Tactile Switch

multicomp PRO

Specification

RoHS Compliant

Rating	: 50mA, DC 32V MAX. 1MA, DC 20MV MIN.
Initial Contact Resistance	: 100mΩ Max.
Insluation Resistance	: 100V DC 10MΩ
Operating Force	: 160/200/350gf
General tolerances	: ±0.2mm
Solder Thickness	: 0.1mm
Operating Temperature Range	: -40°C to +85°C
Storage Temperature Range	: -40°C to +85°C

Test conditions

Unless otherwise specified, the test and measurements shall be carried out as follows.

Ambient temperature	: 5°C to 35°C
Relative humidity	: 45% to 85%
Air pressure	: 86 to 106 kPa

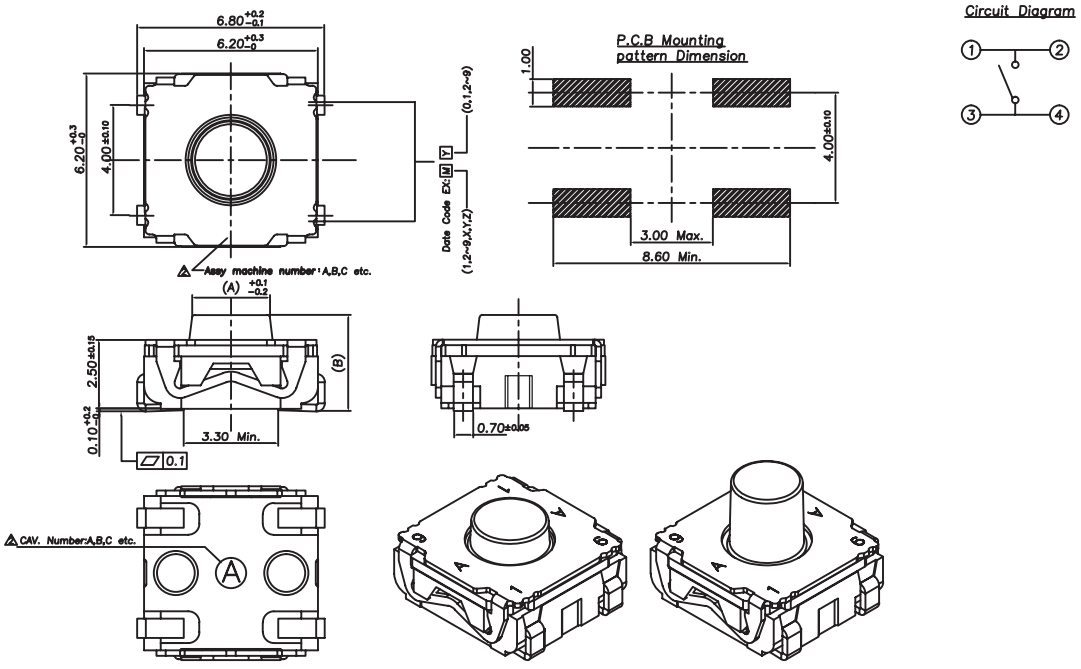
However, if doubt arises on the decision based on the measured values under the above-mentioned conditions, the following conditions shall be employed.

Ambient temperature	: 20± 2°C
Relative humidity	: 65±5 %

Rating

Min Max Voltage	: 20mV DC 32V DC
Min Max Current	: 1mA 50 mA
Type of Actuation	: Tactile feedback

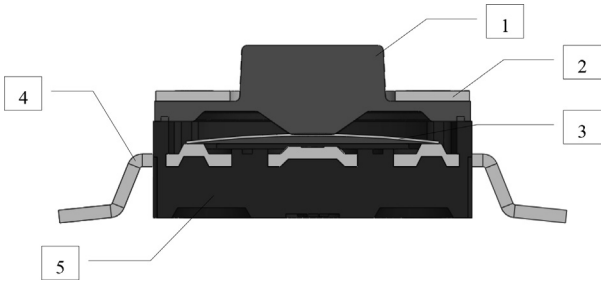
Diagram



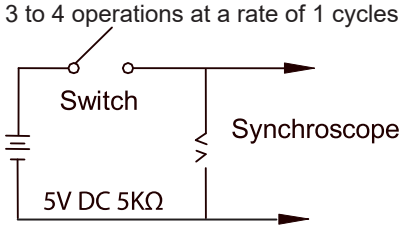
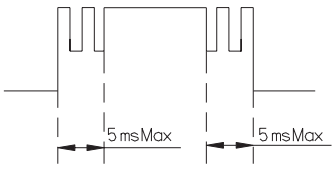
Dimensions : Millimetres (Inches)

