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MODEL No.	TACT SWITCHES (MT 1100 TYPE)	PAGE 1/4

1. General

1.1 Switch rating : DC 12V, 50mA

1.2 Operating temperature range : -20℃ ~ 70℃

1.3 Preservative temperature range : -30℃ ~ 80℃

1.4 Apperance and dimensions : See outside drawing pag

1.5 Standard conditions : Unless otherwise specified, the test and measurements shall be carried out as follows.

Ambient temperature : 5 ~ 35℃

Relative humidity : 45 ~ 85%

Air pressure : 86 ~ 106kPa (860 ~ 1060mbar)

However, if doubt arises on the decision baised on the measured values under the above-mentioned conditions, the following conditions shall be employed.

Ambient temperature : 20±2℃

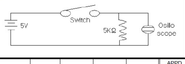
Relative humidity : 60±5%RH

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 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 pote-ntial across terminals and frame for one minute.	100MΩ MIN
2.1.3	Dielectric withstandin voltage	AC 100V (50Hz or 60Hz) shall be applied across terminals and frame for one minute.	There shall be no breakdown
2.1.4	Bounce	Lightly striking the center of the stem at a rate encountered in norm-al use (3 to 4 operations per sec.) bounce shall be tested at "ON" and "OFF"	



APP'D	CHK'D	DSG'E

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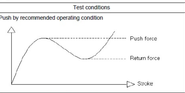
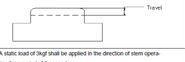
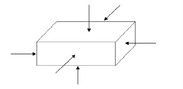
2.2 Mechanical characteristics

	Items	Test conditions	Criteria
2.2.1	Operating force	Push by recommended operating condition	1.57 ± 0.9N Reture force 0.4 N Min
2.2.2	Travel	Push by recommended operating condition F = (Operation force) × 2	0.2 ± 0.1mm
2.2.3	Stop strength	A static load of 3kgf shall be applied in the direction of stem opera-tion for a period of 3 seconds.	No damage (Electrical and mechanical)
2.2.4	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.
2.2.5	Impact shock test	(1) Acceleration : 80G (2) Cycle of test : 3 cycles each in 6 directions for a total 18 cycles	No 2.1 and 2.2.1 to 2.2.2 shall be satisfied.
2.2.6	Soldering heat test	Soldering area : 1/2 of P.W.B thickness (P.W.B : t = 1.6) Soldering temperature : 260±5℃	No damage (Electrical and mechanical)







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2.3 Climatic characteristics

	Items	Test conditions	Criteria
2.3.1	Cold test	(1) Temperature : -30±2℃ (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℃ (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
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℃ (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 and 2.2.1 to 2.2.2 shall be satisfied
2.3.5	Operating life test	(1) DC 5V DC, 5mA resistance load (2) Operation speed : 2 ~ 3 cycles/sec (3) Push force : maximum value of operation force (4) Cycle of operation : 50,000 cycles	Contact resistance 200mΩ max Bounce 10m sec 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_2S	(1) Density : 3±1 ppm (2) Temperature : 40±2℃ (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_2	(1) Density : 10±2 ppm (2) Temperature : 40±2℃ (3) Relative humidity : 90 ~ 95% (4) Duration of test : 24 hours	Contact resistance 200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied

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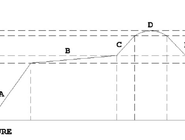
3. Soldering



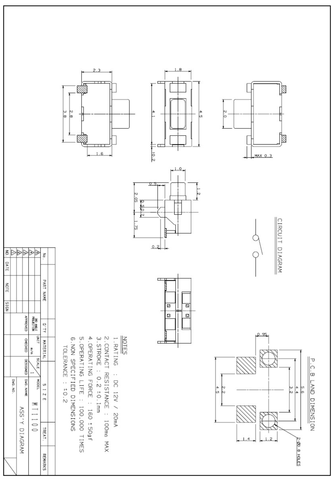
Prots	Temperature (℃)	Time at Temperature(sec)	Treatments
A	NO. - 150		
B	150 - 180	90 ± 30	Pre heating Zone
C	180 - 230		
D	230 - 260 - 230	30 ± 10 (Peak : 3 Max)	Soldering Zone
E	230 to NO		Cooling Zone

** NO : Normal conditions

3.1 Manual Soldering

3.1.1 Iron Tip Temperature : 350 ± 5℃ Max

3.1.2 Duration : 3sec Max

3.2 Notes

As this product is not protected from foreign material entering please make sure that any foreign material (E.G Magnetic powder , Washing solvent , Flux , Comosive gas) Do not enter this product in your productions process.