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SLIDE SWITCH	SS12D02-VG4	A/01		3/10

1、 GENERAL

1.1 APPLICATION

This specification applies to the requirements of a mechanical toggle switch

1.2 Operating Temperature Range

-20°C~70°C(Normal humidity, normal air pressure)

1.3 Storage Temperature Range

-40°C~90°C(Normal humidity, normal air pressure)

1.4 Test Conditions

Unless otherwise specified, tests and measurement shall be made in the following standard conditions:

Normal temperature.....5°C~35°C

Normal humidity.....relative humidity 25%~85%

Normal air pressure.....86Kpa~106Kpa

If any doubt arise from the judgment, tests shall be conducted at the following conditions:

Temperature.....20°C±2°C

Relative humidity.....65%±5%

Air pressure.....86Kpa~106Kpa

1.5 Storage method

1. Ensure that the product without package breaking or wetting before use.

2. Storage conditions:

Storage temperature: -5 ~ 35 C;

Storage humidity: 25% ~80%;

Unopened status: Use up the product as soon as possible before six months. (calculated from shipment date).Over 6 months, please make sure below before use it: terminal without oxidation or blackening, plastic parts without moisture absorption or bubble, ensure solderability.

Opened status: use up within 1 month;

Storage precautions: Please avoid the following environment: with high humidity, high temperature , corrosive gases and direct sunlight.

3. Do not stack too many switches.

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2、 Detailed specification

2.1 Appearance: There should be no defects that affect the serviceability of product.

2.2 Style and dimension: shall conform to the assemble drawings.

2.3 Function: 1P2T

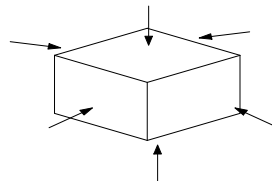
2.4 Timing: NON-SHORTING

2.5 Ratings: DC 50V 0.3A

3. ELECTRICAL SPECIFICATION

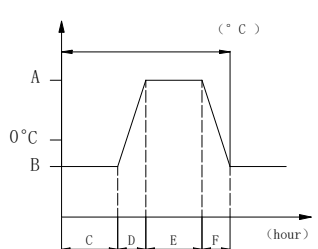
ITEM		TEST CONDITIONS	REQUIREMENTS
3.1	Contact Resistance	Measured at 1KHz small current(100mA or less)	$\leq 100m\Omega$
3.2	Insulation Resistance	Measurement shall be made following application of 100V DC potential, across terminals, and across terminals and cover, for one minute.	$\geq 100M\Omega$
3.3	Dielectric voltage proof	250V AC (50Hz or 60Hz) shall be applied across terminals, for one minute.	There should be no breakdown and flashover

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ITEM	TEST CONDITIONS			REQUIREMENTS
4. MECHANICAL SPECIFICATION				
4.1	Operating Force	Lateral push		250±100gf
4.2	Full Travel	The switch is placed perpendicular to the operating direction, and a static load equal to 2 times the thrust is applied to the side of the switch driver to measure the distance from which the handle moves.		2±0.3mm
4.3	Terminal strength	Add(200 gf) strength test to the apex approximately 2mm perpendicular to the terminal foot for 15 seconds		No loose end, no damage to plastic body, etc.(except terminal deformation)
4.4	Vibration	Measurement shall be made following the test set forth below: <ul style="list-style-type: none"> (1) Vibration frequency range: 10 to 55 to 10Hz (2) Amplitude: 1.5mm (3) Direction of vibration: Three mutually perpendicular direction including the direction of stem travel (4) Duration: Each 2 hours. 		Item 3 Item4.1 Item4.2
4.5	Shock	Test by following conditions <ul style="list-style-type: none"> (1) installation method: normal (2) Acceleration: 784m/s² (3) Acting time: 11ms (4) Test direction: 6 directions Times: 3 times/direction ,total 18 times		Item3 Item4.1 Item4.2



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5. ENVIRONMENTAL SPECIFICATION

ITEM	TEST CONDITIONS	REQUIREMENTS
5.1	<p>Heat resistance</p> <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made:</p> <p>(1) temperature: $80 \pm 2^\circ\text{C}$ (2) time: 96h</p>	<p>Item3 Item4.1 Item4.2</p>
5.2	<p>Resistance to low temperature</p> <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made:</p> <p>(1) Temperature : $-30 \pm 2^\circ\text{C}$ (2) Time: 96h</p>	<p>Item3 Item4.1 Item4.2</p>
5.3	<p>Change of temperature</p> <p>After 5 cycles of following conditions, the sample shall be allowed to stand under normal temperature and humidity conditions for 1 h. and measurements shall be made. During the test water drops shall be removed.</p> <div style="text-align: center;">  <p style="margin-left: 20px;"> A: $+80 \pm 2^\circ\text{C}$ B: $-30 \pm 2^\circ\text{C}$ C: 2 D: 1 E: 2 F: 1 </p> </div>	<p>Item3 Item4.1 Item4.2</p>
5.4	<p>Moisture resistance</p> <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made:</p> <p>(1) temperature: $60 \pm 2^\circ\text{C}$ (2) relative humidity: 90% to 95% (3) time: 96h</p>	<p>Contact resistance $\leq 200\text{m}\Omega$ Insulation Resistance $\geq 10\text{M}\Omega$</p> <p>Item3.3 Item4.1 Item4.2</p>

