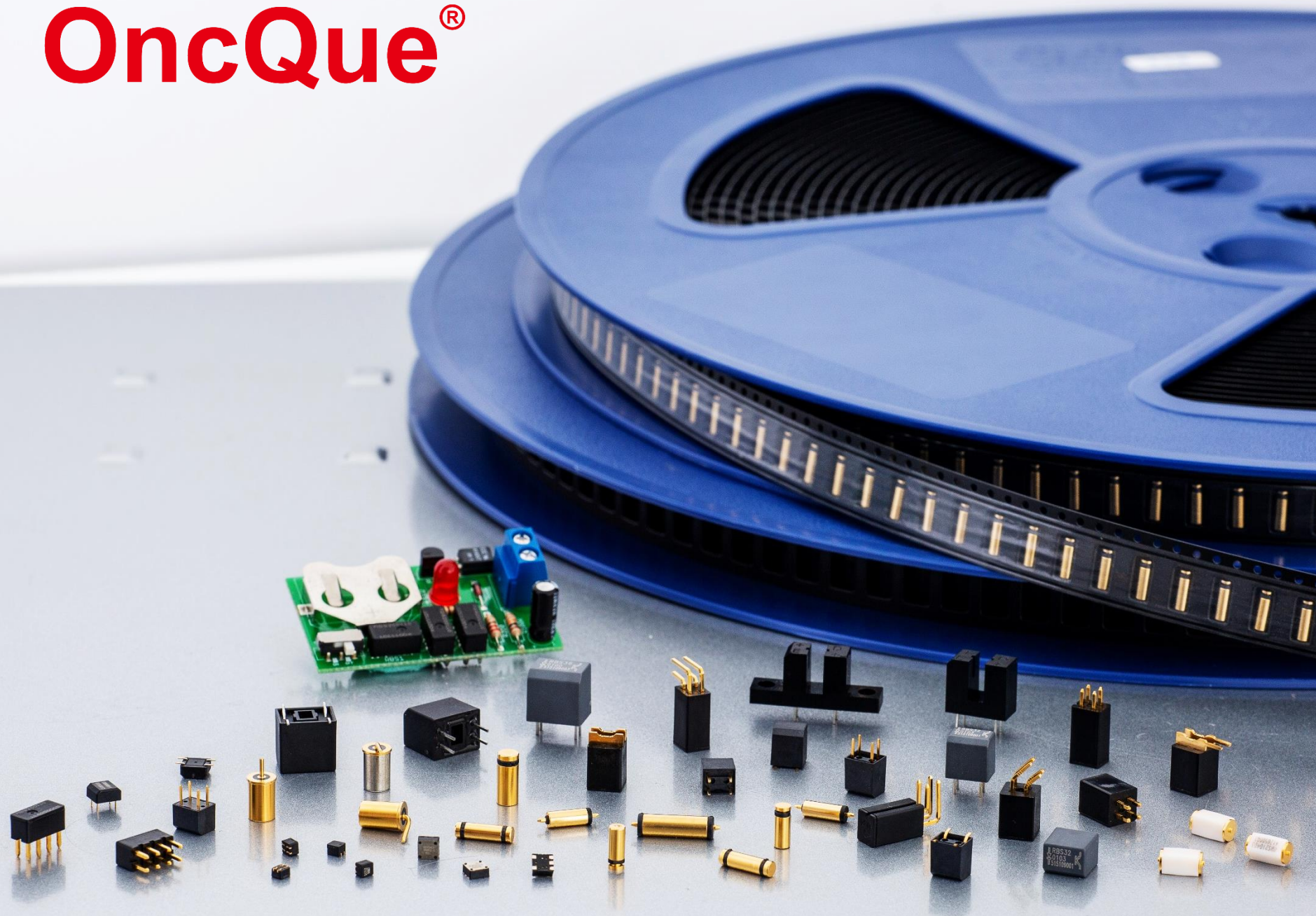
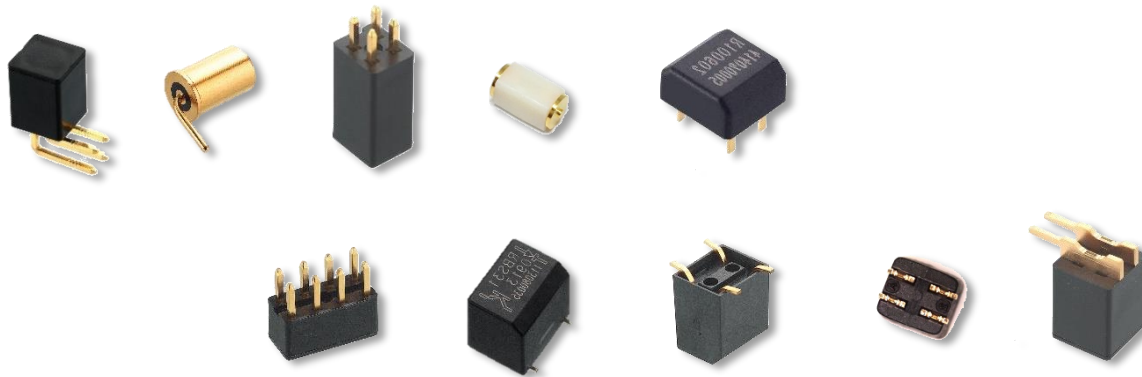


