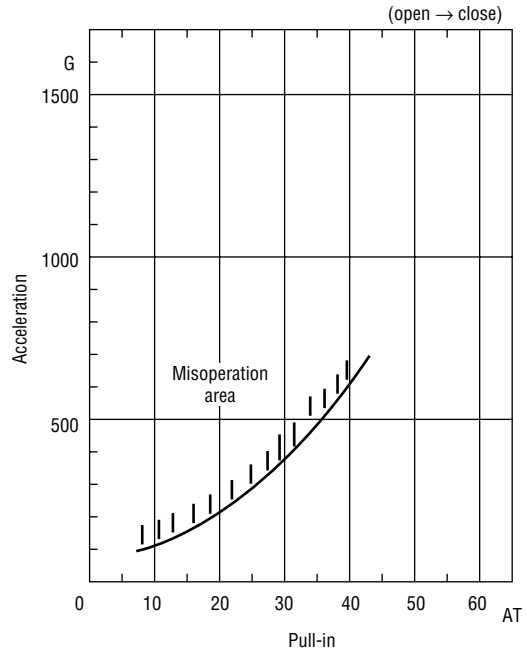
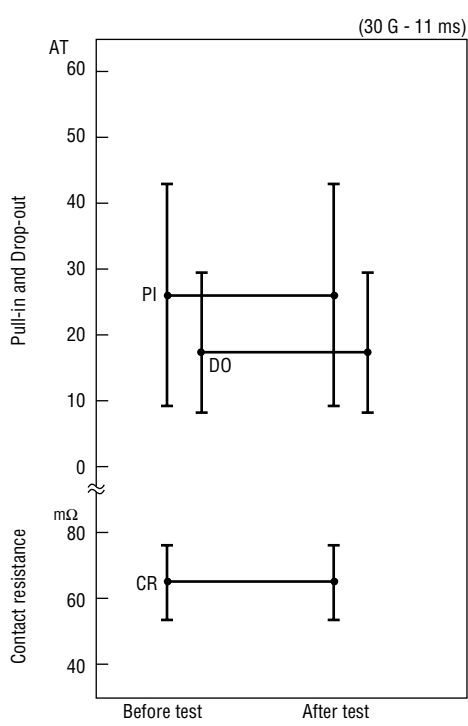


(5) Low temperature storage test

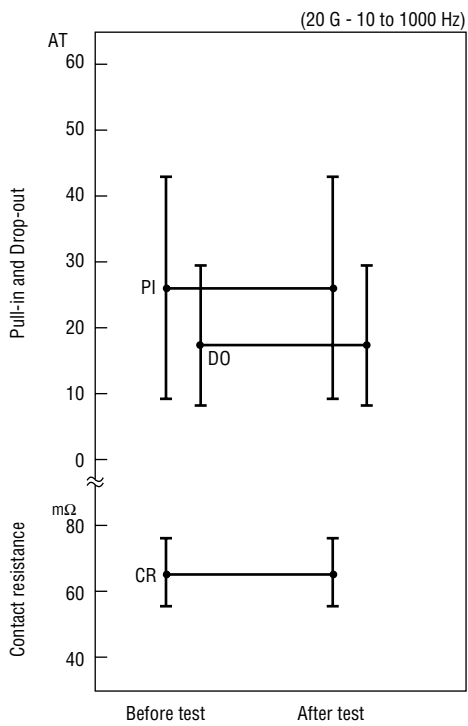


(6) Shock test

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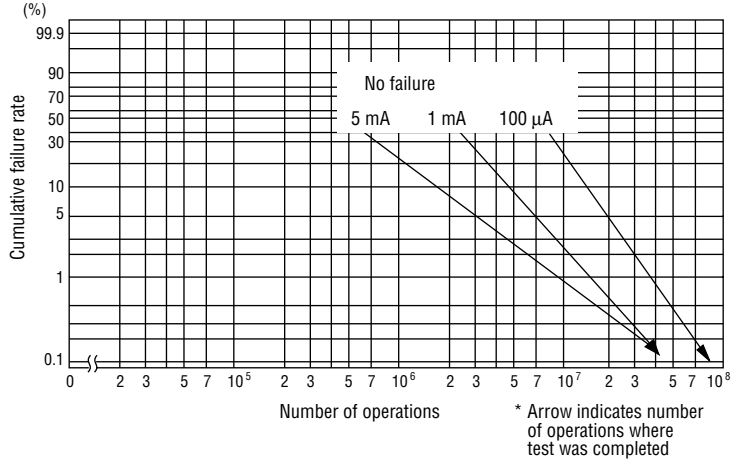
(7) Vibration test



**LIFE EXPECTANCY DATA: ORD211**

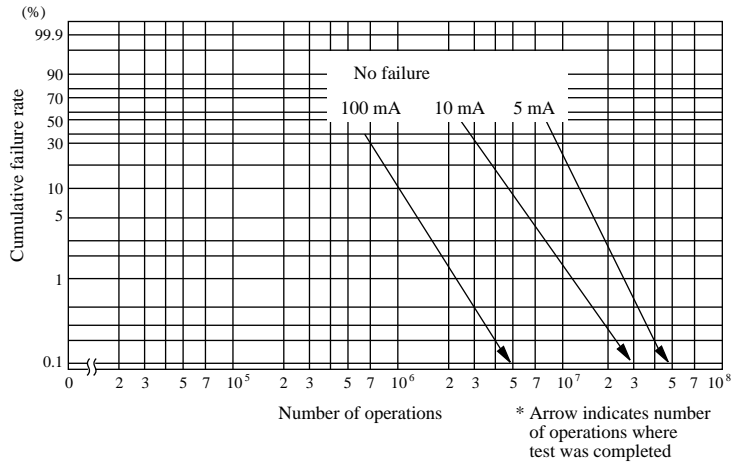
Load conditions

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 : 1 mA, 10 mA, 50 mA  
 Load : Resistive load