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ITEM		TEST CONDITIONS		REQUIREMENTS
5.5	Salt Mist	<p>The switch shall be checked after following test:</p> <ul style="list-style-type: none"> (1) temperature: 35°C±2°C (2) salt solution : 5±1%(solids by mass) (3) Time: 8±1h <p>After test, salt deposit shall be removed by running water.</p>		<p>No remarkable corrosion shall be recognized in metal part.</p>
5.6	Operation life	<p>Test at a uniform rate of 15-18 rounds per minute for 10,000 rounds without load.</p>		<p>Contact resistance ≤ 1Ω</p> <p>Insulation Resistance ≥ 10MΩ</p> <p>Operating Force: initial value ± 30% Item 3.3 Item 4.2</p>

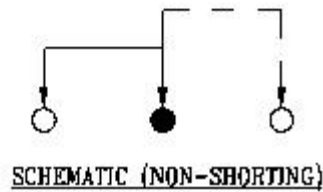
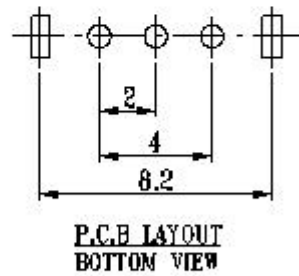
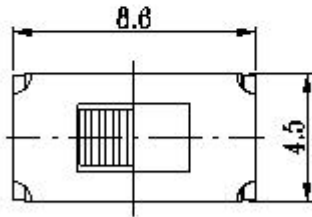
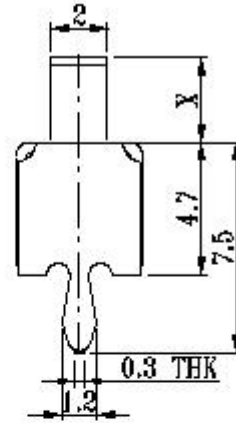
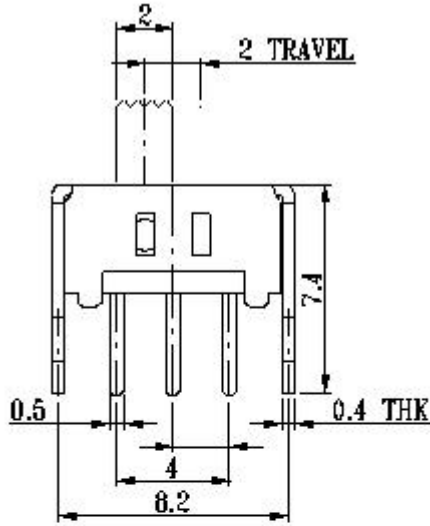
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ITEM		TEST CONDITIONS		REQUIREMENTS
5.7	Solderability	Measurements shall be made following the test set forth below: (1) Solder temperature : $245\pm 5^{\circ}\text{C}$ (2) Immersion time: $3\text{s}\pm 0.5\text{s}$		Except for the edge, the coating should cover a minimum 90%
6. SOLDERING CONDITIONS:				
6.1	Hand soldering	Please practice according to below conditions: (1) Soldering temperature: $\leq 350^{\circ}\text{C}$ (2) Continuous soldering time: $\leq 3\text{ s}$ (3) The soldering iron cannot touch , exert pressure on the product or the terminal.		

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ITEM	Recommended conditions			
6.2	Conditions for Auto-dip	Items	Condition	
		Flux built-up	Mounting surface should not be coated with flux	
		Preheating temperature	Ambient temperature of the soldered surface of PC board. 100°C max.	
		Preheating time	60s max.	
		Soldering temperature	260°C max.	
		Continuous dipping time	5s max.	
		Number of soldering	2 times max.	

(Notes):

- a、 The pad size of the printed substrate is shown in the product diagram.
- b、 In the case of using soldering iron, soldering conditions shall be 350°C max and 3 sec.max.
- c、 Prevent flux penetration from the top of the switch
- d、 After switches were soldered, please be careful not to clean switches with solvent or other similar products.
- e、 Right after switches were soldered; please be careful not to load to on the knobs of switches.
- f、 Please be cautions not to give excessive static load or shock to switches.
- g、 Please be careful not to pile up P.W.B. after switches were soldered

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General tolerance: $\pm 0.3\text{mm}$ X=4mm

NO.	NAME	MATERIAL	QTY.	FINISHING
6	SPRING	PBS STRIP	1	NATURAL
5	CONTACT CLIP	PBS C5210R-EH	1	Ag PLATED
4	TERMINAL	BRASS STRIP	3	Ag PLATED
3	BASE	PHENOLIC RESIN	1	NATURAL
2	KNOB	PA66	1	BLACK
1	FRAME	STEEL STRIP	1	Ni PLATED