OncQue®

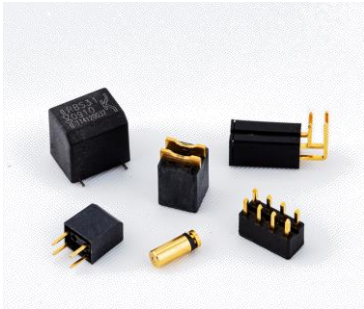


Roll Ball Sensor Switch

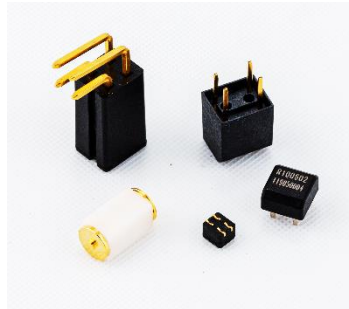
- Replacement for mercury switch
- Simple ON/OFF signal
- Easy for design
- Trigger function depends on how customer designs



Product Range



Tilt Detection



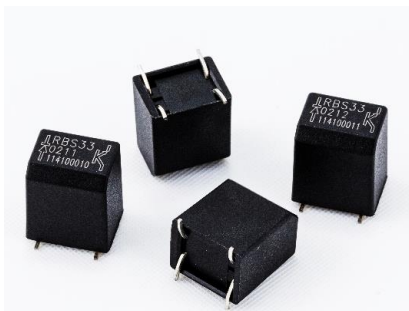
Vibration Detection



Rotation Detection



Centrifugal-force Detection



Optical Tilt Detection



Module Design

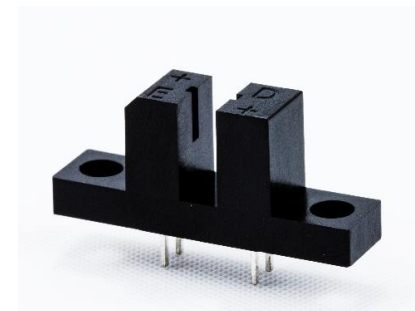
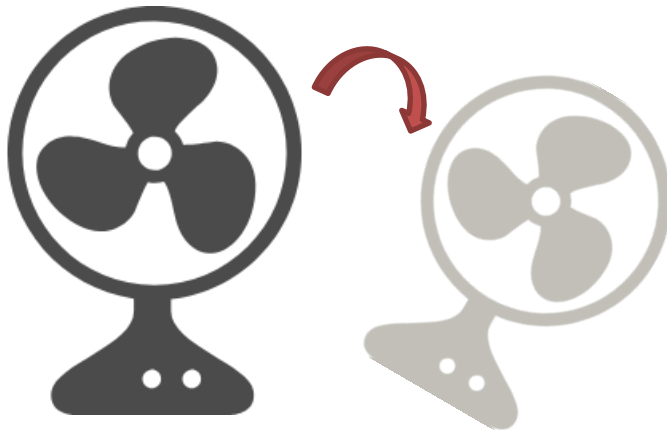


