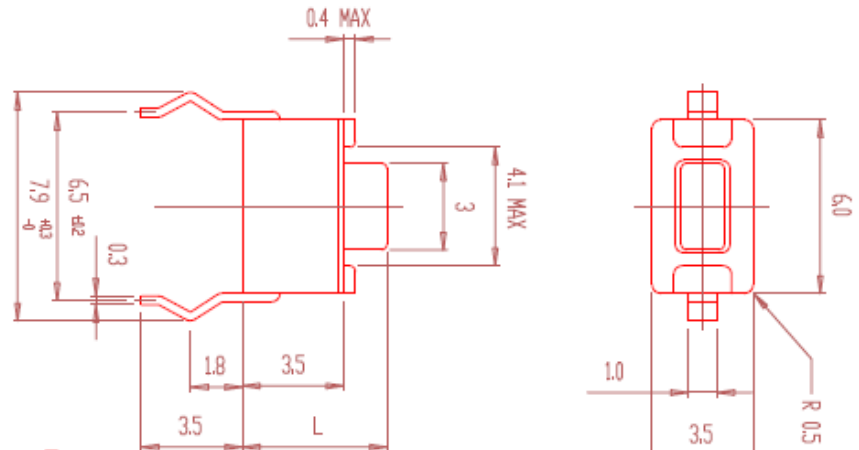
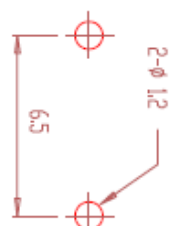



# Data Sheet

## Dip Type Tact Switch, 12 V/DC, 50mA



**P.C.B MOUNTING DIMENSIONS**





**CIRCUIT DIAGRAM**

NO	PART NAME	Q'TY	MATERIAL	REMARK
1	CASE	1	NYLON 66	
2	STEM	1	NYLON 66	
3	COVER	1	SPTe	
4	TERMINAL	1	C2680R-EH	Ag0.5u
5	CONTACT	1	SUS 301	Ag0.5u

	BLANK	A
L	4.3	5.0

1. OPERATING FORCE : 180 ±50gf ,250 ±50gf
2. TRAVEL : 0.25 ±0.1mm
3. CONTACT RESISTANCE : 100mΩ MAX
4. RATING : DC12V 50mA MAX
5. OPERATING LIFE : 50,000 CYCLES
6. GENERAN TOLERANCE : ±0.3

NO	TITLE	MATERIAL	TREATMENT	SPECIFICATION	EA	REFERENCE
Δ						TACT SWITCH
Δ						YST-1101 TYPE
Δ						
Δ						

MARK	DATE	CHECK	DESIGN	APPROVAL	CHECK	DESIGN	PART NAME	IRAVGND
				20000210				

# Data Sheet

## TACT SWITCH SPECIFICATION

### 1. GENERAL

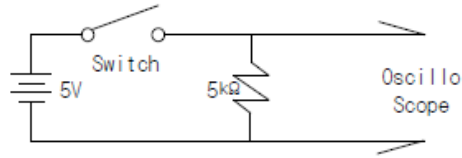
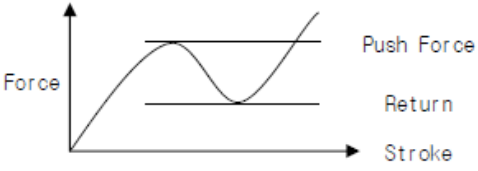
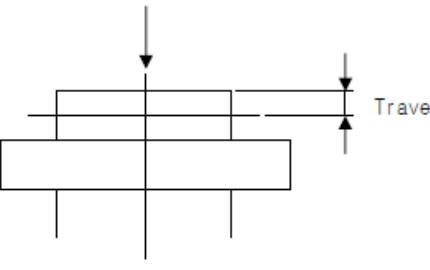
- 1-1 Switch action : PUSH - ON type S.P.S.T
- 1-2 Switch rating : DC 12V, 50mA Max
- 1-3 Operation temperature range : -20°C ~ 70°C
- 1-4 Preservative temperature range : -30°C ~ 80°C
- 1-5 Appearance and dimensions : See outside drawing page
- 1-6 Standard conditions : Unless otherwise specified, the test and measurements shall be carried out as follows.
  - Ambient temperature : 5°C ~ 35°C
  - Relative humidity : 45 ~ 85% RH
  - Air pressure : 86 ~ 106kPa (860 ~ 1060mbar)
 However, if doubt arises on the decision based in the measured values under the above-mentioned conditions, the following conditions shall be employed
  - Ambient temperature : 20±2°C
  - Relative humidity : 65±5% RH
  - Air pressure : 86 ~ 106kPa (860 ~ 1060mbar)

### 2. PERFORMANCE

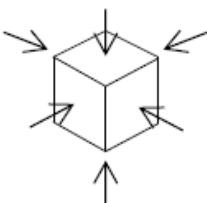
#### 2-1 Electrical characteristics

No.	ITEM	TEST CONDITIONS	PERFORMANCE
2.1.1	Contact Resistance	Applying a static load twice the actuating force to the center of the stem, measurements shall be made with a 1KHz small-current contact resistance meter.	100mΩ Max
2.1.2	Insulation Resistance	Measurements shall be made following application of DC 100V potential across terminals and across terminals and frame for one minute.	100MΩ Min
2.1.3	Dielectric Withstanding Voltage	AC 250V(50Hz or 60Hz) shall be applied across terminals and across terminals and frame for one minute.	There shall be no breakdown

