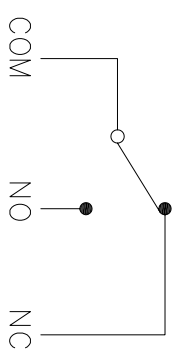
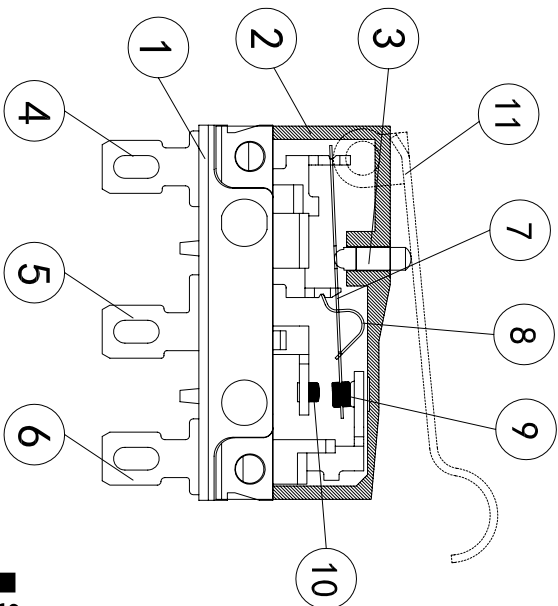
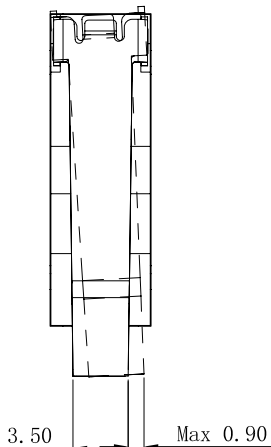


ABIDE BY WEEE & ROHS



Circuit Diagram

■ Specification :

Rated voltage: AC125V 0.1A

DC 30V 0.1A

Contact Resistance: 100mΩ (Max)

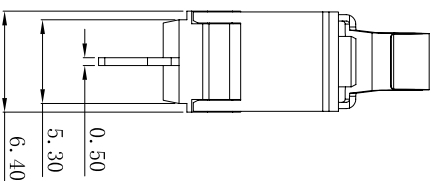
Insulation resistance: 100MΩ (Min) DC500V 1 minute

Dielectric strength: AC 2500V (50-60Hz) for 1 minute

Machine life span: 1000, 000 Cycles (min)

Life Test : 200, 000 Cycles (min)

Operation force: 50±20gf



⑪	Actuator	—	1	Stainless Steel	Natural	—
⑩	Contact	—	1	Ag/Ni	Ag-Plated	—
⑨	Contact	—	1	Ag	Ag-Plated	—
⑧	Spring	—	1	Beryllium copper	Natural	—
⑦	Movable Plate	—	1	Beryllium copper	Natural	—
⑥	NC Terminal	3	1	Brass	Ag-Plated	—
⑤	NO Terminal	2	1	Brass	Ag-Plated	—
④	COM Terminal	1	1	Brass	Ag-Plated	—
③	Knob	—	1	PBT	Black	—
②	Cover	—	1	PA66	Black	—
①	Base	—	1	Nylon	Black	—
ITEM	PART NAME	TER'NO.	QTY.	MATERIAL	FINISHING	REMARK

APPROVALS		DATE	东莞市凯华电子有限公司 KAHUA ELECTRONICS CO., LTD	
DRAWN	CRH	2025. 02. 25	Kaith	
CHECKED	Potter	2025. 02. 25	TITLE: MI1911 MICRO SWITCH	

APPROVALS	Liu Hua	2025. 02. 25	PART NO:	CM191109M09
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TOLERANCES	30<L 100<L≤30 5<L≤10 L≤5	±0.30 ±0.20 ±0.15 ±0.10	ANGLE	±2°	DRAWING NO.	SCALE: 1:1	PROJ: 10F1
ARE	—	—	—	—	—	—	—

ECN NO.	REV.	DATE.	DESCRIPTION.
—	A	2024. 01. 20	NEW
5	—	—	Xiao Yijiang
—	—	—	CHANGE.
—	—	—	CHECK.
—	—	—	APPRO.

