

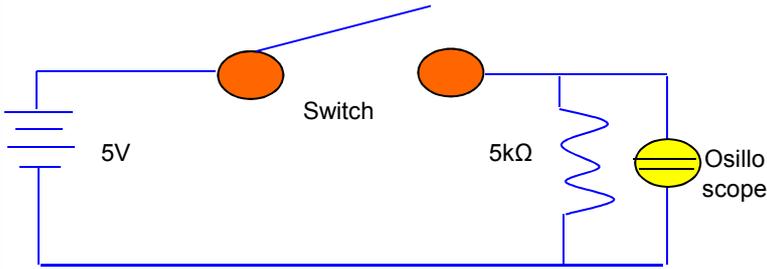
TITLE	PRODUCTION SPECIFICATIONS	
MODEL No.	TACT SWITCHES (JST1105SJC-2G)	PAGE 1 / 4

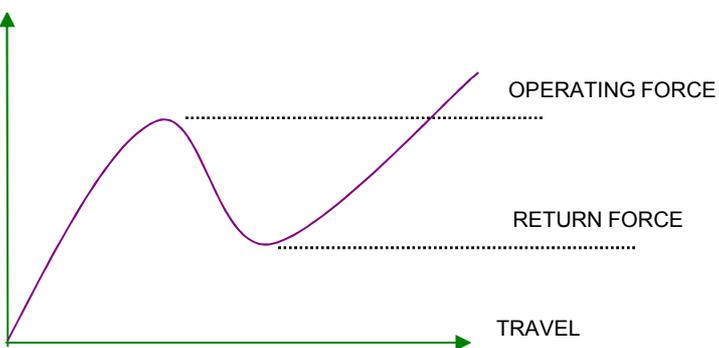
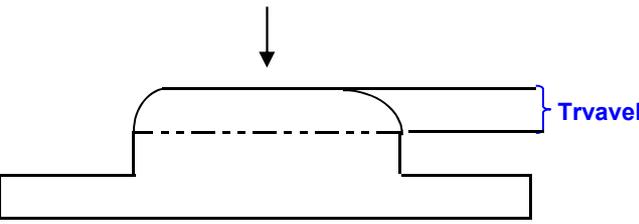
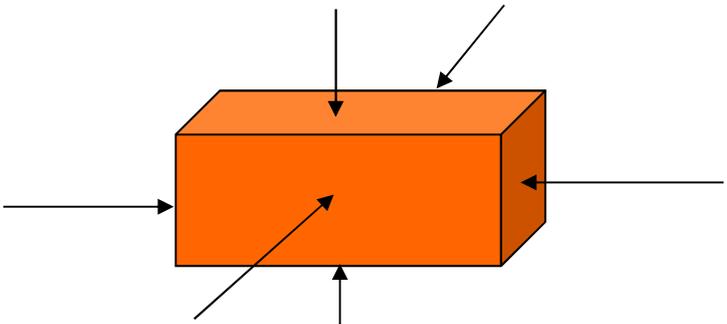
1. GENERAL

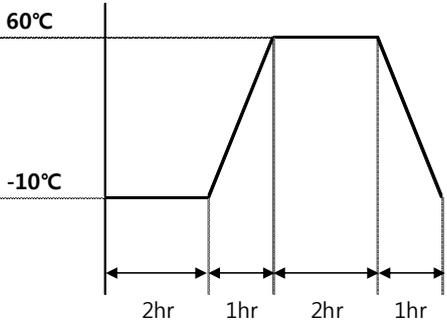
- 1.1 Switch rating : DC 12V, 50mA
- 1.2 Operating temperature range : -20°C ~ 70°C
- 1.3 Preservative temperature range : -40°C ~ 80°C
- 1.4 Apperance and dimensions : See outside drawing page
- 1.5 Standard conditions : Unless otherwise specified, the test and measurements shall be carried out as follows;
 - *Ambient temperature : 5 ~ 35°C
 - *Relative humidity : 45 ~ 85%RH
 - *Air pressure : 86 ~ 106kpa (860 ~ 1060 mbar)
 However, if doubt arises on the decision based on the measured values under the above-mentioned conditions, the following conditions shall be empolyed.
 - *Ambient temperature : 20 ± 2°C
 - *Relative humidity : 60 ± 5% RH
 - *Air pressure : 86 ~ 106kpa (860 ~ 1060mbar)

2. Performance

2.1 Electrical characteristics

	Items	Test Conditions	Criteria
2.1.1	Contact resistance	Applying a static load twice the atuating 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 frame for one minute.	100MΩ MIN
2.1.3	Dielectric Withstanding voltage	AC 250V (50Hz or 60Hz) shall be applied across terminals and frame for one minuite.	There shall be no breakdown.
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> 	

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2.2 Mechanical characteristic			
	Items	Test conditions	Criteria
2.2.1	Operating Force	Push by recommended operating condition 	160 ± 50gf
2.2.2	Travel	Push by recommended operating conditions $F = (\text{Operation force}) \times 2$ 	0.25mm
2.2.3	Stop strength	A static load of 3kgf shall be applied in the direction of stem operation for a period of 60 seconds.	No damage (Electrical & mechanical)
2.2.4	Vibration test	(1) Amplitude : 1.5mm (2) Sweep rate : 10-55-10Hz for 1 minute. (3) Sweep method : Logarithmic forequency sweep rate. (4) Vibration direction : X. Y. Z (3 directions) (5) Time : Each direction 2 hours (Total 6 hours)	No.2.1 & 2.2.1 to 2.2.2. shall be satisfied.
2.2.5	Impact shock test	(1) Acceleration : 80G (2) Cycle of test : 3 cycles each in 6 directions for a total 18 cycles 	No.2.1 & 2.2.1 to 2.2.2. shall be satisfied.

