OncQue™

OncQue Corporation
大日科技股份有限公司

Tilt Sensor Switch

Item No.	RBS200112	Description	Ball-Contact	Version	4
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● FUNCTIONS

20°Tilt Detecting for 4 directions in horizontal mode.

● APPLICATIONS

1. Automatically shut off for home appliances.
2. Automatically shut off for Sporting equipment.
3. Alarm system.
4. Anti-theft / Anti-tamper devices.
5. Being motion detection (personal locator).





● FEATURES

1. Suitable for horizontal PCB.
2. Switch State: DIP Normal Open.
3. Tiny size, suitable for small space.
4. Gold-plated ball and terminals, low possibility of oxidization.
5. Housing made of high insulation plastic material, free from electric conduction and rust problem.
6. All plastic materials subject to industrial purpose, resist high temperature and meet fireproof function.
7. Simple ON and OFF signals, easy for design.
8. Low price solution.
9. Almost zero consume for energy-saving demand.
10. RoHS compliance, an ideal substitute for mercury switch.
11. A more economical tilt and vibration detection option than IC design solution.
12. All made in Taiwan and examined before shipment.

RoHS REACH COMPLIANCE ISOQAR UKAS CERTIFICATE No. 5680 ISO 9001: 2015 ISOQAR UKAS CERTIFICATE No. 5680 ISO 14001: 2015 ISOQAR UKAS CERTIFICATE No. 5680 ISO 45001: 2018

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● PATENTS

1. Taiwan Patent No. I 239025
2. U.S.A. Patent No. US 7,045,724 B1
3. China Patent No. ZL 200410091589.7
4. China Patent No. 201220308500.8

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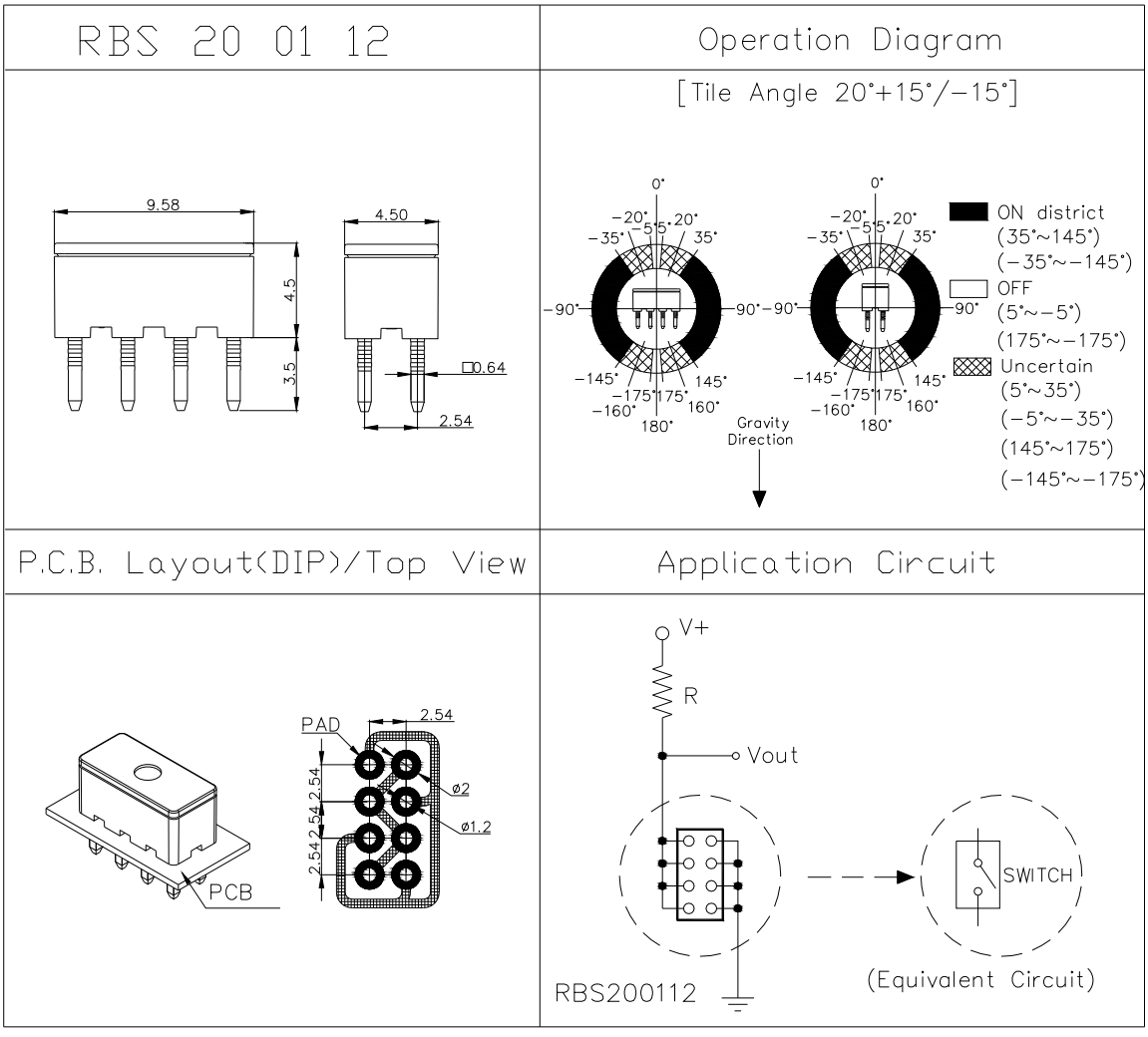
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● DIMENSIONS / OPERATION / P.C.B. LAYOUT (Unit: mm, Tolerance: ±0.25mm)

Fig. 1



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● Current/Voltage Suggested

Input Current	Operating Voltage	Condition
1.0 mA	3 V	--

● ELECTRICAL CHARACTERISTICS

1	Maximum Contact Current	10 mA
2	Contact Resistance	10 Ω max.
3	Differential Angle	Refer to Fig. 1
4	Insulation Resistance	1000 MΩ min., 100 VDC
5	Dielectric Strength	500 VDC min., 1 minute
6	Capacitance	5 pF max.
7	Conductive Rate:	98% min.

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● RELIABLE TEST ITEMS

Reliable Test for RBS200112

	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 / Suitable Production Process	Soldering Temperature	Soldering Time	Wattage of Manual Soldering	Type
Wave Soldering	260±5°C	< 5 seconds max.	-	DIP
Manual Soldering	300±5°C	< 3 seconds max.	30W or Temperature-controlled manual soldering	DIP

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● PACKAGE

	Part Number	Package	Quantity	Total	Dimension (mm)
1.	RBS200112	PE bag	500 pcs	500 pcs	127L*178W
		Inner box	10 PE bags	5,000 pcs	348L*191W*85H
		Carton	3 Boxes	15,000 pcs	364L*278W*213H

※ Package shown as below for reference.



PE bag



Inner box



Carton

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● 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. 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.).

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