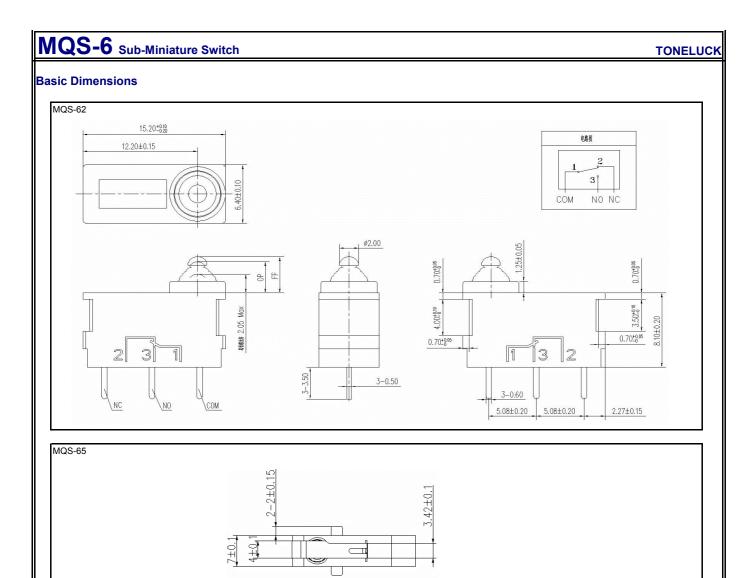
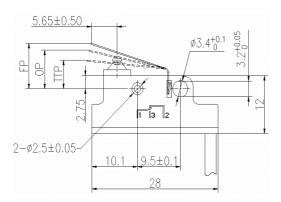
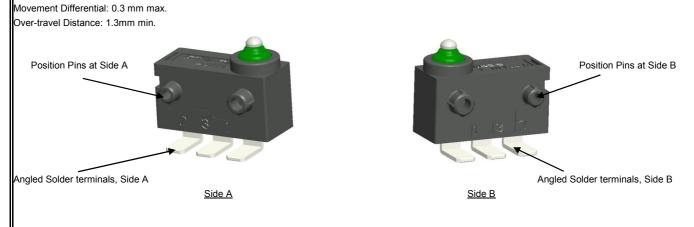
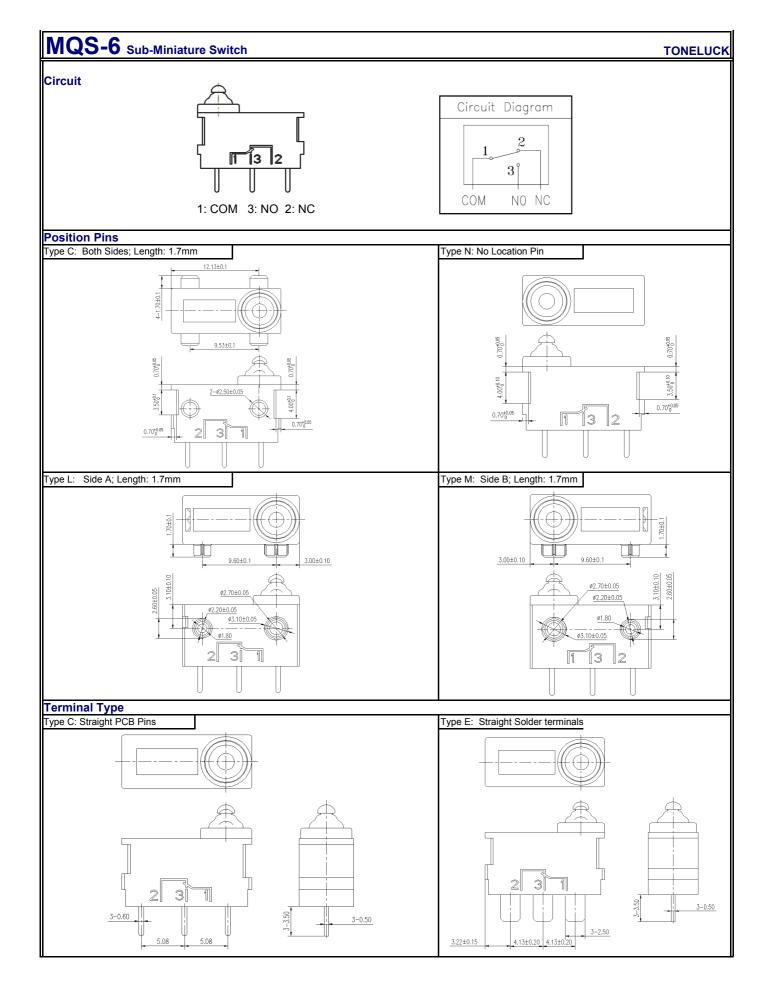
	iniature Switch					TONELU
Specifications						
Electrical Rating	10~50mA 12~24 VD0	C 250,000 cycles Min.				