Tactile Switch

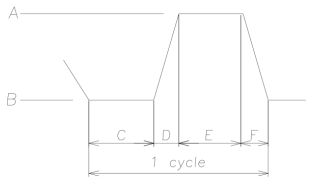
Item	Description	Q'ty	Materials	Treatment
1	Stem	1	Silicone Rubber	--
2	Cover		Stainless Steel	None
3	Contact			With Silver Plating
4	Terminal		Brass	
5	Base		High – Temp Thermoplastic LCP	Molded Black



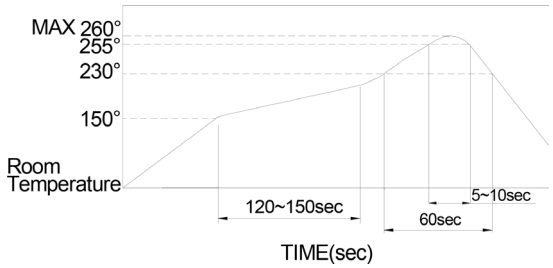
Test Sequence

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 of the stem , measurements shall be made with a 1 kHz small current contact resistance meter	100mΩ Max.(Initial)
3	Insulation Resistance	100V DC, 1 minute ± 5 sec.	10MΩ Min.
4	withstand Voltage	250V AC (50Hz or 60 Hz 2mA) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.	No dielectric breakdown shall be occurred
Mechanical Perfprmance			
5	Bounce	3 to 4 operations at a rate of 1 cycles per second 	5 m seconds Max. 

Mechanical Perfprmance					
6	Operation Force	Applied in the direction of operation. 	N	R	S
			160±50gf	200±50gf	350±100gf
7	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	N	R	S
			0.3±0.2mm	0.35 ±0.15mm	0.5±0.2mm
8	Control strength	The static load of 5kg shall be applied in the operating direction of the control unit for 60 seconds.	1) As shown in item 4~7 2) Contact Resistance: 200 mΩ Max. 3) Insulation Resistance: 10 MΩ Min		
9	Solder Heat Resistance	1) Soldering Temperature: 260±5°C 2) Duration of Solder Immersion: 5±1 sec 3) Frequency of Soldering Process 2 times Max. (PCB is 1.6mm in thickness	1) Shall be free from pronounced backlash and falling off or breakage terminals 2) As shown in item 4, 5 3) Contact Resistance: 200 mΩ Max 4) Insulation Resistance: 10MΩ Min		
Durability					
10	Life Test	Measurements shall be made following the test forth below: 1) 5mA,5 V DC resistive load 2) Applying a static load the operating force to the center of the stem in the direction of operation 3) Cycle of Operation: 5,000,000 cycles ~160gf 500,000 cycles ~200gf 300,000 cycles ~350gf	1) Operating force:±50% of initial force 2) Contact 10 Ω Max 3) Insulation 10MΩ M in 4) Bounce:10 m seconds Max		
Environmental Endurance					
11	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1) Frequency: 10 55 10 Hz 1 minute / 2) Direction: 3 vertical directions including the direction of operation. 3) Test Time: 2 hours each direction.	As shown in item 2~5		
12	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1) Acceleration: 50G. 2) Action Time : 11 ± 1 m sec. 3) Testing Direction: 6 sides. 4) Test cycle : 3 times in each direction	As shown in item 2~5		
13	Cold Resistance	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±2°C 2. Time:96 hours	1) As shown in item 4~7 2) Contact resistance : Less than 200m Ω 3) Value insulation resistance: More than 10MΩ		

14	Heat Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made : 1)Temperature :85°C ±2°C 2)Time: 96 hours	Ditto
15	Humidity Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1)Temperature : 60°C±2°C 2)Relative Humidity :90~95% 3)Time: 96 hour	Ditto
16	Change of temperature	After 5 cycles of following conditions, the switch shall be allowed to stan d under normal room temperature and humidity conditions for 1 hr, and measurement shall be made within, 1 hr after that. Water drops shall be removed.  A= +60 ℃ B= - 10 ℃ C= 2 H D= 1 H E= 2 H F= 1 H	Ditto

Soldering Conditions



- The condition mentioned above is the temperature on the Cu foil of the P.C.B surface. There are cases where board's temperature greatly differs from switch surface temperature depending on board's material, size, thickness, etc. Care, therefore, should 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

Part Number Table

Description	Part Number
Tactile Switch, 6mm × 6mm, J Pin, H4.3mm, 200gf	MPT6WJ4RGQR
Tactile Switch, 6mm × 6mm, SMT, H4.3mm, 200gf	MPT6WM4RGQR