A

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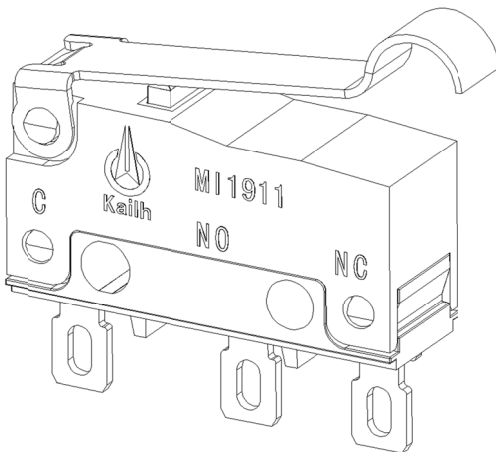
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凱華電子
KAIHUA EEELETRONICS

DocumentNumber:
KH-PS2401-18

Product Specification



P/N: MI191109V09		Title : Micro Switch			
Rev. ECN	N	Release and Revision Description:	Prepared By/Date:	Check ked By/Date: Ap	proved By/Date:
A	--	Newreleasing	2024/0 1 1/20	2024/01/2 20	2024/01/2 20



1. Scope/ :

This Product Specification covers the requirement of Micro switch on product performance, test methods and quality assurance provisions.

2. Product Application/

The Switch is applied in the automobile, home appliances , electric tools, industrial control equipment, medical equipment and security equipment. Please let us know before using any of the products in the application not described above.

3. Technology Parameters/

Ambient Humidity	45~85% R.H.		
Operating Temperature Range	-25	+70	
Storage Temperature Range	-40	+80	
Suggested storage period	about 6 months	6	
Normal Condition:			
Ambient temperature	20	± 5	
Relative humidity	65	± 5%R.H.	
Air pressure	86~	106KPa;	
Contact Resistance	100 m	Max	
Operation Force	50	± 20gf	
Solder Ability :		245± 5	5± 0.5s
		255± 5	5± 0.5s
Withstand Soldering Temperature :		260± 5	5± 0.5s

4. Ratings/

Rating	AC125V 0.1A	/ DC30V 0.1A
Insulation Resistance		100M / DC 500V;
Withstand Voltage		2500V AC 1 Minute;
Electrical Life		200,000 Cycles ;
Mechanical Life	1,	000,000 Cycles

5. Profile Dimensions /



6. Electrical Performance/

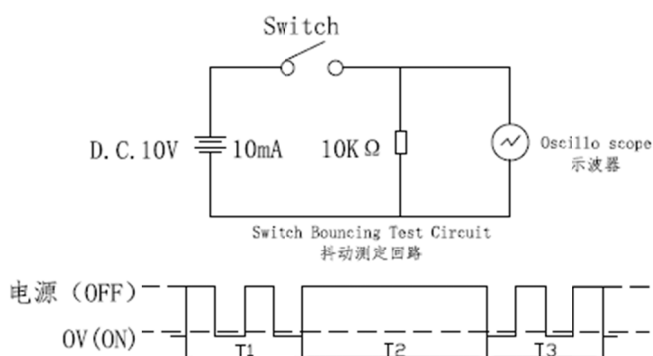
Item	Description	Test Condition	Requirement
6.1	Contact Resistance	Static load: (Operation force)x2, which is applied on the center of Switch stem.Be measured when the switch contact stabilization. 2 Measurement tool: Contact resistance Meter. (1KHz, 20mV,5~50mA) Measured at low current (100mA or less). 100mA	100m Max 100m
6.2	Insulation Resistance	Apply a Voltage of DC500 V for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body. 500V DC 1 (1) (2)	100M Min 100
6.3	Dielectric withstanding voltage	Apply a Voltage of AC1500 V (50~60Hz,cut-off current 0.5mA) for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body. 2500V AC (50~60HZ, 0.5mA)1 (1) (2)	No evidence of breakdown
6.4	Bouncing	Operation speed 3~4 times/s 3~4 Slightly push the center of stem by 3~4 times/s, to test the bounce at "ON" and "OFF" 3~4 " " " Oscillo scope Switch Bouncing Test Circuit	Before Life cycle: On: 5ms MAX,5 Off: 5ms MAX,5 After Life cycle: On: 10ms MAX,10 Off: 10ms MAX,10