Photo Interrupter

Product Application

- **Automatically shut off**

For home appliance e.g. heater, air-purifier, dehumidifier, humidifier, fans, irons etc. While the angle changes (or not moving), the device will be turn off automatically to prevent danger.



ON

OFF



RBS050300, RBS070310, RBS070410, RBS310910T,
RBS311104, RBS311110, RBS330210T

While using



ON

After not moving for a while



OFF

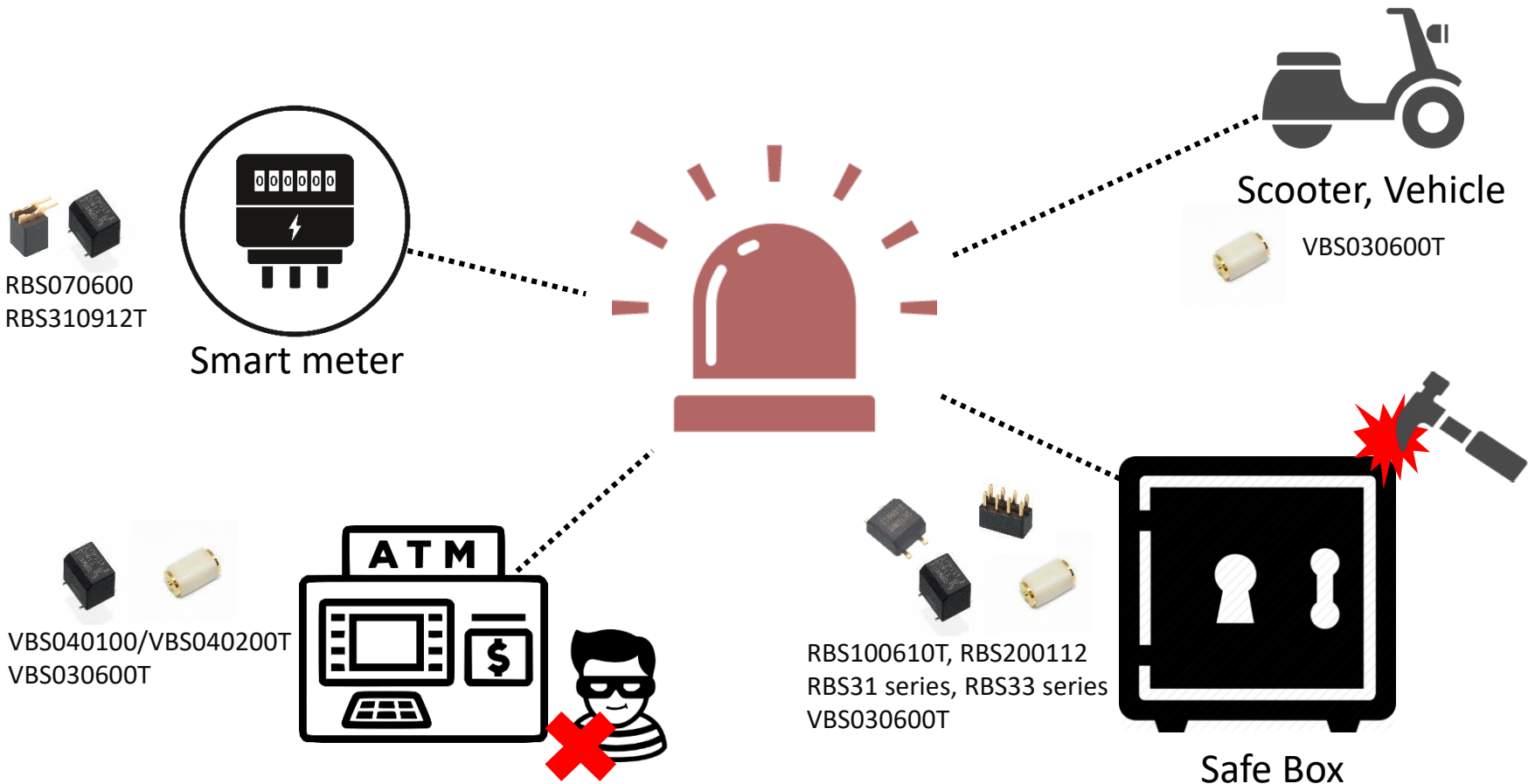


RBS020902

Product Application

- Anti-theft/Anti-tamper

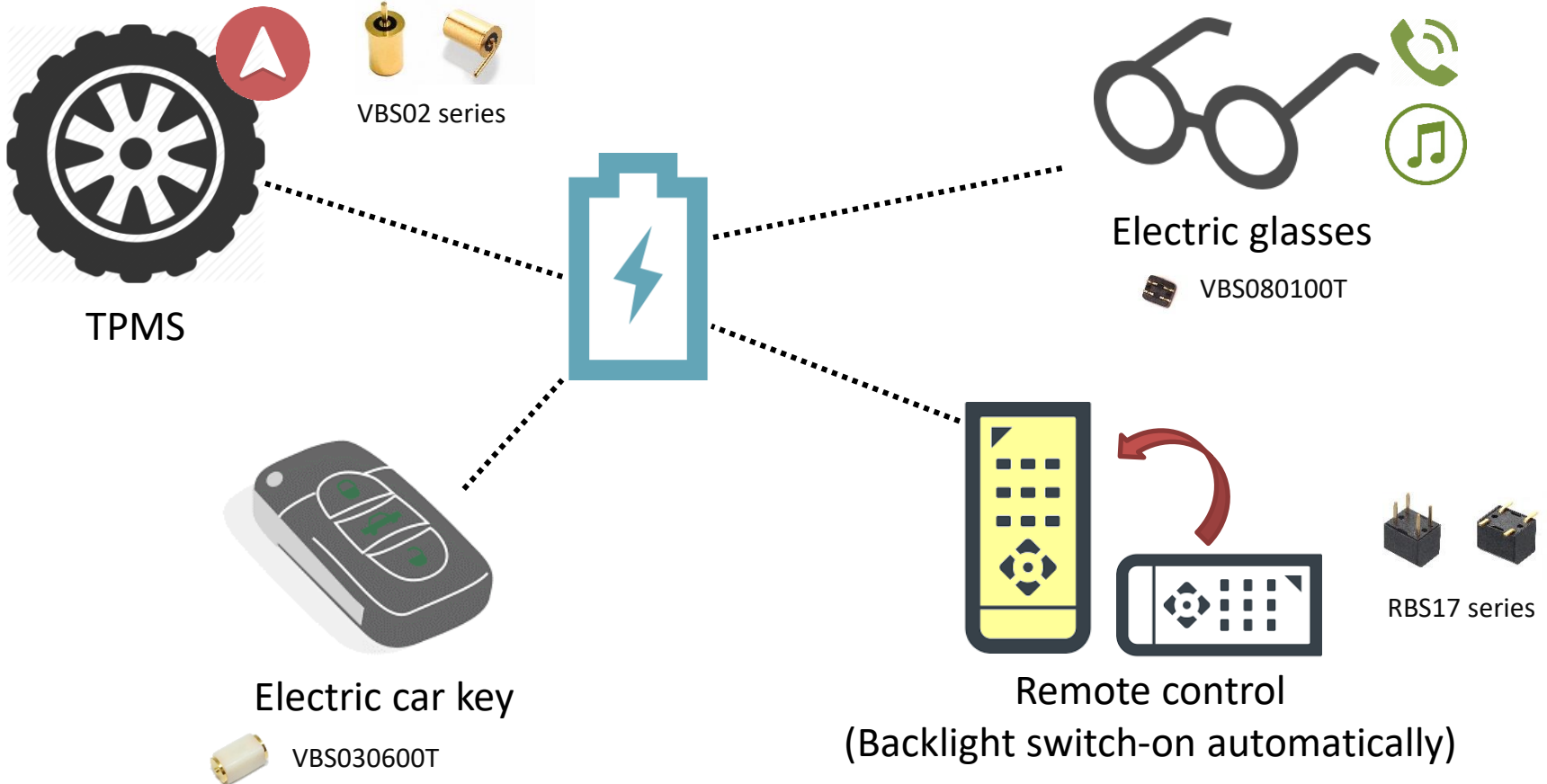
For safe box, ATM, vehicle/motorcycle/bike, smart meter, etc. When detecting vibration or shock, the alarm will be triggered, or send signal to server.