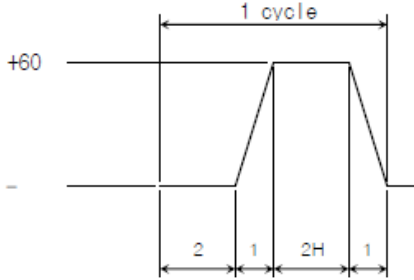
# Data Sheet

TACT SWITCH SPECIFICATION			
2-1 Electrical characteristics			
No.	ITEM	TEST CONDITIONS	PERFORMANCE
2.1.4	Bounce	<p>Lightly striking the center of the stem at a rate encountered in normal use (3 to 4 operations per sec) bounce shall be tested at "ON" and "OFF"</p> 	10msec Max
2-2 Mechanical characteristics			
No.	ITEM	TEST CONDITIONS	PERFORMANCE
2.2.1	Operation Force	<p>Push by recommended operating condition.</p> 	Details are given in the assembly drawings.
2.2.2	Travel	<p>Push by recommended operating condition  <math>F = \text{Operation force} \times 2</math></p> 	Details are given in the assembly drawings.
2.2.3	Stop Strength	<p>Astatic load of 3 kgf shall be applied in the direction stem operation for a period of 60 seconds.</p>	No damage (Electrical and mechanical)

# Data Sheet

TACT SWITCH SPECIFICATION			
2-2 Mechanical characteristics			
No.	ITEM	TEST CONDITIONS	PERFORMANCE
2.2.4	Stem Strength	The maximum force to withstand a pull applied opposite to the direction of stem operation shall be measured.	1 kgf min
2.2.5	Vibration Test	1) Amplitude : 1,5mm 2) Sweep rate : 10-55-10Hz for 1 minute. 3) Sweep method : Logarithmic frequency sweep rate. 4) Vibration direction : X,Y,Z (3 directions) 5) Time : Each direction 2 hours (Total 6 hours)	No 2.1 and 2.2.1 to 2.2.2 shall be satisfied
2.2.6	Impact Shock Test	1) Acceleration : 80g 2) Cycles of test : 3 cycles each in 6 directions, for a total 18 cycles.	No 2.1 and 2.2.1 to 2.2.2 shall be satisfied
			
2.2.7	Soldering Heat Test	Soldering area : t/2 of P,W,B thickness (P,W,B : t = 1,6 ) Soldering temperature : 240±5°C Soldering time : 5±1sec	No damage (Electrical and mechanical)
2-3 Climatic characteristics			
NO	ITEM	TEST CONDITIONS	PERFORMANCE
2.3.1	Cold Test	1) Temperature : -30±2°C 2) Duration of test : 96 hours 3) Take off a drop water 4) Standard condition after test : 1 hour	Contact resistance : 200mΩ Max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.2	Heat Test	1) Temperature : 80±2°C 2) Duration of test : 96 hours 3) Standard condition after test : 1 hour	Contact resistance : 200mΩ Max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.

# Data Sheet

TACT SWITCH SPECIFICATION			
2-3 Climatic characteristics			
No.	ITEM	TEST CONDITIONS	PERFORMANCE
2.3.3	Temperature Cycle	1) Test cycles : 5 cycles 2) Standard conditions after test : 1 hour 3) 1 cycle : 	Contact resistance : 200mΩ Max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.4	Humidity Test	1) Temperature : 60±2°C 2) Relative humidity : 90 ~ 95% 3) Duration of test : 96 hours 4) Take off a drop water 5) Standard condition after test : 1 hour	Contact resistance : 200mΩ Max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.5	Operating Life Test	1) DC 5V, 5mA Resistance load 2) Operation speed : 2 ~ 3 cycles / sec 3) Push force : Maximum value of operation force 4) Cycles of operation : 50,000 cycles	Contact resistance : 200mΩ Max Bounce : 20msec Max Actuating force : ±30% initial force No 2.1.2 to 2.1.3 and 2.2.2 shall be satisfied.
2.3.6	Withstand H <sub>2</sub> S	1) Density : 3±2ppm 2) Temperature : 40±2°C 3) Relative humidity : 90 ~ 95% 4) Duration of test : 24 hours 5) Standard conditions after test : 1 hour	Contact resistance : 200mΩ Max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.7	Withstand SO <sub>2</sub>	1) Density : 10±2ppm 2) Temperature : 40±2°C 3) Relative humidity : 90 ~ 95% 4) Duration of test : 24 hours 5) Standard conditions after test : 1 hour	Contact resistance : 200mΩ Max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.

## Data Sheet

### TACT SWITCH SPECIFICATION

#### 3. SOLDERING

##### 3-1 Auto soldering conditions

ITEM	CONDITIONS
Preheat temperature	110°C Max ( Environmental temperature of soldering surface of P.W.B )
Preheat time	60sec Max
Area of flux	1/2 Max of P.W,B thickness
Temperature of solder	255°C Max
Time of immersion	Within 5sec
Soldering number	Within 2times ( But should bring down heat of the first soldering )
Printed wiring board	Single sided copper-clad laminates.

- 1) After switches were soldered, please be careful not clean switches with solvent.
- 2) In the case of using soldering iron, soldering conditions shall be 280°C max and 3sec max.
- 3) After switches were soldered, please be careful not to load the knobs of switches.

##### 3-2 Manual soldering conditions

ITEM	CONDITIONS
Soldering temperature	350±10°C
Time	3sec Max.