TS Common Specifications

1.Rating：DC 12V 50mA

2.Electrical Performance：

Item	Test Condition	Performance
Contact Resistance	DC 5V 1A	100mΩ Max
Insulation Resistance	DC 100V for 1 minute	100MΩ Min
Withstanding Voltage	AC 250V for 1 minute	Shall be free from dielectric breakage.

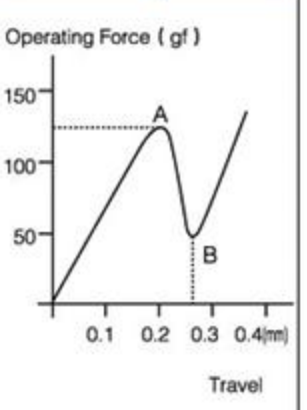
3. Mechanical Performance

Item	Test Condition	Performance
Operating Force		As per individual specifications
Stop Strength	3kgf for 3 seconds	No deformation and mechanical problem found.
Bounce	The key shall be struck lightly at it's center at a uniform cycling rate of 30perations per second.	As per individual specifications

4. Endurance

Item	Test Condition	Performance
LifeTest	20–30 cycles/MIN with 5V DC 5mA Resistive Load cycles of operation.	• Contact Resistance：100 mΩ Max • Operating Force：±30% Initial Value • Insulation Resistance：100MΩ Min
Dry Heat Proof	80±2℃ for 96 Hours after testing, kept in normal condition for one hour.condition for one hour.	Equality to initial specifications
Moisture Resistance	60℃±2℃ 90~95% RH for 96 Hours After Test, Kept in Normal Condition for 30 Minutes.	Equality to initial Specifications
Cold Proof	−30±2℃ for 96 Hours after testing, kept in normal condition for one hour.	Equality to initial specifications

5. Explanation of Timing

Item	Explanation	Figure
Operating Force	It refers to the maximum load at the time of switching over of the contacts. (Point A in the figure).	
Return Force	It refers to the returning force of the stem after its full travel when pushed out. (Portion B in the figure).	
Tact Feedback	It refers to the feeling indicated on the inversion portion in the operating force VS. Travel diagram shown en the figure. The greater this inversion part is , the clearer it is to the operator that the switch is moved.	
Travel	It refers to the distance of travel of the operating part before the contacts is changed over. Generally, it is about 0.3mm in mechanical contact.	
Bounce	This refers to the state of repeating the contact opening or closing momentarily at the time of the changeover of the switch to ON or OFF. Longer duration of this state may cause malfunction of the signal.	

6. SOLDERING：

a. Auto soldering condition

Item	Conditions
Preheat Temperature	Max 120℃ (Ambient temperature of printed circuit board on its soldering side)
Preheat time	60 sec Max
Soldering area	More 90%
Temperature	Max 255±5℃
Duration of Solder Immersion	5±1sec
Allowable Frequency of Soldering Process	Less than 2 (But its temperature will back to the first time)
PCB	Single surface copper PCB

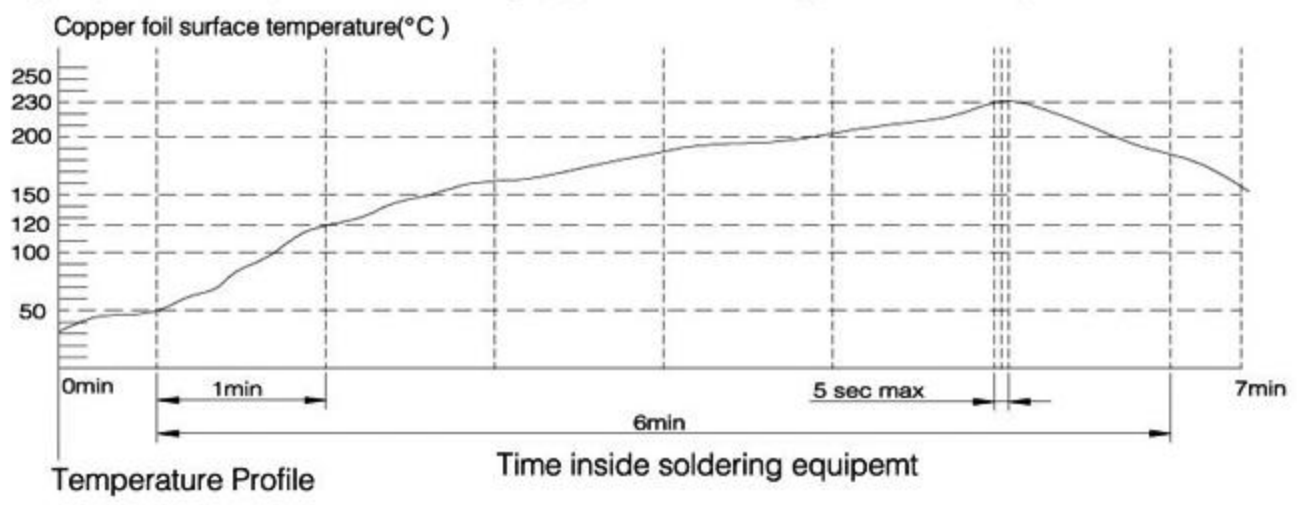
Remark:
1) Following the soldering process, do not try to clean the switch with a solvent or the like.
2) Using soldering iron, soldering temperature is 280°C Max for 3 sec。
3) Safeguard the switch assembly against flux penetration from its topside.

b. Soldering by hand conditions

Temperature：350±5℃
Time：3 sec max

c. Wave crest soldering conditions：

Preheat：After put P.C.B into soldering equipment for 2±0.3 Minute，Copper foil surface temperature is 120℃.
Soldering temperature：After put P.C.B into soldering equipment for 5 sec，Copper foil surface temperature is 235±5℃。



d. Circumfluence soldering conditions：

Preheat：After put P.C.B into soldering equipment for 2±0.3 Minute，Copper foil surface temperature is 120℃.
Soldering temperature：After put P.C.B into soldering equipment for 5 sec，Copper foil surface temperature is 255±5℃。