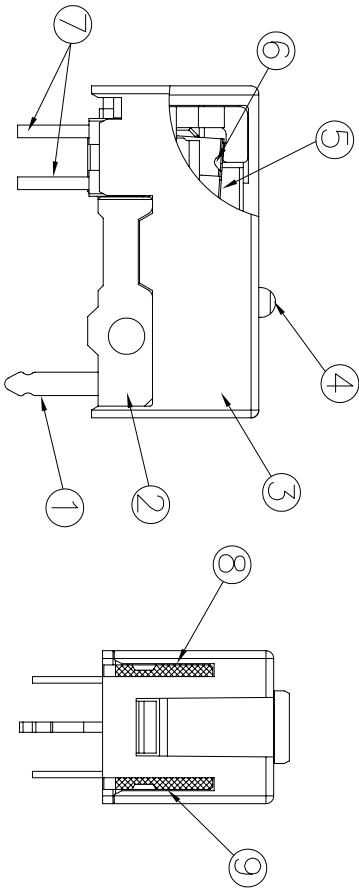
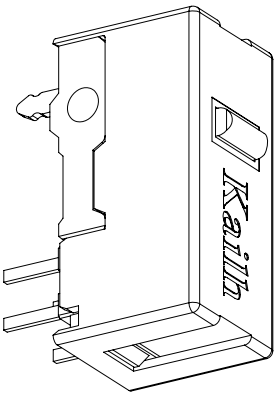
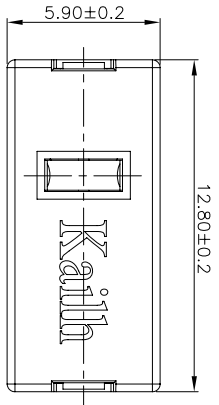
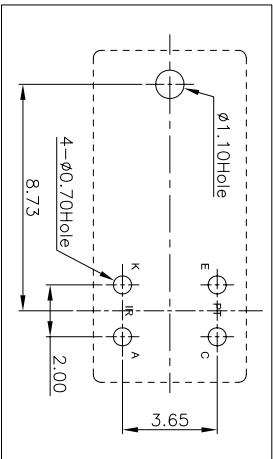
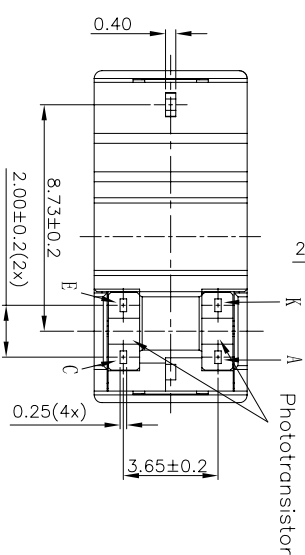
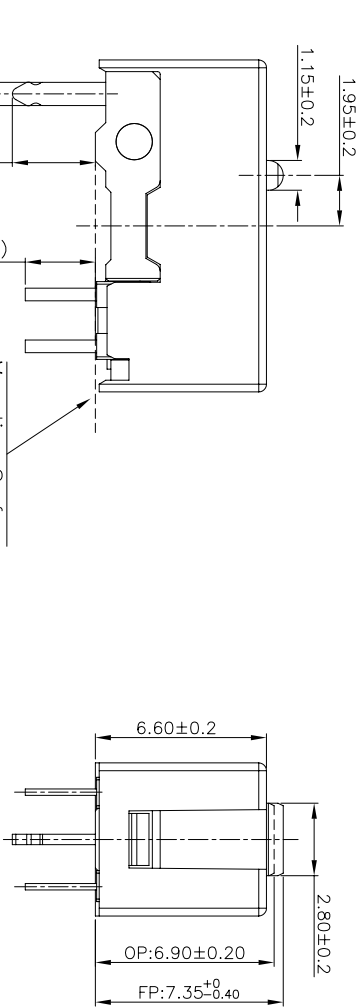


SWITCH FUNCTION

■ Specification :

1. Insulation Resistance: 100M Ω Min. (DC250V)
2. Withstand Voltage: AC500V(50-60Hz) for 1 minute
3. Operation Force: 60 $\pm$ 10gf (Package and ship 5gf segments.)
4. Releasing Force: 20gf Min.
5. Pretravel: 0.30 $\pm$ 0.20 mm
6. Movement Differential: 0.12mm Max.
7. Mechanical Life: 150,000,000 Cycles Min.



