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Total Page	9
Edition	**A**
Reference No.	

Specifications For Approval

Customer		Part No.:	
Model	G15	Part No.	G15-10SM01-40-18

Approved by Swiclick		
Approved by	Checked by	Prepared by
Approved by Customer		
Research & Development by	Quality Assurance by	

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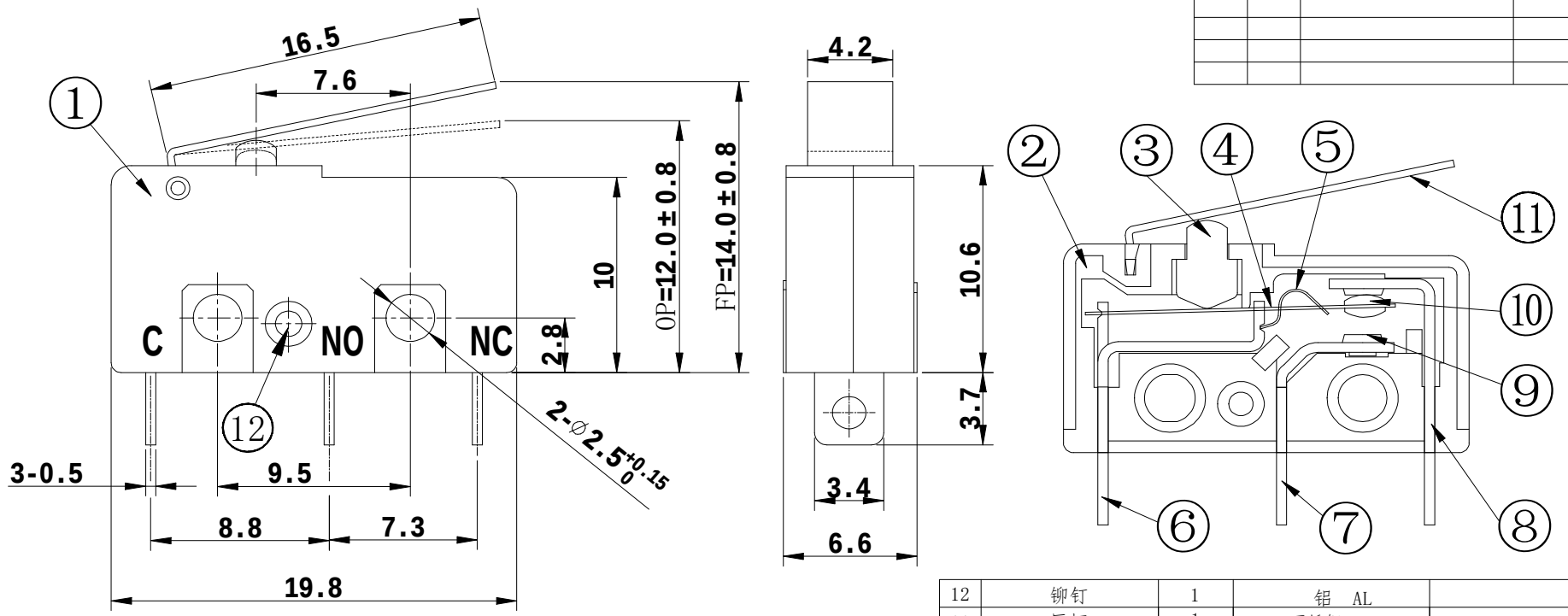
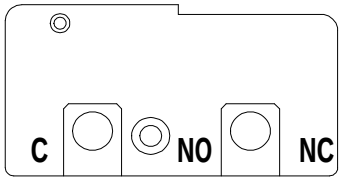
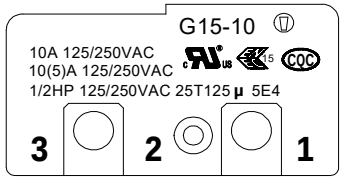
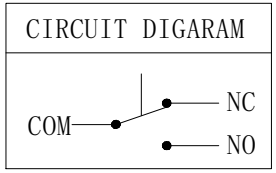
PRODUCT SPECIFICATION		A 0
SERIES	MICRO SWITCH	9 2

REV	DECSRIPTION	DATE	DATE	NAME









NO.	Part Name零件名称	Qty数量	Material材料规格	Plating/Color镀层及颜色
12	铆钉	1	铝 AL	
11	压柄	1	不锈钢 SUS	
10	切换片银点	1	银合金 Silver alloy	
9	端子银点	2	银合金 Silver alloy	镀银 D.Ag
8	NC端子	1	黄铜 Brass	镀银 D.Ag
7	NO端子	1	黄铜 Brass	镀银 D.Ag
6	支架	1	黄铜 Brass	镀银 D.Ag
5	弹片	1	铍青铜 Beryllium bronze	
4	切换片	1	铍青铜 Beryllium bronze	
3	按钮	1	PBT 30%GF	黑色 Black
2	下盖	1	PBT 30%GF	黑色 Black
1	上盖	1	PBT 30%GF	黑色 Black

