REED SWITCH
ORD211
Ultra-miniature

■ 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 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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rated value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull-in Value (PI)</td>
<td>10~40</td>
<td>AT</td>
</tr>
<tr>
<td>Drop-out Value (DO)</td>
<td>5min</td>
<td>AT</td>
</tr>
<tr>
<td>Contact resistance (CR)</td>
<td>100max</td>
<td>mΩ</td>
</tr>
<tr>
<td>Breakdown voltage</td>
<td>150min</td>
<td>VDC</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>10^9min</td>
<td>Ω</td>
</tr>
<tr>
<td>Electrostatic capacitance</td>
<td>0.2max</td>
<td>pF</td>
</tr>
<tr>
<td>Contact rating</td>
<td>1.0</td>
<td>VA</td>
</tr>
<tr>
<td>Maximum switching voltage</td>
<td>24 (DC)</td>
<td>V</td>
</tr>
<tr>
<td>Maximum switching current</td>
<td>0.1</td>
<td>A</td>
</tr>
<tr>
<td>Maximum carry current</td>
<td>0.3</td>
<td>A</td>
</tr>
</tbody>
</table>

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

(2) Contact resistance

(Measurement length: 22mm)
(3) Breakdown voltage

![Breakdown voltage graph]

(4) Insulation resistance

![Insulation resistance graph]

(5) Electrostatic capacitance

![Electrostatic capacitance graph]
## OPERATING CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rated value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate time</td>
<td>0.3max</td>
<td>ms</td>
</tr>
<tr>
<td>Bounce time</td>
<td>0.3max</td>
<td>ms</td>
</tr>
<tr>
<td>Release time</td>
<td>0.05max</td>
<td>ms</td>
</tr>
<tr>
<td>Resonant frequency</td>
<td>7500±500</td>
<td>Hz</td>
</tr>
<tr>
<td>Maximum operating frequency</td>
<td>500</td>
<td>Hz</td>
</tr>
</tbody>
</table>

(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

(-55°C to 125°C)

Before test  After test

-before test  After test

Pull-in Value - Drop-out Value

Contact resistance

mΩ

(3) Temperature and humidity cycle

(-10°C to 65°C  80% to 98%)

Before test  After test

Pull-in Value - Drop-out Value

Contact resistance

mΩ

(4) High temperature storage test

(+125°C-500H)

Before test  After test

Pull-in Value - Drop-out Value

Contact resistance

mΩ

(5) Low temperature storage test

(-40°C-500H)

Before test  After test

Pull-in Value - Drop-out Value

Contact resistance

mΩ
(6) Shock test

1) Electrical characteristics

(30G: 11ms)

(7) Vibration test

(20G: 10〜1000Hz)
**LIFE EXPECTANCY DATA: ORD211**

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

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

Load conditions
Voltage: 24VDC
Current: 1 mA, 10 mA, 50 mA
Load: Resistive load