ISO9001: 2015

ISO14001: 2015

APPROVAL SPECIFICATIONS

Title. SLIDE SWITCH

Product Model. MSS23F10-TG2

Customer's Part NO.

Customer's Model:

Customer's Approval Requested.

Please return this copy as a certification of your approval.

Checked by: Date:

Approved by: Date:

Swiclick

Address:Rm. D1/25F,No 2070,Electronical Technology Building-C,Shennan Mid-road,Futian Dist.,Shenzhen,China.

Website:https://www.swiclick.com

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Version	**History**	**Changed by**	**Date**

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1 GENERAL

1.1 APPLICATION

This specification applies to the requirements of a mechanical toggle switch

1.2 Operating Temperature Range

-10 50 ( )

-10 50 (Normal humidity, normal air pressure)

1.3 Storage Temperature Range

-20 60 ( )

-20 60 (Normal humidity, normal air pressure)

1.4 Test Conditions

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

……5 35

Normal temperature……5 35

…… 25% 85%

Normal humidity……relative humidity 25% 85%

……86Kpa 106Kpa

Normal air pressure……86Kpa 106Kpa

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

……20 ±2

Temperature……20 ±2

……65%±5%

Relative humidity…….....…65%±5%

……86Kpa 106Kpa

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

Storage humidity 25% ~80%

6 6

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.

1

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 2P3T

Function: 2P3T

2.4 DC12V 100mA

Ratings: DC 12V 100mA

3

ELECTRICAL SPECIFICATION

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

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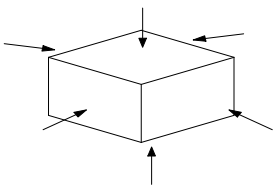
	ITEM	TEST CONDITIONS	REQUIREMENTS
4 **MECHANICAL SPECIFICATION**			
4.1	Operating Force	Lateral push	160±50gf
4.2	Full Travel	2 The switch is placed perpendicular to the operating direction, and a static load equal to 2 times the thrust is applied to the side of the switch driver to measure the distance from which the handle moves.	3±0.3mm
4.3	Terminal strength	2mm (200gf) , 15 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: 1 10 55 10Hz Vibration frequency range: 10 to 55 to 10Hz 2 1.5mm Amplitude: 1.5mm 3 Direction of vibration:Three mutually perpendicular direction including the direction of stem travel 4 2 Duration: Each 2 hours.	Item 3 Item4.1 Item4.2
4.5	Shock	Test by following conditions (1) (1)installation method: normal (2) 784m/s² (2)Acceleration: 784m/s² (3) 11ms (3)Acting time: 11ms (4) 6 3 18 (4)Test direction: 6 directions Times: 3 times/direction ,total 18 times 	Item3 Item4.1 Item4.2

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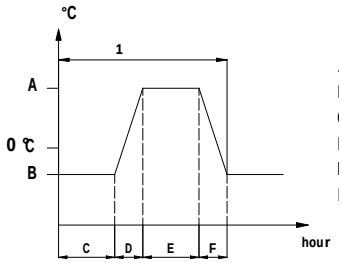
5
ENVIRONMENTAL SPECIFICATION

ITEM		TEST CONDITIONS	REQUIREMENTS
5.1	Resistance to low temperature	1 Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: 1 -30±2 Temperature : -30±2 2 96h Time: 96h	Item3 Item4.1 Item4.2
5.2	Heat resistance	1 Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: 1 80±2 temperature:80±2 2 96h time: 96h	Item3 Item4.1 Item4.2
5.3	Change of temperature	5 1 . 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.  A +80 ± 2 B -30 ± 2 C 2 D 1 E 2 F 1	Item3 Item4.1 Item4.2
5.4	Moisture resistance	1 Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: 1 60±2 temperature: 60±2 2 90% 95% relative humidity:90% to 95% 3 96h time: 96h	≤200mΩ Contact resistance≤200mΩ ≥10MΩ Insulation Resistance≥10MΩ Item3.3 Item4.1 Item4.2

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ITEM		TEST CONDITIONS	REQUIREMENTS
5.6	Salt Mist	: The switch shall be checked after following test: 1 35 ±2 temperature: 35 ±2 2 5±1% salt solution : 5±1%(solids by mass) 3 8±1h Time: 8±1h After test, salt deposit shall be removed by running water.	No remarkable corrosion shall be recognized in metal part.
5.7	Operation life	15—18 10 000 . Test at a uniform rate of 15-18 rounds per minute for 10,000 rounds without load.	≤1Ω Contact resistance≤1Ω ≥10MΩ Insulation Resistance≥10MΩ ±30% Operating Force: initial value±30% Item3.3 Item4.2

ITEM		TEST CONDITIONS	REQUIREMENTS
5.8	Solderability	: Measurements shall be made following the test set forth below: 1 :245±5 Solder temperature : 245±5 2 :3s±0.5s Immersion time: 3s±0.5s	90% 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 ≤ 350 Soldering temperature: ≤ 350 2 ≤ 3 s Continuous soldering time: ≤ 3 s 3 The soldering iron cannot touch , exert pressure on the product or the terminal.	

