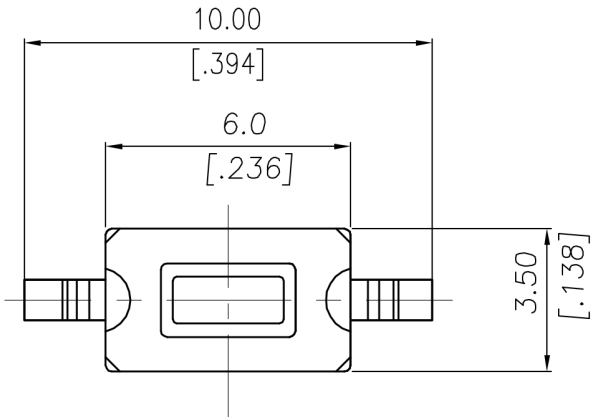
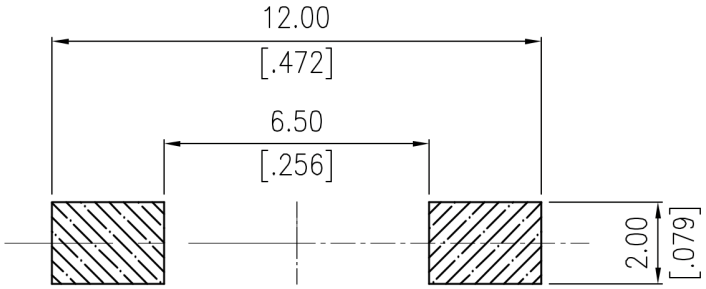
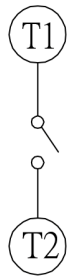
NOTE:

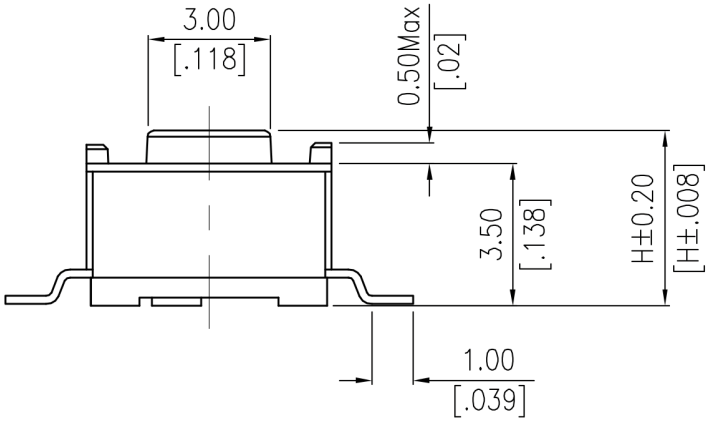
1. ALL DIMENSIONS ARE IN MILLMETERS, BRACKETED DIMENSIONS ARE IN INCHES.
2. GENREAL TOLERANCES MAX.±0.2mm. [0.008]

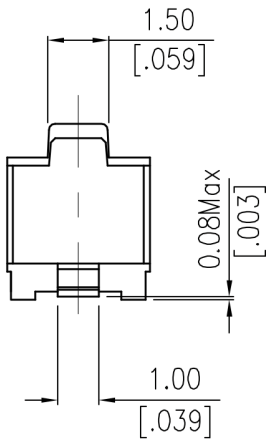






P.C.B. LAYOUT





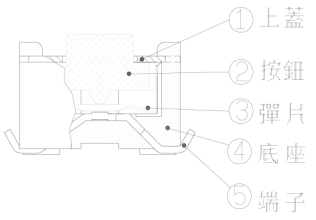
CIRCUIT DIAGRAM

② SDTSMF-32□-V	5.00
SDTSMF-31□-V	4.30
PARTS NO.	H

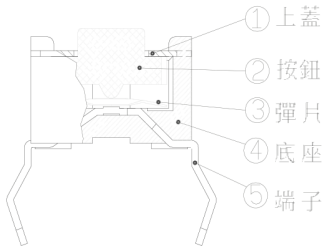
ZONE	REV.	DESCRIPTION	DATE	APPD.
⑤				
④				
③				
②	B	增加DTSMF-32產品	06.25'08	
①	A	DWG. REL.	09.12'06	邱明義

APPD:	Q'TY:	URGE	PART NAME: TACTILE SWITCH (3.5X6) (S.M.T TYPE)
CHKD:	SCALE: 5:1		
DR: PAGGY	REV: B UNITS: mm	PART NO:	MAT'L:
DESIGN: 范小英			FINISH:
			DWG NO: R D 5 P 3 M F-V

