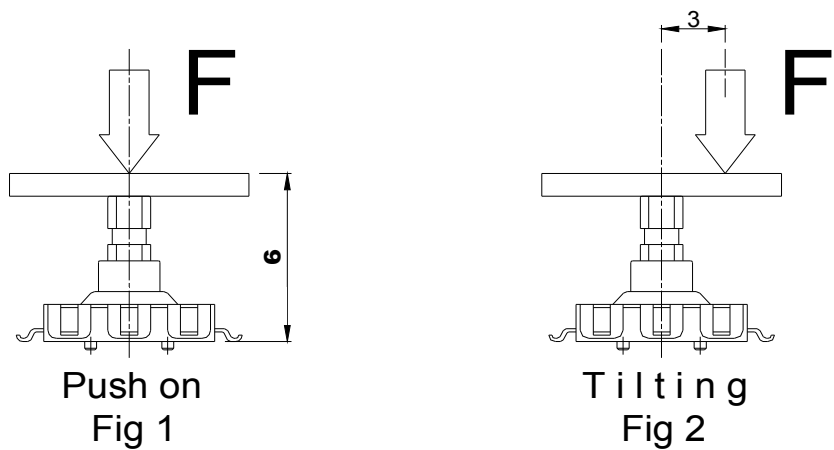


TITLE	SPECIFICATION
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6-2. Mechanical performance			
	Items	Test conditions	Criteria
6.2.1	Actuating force	Actuating force should be applied horizontal and vertical to the stem as shown in Fig1 , Fig2. When actuate the stem, force should be applied gradually.	Push on : 500±70gf Tilting : 270±50g
6.2.2	Stroke	The travel distance should be measured to the stem as shown in Fig1(Push on) and Fig2(Tilting). When actuate the stem force should be applied gradually.	Push on : 0.15±0.1mm Tilting : 0.25±0.1mm
6.2.3	Return force	The force of the stem to return to its free position shall be measured after actuating force is applied as shown in Fig1, Fig2.	Push on : 50gf Min Tilting : 20gf Min
6.2.4	Stop strength	A static load of 3Kgf is applied to the horizontal and vertical direction as shown in Fig1 and 2 for a period of 60 seconds.	There shall be no sign of damage mechanically and electrically.
6.2.5	Stem strength	A static load is applied to the pull direction there should be no damages.	500gf Min



Note.

Really, an electrical signal processing be made 5° ~ 9° tilting degree even under the Maximum Tilting 12°

6-3. Environmental performance			
	Items	Test conditions	Criteria
6.3.1	Resistance to low Temperature	When test being done under these condition , it should be tested after one hour leave in normal temperature and humidity. (1)Temperature : -40± 2 °C (2)Time : 96 hours (3)Water drops shall be removed	Item 6-1 Item 6-2-1 Item 6-2-2 Item 6-2-3
6.3.2	Heat resistance	When test being done under these condition , it should be tested after one hour leave in normal temperature and humidity. (1)Temperature : +85± 2 °C (2)Time : 96 hours	Item 6-1 Item 6-2-1 Item 6-2-2 Item 6-2-3
6.3.3	Moisture resistance	When test being done under these condition , it should be tested after one hour leave in normal temperature and humidity. (1)Temperature : +60± 2 °C (2)Relative humidity : 90 to 95% RH (3)Time : 96 hours (4)Water drops shall be removed	Item 6-1 Item 6-2-1 Item 6-2-2 Item 6-2-3

DATE	2012,	APPROVED	CHECKED	DESIGNED	PAGE
S/W TYPE	MULTI DIRECTIONAL S/W				2 / 4
MODEL NO.	INT-1500S70B				
DOCUMENT NO.		/ /	/ /	/ /	

TITLE	SPECIFICATION
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	Items	Test conditions	Criteria
6.3.4	Temperature cycling	<p>The test being conducted five times as shown in figure. It should be tested after one hour leave in normal temperature and humidity. During this test , water drops shall be removed.</p> <p style="text-align: center;">1 CYCLE</p> <p style="text-align: center;">+60°C</p> <p style="text-align: center;">-10°C</p> <p style="text-align: center;">2H 1H 2H 1H</p>	Item 6-1 Item 6-2-1 Item 6-2-2 Item 6-2-3

6-4. Endurance

6.4.1	Operating life	<p>Measurements shall be made by following the test set.</p> <p>(1)DC 5V 5mA resistive load. (2)Rate of operation : 2 to 3 operations per second. (3)Depression : 500gf Max (4)Cycle of operation : For each direction 100,000 cycles</p>	Contact resistance :100mΩ Max. Insulation resistance :100MΩ Min. Bounce : 20m Sec Max Actuating force :±30% of initial force Item 6-1-3 , Item 6-2-2 Item 6-2-3
6.4.2	Vibration resistance	<p>Measurements shall be made by following the test set.</p> <p>(1)Range of oscillation : 10 to 55Hz (2)Amplitude, peak-to-peak : 1.5mm (3)Cycle of sweep : 10-55-10Hz in one minute approximate. (4)Mode of sweep : Logarithmical sweep or uniform sweep (5)Direction of oscillation : Three mutually perpendicular directions including the direction of stem travel (6)Duration of testing : 2 hours each, for a total of 6 hours.</p>	Item 6-1 Item 6-2-1 Item 6-2-2 Item 6-2-3
6.4.3	Impact shock Resistance	<p>Measurements shall be made by following the test set.</p> <p>(1)Acceleration : 80G (2)Cycles of test : 3 cycles each in 6 directions, for a total of 18 cycles.</p>	Item 6-1 Item 6-2-1 Item 6-2-2 Item 6-2-3

