REED SWITCH

ORD213

Extreme Ultraminiature (Low-level Load 24 V Max. for General Control)

GENERAL DESCRIPTION

The ORD213 is a small single-contact reed switch designed for general control of low-level loads less than 24 V. The reed contacts are sealed within the glass tube within inert gas to maintain contact reliability.

Features

(1) The reed contacts are hermetically sealed within a glass tube with inert gas and do not receive any influence from the external atomospheric environment.

(2) High response speed

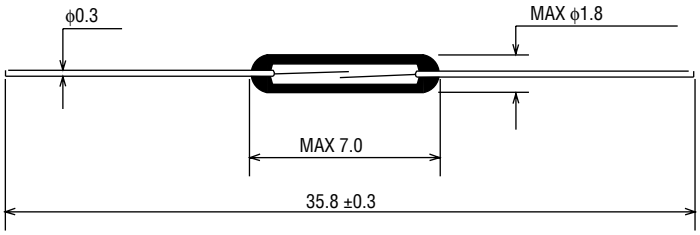
(3) The operating system and electrical circuits are coaxially composed and the ORD213 is suited to the applications for high frequency transmission.

(4) Compact and light weight

(5) The superior corrosion resistance and wear resistance of the contacts assure stable switching operation and long life.

(6) With a permanent magnet installed, the reed switch economically and easily becomes a proximity switch.

External Dimensions (Unit:mm)



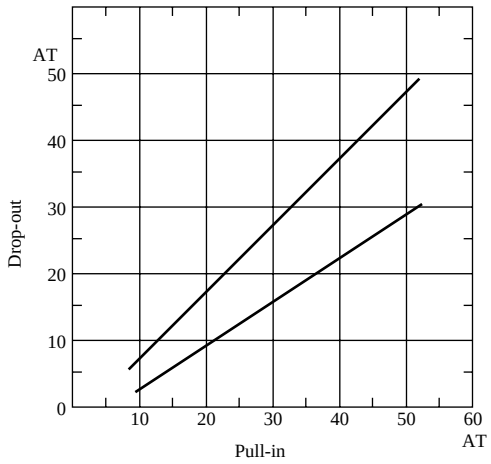
APPLICATIONS OF REED SWITCHES

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

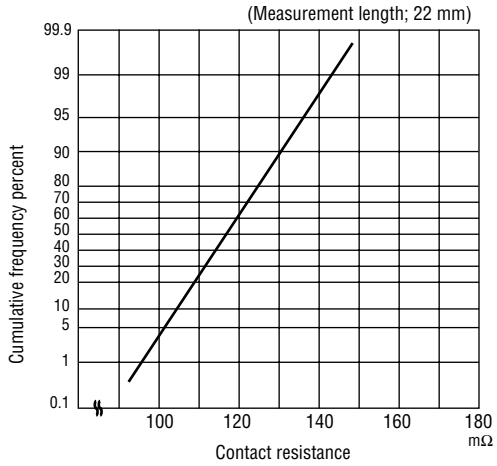
ELECTRICAL CHARACTERISTICS

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	—	—	—	200	mΩ
Breakdown Voltage	—	—	150	—	—	VDC
Insulation Resistance	—	—	10^9	—	—	Ω
Electrostatic Capacitance	—	—	—	—	0.4	pF
Contact Rating	—	—	—	—	1.0	VA
Maximum Switching Voltage	—	—	—	—	24 DC/AC	V
Maximum Switching Current	—	—	—	—	0.1	A
Maximum Carry Current	—	—	—	—	0.3	A

