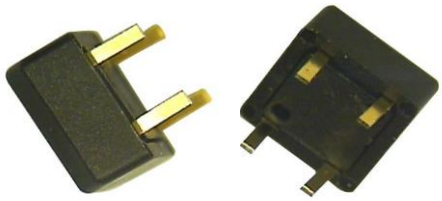
SENSOR SWITCH

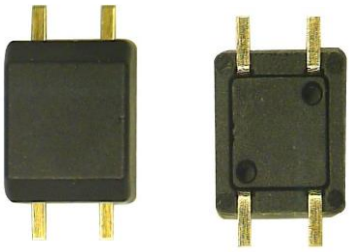
Item No.	RBS1006 Series	Description	TILT SWITCH	Version	11
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● FUNCTION

1. RBS100600、RBS100610T：
   25° Tilt Detecting for 4 Directions in horizontal position.
2. RBS100601、RBS100611T：
   Rotation detection at 45° in vertical position.
3. RBS100602、RBS100612T：
   Vibration detection in horizontal position.



RBS100600、RBS100601、RBS100602



RBS100610T、RBS100611T、RBS100612T

● APPLICATIONS

1 RBS100600、RBS100610T：

- 1.1 Wake up systems for power saving, such like remote controllers
- 1.2 Automatically shut off for home appliances
- 1.3 Automatically shut off for Sporting equipment
- 1.4 Alarm system
- 1.5 Anti-theft / Anti-tamper devices
- 1.6 Being motion detection (personal locator)

2. RBS100601、RBS100611T：

- 2.1 Rotation Detection for kinds of monitor/device
- 2.2 Toys、entertainment devices

3. RBS100602、RBS100612T：

- 3.1 Wireless mouse
- 3.2 Anti-theft / Anti-tamper devices
- 3.3 Alarm system
- 3.4 Toys、entertainment devices

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SENSOR SWITCH

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● FEATURES

1. PCB direction for applications:
   Horizontal PCB：RBS100600、RBS100610T、RBS100602、RBS100612T
   Vertical PCB：RBS100601、RBS100611T
2. Switch State:
   - ■ Rotation detection
     Normal open：RBS100600、RBS100610T
     Normal close：RBS100601、RBS100611T
   - ■ Vibration detection RBS100602、RBS100612T：
     RBS1006X2 acts like a normally open switch which chatters closed and open as it is tilted or vibrated. Note that the RBS1006X2 is <u>not guaranteed to be open</u> --- 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.

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SENSOR SWITCH

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● PATENTS

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

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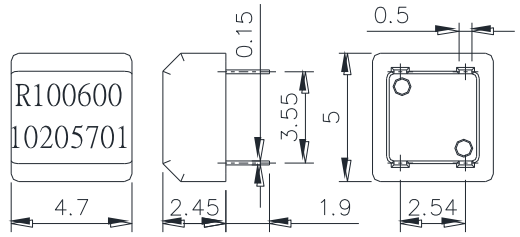
SENSOR SWITCH

Item No.	RBS1006 Series	Description	TILT SWITCH	Version	11
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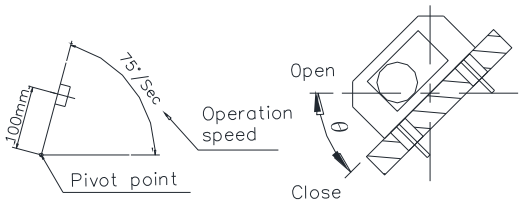
● DIMENSIONS / OPERATION / P.C.B. LAYOUT (Unit: mm, Tolerance: ±0.25mm)