7.Materials

1) HOUSING (BASE)	: LCP
2) COVER	: SUS
3) ACTUATOR 1 (STEM 1)	: LCP
4) ACTUATOR 2 (STEM 2)	: LCP
5) CONTACT	: SUS WITH SILVER-PLATING

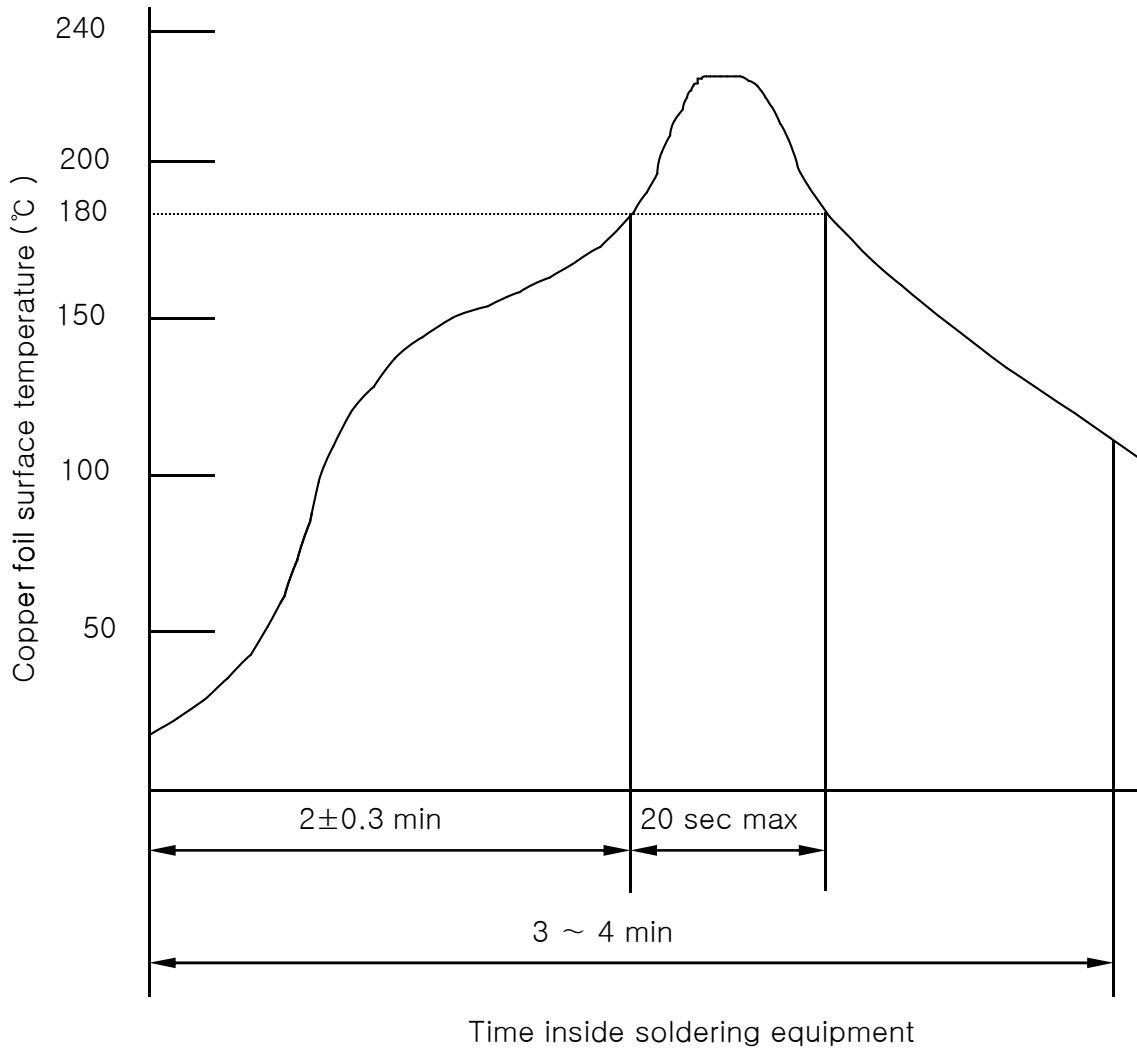
DATE	2012,	APPROVED	CHECKED	DESIGNED	PAGE
S/W TYPE	MULTI DIRECTIONAL S/W				3 / 4
MODEL NO.	INT-1500S70B				
DOCUMENT NO.		/ /	/ /	/ /	

8. Soldering

Reflow soldering conditions

Preheat : temperature on the copper foil surface should reach 180 °C, 2 ± 0.3 minutes after the P.W.P entered into the soldering equipment.

Soldering heat : Temperature on the copper foil surface should reach the peak temperature of 240 °C within 20 seconds after the P.W.B entered into soldering heat zone.



Temperature Profile

DATE	2012,	APPROVED	CHECKED	DESIGNED	PAGE
S/W TYPE	MULTI DIRECTIONAL S/W	K SH			4 / 4
MODEL NO.	INT-1500S70B				
DOCUMENT NO.					