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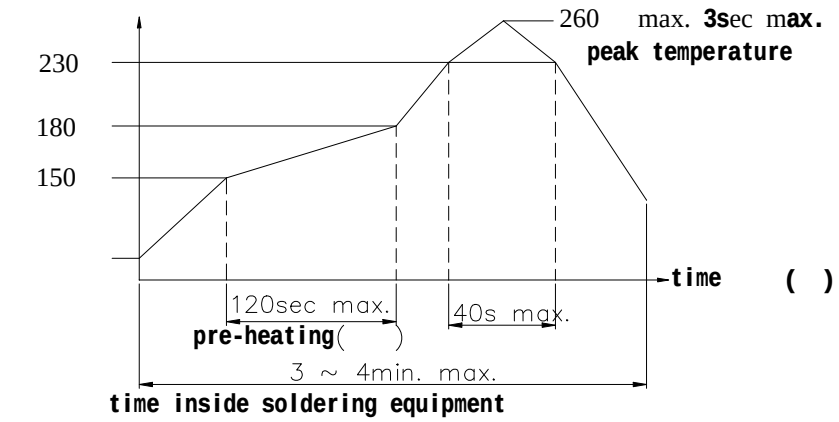
ITEM		Recommended conditions
6.2	Conditions for reflow	surface of product temperature  PWB PWB PWB 260 Attention:the condition above is the temperature of the PWB surface on the parts,and PWB will get different temperature because of the differences of materials,sizes,thickness and so on.Should control it below 260

(Notes)

a

The pad size of the printed substrate is shown in the product diagram.

b 350 3

In the case of using soldering iron, soldering conditions shall be 350 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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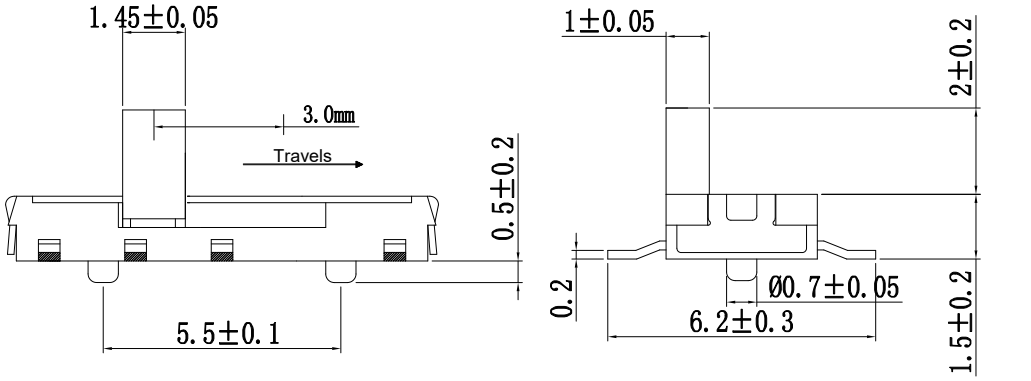
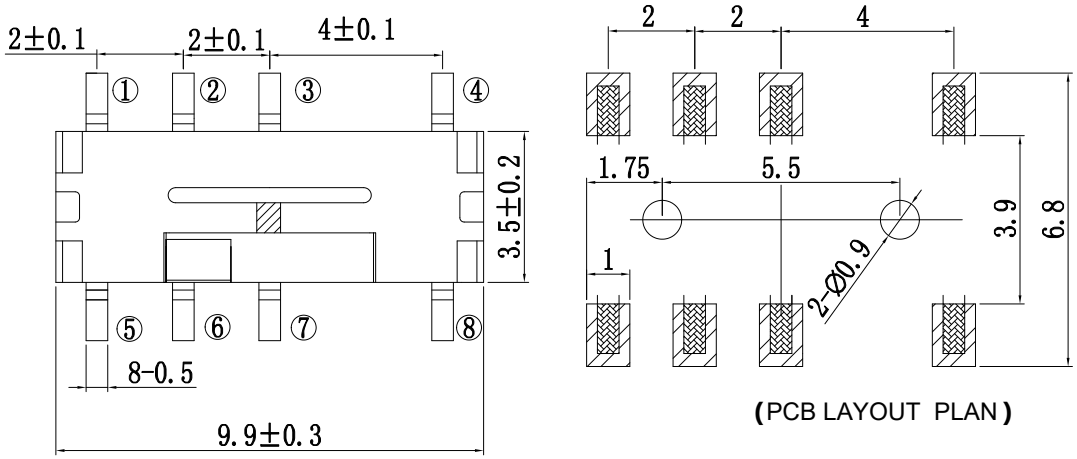
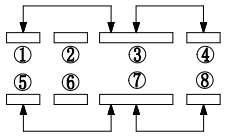




(PCB LAYOUT PLAN)



(CIRCUIT DIAGRAM)

General tolerance ±0.2mm

NO.	NAME	MATERIAL	QTY.	FINISHING
1	KNOB	PA46	1	Black
2	COVER	SUS	1	
3	CASE	LCP	1	Black
4	TERMINAL	Phosphorus copper	8	Ag plating
5	CONTACT	Phosphorus copper	2	

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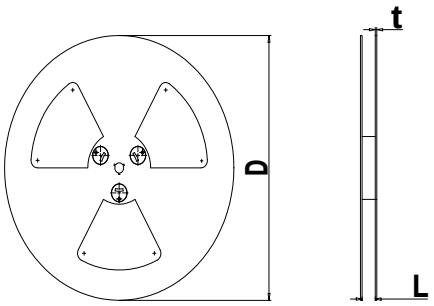
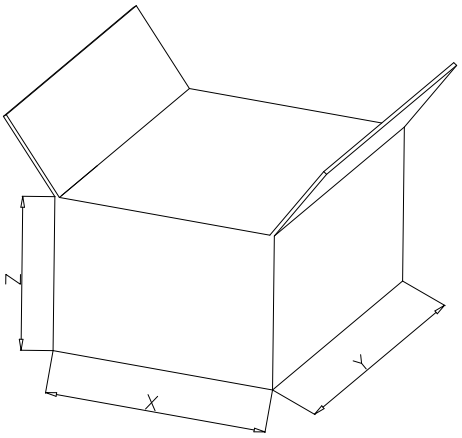
7

7.1 1000 D=330mm L=25mm t=2mm



7.2 15 15000