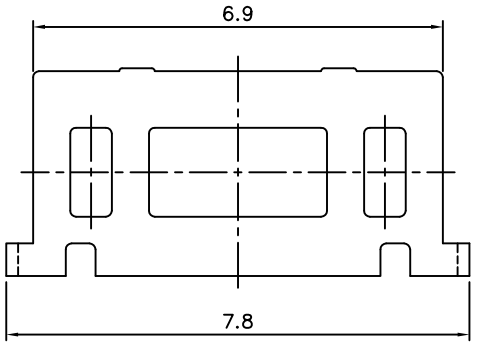
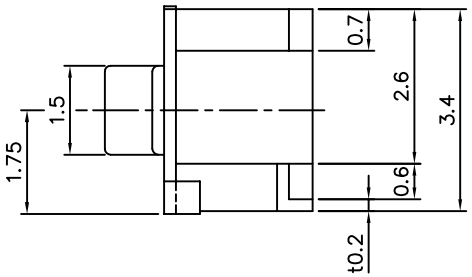
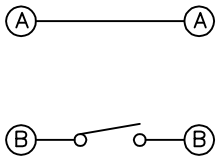
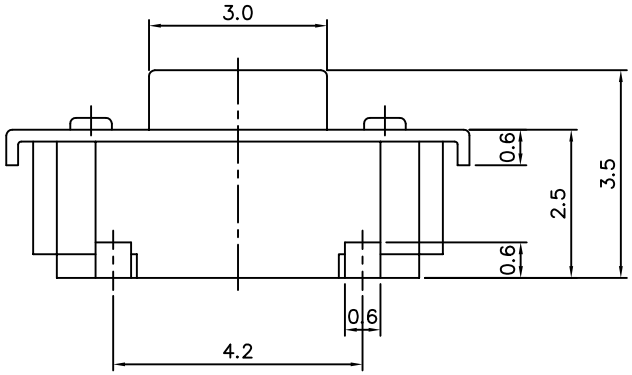




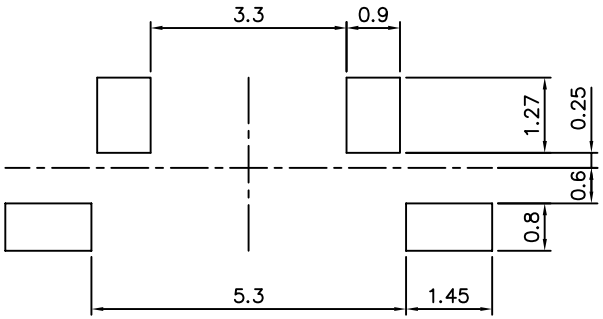


CIRCUIT DIAGRAM



NOTE

1. RATING : DC 12V 50mA
2. TRAVEL : $0.25^{+0.2}_{-0.1}$ mm
3. OPERATING FORCE : 180 or 250±50gf
4. CONTACT RESISTANCE : 500mΩ MAX
5. THE QUANTITY PACKAGED PER REEL IS 2,000 PCS
6. MANUFACTURING SPECIFICATION WOULD BE ACCORDANCE WITH HT0202



PCB DIMENSION

PART NO	PART NAME	Q'TY	MATERIAL	STANDARD	DISPOSITION	REMARKS
5		TRIGON-OMETRY	UNIT	SCALE 10 / 1	TACT SWITCH	
4						
3		APPD	CHKD	DSGD		
2						
1					MODEL INT-1100	
NO . .	CORRECTION					

INNOCENT ELECTRONICS CO.,LTD.

1. GENERAL MATTERS

1. 1 Application : This specification is applied to low current tactile switch for electronic equipment.

1. 2 Operating Temperature Range : -20℃ ~ 70℃, 45 ~ 85% RH

1. 3 Test Condition : The standard test conditions shall be 5℃ ~ 35℃ in temperature, 45 ~ 85% RH and 860 ~ 1060mbar in atmospheric pressure. Should any doubt arise in judgment, tests shall be conducted at 20 ±2℃, 65 ±5% RH and 860 ~ 1060mbar.

2. RATED VOLTAGE AND CURRENT

12V DC, 50mA

3. ELECTRICAL PERFORMANCE

	PROPERTY	TEST CONDITION	PERFORMANCE
3. 1	Contact Resistance	Measured at 50mA, 12V DC	500mΩ Max
3. 2	Insulation Resistance	DC 500C is applied between terminals and earth for 1 minute ±5 seconds.	100mΩ Min
3. 3	Withstand Voltage	250V AC(50~ 60HZ) is applied between terminals and earth for 1 minute.	No insulation defect shall be observed.
3. 4	Bounce	Measured by lightly striking the center of the button stem at a rate of 3 operation/sec.	10msec. Max