Operating Temp:	-40°℃ to +85°℃					
Mechanical Life:	500,000 cycles Min.				-	-
Contact Resistance:	50mΩ Max. (initial)		Contraction of the	1400		
Operating Force:	150gf Max.		1407	1409		
nsulation Resistance:	100ΩM Min.		1407			-
Dielectric Strength:	500VAC for 60 ± 5 s	ec.				
Housing:	UL 94 HB Thermopla	astic (Base)				
	UL 94 HB Thermopla	astic (Cover)				
		rotection				
Series	Actuation Side	Terminal Side	OF	OP		
MQS-62	IP 67	IP 00	150 gf Max.	6.85±0.20mm(3.45		
MQS-63	IP 67	IP 67	150 gf Max.	6.85±0.20mm(3.45		
MQS-64	IP 68	IP 68	150 gf Max.	6.85±0.20mm(3.45		
MQS-65	IP 68	IP 68	150 gf Max.	6.20±0.20mm(3.45	5±0.20mm	no location
Ordering Instructions	i					
				MQS 62 1	A A	0 0 -
Model						
MQS-62 Version						
MQS-63 (MQS-62 with v	vire IP67)					
MQS-64 (MQS-62 with v	vire IP68)					
	,					
MQS-65 (with wire & wi	,					
MQS-65 (with wire & wi	th PCB IP68)					
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC	spdt					
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC	th PCB IP68) SPDT SPST-NO					
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC	th PCB IP68) SPDT SPST-NO					
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC	th PCB IP68) SPDT SPST-NO					
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC	th PCB IP68) SPDT SPST-NO					
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins	th PCB IP68) SPDT SPST-NO SPST-NC	≔ Both Sides; Length: 5.0mm	L= Side A	A; Length: 1.7mm		
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC <u>Position Pins</u> A= Side A; Length: 2.5mr	th PCB IP68) SPDT SPST-NO SPST-NC n F	= Both Sides; Length: 5.0mm		A; Length: 1.7mm B: Length: 1.7mm		
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC <u>Position Pins</u> A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr	th PCB IP68) SPDT SPST-NO SPST-NC n F n G	G= Both Sides; Length: 1.7mm	M= Side I	B; Length: 1.7mm		
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC <u>Position Pins</u> A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1	th PCB IP68) SPDT SPST-NO SPST-NC n F n G	G= Both Sides; Length: 1.7mm I= Both Sides; Length: 2.5mm	M= Side I N= No Lo	B; Length: 1.7mm ocation Pin		
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC <u>Position Pins</u> A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot F n J	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever	M= Side I N= No Lo	B; Length: 1.7mm		
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC <u>Position Pins</u> A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot F n J	G= Both Sides; Length: 1.7mm I= Both Sides; Length: 2.5mm	M= Side I N= No Lo	B; Length: 1.7mm ocation Pin		
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side A; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr Terminal Type	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot F n J n K	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever K= Both Sides; Length: 1.5mm	M= Side I N= No Lo P=Both S	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm		
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr A= Angled PCB pins, Side	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever K= Both Sides; Length: 1.5mm E= Straight Solder terminals	M= Side I N= No Lo P=Both S K= Ir	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm nterlock terminal, side		
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Market B; Length: 5.0mr Carterial Type A= Angled PCB pins, Side B= Angled PCB pins, Side	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever K= Both Sides; Length: 1.5mm	M= Side I N= No Lo P=Both S K= Ir	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm		
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Marching CB; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Marching CB; Length: 5.0mr Carching CB; L	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot F n J n K e A E e B G	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever K= Both Sides; Length: 1.5mm E= Straight Solder terminals	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm nterlock terminal, side	B	N3,etc
