1 General

1.1 Application — This specification is applied to KW3A Micro Switch used for electronic equipment.

1.2 Operating temperature range — -40℃ to +105℃

1.3 Test conditions — Unless otherwise specified. The atmospheric conditions for making measurements and tests are as follows

Ambient temperature: 15~35℃

Relative humidity: 45~85%

Air pressure: 86~106kPa (860~1060 mbar)

Should any doubt arise in judgment. tests shall be conducted at the following conditions.

Ambient temperature: 20±2℃

Relative humidity: 60~70%

Air pressure: 86~106kPa (860~1060 mbar)

2 Appearance construction and dimensions

2.1 Appearance — Switch shall have good finishing, and no rust crack or plating failures.

2.2 Construction and dimensions — Refer to individual product drawing.

3 Ratings

5GPA 125/250VAC μ 40T105 5E4 4A 30VDC (UL CUL)

5(2)A 125/250VAC μ 40T105 5E4 4A 30VDC 40T105 5E4 (ENEC DEMKO)

5(2)A 250VAC μ 10T105 5E4 (VDE SEMKO CE KTL CQC)

4 Electrical specifications

NO.	Items	Test conditions	Criteria
4.1	Contact resistance	Shall be measured at 1A,5V DC by voltage drop method after some operations without load. Applied position: Between terminal and terminal	50mΩ MAX
4.2	Insulation resistance	Test voltage:500VDC, measured after 1 min ±5s Applied position: 1)Between terminal and terminal 2)Between terminal and ground	100MΩ MIN
4.3	Voltage proof	Following test voltages shall be applied for 5s. (Cut-off current:0.5mA) 1)Between terminal and terminal :1000VAC (50~60Hz) 2)Between terminal and ground: 2000V AC(50~60Hz)	No dielectric breakdown shall occur

5 Mechanical specifications

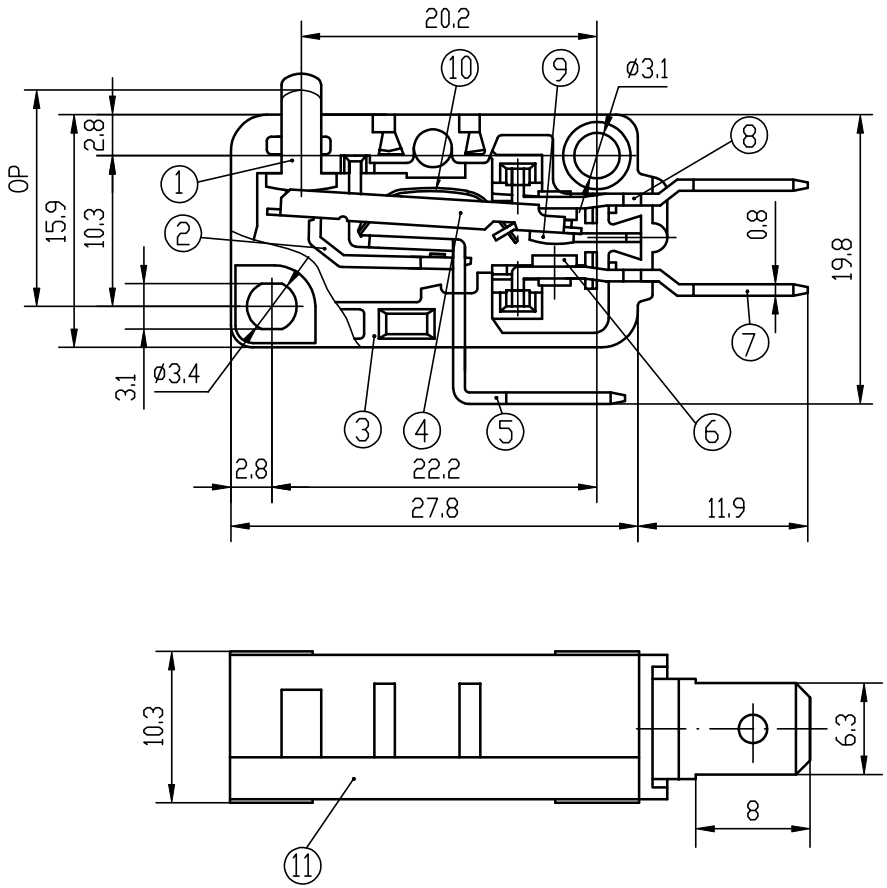
NO.	Item	Test conditions	Criteria
5.1 Operating character-istic	5.1.1 Operating force (OF)	The force which moves the actuating part from the free position to the actuating position and reverses the live contact from the actuating part	2N MAX
	5.1.2 Release force (RF)	The force which is required to reverse the live contact from the actuating part	0.5N MIN
	5.1.3 Pre Travel (PT)	The distance for the actuating part to travel from the free position to the actuating position	1.4mm MAX
	5.1.4Movement Differential (MD)	The costume for the actuating part to travel from the actuating position to the returning position	0.4mm MAX
	5.1.5 Over Travel (OT)	The distance for the actuating part to travel from the actuating position to the actuating limit position	1mm MIN
	5.1.6 Operating Position (OP)	After the force is place on the actuating part the live contact from the free position state to reversing position	14.9±0.4mm
5.2	Actuator strength	It shall satisfy following condition when a thrust load of the specified to the operating direction vertically for 1 minutes	10N
5.3	Terminal strength	Insert and pull out	25N
5.4	Vibration	Switch shall be secured to a lasting machine by a normal mounting device and method switch shall be measured after following test. 1) Vibration frequency range: 10-55Hz 2)Total amplitude: 1.5mm 3)Sweep ratio: 10-55-10Hz Approx: 1min 4)Method of changing the sweep vibration frequency: Logarithmic or linear 5)Direction of vibration: Three perpendicular directions including actuator. 6)Duration: 2 h each (6 h in total)	Contact resistance(item 4.1): 100mΩ MAX Insulation resistance (item 4.2): 50MΩ MIN Voltage proof: (item 4.3) No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within ±10% of specified value . Shall be free from mechanical abnormalities.
5.5	Shock	Switch shall be measured after following test at the condition of releasing self-lock. 1) Mounting method: Normal mounting method 2) Acceleration: 30g 3) Duration: 11ms 4) Test direction: 6 directions 5) Number of shocks:3 times per direction (18times in total)	