SPECIFICATION (技术要求)

1. **Operating Temperature Range**(环境温度): **-25 +85**
   Operating Relative Humidity(环境湿度): **≤85%**
2. **Voltage Rating**(额定电压): **125/250V AC**
3. **Current Rating**(额定电流): **10A**
4. **Contact Resistance**(接触电阻): **≤100mΩ**
5. **Insulation Resistance**(绝缘电阻): **≥100MΩ**
6. **Dielectric Withstanding Voltage**(耐电压): **1000V AC 1Min**
7. **Soldering Temperature**(焊接温度): **260±5 5s**
8. **Operating Force**(操作力): **40±20gf**
9. **Life Time(mating cycles)**寿命: **10000 Cycles**

0-10: ±0.20	26-50: ±0.40
11-25: ±0.30	: ±2°

微动开关

G15-10SM01-40-18

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1. General Characteristics

1.1 Application: This specification is applied to the micro switch (G15 series) for general applications.

G15

1.2 Operating Temperature Range: -25 +85

-25 +85

1.3 Operating Relative Humidity: ≤85%

≤85%

Test Conditions: Unless otherwise specified, the atmospheric conditions for making measurements and tests are as follows:

Ambient Temperature: 5~35

5~35

Relative Humidity: 45~85%

45~85%

Air Pressure: 86~106Kpa (860~106mbar)

86~106Kpa (860~106mbar)

1.4

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 6 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.

2. Appearance, Structure and Dimensions

2.1 Appearance: The switch shall have good finishing, and no rust, crack or plating defects.

2.2 Structure & Dimensions: Refer to individual product drawing.

2.3 Markings: Refer to individual product drawing.

3. Ratings	**10A 125/250V AC**

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4. Electrical Characteristics

No.	Item	Criteria	Test Method
4.1	Contact Resistance	100mΩ Max.	equipment with error not more than 5% can be used. Resistance after test is the average of 5 successive measurements. 5% 5
4.2	Insulation Resistance	100MΩ Min.	500VDC voltage is applied between each pair of terminals and between the terminal and the metal frame for 60±5S. 500V 60±5S
4.3	Dielectric withstand in voltage	No dielectric breakdown shall occur.	2000VAC (50~60Hz,cut –off current 10mA) is applied between non-connected terminals and between terminals and the metal frame for 60 ±5s. 2000V 50-60Hz 10mA 2000V 50-60Hz 60±5S

5. Mechanical Characteristics

No.	Item	Criteria	Test Method
5.1	Operating Force	40±20gf	Apply a tension meter on the midpoint of the actuator (or tip of the shaft) to supply a pressure vertically from its free position to operating position.
5.2	Return Force	10gf Min	The value to which the force in the actuator midpoint (or tip of the shaft) must be reduced to allow the contact to the normal position.
5.3	Operation Position	OP=12±0.8mm	Position of switch plunge or actuator at which point contacts snap from normal to operated position. Note that the case of flexible of adjustable actuators.
5.4	Pre Travels	PT=3.6mm Max	The distance vertically through, which the midpoint of the actuator (or tip of the shaft) trip move from its free position to operating position.

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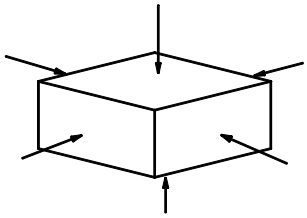
5.5	Terminal Strength	Shall be free from terminal looseness damage and insulator breakage. No functional defective occur.	A static load of 25N shall be applied to the tip of terminal in a desired direction for 10 ± 1s. The test shall be done once per terminal. 25N 10 ± 1	
5.6	Vibration Proof	After test, Contact resistance:1Ω Max. Insulation resistance:100MΩ Min. No functional defective occur. No abnormalities shall be recognized in appearance and construction. 1Ω Max 100MΩ Min	Switch shall be secured to a testing machine by a normal mounting device and method. Switch shall be measured after following test. (1) Vibration frequency range = 10~55 Hz (2) Total amplitude =1.5mm (3) Sweep ratio: 10~55~10Hz Approx. 1 min (4) Method of changing the sweep vibration frequency: logarithmic or linear (5) Direction of vibration: Three perpendicular directions including actuating direction. (6) Duration: 2 hours (6 hours in total) =10-55Hz 1.5mm 10-55-10Hz 1 2 6	
5.7	Mechanical Shock	After test, Contact resistance:1Ω Max. Insulation resistance:100MΩ Min. No functional defective occur. No abnormalities shall be recognized in appearance and construction. 1Ω Max 100MΩ Min	Switch shall be measured after following test: (1) Mounting Method: Normal (2) Acceleration: 490m/s² (50G) (3) Duration: 11ms (4) Test Direction: 6 directions  (5)Number of shocks: 3 times per direction (18 times in total) 490m/ s² (50G) 11ms 6 3 18	