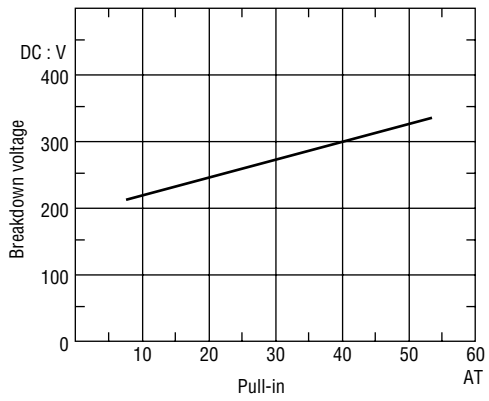
(1) Drop-out vs. Pull-in



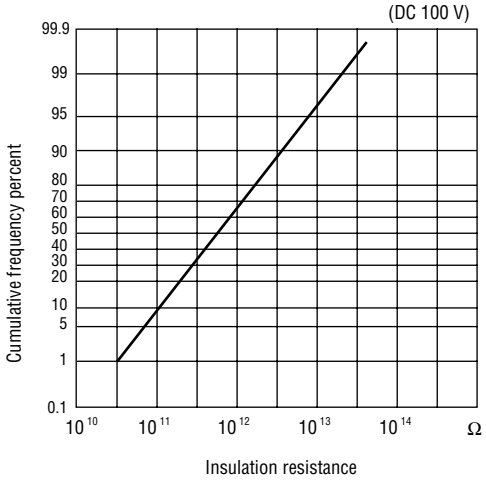
(2) Contact resistance



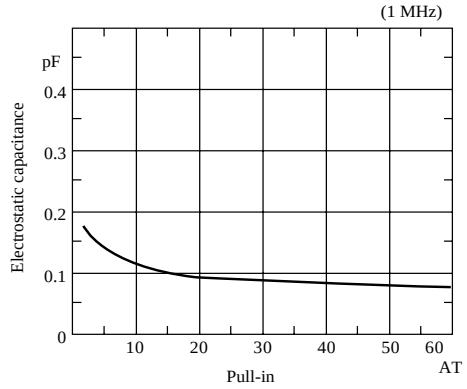
(3) Breakdown voltage



(4) Insulation resistance



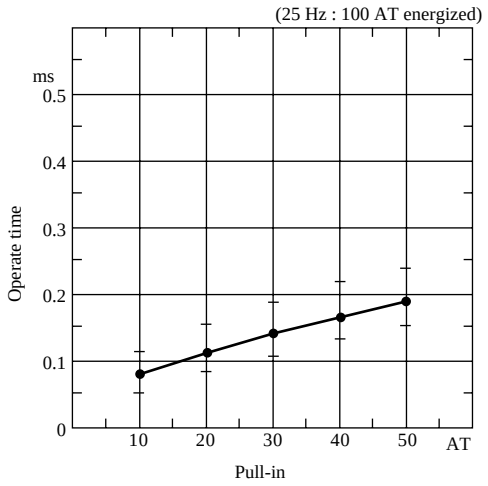
(5) Electrostatic capacitance



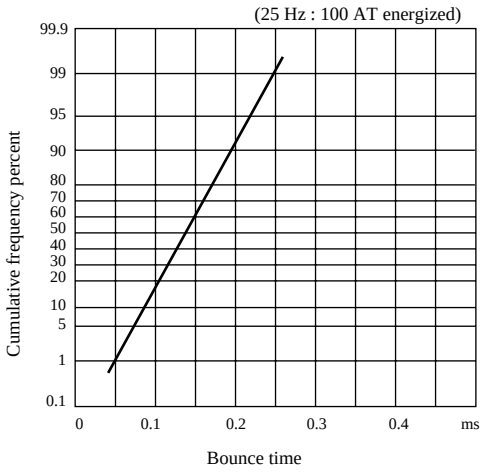
OPERATING CHARACTERISTICS

Parameter	Rated Value			Unit
	Min.	Typ.	Max.	
Operate Time	—	—	0.3	ms
Bounce Time	—	—	0.3	ms
Release Time	—	—	0.05	ms
Resonant Frequency	9000	11000	13000	Hz
Maximum Operating Frequency	—	—	500	Hz

