

## SENSOR SWITCH

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	1 of 4		Date	MAY 30, 2012	

● FUNCTIONS

1. Centrifugal Force Detecting
2. Single Axis Vibration Detecting



● APPLICATIONS

1. Step counters
2. Tire Pressure Monitoring System (TPMS)
3. Laser marker
4. Toys

● FEATURES

1. Tiny size, suitable for small space.
2. Use of high quality springs, vibration sensitivity is good.
3. Using the technology of insert molding to withstand the force between the base and the terminal.
4. All plastic materials subject to industrial purpose, resist high temperature and meet fireproof function.
5. Suitable for IC trigger for signal.
6. RoHS compliance, an ideal substitute for mercury switch.



SENSOR SWITCH

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	2 of 4		Date	MAY 30, 2012	

● PATENTS

1. TAIWAN Patent No. 181432
2. U.S.A. Patent No. US 6,555,772 B1
3. U.S.A. Patent No. US 7,332,685 B1
4. CHINA Patent No. ZL 01 2 59628.0

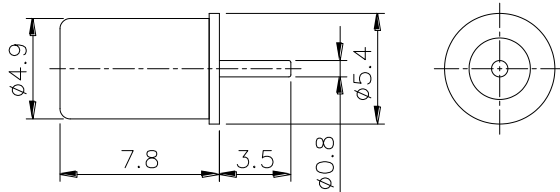
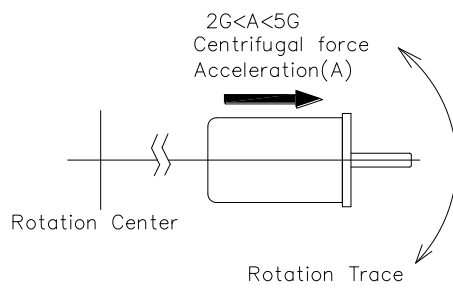
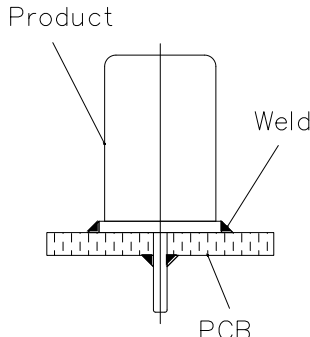
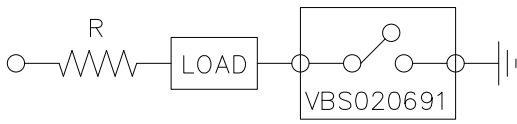
● DIMENSIONS / OPERATION / P.C.B. LAYOUT (Unit: mm, Tolerance: ±0.25mm)

VBS 02 06 01	Trigger Force Between 1.5G to 5G
P.C.B. Layout (DIP) / Top View	Application Circuit



SENSOR SWITCH

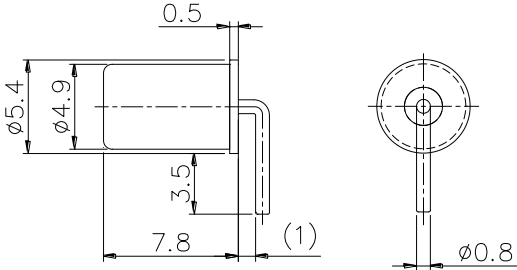
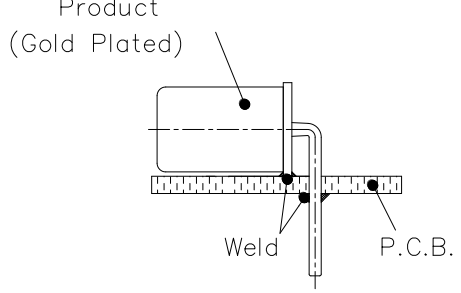
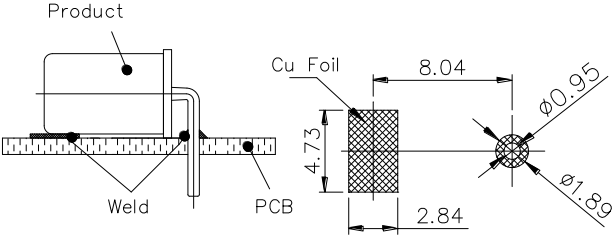
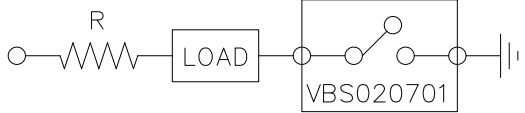
Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	3 of 4		Date	MAY 30, 2012	