Recommended PCB Layout(Pattern Side) Top View
tolerance: $\pm$ 0.05mm

A

	C	2025. 11. 24	Cosmetic Change:Terminal Removal			CRH		
	B	2025. 09. 28	Modification of IR/PT material			CRH	Potter	
	A	2025. 04. 28	NEW			CRH		Li Zhi Mao
ECN NO.	REV.	DATE.	DESCRIPTION.			CHANGE.	CHECK.	APPRO.

A

⑨	Phototransistor	PT	1	Nylon	White	
⑧	Phototransistor	IR	1	Nylon	White	
⑦	Terminal		1	Copper Alloy	Plating Silver	
⑥	Contact		1	Alloy	Natural	
⑤	Shrapnel		1	Copper Alloy	Natural	
④	Keystroke		1	POM	Green	
③	Cover		1	Nylon	Black	
②	Base		1	Nylon	Black	
①	Terminal		1	Copper Alloy	Triplating	
ITEM	PART NAME	TER'NO.	QTY.	MATERIAL	FINISHING	REMARK
APPROVALS						
DRAWN		CRH	2025. 11. 24	TITLE:		
CHECKED		Potter	2025. 11. 24	PART NO:		
APPROVALS		Andy	2025. 11. 24	CMI1266G02D01		
TOLERANCES		30 $\leq$ L	$\pm$ 0.30	ANGLE		UNIT: mm
ARE		100 $\leq$ L	$\pm$ 0.20	SCALE: 1:1		PROJ: 10F1
		5 $\leq$ L	$\pm$ 0.15	DRAWING NO.		SHEET: 10F1
		L $\leq$ 5	$\pm$ 0.10			

东莞市凯华电子有限公司
KAIFU ELECTRONICS CO., LTD

A

B

B

C

C

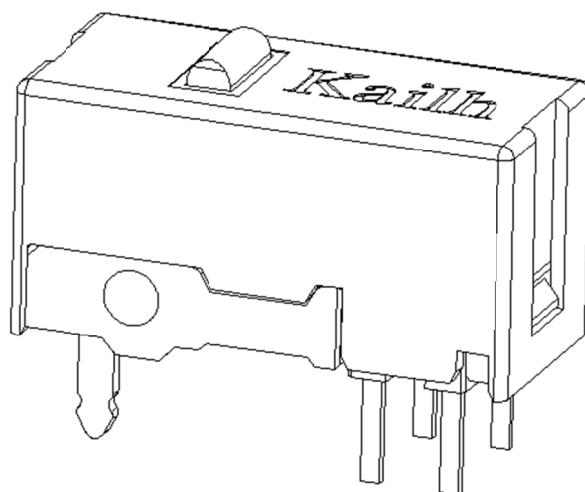
D

D

E

E

Product Specification



P/N: CMI126602D01				Title : Optical Micro Switch		
Rev.	ECN	N Rel	ase and Revision Description	Prepared By/Date:	Checked By/Date:	Approved By/Date:
A	—	—	New releasing	CRH2025.11.12	Potter 2025.11.12	Andy 202511.12
B	—	—	Photo Sensor Characteristics	CRH2026.02.05	Potter 2026.02.06	Andy 202602.06

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 all types of Computer mouse cameras, VCR, stereo and car radio equipment and home appliances. 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	-10	+70	
Storage Temperature Range	-20	+70	
Suggested storage period	about 6 months		6
Normal Condition:			
Ambient temperature	20	± 5	
Relative humidity	65%	± 5% R.H.	
Air pressure	86~	101KPa;	
Operation Force	60	± 10gf	
Solderability	:	245± 5	5± 0.5s
		255± 5	5± 0.5s
Withstand Soldering Temperature	:	260± 5	5± 0.5s

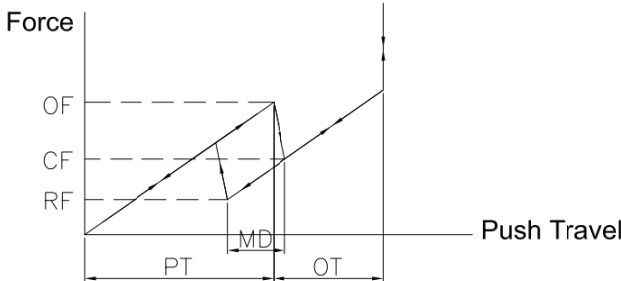
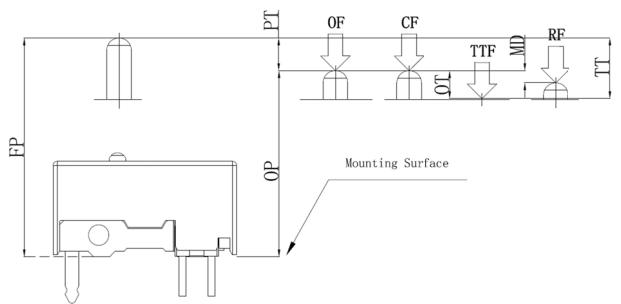
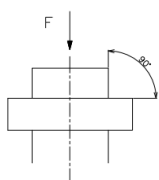
4. Rated Performance Requirements/