Fig. 1

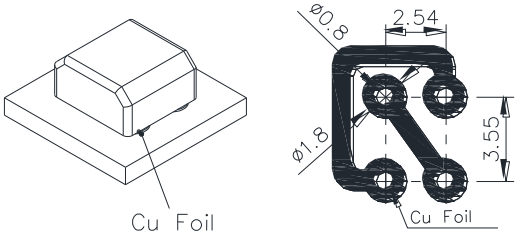
RBS 10 06 00



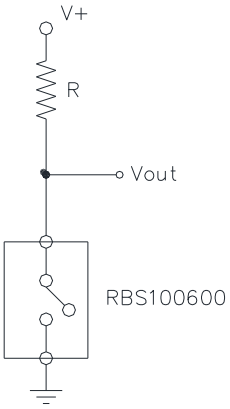
Tilt angle θ = 25° +20° −22°



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



Application Circuit



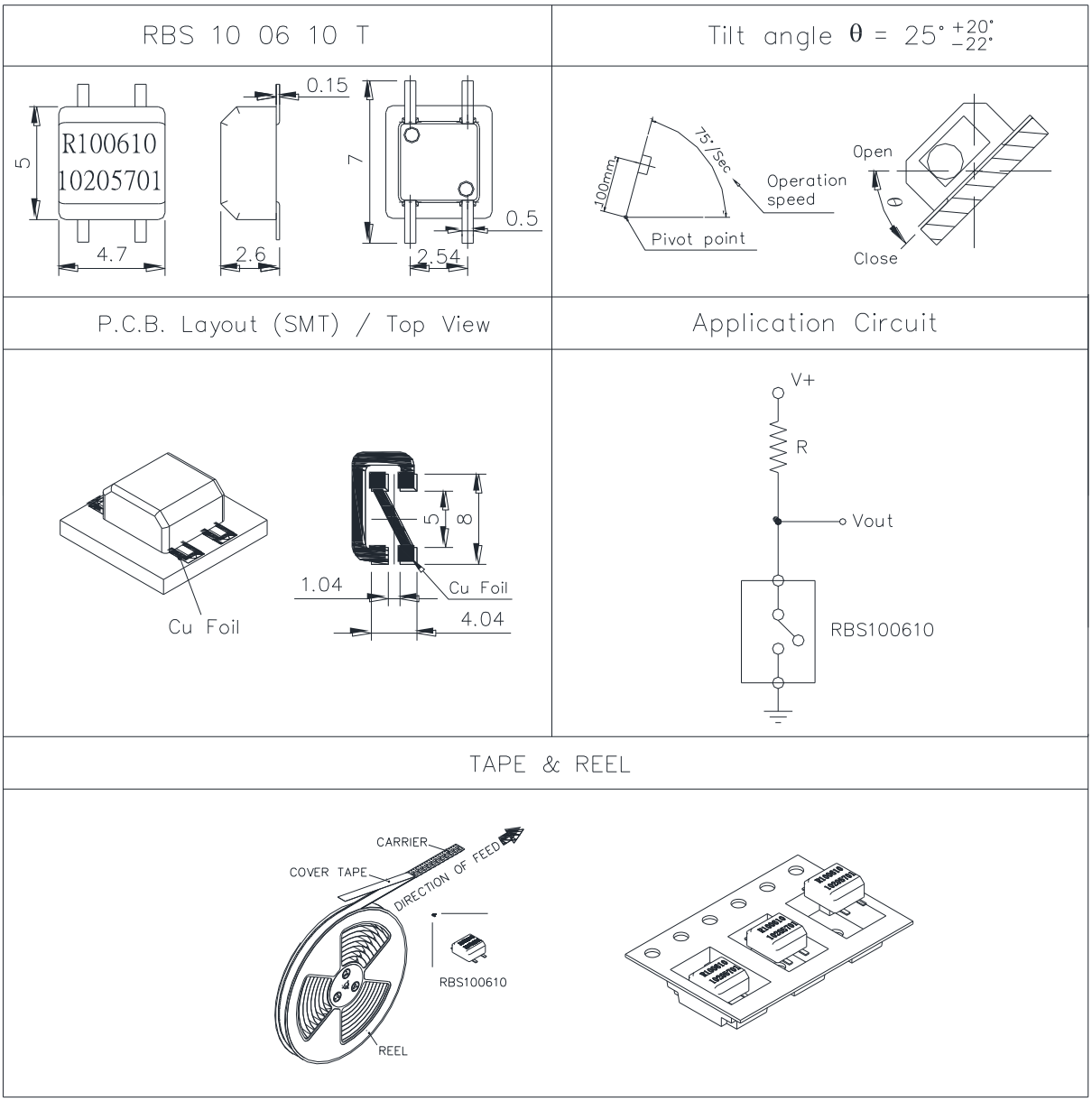
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SENSOR SWITCH