Product Application

- Power saving

For TPMS, GPS, remote controller, electric car key, bike accessories, etc. Detecting vibration, centrifugal force or angle changes in order to wake up the system.



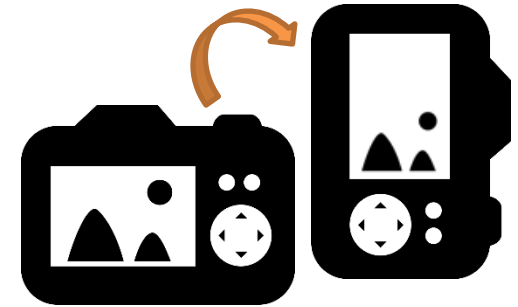
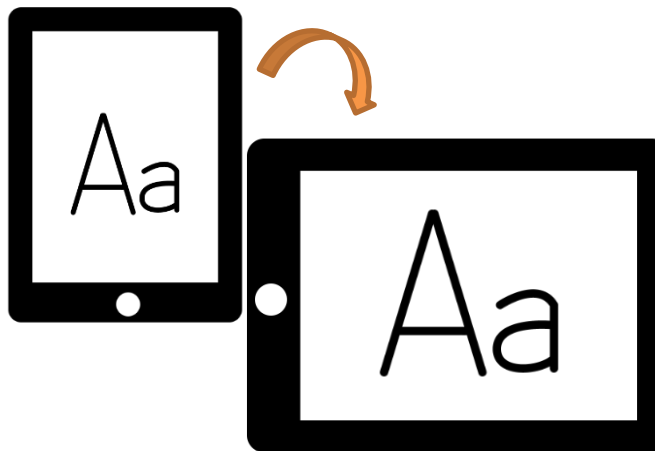
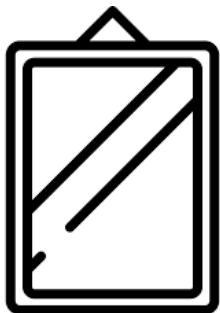
Product Application

- Screen rotation

For monitors, portable 3C products or smart mirror, etc.