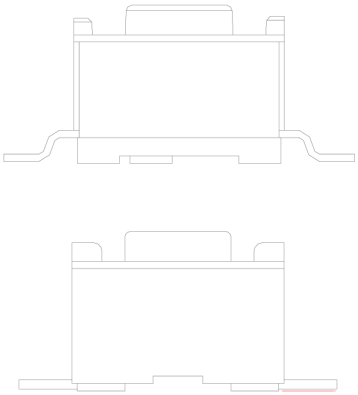
ITEM	DESC.	Q'TY	MATERIALS	TREATMENT	REMARK
1.	COVER	1	STAINLESS STEEL	NONE	-
2.	STEM	1	HIGH – TEMP THERMOPLASTIC NYLON UL 94V-0	→	-
3.	CONTACT	1	STAINLESS STEEL	WITH SILVER CLADDING	-
4.	BASE	1	HIGH – TEMP THERMOPLASTIC NYLON UL 94V-0	MOLDED BLACK	-
5.	TERMINAL	1	BRASS	WITH SILVER PLATING	-



S.M.T TYPE



THROUGH HOLE



REMARK :

① SDTS □ - □ □ □ - V - □

M : Surface Mounting Type
□: Through Hole Type
ML: Flat Terminal SMT Type
MF : Surface Mounting Type

Prod. Size:
3 = 3.5x6

Dimension H:
1 = 4.3mm
2 = 5.0mm

Package:
B= Tube Package
T/R= Tape & Reel(For SMT TYPE)
□= Bag For SDTS

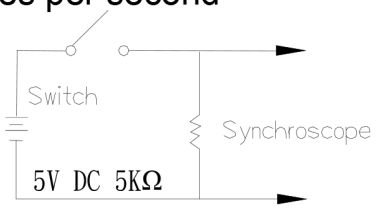
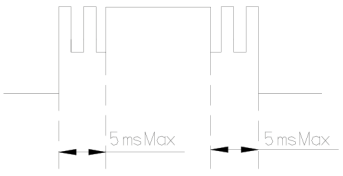
V=Lead Free

Color Of Stem For Operating Force :
K = Black , 125g
N = Brown , 160g
S = Salmon, 320g
R = RED , 260g
Y = YEELOW, 520g

REV.	ECO. NO.	APPD.
C	新增黑色按鈕,160g 產品	邱明義
B	新增 DTSMF-3 產品	邱明義
A	DWG.REL	邱明義

TITLE : TACTILE SWITCH SMT/THROUGH NON-WASHABLE TYPE	APPD. : 邱明義	
	CHKD. :林后謙	
PRROD.NO.:SDTS□-3□□-V-□	PR. :PAGGY	
FILE NO. : E-V-CT13	REV : C	SHEET : 1 of 1

1. **Style**
   This specification describes" TACTILE SWITCH", mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristic.
   1.1 Operating Temperature Range : -25 ℃~+70℃
   1.2 Storage Temperature Range : -30℃~+80℃
   1.3 The shelf life of product is within 6 months.
2. **Current Range:** 50mA, 12V DC
3. **Type of Actuation:** Tactile feedback
4. **Test Sequence:**

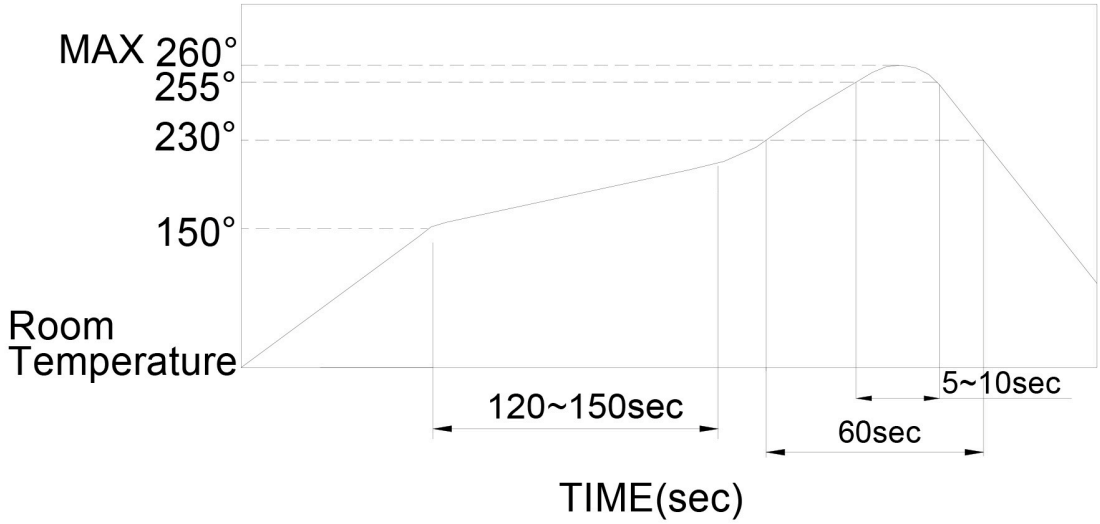
	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By visual examination check without any out pressure & testing	There shall be no defects that affect the serviceability of the product.
ELECTRIC PERFORMANCE	2	Contact Resistance	Applying a static load 1.5-2 times the operating force to the center of the stem, measurements shall be made with a 1 kHz small current contact resistance meter	100mΩ Max
	3	Insulation Resistance	Measurements shall be made following application of 500 V DC potential across terminals and cover for 1 minute± 5 seconds	100MΩ Min
	4	Dielectric Withstanding Voltage	250 V AC(50Hz or 60Hz) shall be applied across terminals and cover for 1 minute	There shall be no breakdown or flashover
	5	Capacitance	1 MHz ±10 kHz	5 pF Max.
	6	Bounce	3 to 4 operations at a rate of 1 cycles per second 	5 m seconds Max. 