<p>VBS 02 06 91</p>	<p>Trigger Force Between 2G to 5G</p>
	
<p>P.C.B. Layout (DIP) / Top View</p>	<p>Application Circuit</p>
	



**SENSOR SWITCH**

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	4 of 4		Date	MAY 30, 2012	

<p>VBS 02 07 01</p>	<p>Trigger Force Between 1.5G to 5G</p>
	
<p>P.C.B. Layout (DIP) / Top View</p>	<p>Application Circuit</p>
	



SENSOR SWITCH

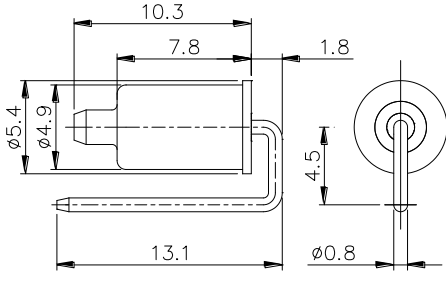
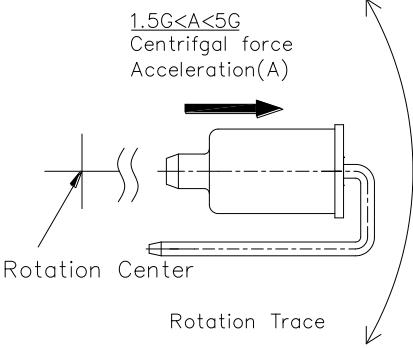
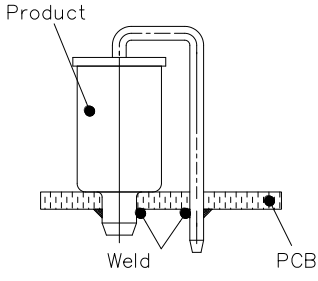
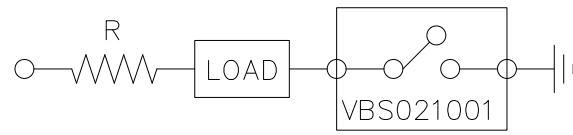
Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	5 of 4		Date	MAY 30, 2012	

<p>VBS 02 08 01</p>	<p>Trigger Force Between 1.5G to 5G</p>
<p>P.C.B. Layout (DIP) / Top View</p>	<p>Application Circuit</p>



SENSOR SWITCH

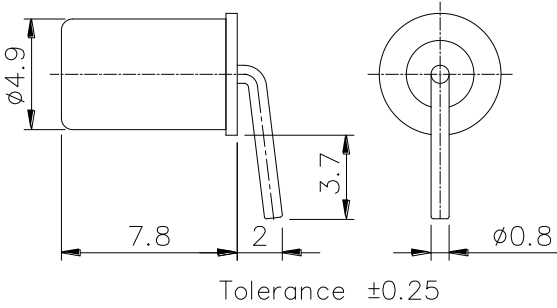
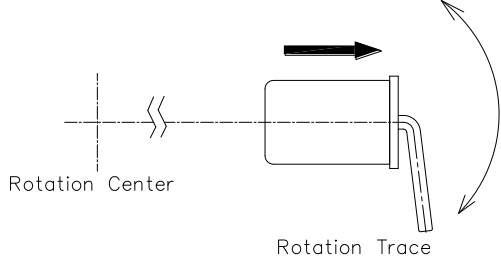
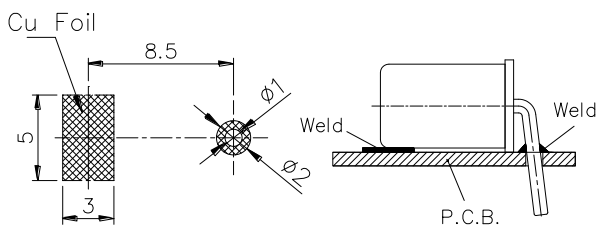
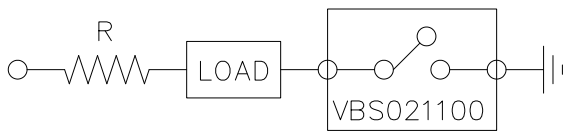
Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	6 of 4		Date	MAY 30, 2012	

