



Series 230MA

MICRO SWITCH

- Good feeling and more levers are applied.
- Long life and more operating force can be applied such as lightly force.
- Applications : Joystick , TV game , Time recorder , Air conditioner , Food processor , Juice maker , Alarm , Mixer , Shredder machine , etc.



Ordering Information

Series	Actuator Type	Terminal Type	Contact Form & Common Terminal Position	Rating
230MA	00	A	2	5A
Actuator Type		Terminal Type	Contact Form & Common Terminal Position	5A: 5A 250VAC or 125VAC, 0.1A 24V 3A: 3A 250V AC
00: Pin plunger		A: Solder Terminal	Blank: SPDT-NO/NC	
01: Short hinge lever		C2: Quick-connect Terminal (#110)	2: SPST-NC	
02: Hinge lever		P: P.C.B Terminal	3: SPST-NO	
03: Long hinge lever		CL: P.C.B Terminal		
04: Simulated roller lever		CR: P.C.B Terminal		
05: Short hinge roller lever				

*Please contact CTS representatives for the special requests.

Specifications

Item	Standard
Insulating resistance	100M Ω min (DC 500V)
Dielectric strength	AC 500V (50/60Hz for 1 minute)
Contact resistance	30m Ω max. (initial)
Operating Frequency	Mechanical: max. 120 operations/minute. Electrical: max. 30 operations/minute.
Operating Speed	0.5mm to 500mm/s (pin plunger models)
Vibration	10 to 55Hz, 1.5 mm double amplitude
Electrical life	100,000 cycles
Mechanical life	1,000,000 cycles
Degree of Protection	IP40 (Excluding the terminals)
Operating Temperature	-25°C ~ +105°C
Operating Humidity	95% max. (for 5°C to 35°C)

Operating Characteristics

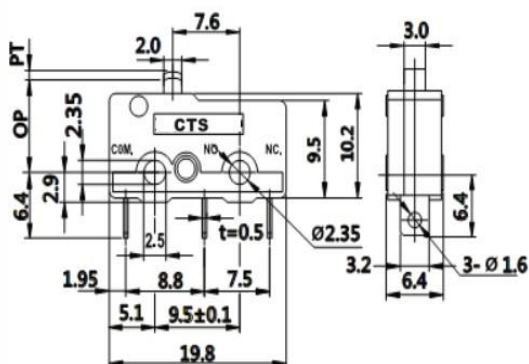
Actuator Type	00 Pin Plunger	01 Short Hinge Lever	02 Hinge Lever
Operating Force max.	240gf	55gf	55gf
Pretravel max.	0.9mm	3.3mm	3.8mm
Overtravel min.	0.6mm	1.0mm	1.0mm
Movement Differential max.	0.4mm	1.0mm	1.2mm
Releasing Force min	20gf	10gf	8gf
Operating Position	8.4±0.5mm	8.8±0.8mm	8.8±1.0mm

Actuator Type	03 Long Hinge Lever	04 Simulated roller leaf lever	05 Short Hinge Roller Plunger
Operating Force max.	45gf	55gf	55gf
Pretravel max.	5.2mm	3.8mm	3.3mm
Overtravel min.	1.6mm	0.5mm	0.8mm
Movement Differential max.	1.6mm	0.8mm	0.8mm
Free Position max.	5gf	10gf	10gf
Operating Position	8.8±1.2mm	10.7±0.8mm	14.5±0.8mm

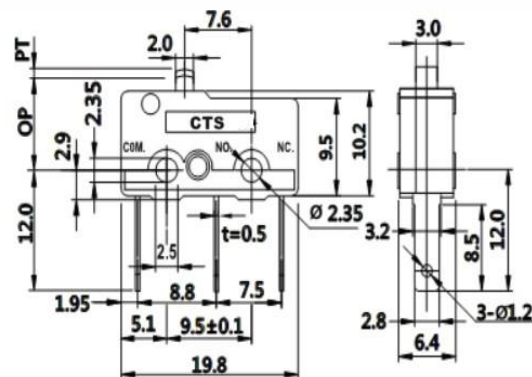
Outline Dimension

Terminal

(A): Solder Type



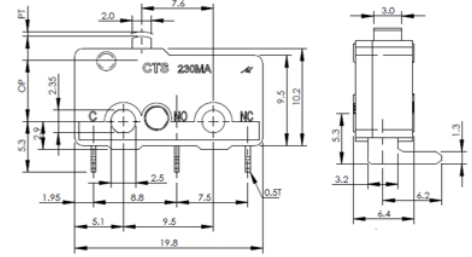
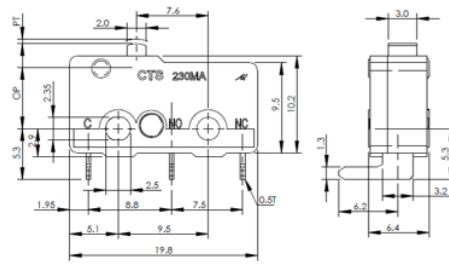
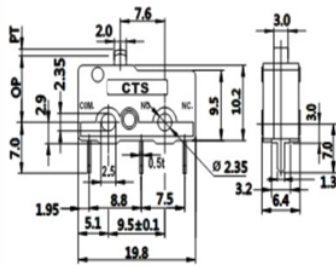
(C2): Quick Connect (#110) Type



(P): P.C.B Type

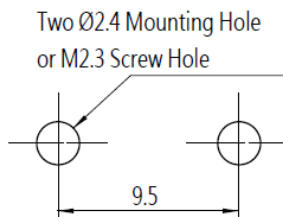
(CL): P.C.B Type

(CR): P.C.B Type



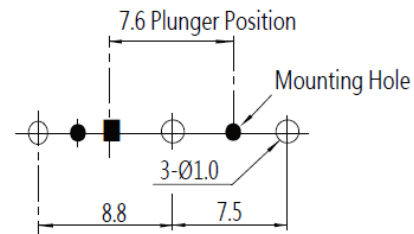
Mounting

Use M2.3 mounting screws with plain washers or spring washers to securely mount the switch.
Tighten the screws with torque of 0.23 to 0.26 N·m {2.3 to 2.7 kgf ·cm}
Overforce of torque may result in deterioration of the sealing or damage.



P.C.B Layout

To solder the lead to the terminal, apply a soldering iron rated at 60 W max. (temperature of soldering iron: 360°C max.) for no more than 5 seconds.



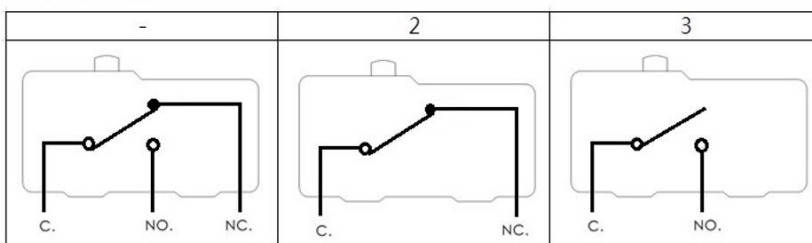
Contact Form & Common Terminal Position

Contact form

Blank: SPDT

2: SPST-NC

3: SPST-NO



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