

TA3-□□□□-H SPECIFICATION

FILE No. : E-V-AT33
 REV. : A
 Page. : 1 / 5

1. Style

This specification describes "TACTILE SWITCH WASHABLE TYPE", mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristic.

1.1 Operating Temperature Range: $-25^{\circ}\text{C}+70^{\circ}\text{C}$

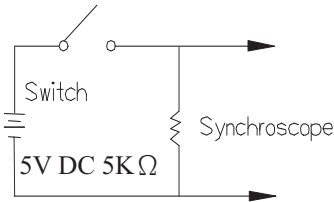
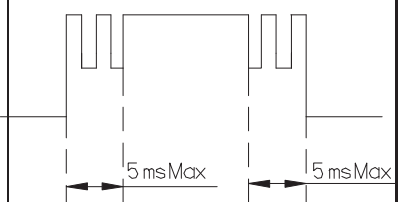
1.2 Storage Temperature Range : $-30^{\circ}\text{C}+80^{\circ}\text{C}$

1.3 The shelf life of product is within 6 months.

2. Current Range: 50mA, 12 VDC

3. Type of Actuation: Tactile feedback

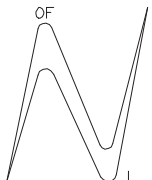
4. Test Sequence:

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.
ELECTRIC PERFORMANCE	2	Contact Resistance	Applying a static load 1.5~2 times the operating force to the center made with a 1 kHz small current contact resistance meter.	100mΩ Max.
	3	Insulation Resistance	Measurements shall be made following application of 500 V DC potential across terminals and cover for 1 minute ±5 seconds.	100MΩ Min.
	4	Dielectric Withstanding Voltage	250 V AC(50Hz or 60Hz) shall be applied across terminals and cover for 1 minute	There shall be no breakdown or flashover.
	5	Capacitance	1 MHz ±10kHz	5 pF Max.
	6.	Bounce	3 to 4 operations at a rate of 1 cycles per second 	5 m seconds Max. 

TA3-□□□□-H SPECIFICATION

FILE No. : E-V-AT33
 REV. : A
 Page. : 2 / 5

MECHANICAL PERFORMANCE

7.	Operating Force	Applied in the direction of operation. 	TA3-□ □2□	TA3-□ □3□	
			OF	185±50g [1.813N±.49N]	260±50g [2.548N±.49N]
	8.	Stroke	Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the stem, the stroke distance for the stem to come to a stop shall be measured.	0.15 mm MIN	
	9.	Stop Strength	Placing the switch such that the direction of switch operation is vertical, a static load of 3 kgf [29.4N] shall be applied in the direction of stem operation for a period of 15 seconds	1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min	
	10.	Solder Heat Resistance	■ SMT Type Series(4/4)	1.Shall be free from pronounced backlash and falling-off or breakage terminals 2.As shown in item 4、5 3.Contact Resistance: 200mΩ Max 4.Insulation Resistance: 10MΩ min	
11.	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1.Frequency: 10-55-10Hz in 1-min/cycle. 2.Direction: 3 vertical directions including the directions of operation 3.Test time: 2 hours each direction. 4.Swing distance=1.5mm	1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min		

TA3-□□□□-H SPECIFICATION

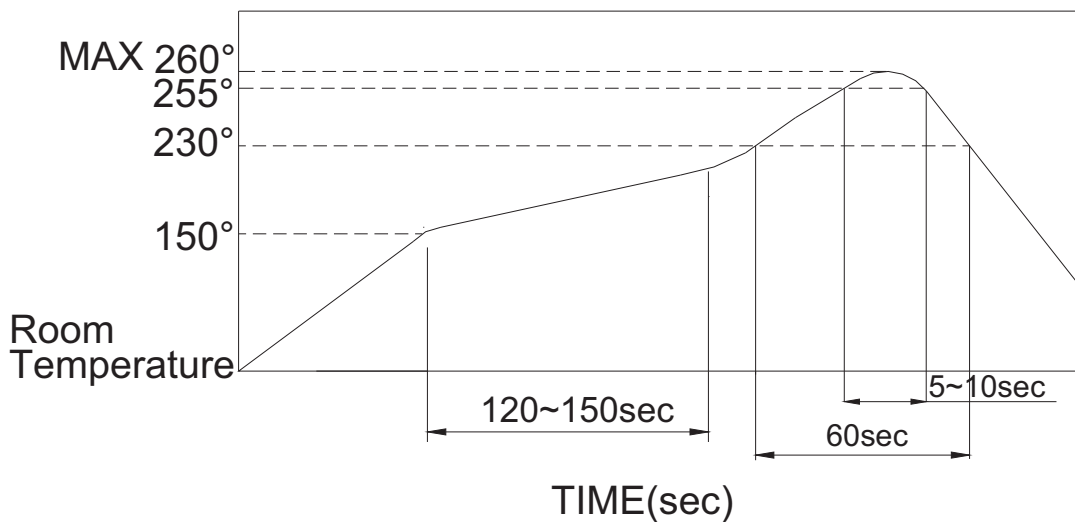
FILE No. : E-V-AT33
 REV. : A
 Page. : 3 / 5

MECHANICAL PERFORMANCE	12	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1.Acceleration; 50G 2.Action time:11±1m seconds 3.Testing Direction: 6 sides 4.Test Cycle: 3 times in each direction	1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min
	13	Seal (Washable)	The switch is placed at a depth of 5 cm in fluorocarbon FC-40 for 1 minute at 50°C	1.Visually monitor the successive bubbling distance within 25mm 2.As show in item 2~5
■ Seal Characteristics: 1.Do not wash immediately after soldering, do it after returning the switches back to thermal temperature. 2.Do not apply external force to the switch during washing. 3.The switch cannot be used where subject to direct contact with water.(except for cleaning processing.)				
DURABILITY	14	Operating Life	Measurements shall be made following the test forth below: 1.5 mA,5 VDC resistive load 2.Applying a static load the operating force to the center of the stem in the direction of operation Static Load = OF Max. 3.Cycle of Operation: 200,000 cycle's Min.	1.As shown in item 4、5 2.Operating force: ±50% of initial force. 3.Contact Resistance: 1Ω Max 4.Insulation Resistance: 10MΩ Min 5.Bounce: 10 m seconds Max
WEATHER-PROOF	15	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: 1.Temperature:-25±3°C 2.Time:96 hours	1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min
	16	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: 1.Temperature:80±2°C 2.Time:96 hours	1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min

17	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: 1. Temperature: $40 \pm 2^{\circ}\text{C}$ 2. Relative Humidity: 90~95% 3. Time: 96 hours	1. As shown in item 4~7 2. Contact Resistance: 200mΩ Max 3. Insulation Resistance: 10MΩ Min
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5. SOLDERING CONDITIONS:

■ Condition for Reflow Soldering –TA3-□□□□-H Series



■ The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface be used not to allow switch's surface temperature to exceed 260°C .

■ Manual Soldering

Soldering Temperature	Max. 350°C
Continuous Soldering Time	Max. 5 seconds

■ Precautions in Handling

- Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
- Except for washable type do not wash the switch body.

■ Notes on storage conditions:

Do not store in the following environment or it may affect product's function and solderability:

1. temperature of -10 (max) ~ +40 (min) °C & humidity at 85% (min)
2. environment with corrosive gas
3. storage over 6 months
4. place of direct sunlight

Store with proper packaging conditions and to avoid loading heavy force

We suggest to use the products within 3 months or at least 6 months.

After opening the package, the rest products must be stored in the appropriate moisture-proof & airtight environment.

