TITLE	**PRODUCT SPECIFICATIONS**		
MODEL No.	**TACT SWITCHES (1136 TYPE)**	PAGE	1/4

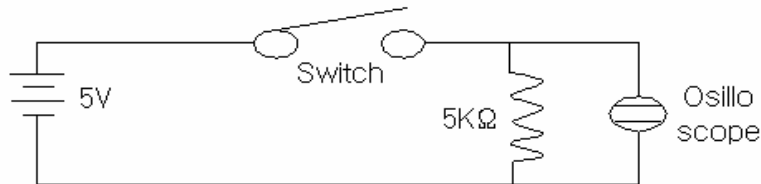## 1. General

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 based on the measured values under the above-mentioned conditions, the following conditions shall be employed.

Ambient temperature : 20±2℃

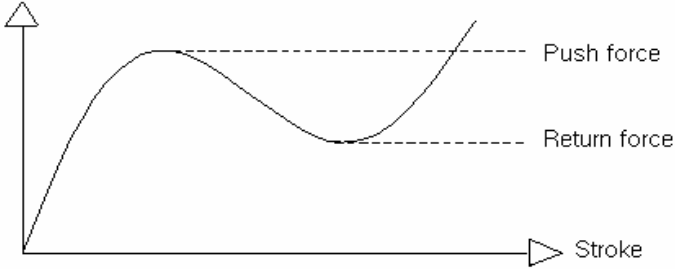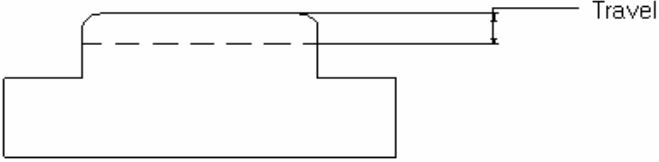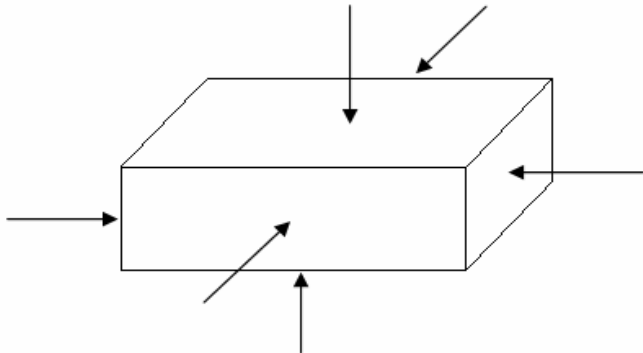Relative humidity : 60±5%RH

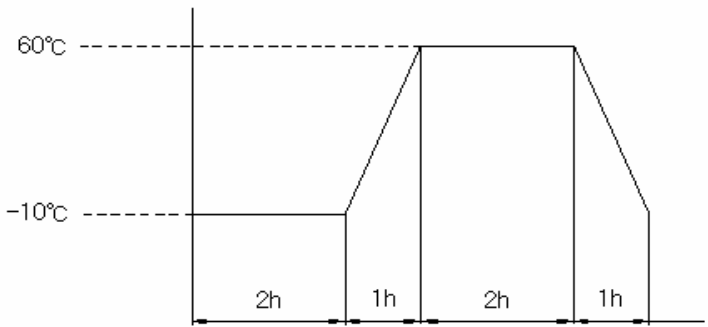Air pressure : 86～106kPa (860～1060mbar)

2. Performance

2.1 Electrical characteristics

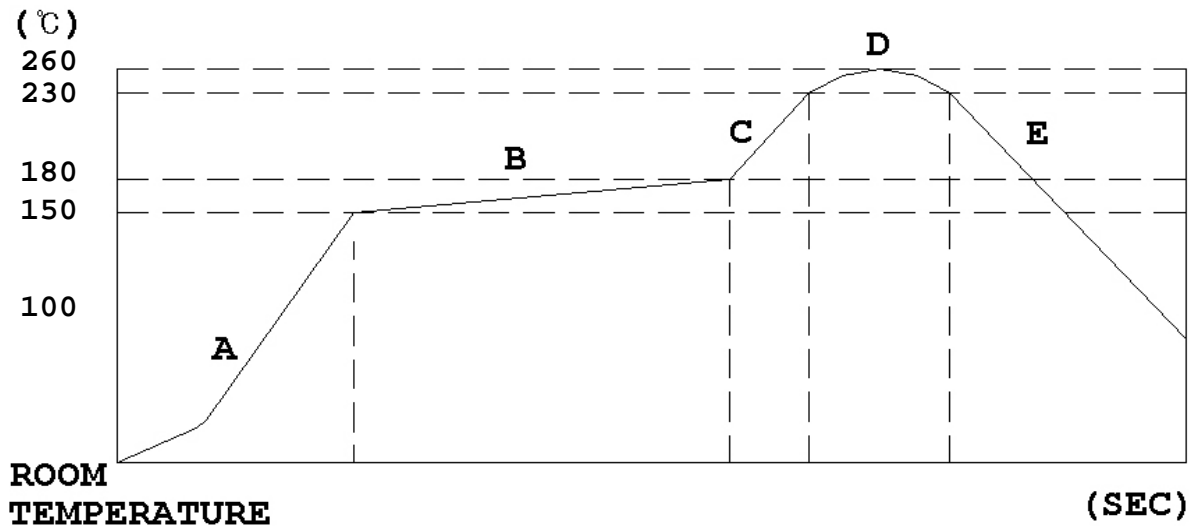|	Items	Test conditions	Criteria
2.1.1	Contact resistance	Applying a static load twice the actuating force to the center of the stem, measurements shall be made with a 1kHz small-current contact resistance meter.	100mΩ MAX
2.1.2	Insulation resistance	Measurements shall be made following application of DC 100V potential across terminals and frame for one minute.	100MΩ MIN
2.1.3	Dielectric withstandin voltage	AC 250V (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 normal use (3 to 4 operations per sec.) bounce shall be tested at 'ON' and 'OFF'	

