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.

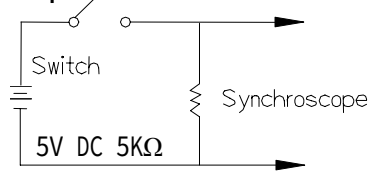
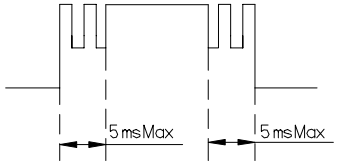
1.1 Operating Temperature Range : -25 ℃~+70℃

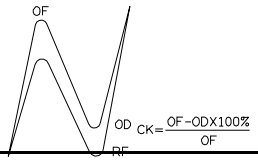
1.2 Storage Temperature Range : -30℃~+80℃

2. Current Range: 50mA, 12V DC

3. Type of Actuation: Tactile feedback

4. Test Sequence:

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By visual examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product
ELECTRIC PERFORMANCE	2	Contact Resistance	Applying a static load1.5-2 times the operating force to the center of the stem, measurements shall be 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 ±10 kHz	5 pF max.
	6	Bounce	3 to 4 operations at a rate of 1 cycles per second 	5 m seconds max. 

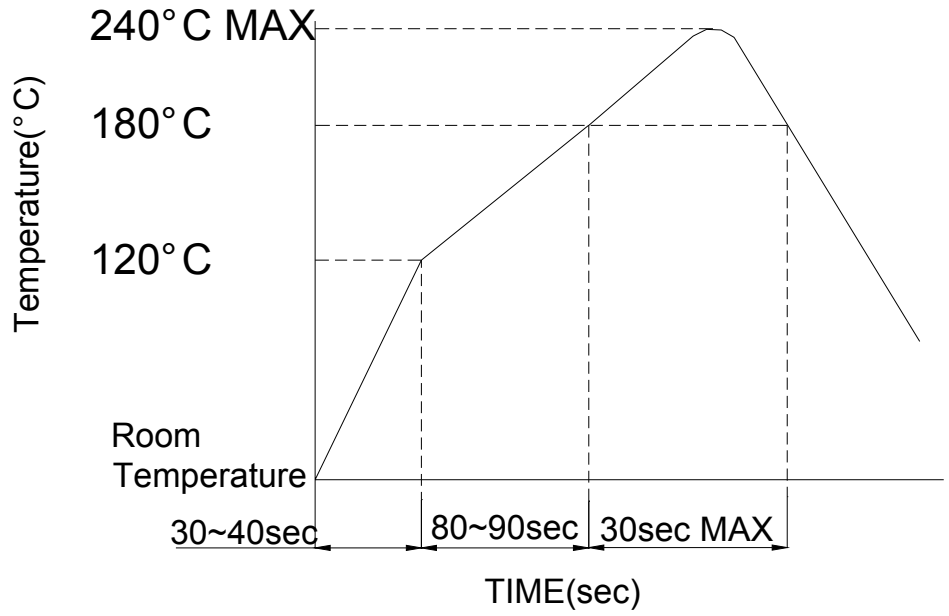
MECHANICAL PERFORMANCE	7	Operating Force(OF) & Return Force(RF)	Applied in the direction of operation 		STA(S)-6	
				OF	260±70g	160±50g
				RF	30g↑	20 g↑
	8	Stroke	Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of the stem to a stop shall be measured	0.45±0.2mm~6□□□		
	9	Stop Strength	Placing the switch such that the direction of switch operation is vertical, a static load of 3 kgf shall be applied in the direction of stem operation for a period of 15 seconds	As shown item 2~7		
	10	Solder Heat Resistance	(PCB is 1.6mm in thickness) ■SMT Type 5 of 5 STA(S)-6 Series	①Shall be free from pronounced backlash and falling-off or breakage terminals ②As shown in item 2~5		
	11	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F ①Swing distance=1.5mm ②Frequency: 10-55-10Hz in 1-min/cycle. ③Direction: 3 vertical directions including the directions of operation ④Test time: 2 hours each direction	As shown in item 2~7		
MECHANICAL PERFPRMANCE	12	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F ①Acceleration; 50G ②Action time:11±1m seconds ③Testing Direction: 6 sides ④Test Cycle: 3 times in each direction	As shown in item 2~7		

	13	Solderability	①STA(S)-6 Soldering Temperature: see page 5/4 ② Flux: 5-10 seconds. ③ Duration of solder Immersion: 3sec±0.5 sec.	No anti-soldering and the coverage of dipping into solder must more than 66% was requested.
	14	Seal (Washable)	The switch is placed at a depth of 5cm in fluorocarbon FC-40 for 1 minute at 50℃	①Visually monitor the successive bubbling distance within 25mm ②As shown in item 2~5.
	■Seal Characteristics: ①Do not wash immediately after soldering, do it after returning the switches back to thermal temperature. ②Do not apply external force to the switch during washing. ③The switch cannot be used where subject to direct contact with water.			
OPERATING LIFE	15	Operating Life	Measurements shall be made following the test forth below: ①5 mA,5 VDC resistive load ②Applying a static load the operating force to the center of the stem in the direction of operation Static Load = OF MAX. (Rate of Operation: 1 operation 2 second (Cycle of Operation: 500,000 cycles~6((R、N	(As shown in item 4、5 (Operating force:±50% of initial force and RF follow item 7. (Contact Resistance: 200mΩ Max (Insulation Resistance: 10MΩ min ⑤Bounce: 10 m seconds Max

WEATHER-PROOF	16	Resistance Low Tempera-ture	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: 1)Temperature:-25±3℃ 2)Time: 96 hours	As shown in item 2~7
	17	Heat Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: 1)Temperature:80±2℃ 2)Time: 96 hours	As shown in item 2~7
	18	Humidity Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: 1)Temperature:40±2℃ 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

5. SOLDERING CONDITIONS:

■ Condition for Soldering –STA(S) 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 temperature depending on board's material, size, thickness, etc. Care, therefore, should be used not to allow switch's surface temperature to exceed 240℃.

■ Manual Soldering

Soldering Temperature	Max.350℃
Continuous Soldering Time	Max. 3 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.