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr A= Angled PCB pins, Side B= Angled PCB pins, Side C= Straight PCB pins	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E e B G	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever (= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	V3,etc
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Mage A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr C= Side B; Length: 5.0mr D= Side PCB pins, Side C= Straight PCB pins D= Straight crimped pcb pins	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E e B G	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever C= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A H= Angled Solder terminals, Side B	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	V3,etc
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Mage A; Length: 5.0mr C= Side B; Length: 5.0mr C= Side B; Length: 5.0mr D= Side CB pins, Side C= Straight PCB pins D= Straight crimped pcb p Lever Type	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E e B G pins J	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever (= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A H= Angled Solder terminals, Side B = Interlock terminal, side A	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	W3,etc
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Mage B; Length: 5.0mr E= Side B; Length: 5.0mr C= Straight PCB pins, Side C= Straight PCB pins D= Straight crimped pcb p Lever Type 00,01,02,03P1(Metal b	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E e B G pins J	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever (= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A H= Angled Solder terminals, Side B = Interlock terminal, side A	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	V3,etc
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Position Pins A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr C= Both Sides; Length: 1 D= Side A; Length: 5.0mr E= Side B; Length: 5.0mr E= Side B; Length: 5.0mr Terminal Type A= Angled PCB pins, Side B= Angled PCB pins, Side C= Straight PCB pins D= Straight crimped pcb p Lever Type 00,01,02,03P1(Metal b	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot F n J n K e A E e B G pins J putton) (00 = No In	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever (= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A H= Angled Solder terminals, Side B = Interlock terminal, side A	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	W3,etc
MQS-65 (with wire & wi Circuit & Ratings 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC Magnetic Pins B = Side A; Length: 2.5mr B = Side B; Length: 2.5mr C = Both Sides; Length: 1 D = Side A; Length: 5.0mr E = Side B; Length: 5.0mr C = Straight PCB pins, Side B = Angled PCB pins, Side C = Straight crimped pcb p D = Straight crimped pcb p D = Straight crimped pcb p C = Straight crimped pcb p D = Straight crimped pcb p C =	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E e B G obins J putton) (00 = No In	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever (= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A H= Angled Solder terminals, Side B = Interlock terminal, side A	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	W3,etc
MQS-65 (with wire & wi <u>Circuit & Ratings</u> 1 = 10~50mA/12~24VDC 2 = 10~50mA/12~24VDC 3 = 10~50mA/12~24VDC <u>Position Pins</u> A= Side A; Length: 2.5mr B= Side B; Length: 2.5mr	th PCB IP68) SPDT SPST-NO SPST-NC n F n G .7mm+Underside slot H n J n K e A E e B G poins J putton) (00 = No Ia) n de	G= Both Sides; Length: 1.7mm H= Both Sides; Length: 2.5mm = No Location Pin With Lever (= Both Sides; Length: 1.5mm = Straight Solder terminals G= Angled Solder terminals, Side A H= Angled Solder terminals, Side B = Interlock terminal, side A	M= Side I N= No Lo P=Both S K= Ir Q=Q	B; Length: 1.7mm ocation Pin Sides; Length: 2.5mm hterlock terminal, side uick plug terminal	B	W3,etc





Common Characteristics

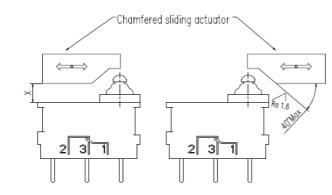




MQS-6 Sub-Miniature Switch

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).