<p>VBS 02 10 01</p>	<p>1.5G&lt;A&lt;5.0G Centrifugal force Acceleration(A)</p>
	
<p>P.C.B. Layout (DIP) / Top View</p>	<p>Application Circuit</p>
	



SENSOR SWITCH

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	7 of 4		Date	MAY 30, 2012	

<p>VBS 02 11 00</p>	<p>1.5G&lt;A&lt;5.0G Centrifugal force Acceleration(A)</p>
 <p>Tolerance ±0.25</p>	 <p>Rotation Center</p> <p>Rotation Trace</p>
<p>P.C.B. Layout (DIP) / Top View</p>	<p>Application Circuit</p>
 <p>Cu Foil</p> <p>Weld</p> <p>P.C.B.</p>	 <p>R</p> <p>LOAD</p> <p>VBS021100</p>



## SENSOR SWITCH

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	8 of 4		Date	MAY 30, 2012	

● MECHANICAL CHARACTERISTICS

1.	Temperature Range	Operating: -25°C to +85°C Storage: -40°C to +85°C
2.	Pull Force of Terminal	500 gf for 1 minute
3.	Mechanical Life	1,000,000 cycles
4.	Vibration	Per MIL-STD-202F, Method 204D
5.	Humidity	95% RH, 40°C for 96 hrs.
6.	Solder Ability	After flux 260±5°C for 5±0.5 seconds, 95% coverage

● RELIABLE TEST

Test Item	Standard	Contents
Storage Temperature	MIL-STD-202G, TEST METHOD 107G, TEST A	-40°C~85°C
Humidity	MIL-STD-202G, TEST METHOD 103B	40°C/95%RH
Mechanical Life	--	2Hz Horizontal

● Soldering Temperature and time

Condition / Operation Method	Soldering Temperature	Soldering Time
Iron Soldering	260±5°C	<5 sec. Max
Wave Soldering	260±5°C	<5 sec. Max





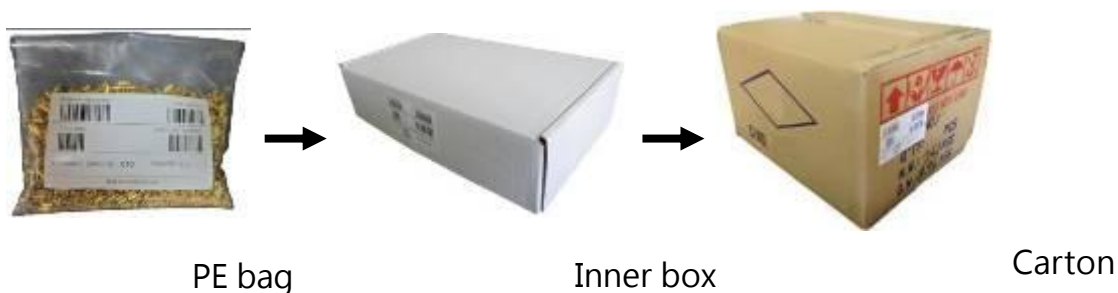
SENSOR SWITCH

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	9 of 4		Date	MAY 30, 2012	

● PACKAGE

	Part Number	Package	Quantity	Total Q'ty	Packing Dimension
1.	VBS020601	PE bag	1,000 pcs	1,000 pcs	12.7 x 17.8 (cm)
	VBS020691				
	VBS020701	Inner box	10 PE bags	10,000 pcs	36 x 20 x 9 (cm)
	VBS020801				
	VBS021001	Carton	3 Boxes	30,000 pcs	36 x 28 x 23 (cm)
	VBS021100				

※Package shown as below for reference.



## SENSOR SWITCH

Item #	VBS02 Series	Description	VIBRATION SWITCH	Version	V101.0
Page	10 of 4		Date	MAY 30, 2012	

● 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. 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.).