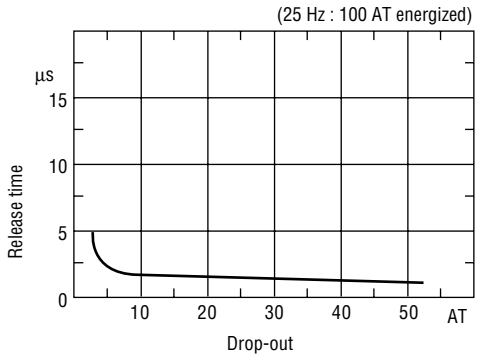
(1) Operate time



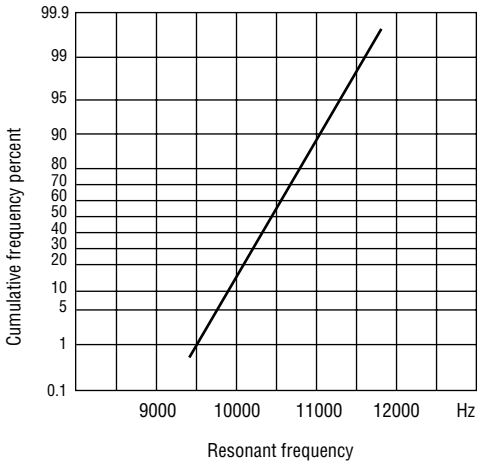
(2) Bounce time



(3) Release time

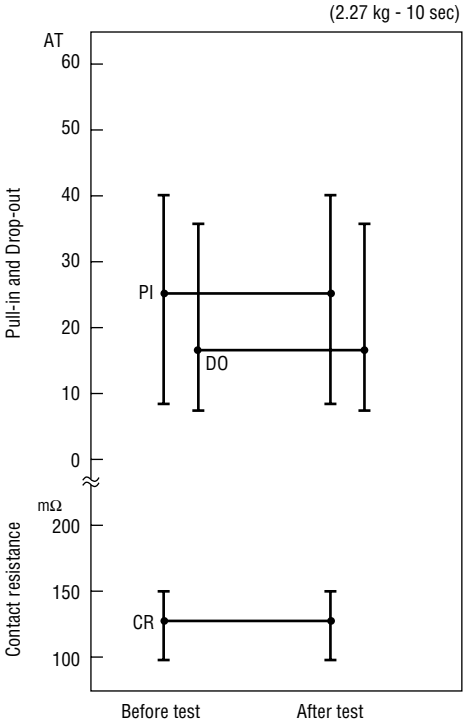


(4) Resonant frequency

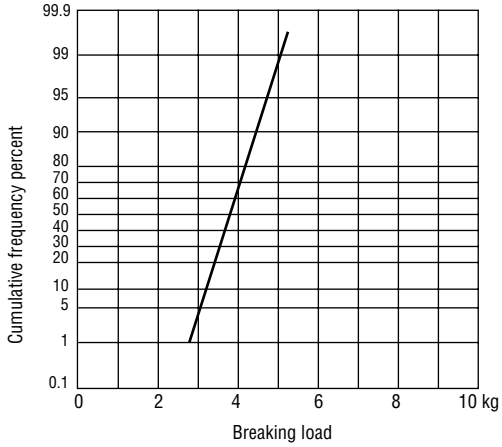


MECHANICAL CHARACTERISTICS

(1) Lead tensile test (static load)

