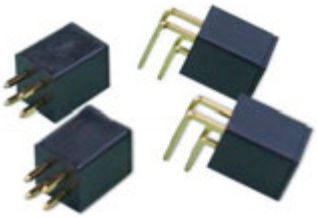
OncQue®

SENSOR SWITCH

Item #	RBS13 Series	Description	TILT SWITCH	Version	V99.0
Page	1 of 5		Date	April 2, 2010	

FUNCTIONS

1. Rotation Detecting
2. Two way 45° Tilt Detecting
3. Omni-directional Vibration Detecting



APPLICATIONS

1. Automotive devices
2. Visual devices
3. Home electrical appliances
4. Information devices
5. Communication devices

FEATURES

1. No electricity consumption during detection status.
2. Housing made of high insulation plastic material, free from electric conduction and rust problem.
3. Gold-plated ball and terminals, low possibility of oxidization.
4. All plastic materials subject to industrial purpose, resist high temperature and meet fireproof function.
5. Suitable for vertical and horizontal PCB.
6. Simple ON and OFF signals, easy for design.
7. RoHS compliance, an ideal substitute for mercury switch.
8. A more economical tilt and rotation detection option than IC design solution.
9. All made in Taiwan and examined before shipment.

PATENTS

1. Taiwan Patent No. I 239025
2. U.S.A. Patent No. US 7,045,724 B1
3. China Patent No. ZL 2004 1 0091589.7

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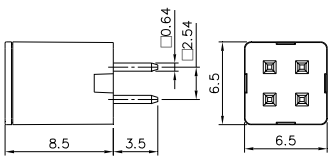
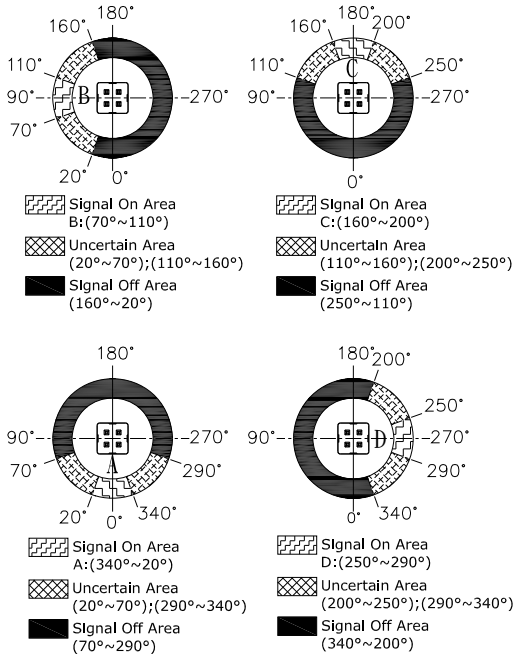
● DIMENSIONS / OPERATION / P.C.B. LAYOUT (Unit: mm, Tolerance: ±0.25mm)

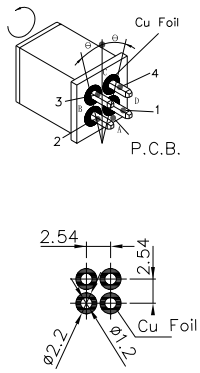
RBS 13 01 00

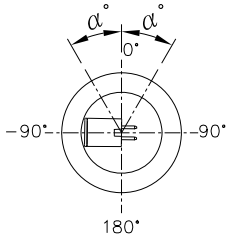


Tilt Angle
θ=45±25° Stabe angle α<30°

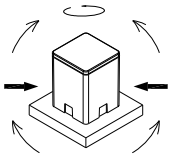


P.C.B. Layout (DIP) / Top View





Fleetingly Open/OFF
When Being Vibrated From Any Position



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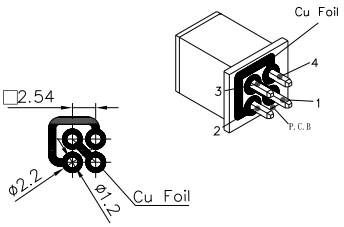

