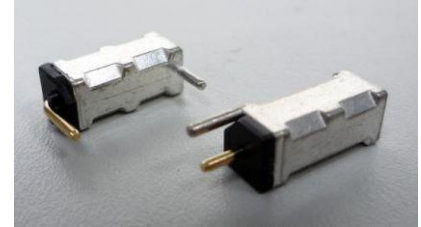


SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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● **FUNCTION**

Omni-directional vibration detecting.



● **APPLICATION**

1. Remote Control
2. Earthquake Detection
3. Anti-theft Detection
4. Sporting device
5. Automotive devices
6. Visual devices
7. Home appliance tilt-off detection
8. Information devices
9. Communication devices

● **FEATURES**

1. No electricity consumption during detection status.
2. Gold-plated ball and terminals, low possibility of oxidization.
3. All plastic material subject to industrial purpose meets high temperature and fireproof function.
4. Simple ON and OFF signals, easy for design.
5. RoHS compliance, complete replacement of mercury switch.
6. A more economical vibration detection option than IC design solution.
7. All made in Taiwan and examined before shipment.



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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● PATENTS

1. TAIWAN Patent NO. 204790
2. U.S.A. Patent NO. US 6,706,979 B1

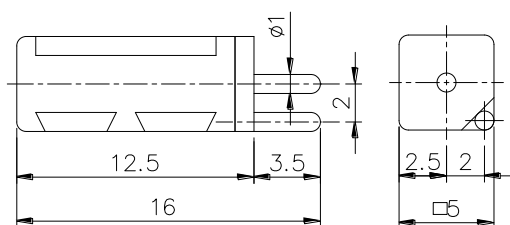
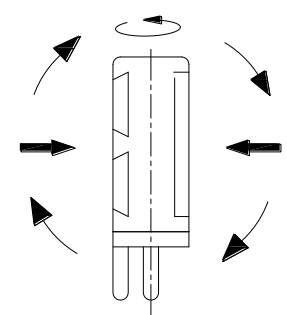
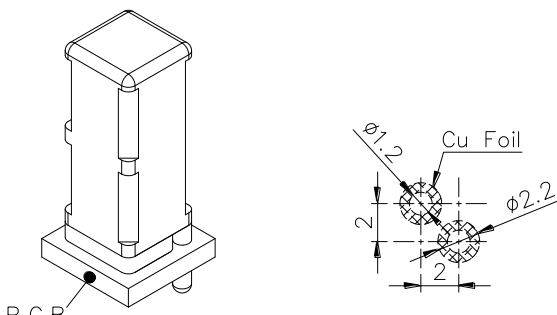
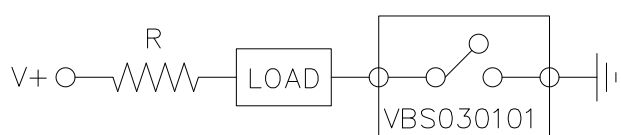
● DIMENSIONS / OPERATION / P.C.B. LAYOUT (Unit: mm, Tolerance: ±0.25mm)

<p>VBS 03 01 00</p>	<p>Fleetingly Open When Being Vibrated From Any Position</p>
<p>P.C.B. Layout (SMT) / Installation</p>	<p>Application Circuit</p>



SENSOR SWITCH

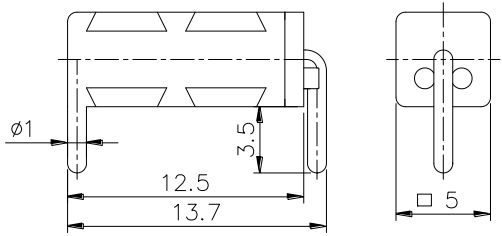
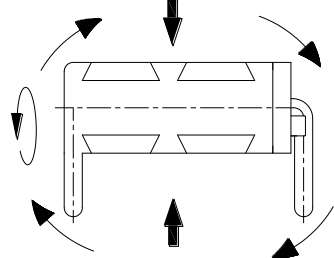
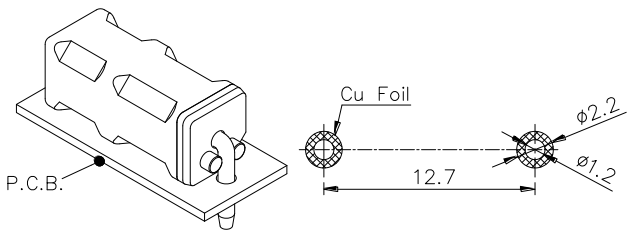
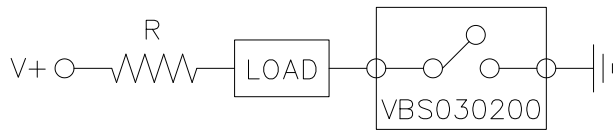
Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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<p>VBS 03 01 01</p>	<p>Fleetingly Open When Being Vibrated From Any Position</p>
	