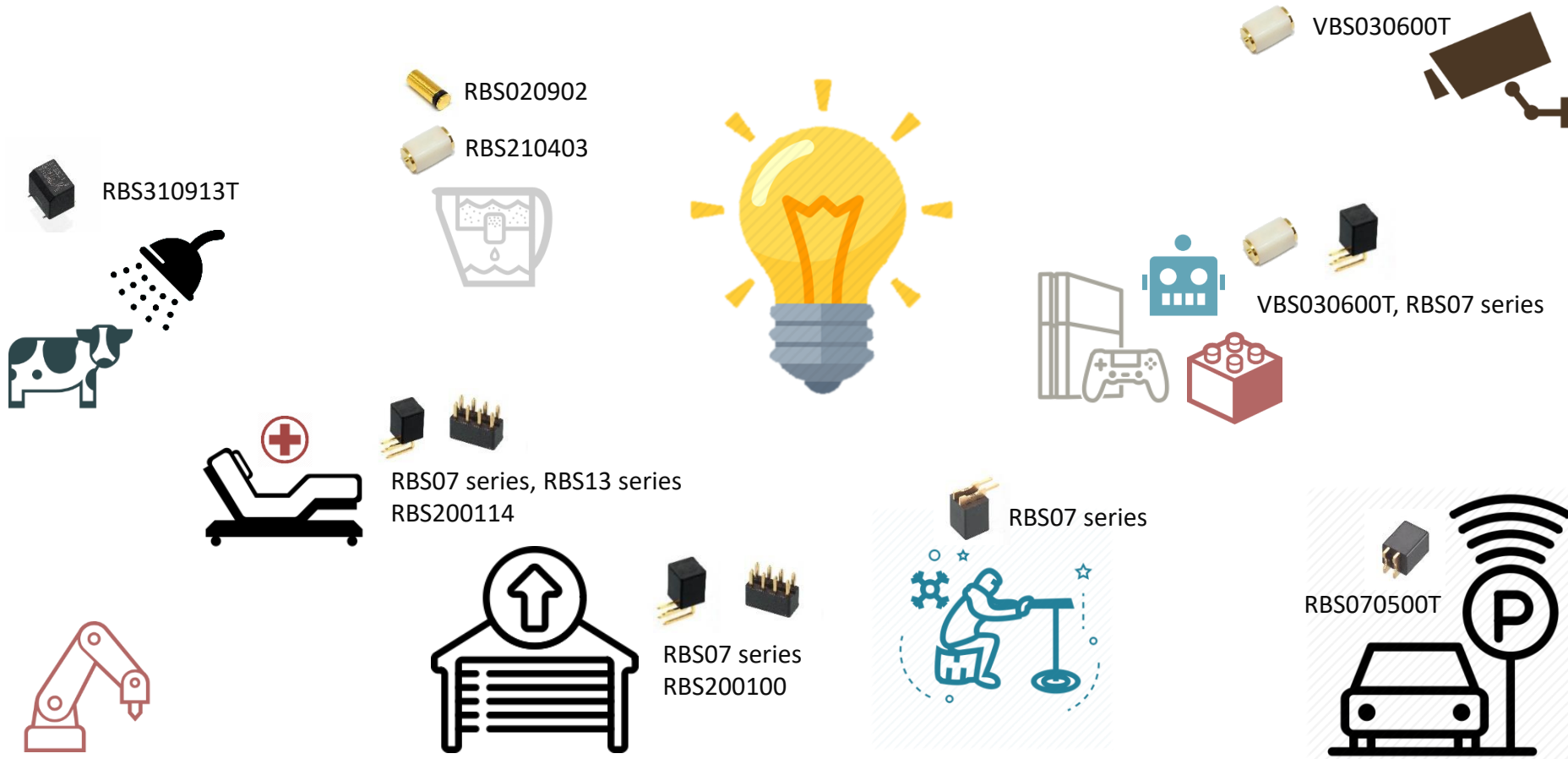
RBS13 series, RBS100601/RBS100611T, RBS350100T



Product Application

● Others

Smart parking system, Garage door open/close detecting, filter cartridge life-cycle detecting, smart fishing tackle, new animal husbandry equipment, LED Driver, toys, entertainment devices, heating pad, Medical bed, automation equipment, etc.



Design & Made in Taiwan!