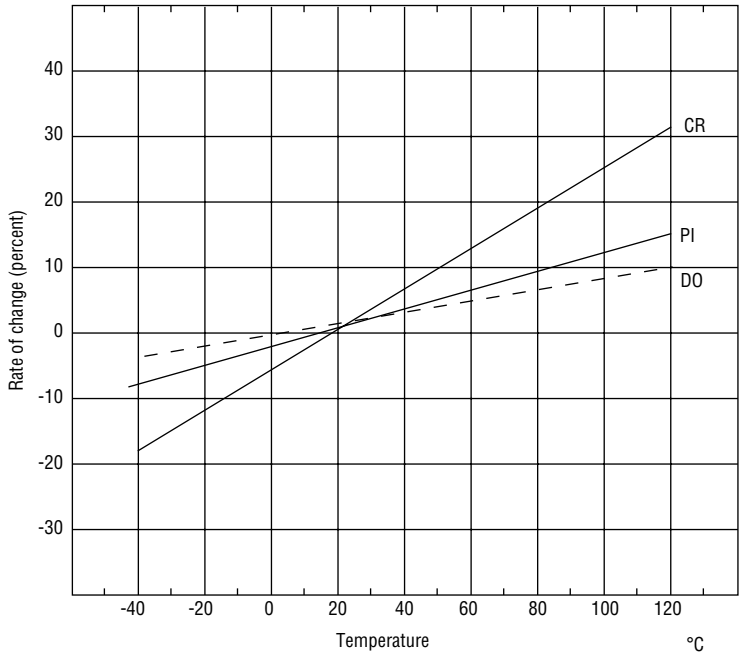


(2) Lead tensile strength

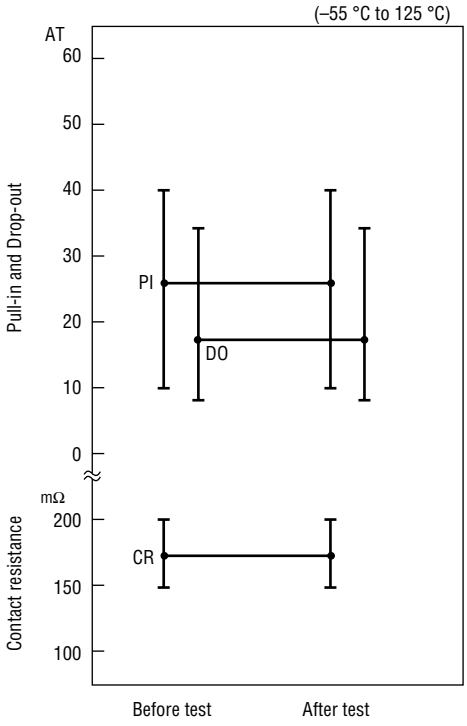


ENVIRONMENTAL CHARACTERISTICS

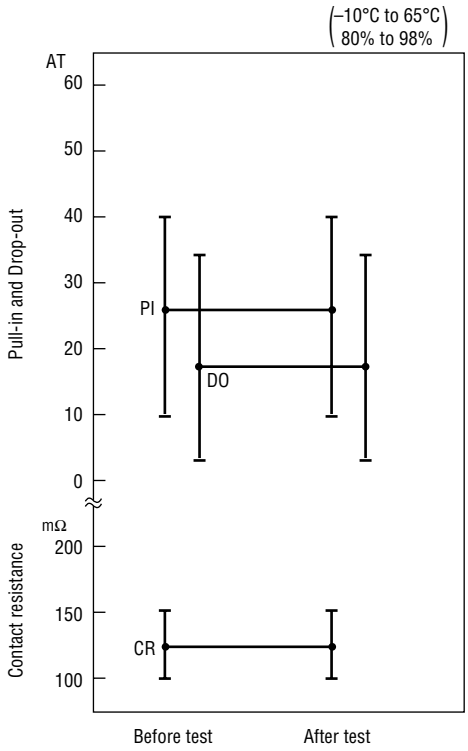
(1) Temperature characteristics



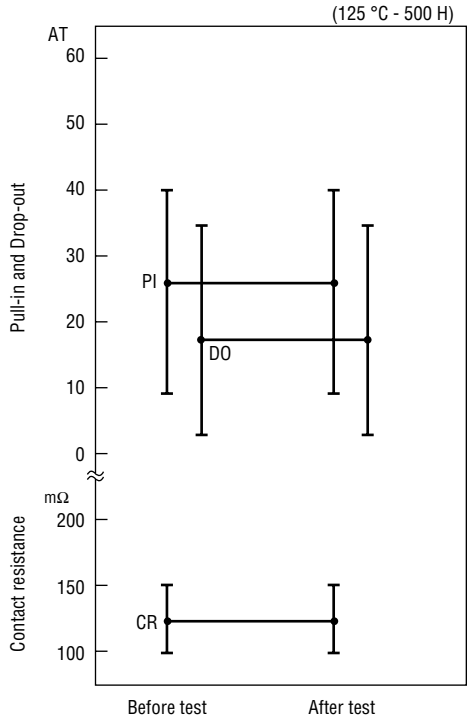
(2) Temperature cycle



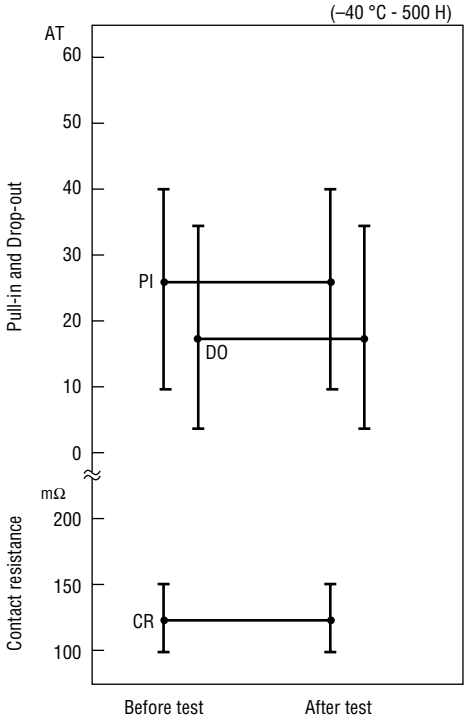