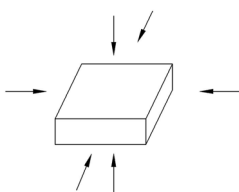
Mechanical Life 150,000,000 Cycles.

5. Profile Dimensions /

See Product 2D Drawing

6. Mechanical Performance

Item	Description	Test Condition	Requirement
6.1	Loading 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 09
6.2	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 09
6.3	Static Strength	A static load of 3kgf shall be applied in the direction of operation for a period of 60 seconds. 	No damage (Electrical and mechanical)

6.4	Shock	Measured by according to the below condition: (1) Acceleration: 80g : 80g (2) Cycles of test: 3 cycles each in 6 directions, for a total of 18 cycles. 3 6 18 	Shall meet No. 6.1 6.2. 6.1 6.2 .
6.5	Life Test	(1) Operation speed 2~3cycles/s 2~3 / (3) Push force Maximum value of operation force. (4) Cycles 150,000,000 times Min 1.5	After test: Operating is normal Operation force Variation rate within $\pm$ 30% 30% .

7. Environmental Performance/ $\pm$

Item	Description	Test Condition	Requirement
7.1	Cold Resistance test	(1) Temperature : -20 ± 2 -20 ± 2 (2) Duration of test: 96h 96 (3) Take off drop water (4) Storage time after test : 1h 1	Shall meet : No. 6.1 to 6.2 No. 8.1 to 8.2 : No. 6.1 to 6.2 No. 8.1 to 8.2
7.2	Heat Resistance test	(1) Temperature : 70 ± 2 70 ± 2 (2) Duration of test: 96h 96 (3) Take off drop water (4) Storage time after test : 1h 1	Shall meet : No. 6.1 to 6.2 No. 8.1 to 8.2 : No. 6.1 to 6.2 No. 8.1 to 8.2

7.3

Temperature
Cycle test

(1) Test cycles: 5 cycles
5
(2) Storage time after test: 1h
1

Temperature		Duration of test
1 cycle	20±	
	5	
	1h	
	-20±	

5

1h

Shall meet :
No. 6.1 to 6.2
No. 8.1 to 8.2
:
No. 6.1 to 6.2
No. 8.1 to 8.2

7.4

Soldering heat
Resistance test

Soldering area: $T/2$ of PWB thickness.
(PWB: $T=1.6\text{mm}$)

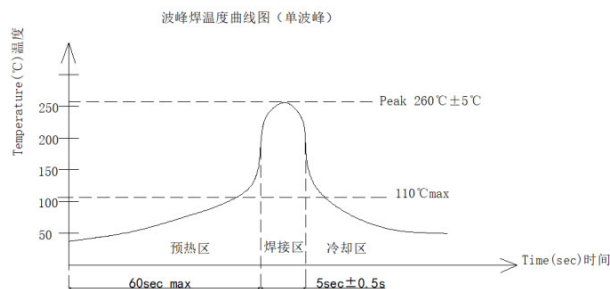
Soldering temperature: 260 ± 5
Soldering time: $5 \pm 0.5\text{s}$

260 ± 5

5 ± 0.5

DIP

Appearance:
No abnormality.



7.5

Solderability
test

Lead-tin soldering
Soldering temperature: 245 ± 5
Soldering time: $5 \pm 0.5\text{s}$

245 ± 5
 5 ± 0.5

Lead free soldering
Soldering temperature: 255 ± 5
Soldering time: $5 \pm 0.5\text{s}$

255 ± 5
 5 ± 0.5

At least 90% of surface
area of immersed
portion shall be covered
by solder.

90% .

