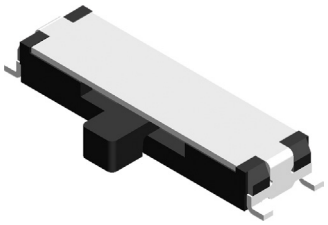
Tactile Switch

multicomp PRO

RoHS Compliant



Description

This specification describes “Dual In-Line Package Switches” mainly used as signal switch of electric devices with the general requirements of mechanical and electrical characteristics.

Specifications

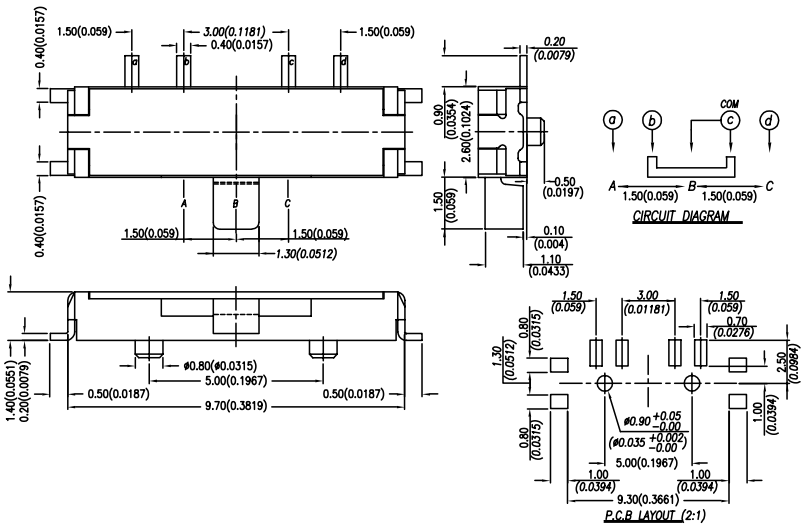
Operating Temperature Range	: -20°C to +70°C
Storage Temperature Range	: -40°C to +85°C

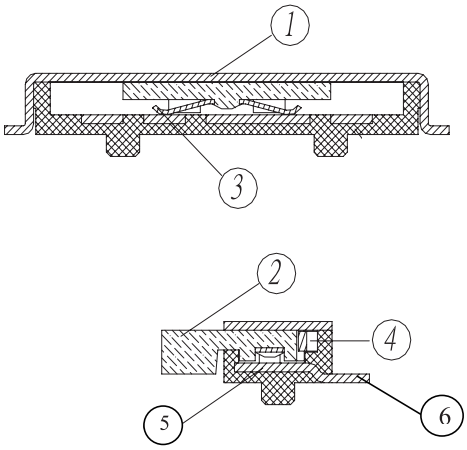
Current Range

Non-Switching	: 300mA, 4V DC
Switching	: 25mA , 24V DC
Type of Actuation	: Actuated by sliding

The shelf life of product is within 6 months.

Diagram



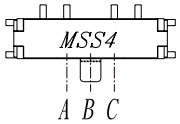


Dimensions : Millimetres (Inches)

Item	Description	Q’ty	Materials	Treatment
1	Cover	1	Nickel Silver	--
2	Stem		High-Temp Thermoplasitc Nylon L 94V - 0	Molded Black
3	Contact		Alloy Copper	Gold Plated
4	Spring Plate		Stainless Steel	--
5	Base		High-Temp Thermoplasitc LCP	Molded Black
6	Terminal		Brass	Gold Plated

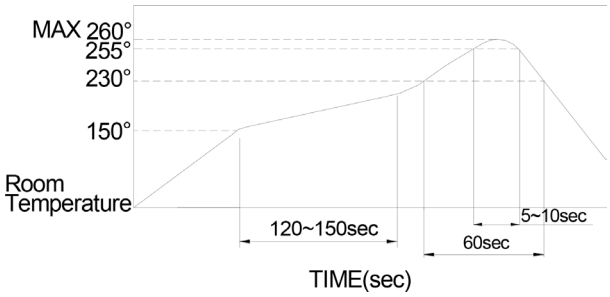
General tolerances : ±0.2mm

Test Sequence

Item	Description	Test Conditions	Requirements	
Electric Performance				
1	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.	
2	Contact Resistance	1. To be measured between the two terminals associated with each switch pole. 2. Measurements shall be made with a 1kHz shall current contact resistance meter.	The first contact resistance is max 70mΩ.	
3	Insulation Resistance	100V DC, 1 minute ± 5 sec.	100MΩ Min.	
4	Dielectric Withstanding Voltage	100V AC (50Hz or 60 Hz) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.	There shall be no breakdown or flashover	
5	Capacitance	1 MHz ±10 kHz	5 pF max.	
Mechanical Perfprmance				
6	Operation Force	Applied in the direction of operation. 	MSS4	A→B 150±100gf(1.47N±0.98N)
				B→C 200±150gf(1.96N±1.47N)
				C→B 150±100gf(1.47N±0.98N)
				B→A 200±150gf(1.96N±1.47N)
7	Stop Strength	1. Operating direction: 1kgf static loading on the actuator for 15 sec. 2. Non-operating direction: 0.3kgf static loading on the actuator for 15 sec.	There shall be no sign of electrical function out of order or damage.	
8	Soldering Heat Resistance	Soldering Temperature : TEMP TIME 260°C±5°C 3±1 sec. 2.Duration of Solder Immersion: 5±1 sec. 3.Frequency of Soldering Process: 2 times max. (PCB is 1.6mm in thickness.)	As shown in item 2~6 Specification Requirements after test. (The max. temperature of IR reflow is 260°C, referred to the temperature profile.)	
9	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1. Frequency: 10-55-10 Hz 1 min/cycle. 2. Direction: 3 vertical directions including the direction of operation. 3. Test Time: 2 hours each direction.	As shown in item 2~6	

10	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	As shown in item 2~6
11	Solderability	1. MPMSS4-V-T/R Soldering Temperature: 245±3°C Lead-Free solder: M705E JIS Z 3282 Class A (Tin 96.5%, Silver 3%, Copper 0.5%) 2. Flux: 5-10 seconds. 3. Duration of solder Immersion: 5±1 sec.	No anti-soldering and the coverage of dipping into solder must more than 75% was requested.
Durability			
12	Operating Life	Measurements shall be made following the test forth below: 1. 25 mA, 24V DC resistive load 2. Rate of Operation: 15~20 cycles/ minute 3. Cycle of Operation: 10000 cycles.	1. As shown in item 3,4 2. Contact Resistance: 130mΩ max. (final-after test) 3. The operation force after life test should be within ±30% of the specs.
Weather-Proof			
13	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: -40±3°C 2)Time: 96 hours	As shown in item 2~6
14	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:85±2°C 2. Time:96 hours	1.As shown in item 3~6 2.Contact Resistance: 100mΩ max.
15	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±2°C 2. Relative Humidity:90~95% 3. Time:96 hours	1. As shown in item 4~6 2. Contact Resistance: 100mΩ Max 3. Insulation Resistance: 10MΩ Min

Soldering Conditions



- 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 260°C.
- Manual Soldering

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

Part Number Table

Description	Part Number
Slide Switch, 1P3T, SMT	