

## Vibration Sensor Switch

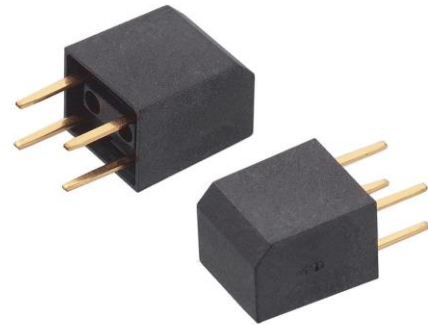
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### ● FUNCTIONS

Omni-directional Vibration Detecting

### ● APPLICATIONS

1. Wake up systems for power saving,  
Such like remote controllers
2. GPS starting system
3. Alarm system
4. Anti-theft, Anti-tampered devices.
5. Automatically flashing for bike lamp
6. Subsidiary night lamp flashing for car
7. Outsole of sporting shoes flashing
8. Toys



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### ● FEATURES

1. Both suitable for horizontal and vertical PCB.
2. The VBS061100 acts like a normally closed switch which chatters open and closed as it is tilted or vibrated. Note that the VBS061100 is not guaranteed to be closed --- occasionally the sensing mechanism may remain open when at rest. The engineer should design his or her software to look for high-to-low and low-to-high edge transitions rather than an open or closed state of the switch.
3. Housing made of high insulation plastic material, free from electric conduction and rust problem.
4. Gold-plated ball and terminals, low possibility of oxidization.
5. All plastic materials subject to industrial purpose, resist high temperature and meet fireproof function.
6. Simple ON and OFF signals, easy for design.
7. RoHS compliance, an ideal substitute for mercury switch.
8. A more economical vibration detection option than IC design solution.
9. All made in Taiwan and examined before shipment.

### ● PATENTS

1. U.S.A. Patent NO. US 7,176,396 B1
2. Taiwan Patent NO. I 297161
3. China Patent NO. ZL 200610072563.7



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● DIMENSIONS / OPERATION / P.C.B. LAYOUT (Unit: mm, Tolerance: ±0.25mm)

Fig. 1

<p>VBS 06 11 00</p>	<p>Operation Diagram</p> <p>Fleetingly Open When Being Vibrated From Any Position</p>
<p>P.C.B. Layout(DIP)/Top View</p>	<p>Application Circuit</p>



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● Current/Voltage Suggested

Input Current (mA)	Operating Voltage (V)	Condition
1.0	5	--

● ELECTRICAL CHARACTERISTICS

1.	Contact Rating	10mA, 5VDC
2.	Operation Diagram	Refer to Fig .1
3.	Insulation Resistance	10 MΩ min. at 100VDC
4.	Dielectric Strength	500 VDC min. for 1 minute
5.	Capacitance	5 pF max.
6.	Conductive Rate	90% min.



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● RELIABLE TEST ITEMS

Reliable Test for RBS061100

	Test Item	Contents
1	Operating Temperature	-25 °C ~ 85 °C
2	Storage Temperature	-40°C ~ 85°C
3	Humidity	40 °C / 95 %RH
4	Mechanical Life	2 Hz · horizontal 1,000,000 times
5	Electrical Life	100,000 times

● SOLDERING CONDITION

Following soldering conditions are for reference only, please use soldering information that solder paste manufacturer recommends.

Condition	Soldering Temperature	Soldering Time	Wattage of Manual Soldering	Type
Suitable Production Process				
Wave Soldering	260±5°C	< 5 seconds max.	-	DIP
Manual Soldering	300±5°C	< 3 seconds max.	20W or Temperature-controlled manual soldering	DIP



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● PACKAGE

	Part Number	Package	Quantity	Total	Dimension (mm)
1.	VBS061100	IC tube	84 pcs	84 pcs	525L*10W*17.5H
		Inner box	162 tubes	13,608 pcs	539L*130W*130H
		Carton	4 boxes	54,432 pcs	551L*285W*288H

※ Package shown as below for reference.



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● NOTE

1. Suggestion for usage: For vibration usage or application, we suggest to add hysteresis for IC; if vibration is heavy, optical type of sensor switch is recommended.
2. For the continued product improvement as one of the company policy, specifications may change or update without notice. The latest information can be obtained through our sales offices. Normally, all products are supplied under our standard conditions.
3. If buyer's products will stay in power supply for a long time which needs very high stability, optical sensor switch is strongly recommended.

● PRECAUTIONS FOR USE

1. If the products is intended to be used for other endurance equipment requiring higher safety and reliability such as life support system, space and aviation devices, disaster and safety system, it's necessary to make verification of conformity or contact us for the details before using.
2. Do not try to clean the switch with a solvent or similar substance after the soldering process.
3. Use water-soluble flux may damage the switch.
4. Please follow the soldering instruction accordingly, otherwise might lead to defective.
5. Do not use switch in the environment of high humidity, because such an environment may cause the leakage current between the terminals.
6. Please do not exceed the rated load as there will be a risk of disabling the product function.
7. In the circuit, switch should not be near or directly connected with the magnetic component solder joints (for example: relays, transformers, etc.).