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Product Specification

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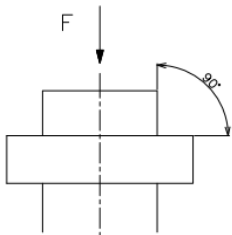
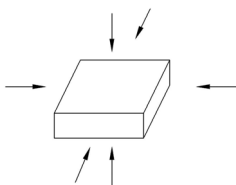
7. Mechanical Performance

Item	Description	Test Condition	Requirement
7.1	Load curve	Place the vertical direction of switch operation and gradually increase the load applied to the center of the stem until it stop.	See page 9 9
7.2	Loading parameter	Place the vertical direction of switch operation and gradually increase the load applied to the center of the stem until it stop.	See page 9 9

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7.3	Static Strength	A static load of 3 Kgf shall be applied in the direction of button operation for a period of 60 seconds. 3kgf 60 	No damage (Electrical and mechanical)
7.4	Stem Pull Strength	Break by a pull force applied opposite to the direction of stem operation.	500gf Min
7.5	Shock	Measured by according to the below condition: (1) Acceleration: 80g (2) Cycles of test: 3 cycles each in 6 directions, for a total of 18 cycles. 3, 6, 18 (3) Height: 1.5m 1.5m 	Shall meet No.6 7.1 7.2. 6 7.1 7.2
7.6	Life Test	Electrical life (1) DC30V 0.1A Resistance load DC30V 0.1A (2) Operation speed 30 cycles/minute 30 / (3) Actuation force: 150gf 150gf (4) Cycles 200,000 times Min 20 Mechanical life: (1) Push force 150gf 150gf. (2) Operation speed 180 cycles/minute 180 / (3) Cycles 1,000,000 times Min 100	Contact resistance: 10 max 10 Bounce: 10ms sec max 10 No 6.2 to 6.4 and 7.2 shall be satisfied 6.2 6.4 7.2



8. Environmental Performance/

Item	Description	Test Condition	Requirement																					
8.1	Cold test	(1) Temperature : - 25± 2 - 25± 2 (2) Duration of test: 96h 96 (3) Take off a drop water (4) Standard conditions after test : 1h 1	Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2																					
8.2	Heat test	(1) Temperature : 80± 2 80± 2 (2) Duration of test: 96h 96 (3) Take off a drop water (4) Standard conditions after test : 1h 1	Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2																					
8.3	Temperature cycle	(1) Test cycles: 5 cycles 5 (2) Standard condition after test:1h 1 <table><tr><td></td><td>Temperature</td><td>Duration of test</td></tr><tr><td rowspan="4">1 cycle</td><td>20±</td><td></td></tr><tr><td>5</td><td></td></tr><tr><td>1h</td><td></td></tr><tr><td>-40±</td><td></td></tr><tr><td></td><td>5</td><td></td></tr><tr><td></td><td>1h</td><td></td></tr><tr><td></td><td>20±</td><td></td></tr></table>		Temperature	Duration of test	1 cycle	20±		5		1h		-40±			5			1h			20±		Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2
	Temperature	Duration of test																						
1 cycle	20±																							
	5																							
	1h																							
	-40±																							
	5																							
	1h																							
	20±																							
8.4	Soldering heat test	Soldering area:5T/2 of PWB thickness. (PWB: T=1.6mm) 80± 1/2 5 Soldering temperature: 260± 5 Soldering time: 5± 0.5s 5± 0.5	260± 5 Appearance: No abnormality.																					



		DIP 波峰焊温度曲线图 (单波峰)	
8.5	Solderability	Lead-tin soldering Soldering temperature: 245 ± 5 Soldering time: 5 ± 0.5 245 ± 5 5 ± 0.5 Lead free soldering Soldering temperature: 255 ± 5 Soldering time: 5 ± 0.5 255 ± 5 5 ± 0.5	At least 90% of surface area of immersed portion shall be covered by solder. 90%
8.6	Humidity test	(1) Temperature : 60 ± 2 60 ± 2 (2) relative humidity: 90~95% R.H. : 90~95% R.H. (3) Duration of test: 96h 96 (4) Take off a drop water (5) Standard conditions after test: 1h 1	Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2
8.7	Salt Mist test	Apply the following environment to test: (1) Temperature : 35 ± 5 : 35 ± 5 (2) Salt water density: 5 ± 1 % : 5 ± 1 % (3) Duration: 12 hours : 12 (4) After test, the salt deposit shall be removed by running water.	Appearance: No corrosion spot, no crack, no base plate naked. Contact Resistance: 200 m Max 200