(3) Temperature and humidity cycle



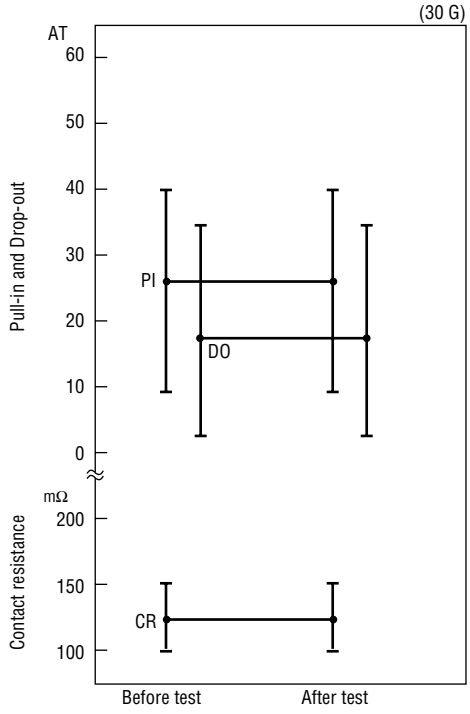
(4) High temperature storage test

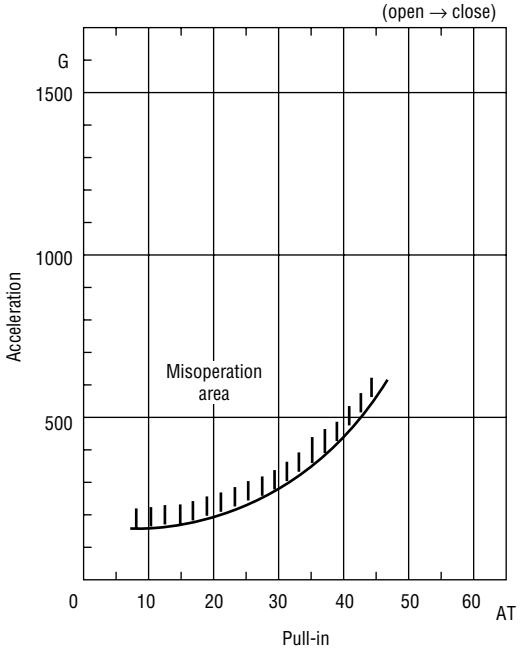


(5) Low temperature storage test

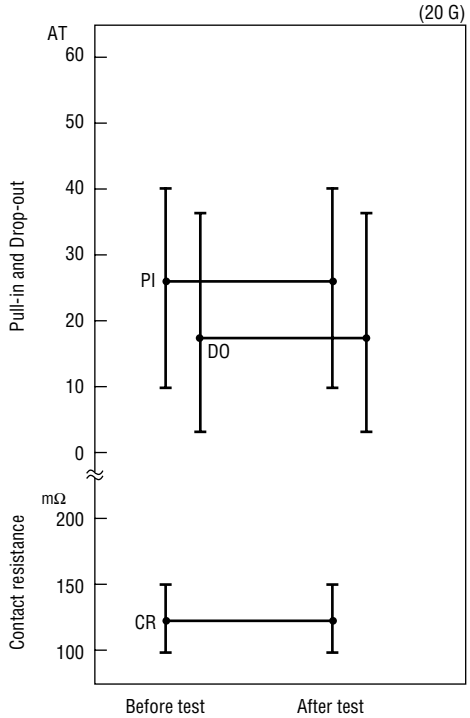


(6) Shock test





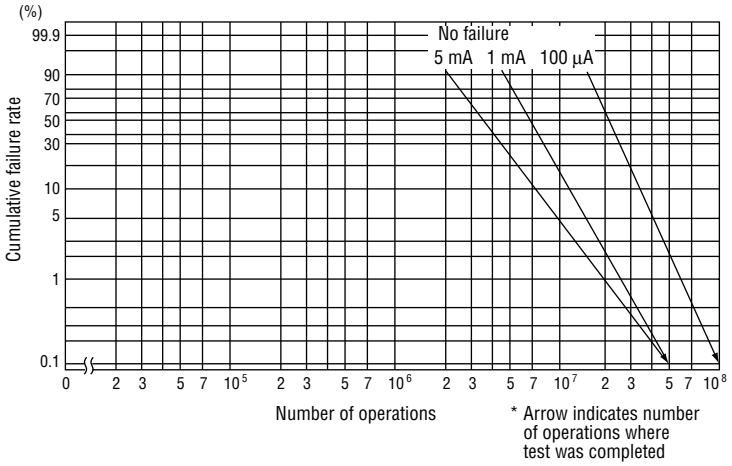
(7) Vibration test