4. MECHANICAL PERFORMANCE

	PROPERTY	TEST CONDITION	PERFORMANCE
4. 1	Operating Force	A gradually increasing load is applied to the center of the button stem.	180 ± 30gf
4. 2	Terminal Strength	A static force of 500gf shall be applied to an arbitrary.	Shall be free from terminal looseness, damage and breakdown of insulator.
4. 3	Stop Strength	A static force of 3Kgf shall be applied to the direction of operation for 3 seconds.	Shall be free from mechanical and electrical abnormalities.
4. 4	Solder Heat Resistance	Soldering temperature : 245 ~ 255℃ Soldering time : 10sec.	Shall be free from mechanical and electrical degradation.
4. 5	Travel		$0.25\ ^{+0.2}_{-0.1}$ mm
4. 6	Arrangement of action		Tactile feed-back

DATE	2004. 6. 24	DESIGNED	CHECKED	APPROVED	PAGE
S/W TYPE	SMD TACT S/W				1 / 3
MODEL NO.	INT-1100/ 1100E				
DOCUMENT NO.	STS-003	/ /	/ /	/ /	

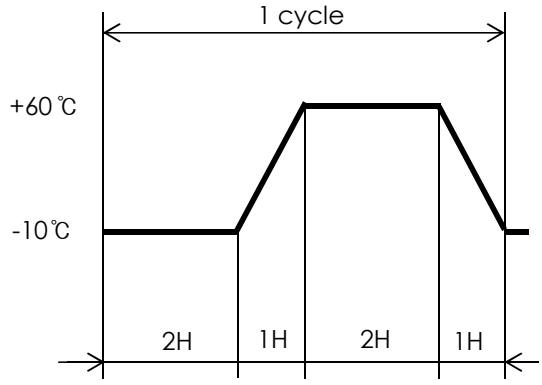
5. ENDURANCE

	PROPERTY	TEST CONDITION	PERFORMANCE
5. 1	Operating Life	Measurements shall be made following the test set forth below : 1) 5V DC, 5mA resistive load. 2) Rate of operation 2 to 3 operations per second. 3) Depression : Twice the actuating force. 4) Cycles of operation : 50,000 cycles	Contact Resistance : 500mΩ Max Bounce : 20m sec Max Actuating Force : within ±30% of the initial value Item 3. 3 Item 4. 5
5. 2	Vibration Resistance	Measurements shall be made following the test set forth below : *Range of oscillation : 10 to 55Hz *Amplitude, pk-to-pk : 1.5mm *Cycle of sweep : 10-55-10Hz in one minute, approx. *Mode of sweep : logarithmical sweep or uniform sweep. *Direction of oscillation : three mutually perpendicular directions, including the direction of stem travel. *Duration of testing : 2 hours each, for a total of 6 hours.	Item 3. 1 Item 3. 2 Item 3. 3
5. 3	Impact Shock Resistance	Measurements shall be made following the test set forth below : *Acceleration : 80g *cycle of test : 3 cycles each in 6 direction, for a total of 18 cycles.	Item 3. 1 Item 3. 2 Item 3. 3

6. ENVIRONMENTAL

	PROPERTY	TEST CONDITIONS	PERFORMANCE
6. 1	Resistance to Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made : *temperature : -30 ±2℃ *time : 96 hours *waterdrops shall be removed.	Item 3. 1 Item 3. 2 Item 3. 3
6. 2	Heat Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made : *temperature/time : 80 ±2℃/96hr	Item 3. 1 Item 3. 2 Item 3. 3

6. ENVIRONMENTAL

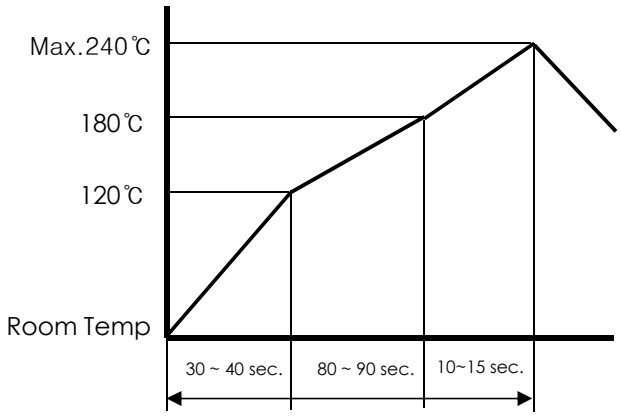
	PROPERTY	TEST CONDITION	PERFORMANCE
6. 3	Moisture Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made : *temperature/time : 80 ±2℃/96hr	Contact Resistance : 100mΩ Max Insulation Resistance : 10MΩ Min Item 3. 3, 3. 4 Item 4. 1, 4. 5
6. 4	Temperature Cycling	Following 5 cycles of the temperature cycling test set forth below the sample shall be left in normal temperature and humidity conditions for one hour during this test, waterdrops shall be removed. 	Item 3. 1 Item 4. 1 Item 4. 5

7. REFLOW SOLDERING

7. 1 Refer to the following time temperature chart.
It is recommended to determine soldering conditions through verification test and on prior agreement of INNOCENT ELEC., since surface temperature varies depending upon material, size and thickness PCB.

7. 2 Other precautions

1) Switch shall not be washed after soldering with solvent or the like.
2) Soldering shall be controlled so as not to allow flux penetrates switch at its upper face.
3) Switch terminals and PCB upper face shall be free from flux prior to soldering.



Above-mentions time-temperature chart is based on the temperature in the part mounting surface of PCB.