Liability
Insurance

USD 5 million



Patent

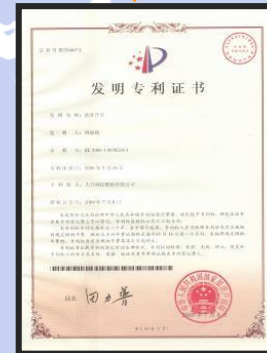
USA



Europe



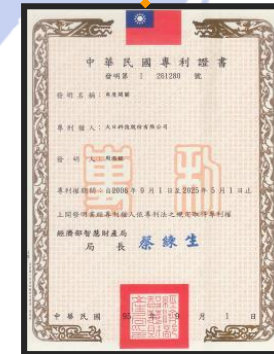
China



Japan



Taiwan



Over 157 patents
including 149 patents of
Sensor Switch products



VIBRATION SENSOR SWITCH

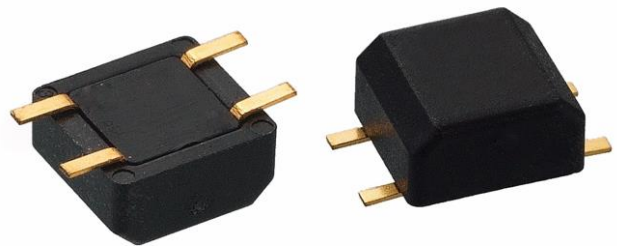
Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	1 of 7		Publish Date	May 13, 2018	

● FUNCTION

Vibration detection in horizontal position.

● APPLICATIONS

1. Wireless mouse
2. Anti-theft / Anti-tamper devices
3. Alarm system
4. Toys / Entertainment devices



● FEATURES

1. Suitable for horizontal PCB.
2. Switch State: SMD Normal open
RBS100612T acts like a normally open switch which chatters closed and open as it is tilted or vibrated. Note that the RBS100612T is not guaranteed to be open --- occasionally the sensing mechanism may remain close 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. Small size & compact space.
4. Housing made of high insulation plastic material, free from electric conduction and rust problem.
5. Terminals and balls are gold plated to enhance the life.
6. All plastic material subject to industrial purpose meets high temperature and fireproof function.
7. Simple switch signal, easy for circuit design.
8. Comply with RoHS, complete replacement of mercury switch and meet environmental protection.
9. More economic than IC design.
10. All made in Taiwan and examined before shipment.



VIBRATION SENSOR SWITCH

Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	2 of 7		Publish Date	May 13, 2018	

● PATENTS

1. Taiwan Patent No. I 239025
2. Taiwan Patent No. I 261280
3. Taiwan Patent No. M 455971
4. Taiwan Patent No. I 505313
5. U.S.A. Patent No. US 7,045,724 B1
6. U.S.A. Patent No. US 7,473,857 B2
7. U.S.A. Patent No. US 8,969,747 B2
8. China Patent No. ZL 200410091589.7
9. China Patent No. ZL 200610078234.3
10. China Patent No. ZL 201220661492.5
11. China Patent No. ZL 201210510604.1

