# MQS-6 Sub-Miniature Switch

#### **TONELUCK**

#### **Specifications**

Insulation Resistance:

Electrical Rating 10~50mA 12~24 VDC 250,000 cycles Min.

Operating Temp:  $-40^{\circ}$  to  $+85^{\circ}$ C Mechanical Life: 500,000 cycles Min. Contact Resistance:  $50m\Omega$  Max. (initial) Operating Force: 150gf Max.

Dielectric Strength: 500VAC for 60 ± 5 sec.

Housing: UL 94 HB Thermoplastic (Base)
UL 94 HB Thermoplastic (Cover)

100ΩM Min.



#### **IP Protection**

Series	Actuation Side	Terminal Side	OF	OP
MQS-62	IP 67	IP 00	150 gf Max.	6.85±0.20mm(3.45±0.20mm no location pin)
MQS-63	IP 67	IP 67	150 gf Max.	6.85±0.20mm(3.45±0.20mm no location pin)
MQS-64	IP 68	IP 68	150 gf Max.	6.85±0.20mm(3.45±0.20mm no location pin)
MQS-65	IP 68	IP 68	150 gf Max.	6.20±0.20mm(3.45±0.20mm no location pin)

#### Ordering Instructions

MQS-62 Version

MQS-63 (MQS-62 with wire IP67)
MQS-64 (MQS-62 with wire IP68)
MQS-65 ( with wire & with PCB IP68)

#### Circuit & Ratings

1 = 10~50mA/12~24VDC SPDT

2 = 10~50mA/12~24VDC SPST-NO

3 = 10~50mA/12~24VDC SPST-NC

## **Position Pins**

A= Side A; Length: 2.5mm F= Both Sides; Length: 5.0mm L= Side A; Length: 1.7mm
B= Side B; Length: 2.5mm G= Both Sides; Length: 1.7mm M= Side B; Length: 1.7mm
C= Both Sides; Length: 1.7mm+Underside slot H= Both Sides; Length: 2.5mm N= No Location Pin

D= Side A; Length: 5.0mm J= No Location Pin With Lever P=Both Sides; Length: 2.5mm

E= Side B; Length: 5.0mm K= Both Sides; Length: 1.5mm

#### Terminal Type

A= Angled PCB pins, Side A E= Straight Solder terminals K= Interlock terminal, side B
B= Angled PCB pins, Side B G= Angled Solder terminals, Side A Q=Quick plug terminal

C= Straight PCB pins H= Angled Solder terminals, Side B W=Wires Specification: eg.W1,W2,W3,etc

D= Straight crimped pcb pins J= Interlock terminal, side A

#### Lever Type

00,01,02,03 ...P1(Metal button) (00 = No lever)

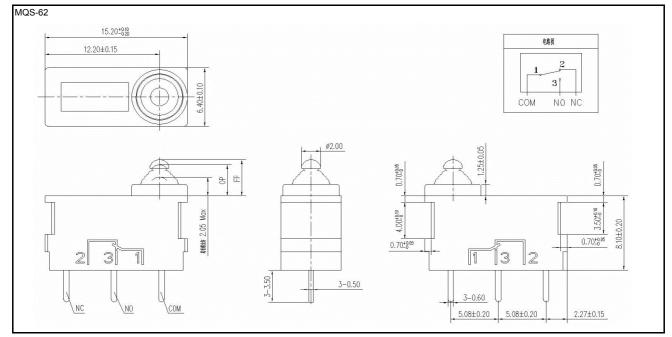
#### Versions

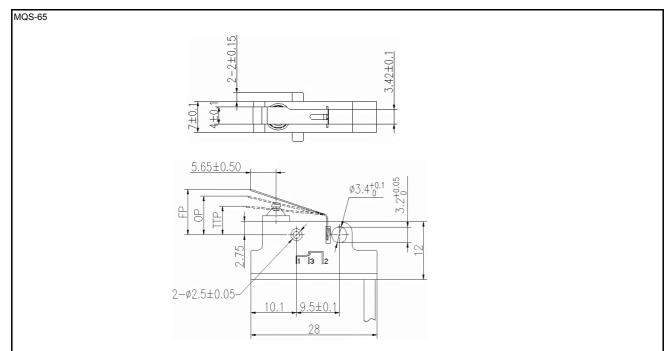
01: Standard Specification

A2:IP68 at the terminal side A3:40T125(change Batton)

www.toneluck.com Page 1

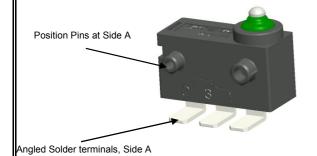
## **Basic Dimensions**



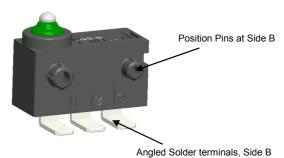


#### **Common Characteristics**

Movement Differential: 0.3 mm max.
Over-travel Distance: 1.3mm min.



Side A



Side B

Page 2

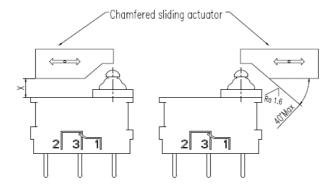
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# MQS-6 Sub-Miniature Switch **TONELUCK** Circuit Circuit Diagram 13 |2 3 COMNO NC 1: COM 3: NO 2: NC **Position Pins** Type C: Both Sides; Length: 1.7mm Type N: No Location Pin 2-\$2.50±0.05 3 Type L: Side A; Length: 1.7mm Type M: Side B; Length: 1.7mm 3.00±0.10 3.00±0.10 9.60±0.1 ø2.70±0.05 ø2.70±0.05 ¢2.20±0.05 3 [3 **Terminal Type**Type C: Straight PCB Pins Type E: Straight Solder terminals

3.22±0.15

#### **Actuation Angle**

Besides actuating the micro-switch vertically, the switch could be operated by cam-shaped or chamfered sliding actuators with an approximate value of max. 40°. Please refer to the technical specification for the specified conditions.



The approximate value of 40° was tested under the following conditions:

- Chamfered sliding material : POM.
- Polished chamfered sliding surface, greased with lubricant oil .
- Operation frequency :30 cycles per minute.
- Operating travel until permissible end position measure "X" (see switch drawing).

www.toneluck.com Page 4