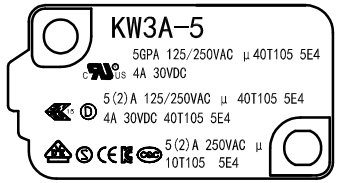
6 Durability

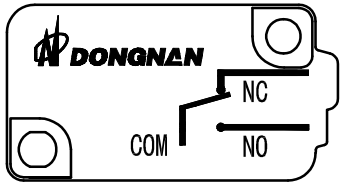
NO.	Item	Test conditions	Criteria
6.1	Cold	After testing at -40±2℃ for 96 h, the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h. water drops shall be removed.	Contact resistance(item 4.1): 100mΩ MAX Insulation resistance (item 4.2): 50MΩ MIN Voltage proof: (item 4.3) No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within ±10% of specified value . No abnormalities shall be recognized in appearance and construction.
6.2	Dry heat	After testing at 105±2℃ for 96 h, the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h.	
6.3	Damp heat	After testing at 40±2℃ and 90-95%RH for 96 h, the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h. water drops shall be removed.	
6.4	Change of temperature	After 5 cycles of following conditions the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h. water drops shall be removed. The duration of each exposure is 30 min.	

7 Durability

NO.	Item	Test condition	Criteria
7.1	Endurance (According to UL61058)	5GPA 125/250VAC 4A 30VDC Switch shall be operated 50,000 cycles at 15~20 cycles/min Voltage proof(Cut-off current:0.5mA) Test voltages shall be applied for 1 min	Insulation resistance(item 4.2): 50MΩ MIN Voltage proof: Terminal and ground:1500VAC No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within ±20% of specified value . Temperature rise:55℃ MAX No abnormalities shall be recognized in appearance and construction
7.2	Endurance (According to EN61058-1 /IEC61058-1)	5(2)A 125/250VAC 4A 30VDC Switch shall be operated 50,000 cycles at 15~20 cycles/min Voltage proof(Cut-off current:0.5mA) Test voltages shall be applied for 1 min	Insulation resistance(item 4.2): 50MΩ MIN Voltage proof: Terminal and terminal:750VAC Terminal and ground:1500VAC No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within ±20% of specified value . Temperature rise:55℃ MAX No abnormalities shall be recognized in appearance and construction







LOGO

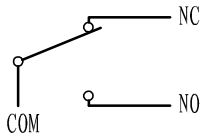
1. Specifications 技术特性表

RATINGS 额定值 ELECTRONICAL LIFE 电气寿命 TEMPERATURE 温度等级	5GPA 125/250VAC μ40T105 5E4 4A 30VDC
	5(2)A 125/250VAC μ 40T105 5E4 4A 30VDC 40T105 5E4
	5(2)A 250VAC μ 10T105 5E4
INSULATION STRENGTH 绝缘电阻	100MΩ MIN
TEST VOLTAGE 耐电压	AC1000V/2000V
CONTACT RESISTANCE 接触电阻	50mΩ MAX
OPERATING FORCE 动作力	2N MAX
RELEASE FORCE 释放力	0.5N MIN
OPERATING POSITION 动作位置	14.9±0.4mm
MOVEMENT DIFFERENTIAL 差动行程	0.4mm MAX

2. Parts List 零件材质表

No.	Name 名称	Material 材料
1	BUTTON 开关子	Bakelite PF2A5-151(j) (黑色) 电木粉
2	LEVER 杠杆	Brass alloy H62,Silver plated 黄铜，镀银
3	CASE 基座	Plastic PBT(灰色) 工程塑料
4	PLATE MOVING 可动片	Brass alloy H62,Silver plated 黄铜，镀银
5	TERMINAL 支架	Brass alloy H65,Silver plated 黄铜，镀银
6	CONTACT 静触点	AgNi10/Cu 银-镍/铜
7	TERMINAL 端子	Brass alloy H65,Silver plated 黄铜，镀银
8	TERMINAL 端子	Brass alloy H65,Silver plated 黄铜，镀银
9	CONTACT 动触点	AgNi10/Cu 银-镍/铜
10	SPRING 簧片	Beryllium alloy QBe2 铍青铜
11	COVER 盖	Plastic PBT(灰色) 工程塑料

SCHEMATIC DIAGRAM



3. Safety authentication 安全认证

General Tolerance Dimemmsion 未注公差

⩽3	±0.1
>3 -10	±0.2
>10 -30	±0.3

					DESIGN	陈丹琼20210331
					CHECKED BY	郭兴生20210331
					TECHNICS	
EDITION		20210331				
PROJ					STANDARDIZATION	
					APPROVED BY	徐良刚20210331

KW3A-5Z0-A200

AVY8 3.604.016-3744

DONGNAN ELECTRONICS