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Fig. 2

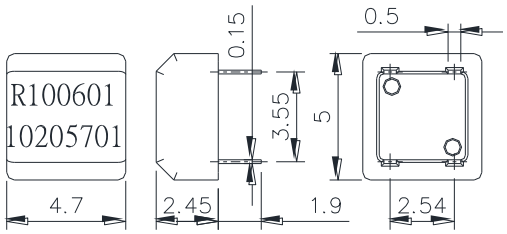


SENSOR SWITCH

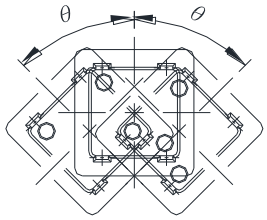
Item No.	RBS1006 Series	Description	TILT SWITCH	Version	11
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Fig. 3

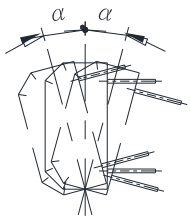
RBS 10 06 01



Tilt angle θ = 45°±15°

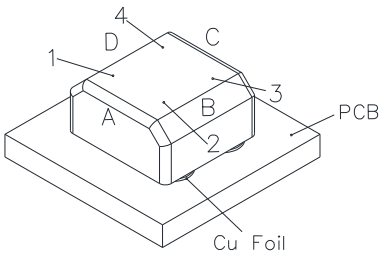


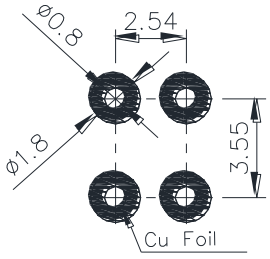
Signal change angle
θ=45°± 15°



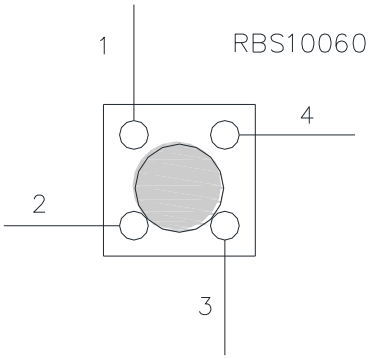
Unstable angle
α>15°

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





Application Circuit



Using keyboard scanning (Polling method) to detect the four positions

1 : High/Low Input Control
2 : Output Signal
3 : High/Low Input Control
4 : Output Signal