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2.2. Mechanical characteristics			
	Items	Test conditions	Criteria
2.2.1	Operating force	Push by recommended operating condition 	Refer to individual product drawing.
2.2.2	Travel	Push by recommended operating condition F = (Operation force) × 2 	Refer to individual product drawing.
2.2.3	Stop strength	A static load of 3kgf shall be applied in the direction of stem operation 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 : Logarthmic 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 : t/2 of P.W.B thickness (P.W.B : t = 1.6) Soldering temperature : 260±5 Soldering time : 5±1 sec	No damage (Electrical and mechanical)

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 60℃ ------ −10℃ ------ 2h 1h 2h 1h	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 12V DC, 50mA resistance load (2) Operation speed : 2～3 cycles/sec (3) Push force : maximum value of operation force (4) Cycle of operation : 100,000 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) Denslty : 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) Denslty : 10±2 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.

3. Soldering

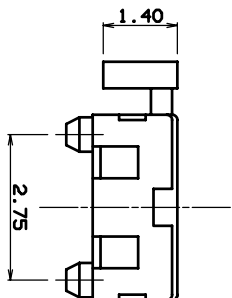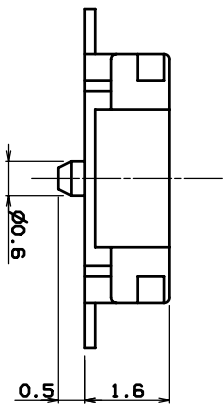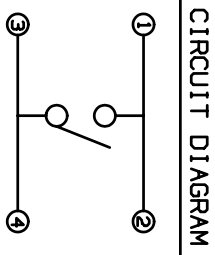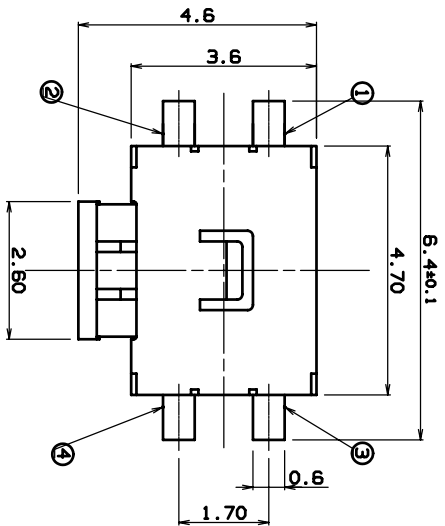| Prats	Temperature ( )	Time at Temperature(sec)	Treatments
A	NO - 150		
B	150 - 180	90 ± 30	Pre heating Zone
C	180 - 230		
D	230 - 260 - 230	30 ± 10 (Peak : 3 Max)	Soldering Zone
E	230 to NO		Cooling Zone

** 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 , Corrosive gas) Do not enter

this product in your productions process.

P.C.B LAND DIMENSION

2.75
3.7
6.8
2-Ø0.75
0.7
2.7

Ø0.6
0.5 1.6

1.40
2.75

4.6
3.6
② ①
2.60
6.4±0.1
4.70
④ ③
0.6
1.70

CIRCUIT DIAGRAM

③
①
②
④
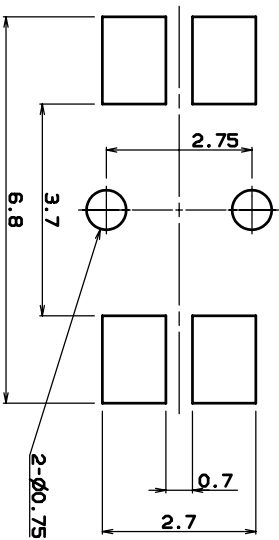
NO	PART NAME	Q'TY	METERIAL	REMARKS
1	CASE	1	LCP	BLACK
2	PUSH	1	PA6T	BLACK
3	TERMINAL	1	C2680R-EH	Ag0.5μ
4	COVER	1	SUS	
5	CONTACT	1	SUS	Ag0.5μ
6	TAPE	1	TEFLON	Ag0.5μ

NOTE

1. RATING : DC12V 50mA
2. TRAVEL : 0.3 ±0.1mm
3. OPERATING FORCE : 170,220 ±50gf
4. CONTACT RESISTANCE : 100mΩ MAX
5. LIFE : 100,000 CYCLES MIN

NO.	DATE	NOTE	SIGN
5			
4			
3			
2			
1			

No.	PART NAME	Q'TY	UNIT m/m	SCALE 1	MODEL 1136E		
			MATERIAL	SIZE	TREAT.		
	APPROVED	CHECKED	DESIGNED	DWG.NAME	REMARKS		
	.	.	.	DWG.NO.			
	.	.	.				

3RD ANGLE PROJECTION

ASS'Y DIAGRAM