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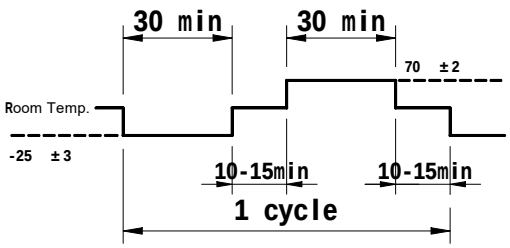
5.8	Solder Heat Resistance	No abnormalities shall be observed in appearance and operation. No functional defective occur. .	Switch shall be measured after following test: (1) Solder: H63A (JIS Z3282) (2) Flux: Rosin Flux having a nominal composition of 25% solids by mass of water white rosin in methyl alcohol (JIS K 1501) solution. (3) Soldering Temperature & Immersing Time Dip Soldering 260±5°C 5±1s Manual Soldering 350±5°C 2~3s (4)Immersion Depth: (For Dip Soldering) Immersion depth shall be at copper plating portion of PCB after mounting. (Thickness of PCB=1.6mm) H63A JIS Z 3282 25% 75% 260± 5 5±1s 350±5 2~3s 1.6mm

6. Durability characteristics

No.	Item	Criteria	Test Method
6.1	Mechanical Life	After test, Dielectric withstand in voltage:750VAC Insulation resistance:50MΩ Min. No functional defective occur The switch shall be free from abnormalities in appearance construction. 750VAC 50MΩ Min	100,000 cycles of operation shall be performed continuously at a rate of 60 cycles per minute without load. 60 / 100,000
6.2	Electrical Life		operation shall be performed continuously at a rate of 6-12 cycles per minute with load as follow. 10A 125/250V AC 10,000cycles 6-12 / 10A 125/250V AC 10,000cycles

7. Weather Proof Characteristics

No.	Item	Criteria	Test Method
7.1	Cold Proof	After test, Contact resistance:1Ω Max. Insulation resistance:100MΩ Min. No functional defective occur. The switch shall be free from abnormalities in appearance &construction. 1Ω Max 100MΩ Min	After testing at –25 ± 2 ° C for 48 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated. -25 ± 2 48 1 1
7.2	Hot Proof		After testing at 85 ± 2 ° C for 48 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. 85 ± 2 48 1 1
7.3	Moisture Resistance		After testing at 40 ± 2 ° C ,90~95% RH for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated. 40 ± 2 90-95%RH 96 1 1
7.4	Temperature Cycling	After test, Contact resistance: 1Ω Max. Insulation resistance:100MΩ Min. No functional defective occur. The switch shall be free from abnormalities in appearance & construction. 1Ω Max 100MΩ Min	After 5 cycles of following conditions, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated. 5 1 1 

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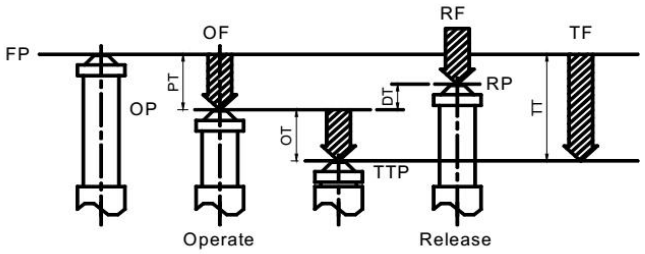
7.5	Salt Mist	No remarkable corrosion shall be recognized in metal part.	The switch shall be checked after following test: (1) Temperature: 35 ± 2 ° C (2) Salt Solution: 5 ± 1% (Solids by mass) (3) Duration: 24 ± 1 hour After test, salt deposit shall be removed by running water. 35 ± 2 5 ± 1% 24 ± 1	

8.Operating data diagram



OF:	Operating Force	操作力
RF:	Release Force	回复力
TF:	Total travel Force	全行程力
FP:	Free Position	自由位置
OP:	Operating Position	动作位置
TTP:	Total Travel Position	全行程位置
RP:	Release Position	释放位置
PT:	Pre Travel	行程
OT:	Over travel	超行程
DT:	Differential Travel	差动行程
TT:	Total Travel	全行程