LIFE EXPECTANCY DATA: ORD213

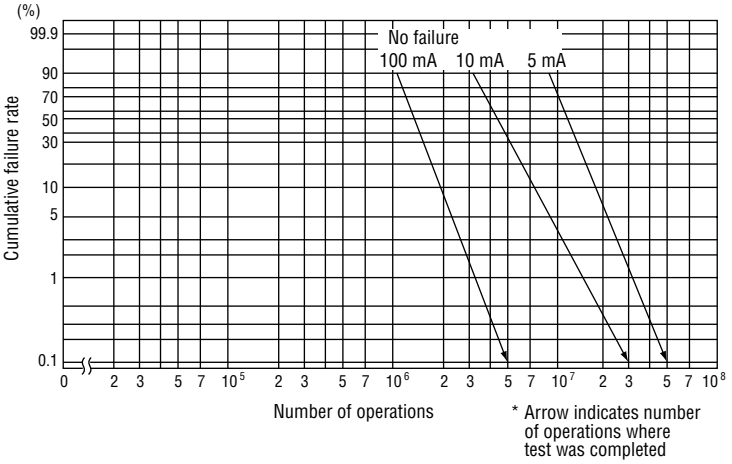
Load conditions

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



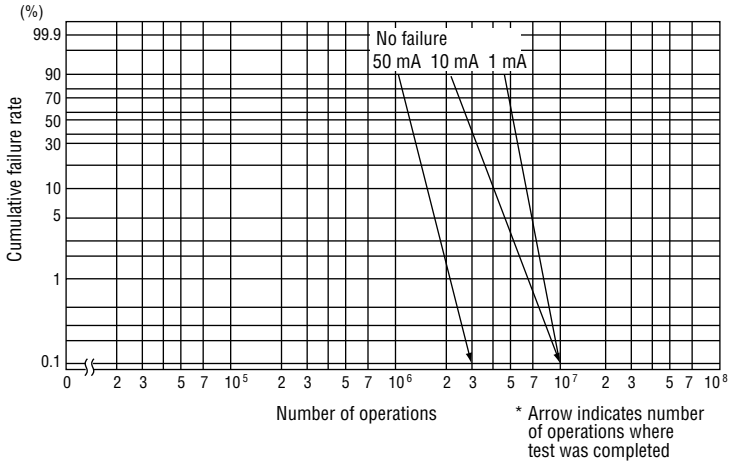
Load conditions

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



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