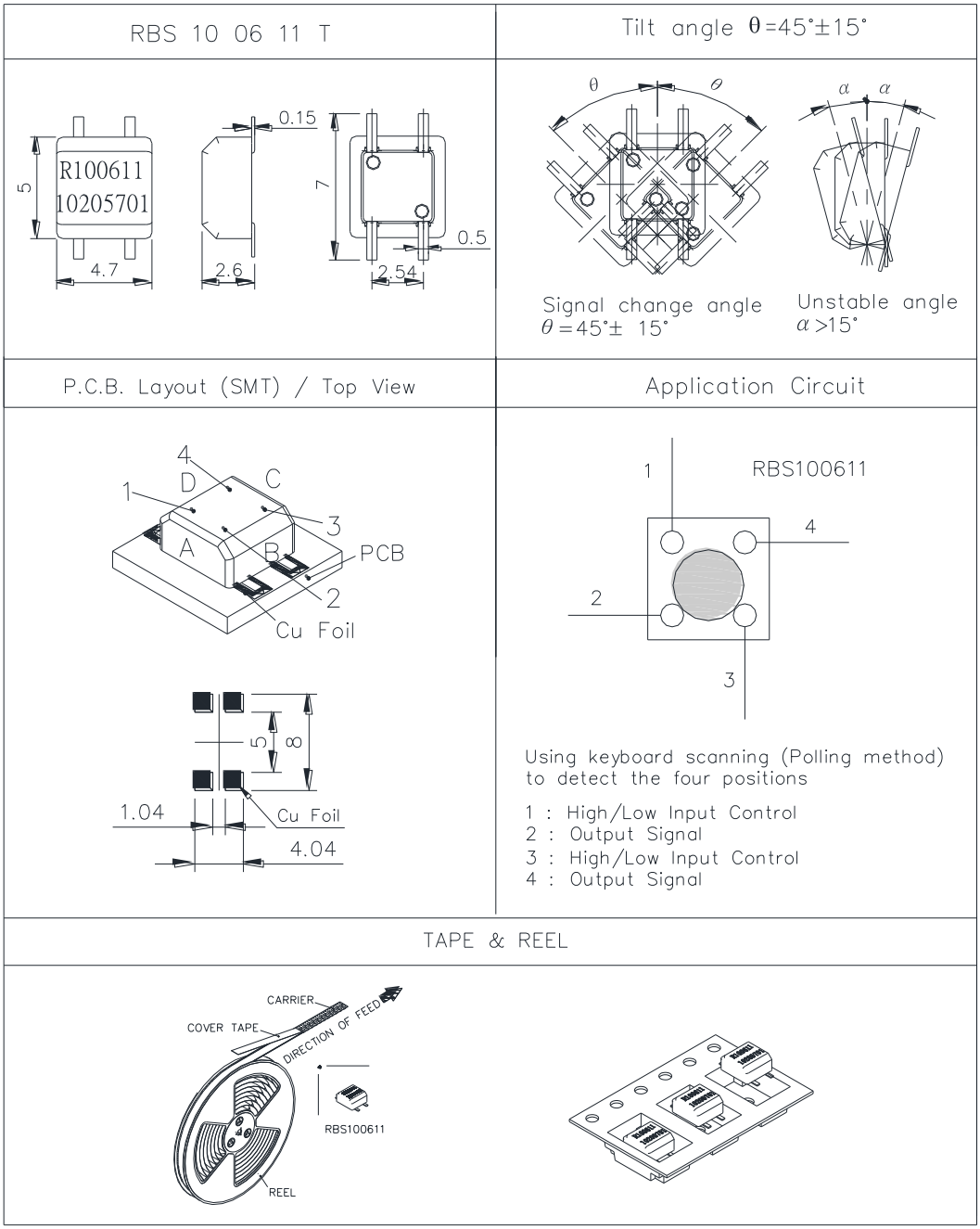
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Fig. 4



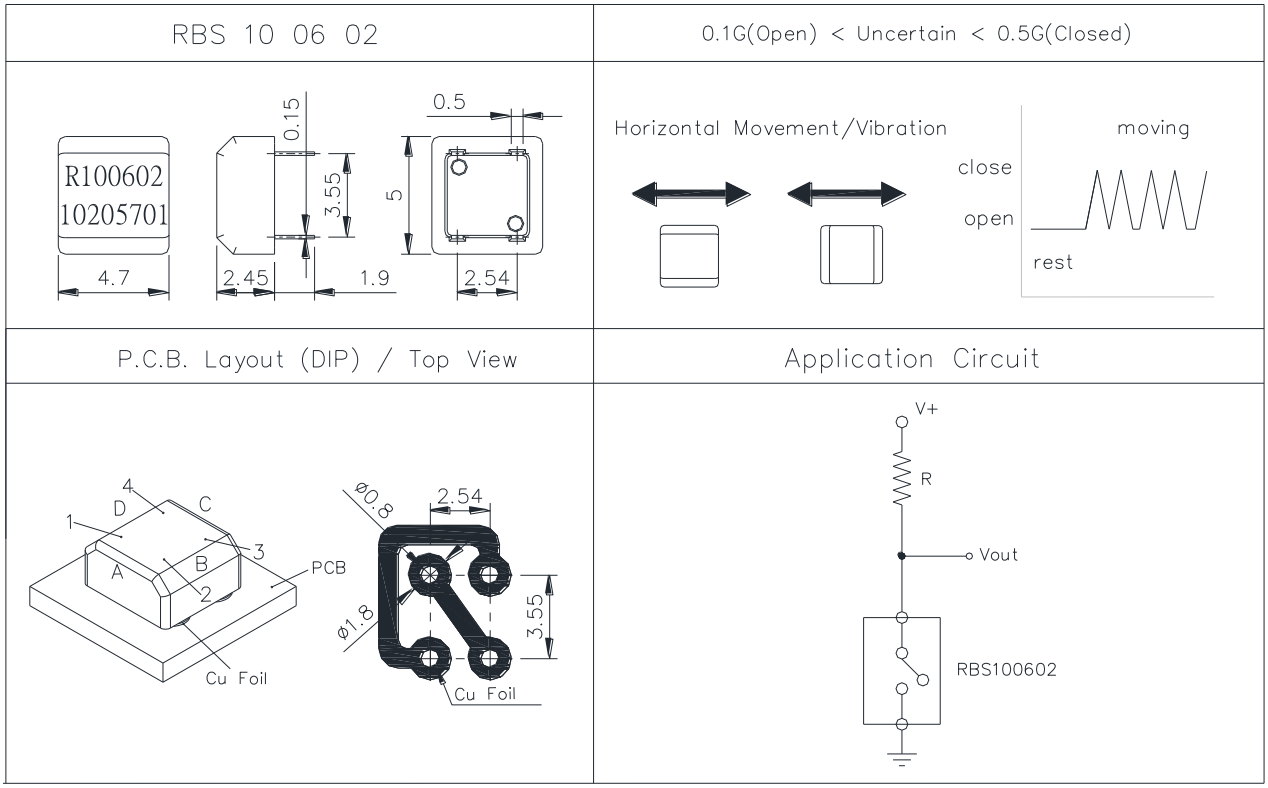
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Fig. 5