8. Electrical Performance/

8.1	Insulation Resistance	Apply a Voltage of 500 VDC for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Housing. 500V DC 1 (1) . (2) .	100M Min 100
8.2	Withstand Voltage	Apply a Voltage of 500 VAC (50~60Hz) for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Housing. 500V AC 1 (1) . (2) .	No breakdown

9. Optical

9.1	Photo Sensor Rating	2 VDC, 5 mA			
9.2	Intermittence Operation	30 μ sec.			
9.3	Fall Time (See Sec. 6.5)	VceOFF	V 1.5	Min.	After soldering & 20M life test:
		VceON	V 0.4	Max	VceOFF: 1.5V Min. VceOn: 0.4V Max.
9.4	Fall Time (See Sec. 6.5)	Tf	μ sec	21 Max.	@VceON = 0.4V After soldering & 20M life test: 27 μsec Max. 2000 27μsec

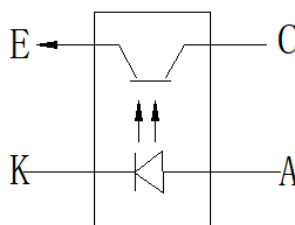
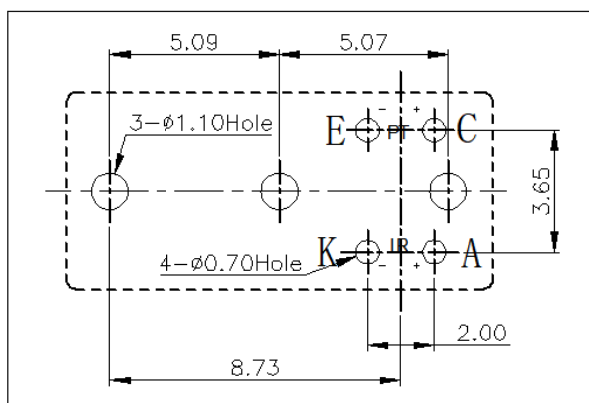
10. Recommended PCB Layout PCB

Notice: IR on circuit board layouts should be adjusted with input voltage, to ensure PT works when press the switch handle to the bottom.

IR

PT

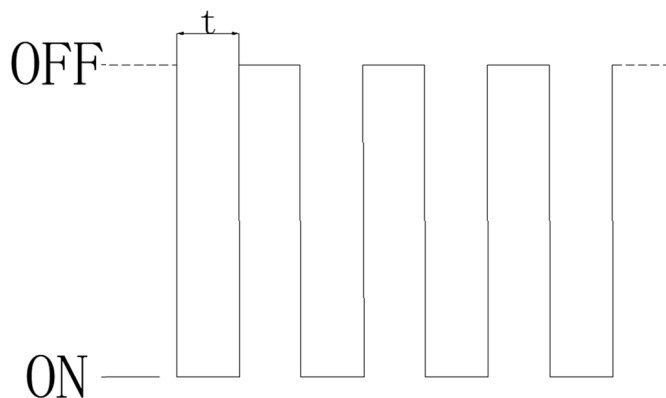
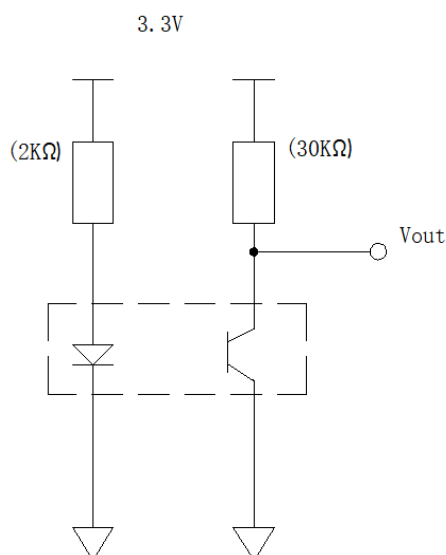
Do not put wires in places that touch the bottom of the switch, as it could lead to melting of the switch case.



Terminal No. 端子编号	Name 名称
A	Anode 阳极
K	Cathode 阴极
C	Collector 集电极
E	Emitter 发射极

Recommended PCB Layout(Pattern Side) Top View
tolerance: $\pm 0.05\text{mm}$ 、(Single face board T=0.80mm)
推荐PCB布局(图案面)顶视图公差: ± 0.05 、(单面板T=0.80mm)

11. Measurement Circuit of Photo Sensor Characteristics.



12. Photo Sensor Characteristics

Absolute Maximum Ratings (Ta = 25)

Ta=25

Parameter	Symbol	Maximum Rating	Unit
Input	Forward Current	IF	40 mA
	Surge Forward Current tp=100us	IFSM	200 mA
	Reverse Voltage	VR	5 V
Output	Collector Power Dissipation	Pc	75 mW
	Collector Current	Ic	20 mA
	Collector-Emitter Voltage	VCEO	30 V