<p>P.C.B. Layout (SMT) / Installation</p>	<p>Application Circuit</p>
	



SENSOR SWITCH

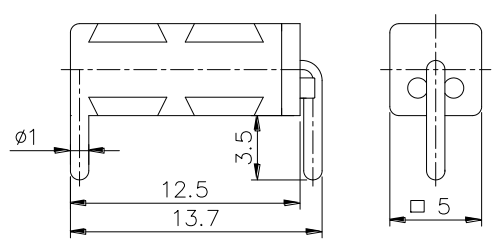
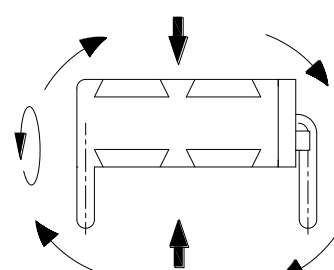
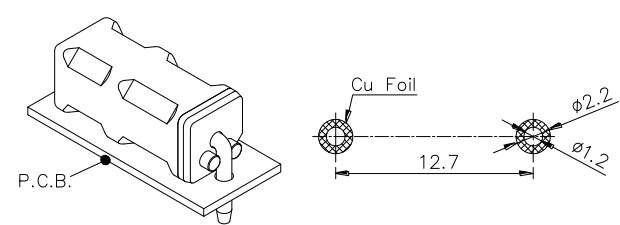
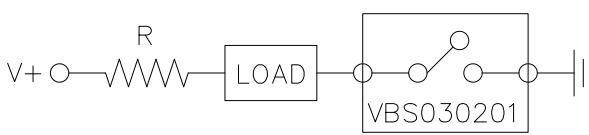
Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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<p>VBS 03 02 00</p>	<p>Fleetingly Open When Being Vibrated From Any Position</p>
	
<p>P.C.B. Layout (SMT) / Installation</p>	<p>Application Circuit</p>
	



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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<p>VBS 03 02 01</p>	<p>Fleetingly Open When Being Vibrated From Any Position</p>
	
<p>P.C.B. Layout (SMT) / Installation</p>	<p>Application Circuit</p>
	



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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<p>VBS 03 02 10</p>	<p>Fleetingly Open When Being Vibrated From Any Position</p>
<p>P.C.B. Layout (SMT) / Installation</p>	<p>Application Circuit</p>



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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● ELECTRICAL CHARACTERISTICS

1.	Contact Rating	10mA , 5VDC
2.	Switching type	Normal Close (NC)
3.	Insulation Resistance	1000MΩ min. At 100 VDC
4.	Dielectric Strength	500 VDC min. for 1 minute
5.	Capacitance	5pF max.

● RELIABLE TEST ITEMS

Reliable test item-1

Test Items	Test Content	Duration	Qualified Standard
Storage Temperature	-40°C~85°C	5 cycles	< 10Ω Cm > 90% Ca > 98%
IR Reflow Oven	Peak temp.=255~260°C*3times	3 times	



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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Reliable test item-1

Test Items	Test Content	Duration	Qualified Standard
Humidity	40°C/95%RH, 5VDC, I=1.6mA	120 hours	$< 10\Omega$ $C_m > 90\%$ $C_a > 98\%$
Operating Temperature	-25°C~85°C, 5VDC, I=1.6mA	5 cycles	
Mechanical Life	2Hz	1,000,000 times	
Electrical Life	2Hz, 5VDC, I=1.6mA	100,000 times	

Note:

1. Reliable test items-2 will be processing only after Reliable test items-1 were tested and qualified.
2. *Cm : Represents Minimum conductive rate.
3. *Ca : Represents Average conductive rate.
4. Regarding definition of conductive rate, please refer to "NOTE" stated below.



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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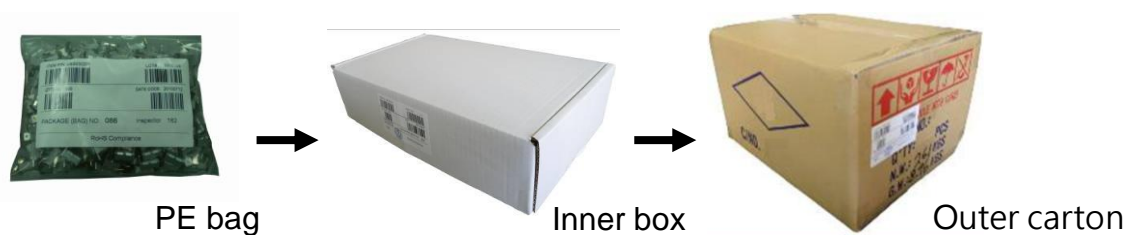
● Soldering Temperature and Times

Condition Soldering Method	Soldering Temperature	Times for Soldering
	Soldering-iron	260 ± 5°C
Wave	255 ± 5°C	< 3 Sec. Max

● Package

	Part Number	Package	Quantity	Total	Dimension (mm)
1.	VBS030100	PE bag	500 pcs	500 pcs	205L*145W
	VBS030101				
	VBS030200	Inner boxes	10 PE bags	5,000 pcs	348L*191W*85H
	VBS030201 VBS030210	Outer carton	3 inner boxes	15,000 pcs	364L*278W*213H

※ Package shown as below for reference.



SENSOR SWITCH

Item #	VBS03 Series	Description	VIBRATION SWITCH	Version	V100.0
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● NOTES

1. Suggestion for usage : For vibration or shock application · we suggest to add “on delay” for IC; If the vibration/shock is too large · we suggest to use optical type of sensor switch.
2. Recommend using 5mA as input current.
3. 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.
4. Conductive rate (Switch-on Rate): To test the conductivity of one switch individually for 100 times · if the switch got 95 times of “ON” · we call the its “conductive rate” is 95%.

● 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. Do not use switch in the environment of high humidity · because such an environment may cause the leakage current between the terminals.
5. More than the rated load may cause fire, so do not use more than the load
6. In the circuit · switch should not be near or directly connected with the magnetic component solder joints (for example: relays, transformers, etc.).