8.8	Withstand K ₂ S	Apply the following environment to test: (1) Temperature: Natural (2) K ₂ S Density: 2% 2% (3) Duration: 2 minute. 2	Appearance: No corrosion spot, no crack, no base plate naked. Contact Resistance: 200 m Max 200
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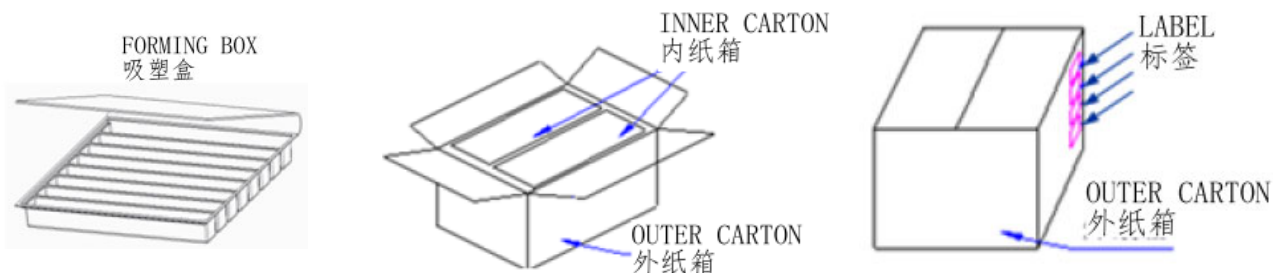
9. Loading Parameter (PT/OP/OF /RF/OT/MD) Specification

Parameter	Unit	Specification	Remark
PT	mm	2.80	Max.
OP	mm	11.65±	0.8
OF	gf	50±	20
		RF	gf 3 Min.
OT	mm	1.0	Min.
MD	mm	0.8	Max.

* The tester's measuring tolerance is acceptable within the following scope: OF: ± 5 gf
±5gf

10. Packaging

Packing Style	Quantity	Notes
Forming Box	100PCS.	
Inner Carton	1000PCS.	Forming Box: 10PCS
Outer Carton	4000PCS.	Inner Carton: 4PCS



11. Precaution

11.1 Immersion Soldering condition

ITEM	CONDITION
Preheat temperature	110 Max (Ambient temperature of soldering surface of P.W.B) 110 ()
Preheat time	60s, Max 60
Area of flux	1/2 Max of PWB Thickness 1/2



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KAIHUA EEELETRONICS

Product Specification

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Temperature of solder	260± 5 260± 5
Time of immersion	5± 0.5s 5± 0.5
Number of soldering	2time Max (But should down heat of the first soldering) 2
Printed wiring board	Single side copper-clad laminates

(1) After switches were soldered, please be careful not to clean switches with solvent

(2) Under the condition of using soldering iron, soldering temperature shall be 350 max within 3
350 , 3 .

11.2 Notes

(1) Please be cautious not to give excessive static load or shock to switches.

(2) Please be careful not to stack up P. W. B. after switches were soldered.

(3) Preservation under high temperature and high humidity or corrosive gas should be avoided
Especially. When you need to preserve for a long period, do not open the carton.

(4) The standard storage period is 3 months, with maximum up to 6months, preferably to be used as
soon as possible. After opening the package, you should put the remaining switches in a plastic bag
to preven t from damp and corrosive gas.
3 6 .

(5) This Product Specification is considered as the technical agreement on product between the
receiving customer and Kailh. Any information on Product Catalogue which is in conflict with or
different from the corresponding information of this document is considered as invalid.

(6) It will be considered that customer already confirmed and accepted this specification if customer
issue purchase order to us directly .

(7) If there is no order or no request for new specification after 1 year upon this specification is issued,
the specification w ill be regarded as invalid.
1 .

(8) Products meet the ROHS & REACH environmental management substances control standards
ROHS & REACH