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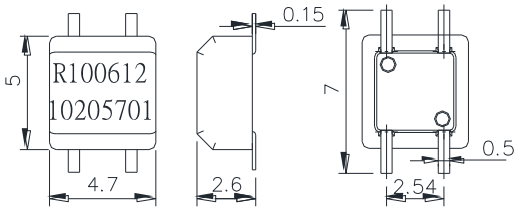
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SENSOR SWITCH

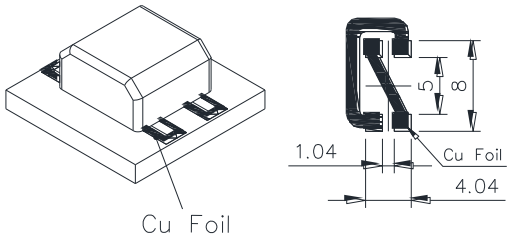
Item No.	RBS1006 Series	Description	TILT SWITCH	Version	11
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Fig. 6

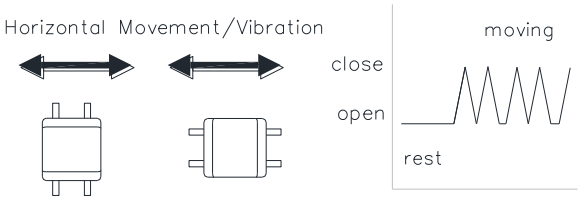
RBS 10 06 12 T



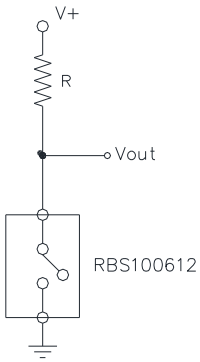
P.C.B. Layout (SMT) / Top View



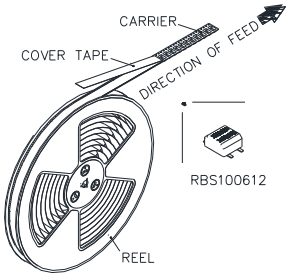
0.1G(Open) < Uncertain < 0.5G(Closed)

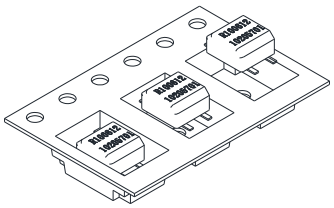


Application Circuit



TAPE & REEL





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SENSOR SWITCH

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● Current/Voltage Suggested

Input Current (mA)	Operating Voltage (V)	Condition
10	5	--

● ELECTRICAL CHARACTERISTICS

1.	Contact Resistance (RBS100600、RBS100601 RBS100610、RBS100611)	50 Ω max.
2.	Contact Rating	10 mA，5VDC
3.	Differential Angle	Refer to Fig. 1 ~ Fig. 4
4.	Insulation Resistance	50 MΩ min. At 100 VDC
5.	Dielectric Strength	50 VDC min. for 1 minute
6.	Capacitance	5pF max
7.	Conductive Rate	85% min.