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2.2 Mechanical characteristic			
	Items	Test conditions	Criteria
2.2.6	Soldering heat test	Soldering area : t/2 of P.W.B thickness (P.W.B : t = 1.6) Soldering temperature : 260 ± 5°C Soldering time : 5 ± 1 sec	No damage (Electrical & mechanical)
2.3 Climatic characteristic			
	Items	Test conditions	Criteria
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 & 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 & 2.2.1 to 2.2.2 shall be satisfied.
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 & 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 conditions after test : 1 hour	Contact resistance : 200mΩ MAX No.2.1.2 to 2.1.4 & 2.2.1 to 2.2.2 shall be satisfied.
2.3.5	Operating life test	(1) DC 5V, 5mA resistance load (2) Operating speed : 2 ~ 3 cycles/sec (3) Push force : maximum value of operation force (4) Cycle of operation :80,000 cycles	Contact resistance : 200mΩ MAX Bounce : 20m sec MAX Operating force : initial value ±30% No.2.1.2 to 2.1.3 & 2.2.2 shall be satisfied

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2.3 Climatic characteristic			
	Items	Test conditions	Criteria
2.3.6	Withstand H2S	(1) Density : 3 ± 1 ppm (2) Temperature : $40 \pm 2^{\circ}\text{C}$ (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 & 2.2.1 to 2.2.2 shall be satisfied.
2.3.7	Withstand SO2	(1) Density : 10 ± 2 ppm (2) Temperature : $40 \pm 2^{\circ}\text{C}$ (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 & 2.2.1 to 2.2.2 shall be satisfied.

3. Soldering

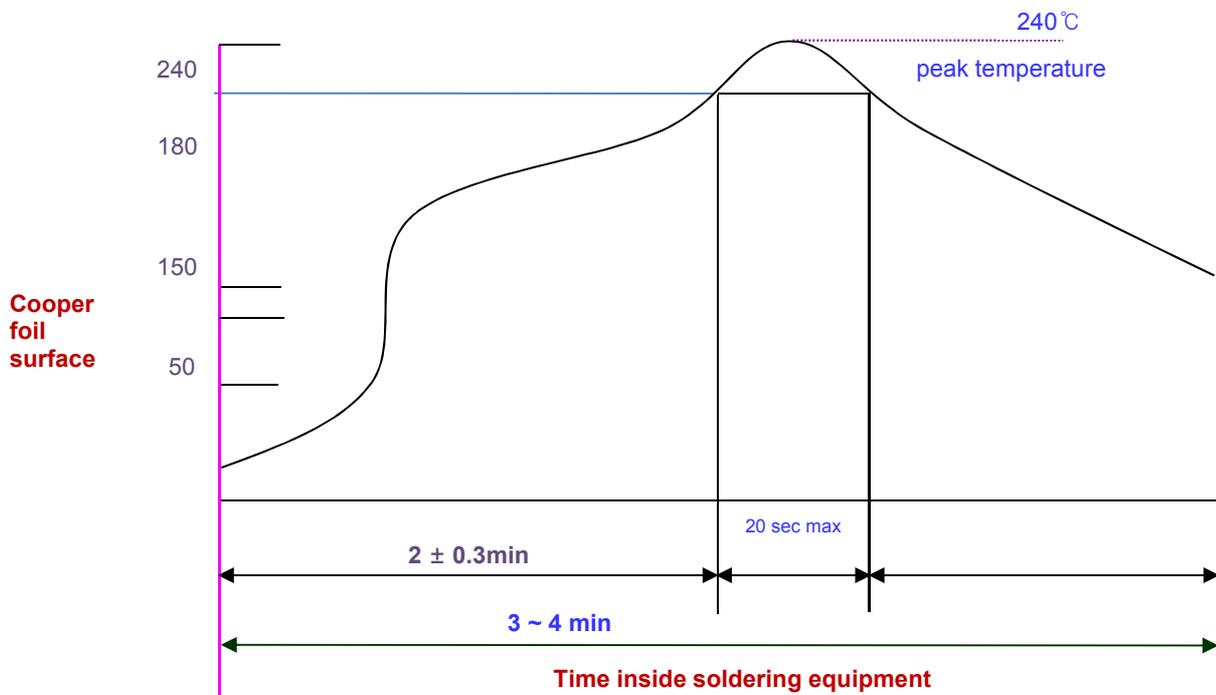
Reflow soldering conditions

Preheat

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

Soldering heat

: temperature on the cooper 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