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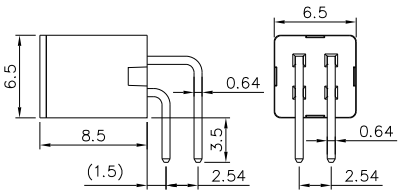
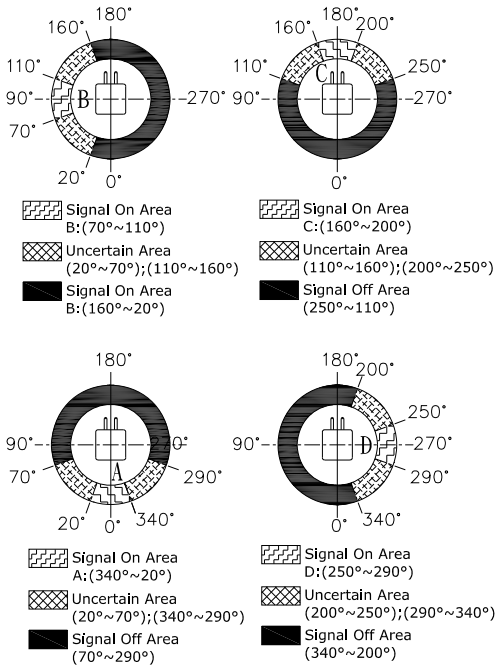
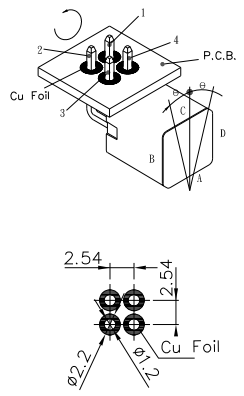
RBS 13 02 00

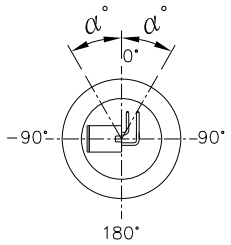


Tilt Angle
θ=45±25° Stabe angle α<30°

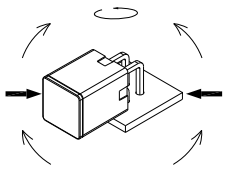


P.C.B. Layout (DIP) / Top View





Fleetingly Open/OFF
When Being Vibrated From Any Position



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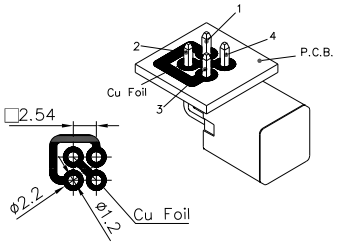

● ELECTRICAL CHARACTERISTICS

1.	Contact Rating	10mA, 5VDC
2.	Contact Resistance	10Ω max.
3.	Differential Angle	Refer to the drawing
4.	Switching Type	Normal Closed (NC)
5.	Insulation Resistance	1,000MΩ min at 100VDC
6.	Dielectric Strength	500VDC min for 1 minute
7.	Capacitance	5pF max.

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● 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.	Operation Life	100,000 cycles
4.	Humidity	95% RH, 40°C for 96 hrs.
5.	Solder Ability	After flux 260±5°C for 5±0.5 seconds 95% coverage
6.	Heat Resistance	260°C for 5 seconds

● BILL OF MATERIAL

1.	Housing	Polyamide + Glass-Fiber
2.	Cover	Polyamide + Glass-Fiber
3.	Terminal	Copper Alloy, Gold Plated over Nickel
4.	Cu-Ball	Copper Alloy, Gold Plated over Nickel

● PACKAGE

	Part Number	Package	Quantity	Total	Size
1.	RBS130100 RBS130200	PE Bag	500 pcs	500 pcs	12.7 x 17.8 (cm)
		Inner Box	8 Bags	4,000 pcs	36 x 20 x 9 (cm)
		Carton	3 Boxes	12,000 pcs	36 x 28 x 23 (cm)

**Minimum Order Quantity: One Bag

● NOTE

1. Suggestion for Application：Application in occasions that require vibration functions, adding design of “ON DELAY” is recommended. For great vibration, Optical type products are recommended.
2. Suggestion Contact Rating: 5mA
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.

- PRECAUTIONS FOR USE

1. If the products is intended to be used for other endurance equipments requiring higher safety and reliability such as life support system, space and aviations 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. The switch might be damaged if using the water-soluble flux.
4. Don't use the switch in the environment with high humidity or other bedewing possibility, as it may cause leaking among the terminals.
5. It might catch fire if the rating exceeds the specifications. Never use the switch beyond the rating.