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SENSOR SWITCH

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● RELIABLE TEST ITEMS

Reliable Test for RBS1006 Series

Test Item	Standard	Contents
IR Reflow (RBS100610T、RBS100611T、RBS100612T)	MIL-STD-202G, TEST METHOD 210F、IPC/JEDEC J-STD-020D	Peak temp.=255~260℃*3times
Operating Temperature	MIL-STD-202G, TEST METHOD 107G, TEST A	-25℃~85℃
Storage Temperature	MIL-STD-202G, TEST METHOD 107G, TEST A	-40℃~85℃
Mechanical Life	--	2 Hz horizontal 1,000,000 times
Electrical Life	--	100,000 times
Humidity	--	--

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● SOLDERING CONDITION

Following soldering conditions are for reference only, please use soldering information that solder paste manufacturer recommends.

Condition / Operation Method	Soldering Temperature	Soldering Time	Wattage of Manual Soldering	Suitable Production Process
IR Reflow	Please refer to following < Table of classification Reflow profile > and Fig. 7		-	SMT
Wave Soldering	260±5℃	< 5 seconds max.	-	DIP
Manual Soldering	260±5℃	< 5 seconds max.	20W or Temperature-controlled manual soldering	DIP、SMT

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< Table of classification Reflow profile >

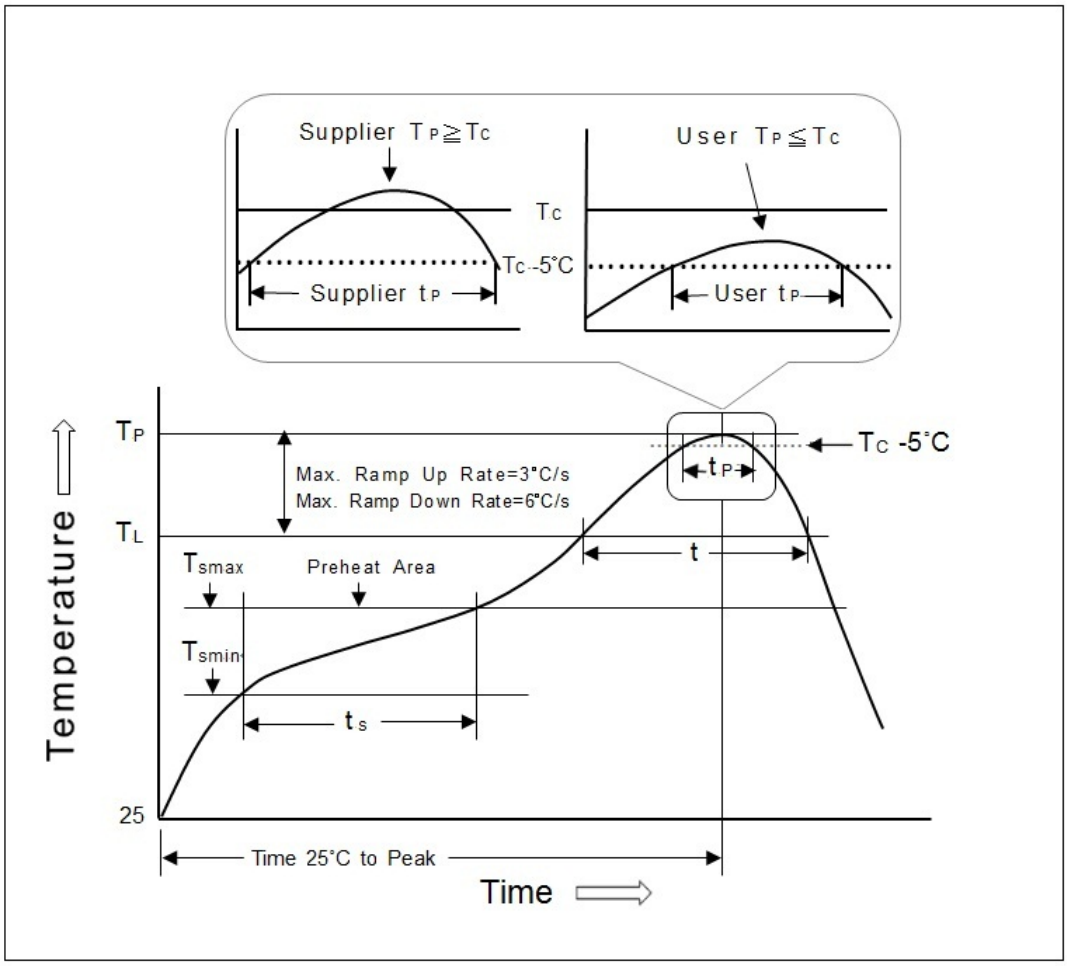
Item	Pb process	Pb free process
Pre-heat and Soak Temperature min.(Tsmin) Temperature max.(Tsmax) Time (Tsmin to Tsmax)(ts)	 100 °C 150 °C 60-120 seconds	 150 °C 200 °C 60-120 seconds
Average Rate of temperature rising up (Tsmax to Tp)	3 °C/second max.	3 °C/second max.
Liquidous Temperature (TL) Time at Liquidous (tL)	183 °C 60-150 seconds	217 °C 60-150 seconds
Peak package body Temperature (Tp)*	230 °C ~235 °C *	255 °C ~260 °C *
Classification temperature(Tc)	235 °C	260 °C
Time(tp)** within 5 °C of the specified classification temperature (Tc)	20** seconds	30** seconds
Average ram-down Rate (Tp toTsmax)	6 °C/second max.	6 °C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.
* Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum. ** Tolerance for time at peak profile temperature (tp) is defined as a supplier minimum and a user maximum.		