Collector-Emitter

13. Electrical Characteristics (Ta = 25)

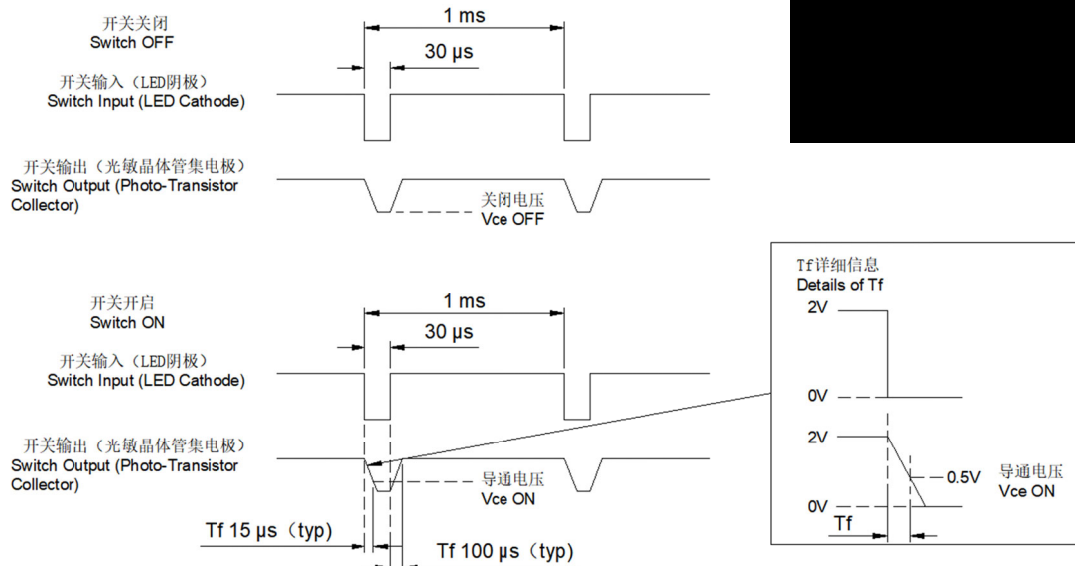
Ta=25

13.1 Steady Operation

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage		1.16 1.4		V	IF=5 mA
	Reverse Current	-- --		10	uA	VR= -5V
Output	Dark Current	-- --		100	nA	VCE E=10V
	Collector-Emitter Saturation Voltage	-- --		0.4	V	IC=100uA Ee=1mW/cm²

13.2 Pulse Operation

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Transfer Characteristics	Collector Current	0.75 1.07	7 1.35		mA	Vce=5V Ee=1mW/cm²
	Rise Time	-- 100		--	s	VCE E=2V
	Fall Time	-- 15		--	s	Io=1 mA



14. Loading Parameter (FP/OP/PT/OF/OT/MD/RF) Specification

Parameter	Unit	Specification	Remark
FP	mm	7.35+0/-0.4	
OP	mm	6.90± 0.2	
PT	mm	0.30± 0.20	
OF	gf	60± 10	
OT	mm	0.20	Min
MD	mm	0.12	Max
RF	gf	20	Min
CR	%	30± 10%	CR=(O F-CF)/OF

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

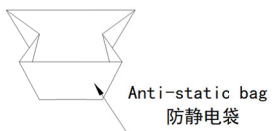
15. Packaging

Packing Style	Quantity	Notes
Plastic tray	500PCS.	500Pcs/Bag,
Bag	500PCS	PE Bag:1 PCS
Inner	10000PCS	PE Bag/Per tray:10 PCS

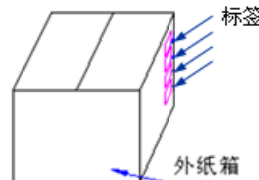
Carton



Plastic tray
塑料托盘



Anti-static bag
防静电袋



标签

外纸箱

16. Precaution

12.1 Immersion Soldering condition

ITEM	CONDITION
Preheat temperature	110 Max (Ambient temperature of soldering surface of P.W.B) ()
Preheat time	60s, Max 60
Area of flux	1/2 Max of PWB Thickness 1/2
Temperature of solder	260± 5 260± 5
Time of immersion	3s± 0.5s 3s± 0.5s
Number of soldering	2 times 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 ±5 with 3±0.5s
350 ±5 , 3±0.5 .

12.2 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 prevent 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) Whether customer no feedback or place order to us directly after received specification, it will be considered that customer already confirmed and accepted this product .
- (7) If there is no order or no request for new specification after 1 year from this specification issued, the specification will be regarded as invalid.
1 .
- (8) Products meet the ROHS & REACH environmental management substances control standards
ROHS & RE