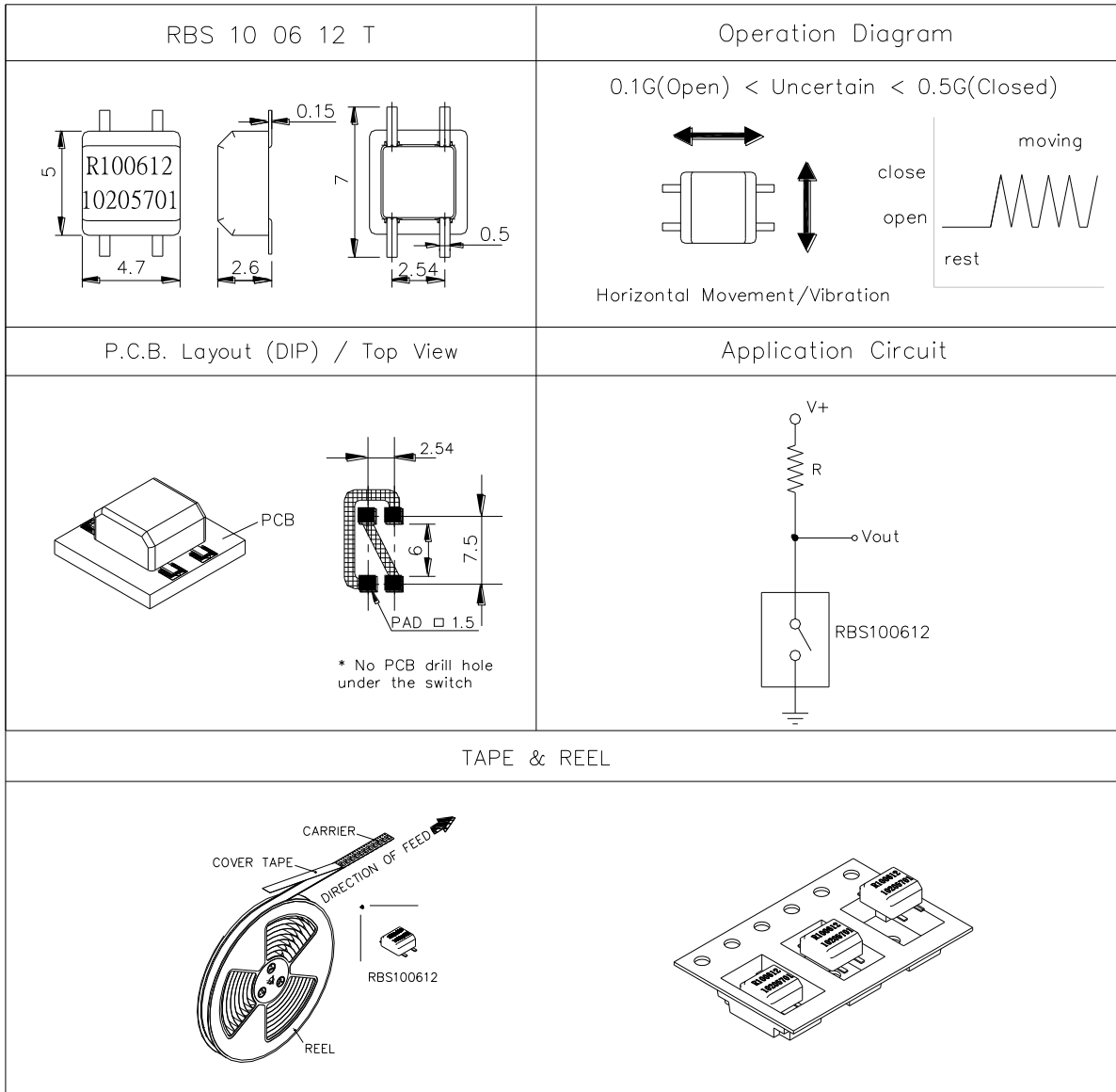


VIBRATION SENSOR SWITCH

Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	3 of 7		Publish Date	May 13, 2018	

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

Fig. 1



VIBRATION SENSOR SWITCH

Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	4 of 7		Publish Date	May 13, 2018	

● Current/Voltage Suggested

Input Current (mA)	Operating Voltage (V)	Condition
1.0	5~12	--

● ELECTRICAL CHARACTERISTICS

1.	Contact Rating	10 mA, 5VDC
2.	Insulation Resistance	50 MΩ min. At 100 VDC
3.	Dielectric Strength	50 VDC min. For 1 minute
4.	Capacitance	5 pF max
5.	Conductive Rate	85% min.



VIBRATION SENSOR SWITCH

Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	5 of 7		Publish Date	May 13, 2018	

● RELIABLE TEST ITEMS

Reliable Test for RBS100612T

	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				
Manual Soldering	300±5°C	< 3 seconds max.	30W or Temperature-controlled manual soldering	SMD



VIBRATION SENSOR SWITCH

Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	6 of 7		Publish Date	May 13, 2018	

● PACKAGE

	Parts No.	Package	Quantity	Total Quantity	Dimension(mm)
3.	RBS100612T	Tape & Reel	2,500 pcs	2,500 pcs	φ330*12.5H
		Inner box	2 Reels	5,000 pcs	355L*340W*68H
		Carton	4 Boxes	20,000 pcs	373L*358W*309H

※ Package shown as below for reference.



VIBRATION SENSOR SWITCH

Item No.	RBS100612T	Description	Ball-Contact	Version	13
Page	7 of 7		Publish Date	May 13, 2018	

NOTES

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 are 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. Don't 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.).