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SENSOR SWITCH

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Fig. 7



SENSOR SWITCH

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● PACKAGE

	Parts No.	Package	Quantity	Total Quantity	Dimension(mm)
1.	RBS100600	PE bag	1,000 pcs	1,000 pcs	205L*145W
		Inner box	10 PE bag	10,000 pcs	348L*191W*85H
		Carton	3 Boxes	30,000 pcs	364L*278W*213H
2	RBS100601	PE bag	1,000 pcs	1,000 pcs	205L*145W
		Inner box	10 PE bag	10,000 pcs	348L*191W*85H
		Carton	3 Boxes	30,000 pcs	364L*278W*213H
3	RBS100602	PE bag	1,000 pcs	1,000 pcs	205L*145W
		Inner box	10 PE bag	10,000 pcs	348L*191W*85H
		Carton	3 Boxes	30,000 pcs	364L*278W*213H

※ Package shown as below for reference.



PE Bag　　Inner Box　　Carton

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	Parts No.	Package	Quantity	Total Quantity	Dimension(mm)
1.	RBS100610T	Tape & Reel	2,500 pcs	2,500 pcs	φ330*12.5H
		Inner box	2 Reels	5,000 pcs	355L*340W*68H
		Carton	4 Boxes	20,000pcs	373L*358W*309H
2.	RBS100611T	Tape & Reel	2,500 pcs	2,500 pcs	φ330*12.5H
		Inner box	2 Reels	5,000 pcs	355L*340W*68H
		Carton	4 Boxes	20,000pcs	373L*358W*309H
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	20,000pcs	373L*358W*309H

※ Package shown as below for reference.



Tape & Reel　　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 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. 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. If soldering temperature exceeds our specification, sensor switch could get apart.
5. Do not use switch in the environment of high humidity，because such an environment may cause the leakage current between the terminals.
6. More than the rated load may cause fire, so do not use more than the load.
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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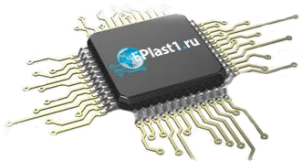
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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