MECHANICAL PERFORMANCE	7	Operating Force	Applied in the direction of operation 	125±50 [1.225 ±.49N]	160±50 [1.568 ±.49N]	260±50 [2.548 ±.49N]	320±80 [3.136± .784N]	520±130 [5.096± 1.274N]
	8	Stroke	Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the stem, the stroke distance for the stem to come to a stop shall be measured	0.25+0.2/-0.1mm				
	9	Stop Strength	Placing the switch such that the direction of switch operation is vertical, a static load of 3 kgf (29.4N)shall be applied in the direction of stem operation for a period of 15 seconds	①As shown in item 4~7 ②Contact Resistance: 200mΩ Max ③Insulation Resistance: 10MΩ Min				
	10	Solder Heat Resistance	■Through Hole Type 1)Soldering Temperature: 260±5℃ 2)Duration of Solder Immersion: 5±1 seconds 3)Frequency of Soldering Process 1 times max. (PCB is 1.6 ㎜ in thickness) ■SMT Type 4 of 4 Series	①Shall be free from pronounced backlash and falling-off or breakage terminals ②As shown in item 4、5 ③Contact Resistance: 200mΩ Max ④Insulation Resistance: 10MΩ Min				
	11	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1)Frequency: 10-55-10Hz in 1-min/cycle. 2)Direction:3 vertical directions including the directions of operation 3)Test time:2 hours each direction 4)Swing distance:1.5mm	1)As shown in item 4~7 2)Contact Resistance: 200mΩ Max 3)Insulation Resistance: 10MΩ Min				
	12	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1) Acceleration; 50G 2) Action time:11±1m seconds 3) Testing Direction:6 sides 4)Test Cycle: 3 times in each direction	1)As shown in item 4~7 2)Contact Resistance: 200mΩ Max 3)Insulation Resistance: 10MΩ Min				

MECHANICAL PERFORMANCE	13	Solderability	1)Through Hole Soldering Temperature：245±3℃ 2)Lead-Free solder：M705E JIS Z 3282 A (Tin 96.5%，Silver 3%，Copper 0.5%) 3)Flux：5~10 sec 4)Duration of solder Immersion：5±1 sec	No anti-soldering and the coverage of dipping into solder must more than 66% was requested.
DURABILITY	14	Operating Life	Measurements shall be made following the test forth below: ①5 mA,5VDC resistive load ②Applying a static load the operating force to the center of the stem in the direction of operation Static Load = OF Max. ③Cycle of Operation: 50,000 cycles Min. For 125、160gf 30,000 cycles Min. For 260、320 、520gf	①As shown in item 4、5 ②Operating force:±50% of initial force. ③Contact Resistance: 10Ω Max ④Insulation Resistance: 10MΩ Min ⑤Bounce: 10 m seconds Max
WEATHER-PROOF	15	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: 1)Temperature:-40±3℃ 2)Time:96 hours	1) As shown in item 4~7 2) Contact Resistance: 200mΩ Max 3) Insulation Resistance: 10MΩ Min
	16	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: 1)Temperature:80±2℃ 2)Time:96 hours	1) As shown in item 4~7 2) Contact Resistance: 200mΩ Max 3) Insulation Resistance: 10MΩ Min
	17	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: 1) Temperature:40±2℃ 2) Relative Humidity:90~95% 3) Time:96 hours	1) As shown in item 4~7 2)Contact Resistance: 200mΩ Max 3)Insulation Resistance: 10MΩ Min

5. SOLDERING CONDITIONS:

■ Condition for Reflow Soldering –S.M.T Series



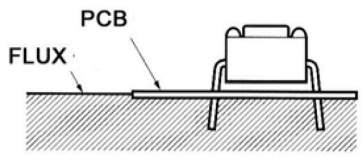
■ The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface be used not to allow switch's surface temperature to exceed 260℃.

■ Manual Soldering

Soldering Temperature	Max.350℃
Continuous Soldering Time	Max. 5 seconds

■ Precautions in Handling

1. Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
2. Except for washable type do not wash the switch body.
3. Please make sure that there is no flux rose over the surface of the PCB



■ Notes on storage conditions:

Do not store in the following environment or it may affect product's function and solderbility:

1. temperature of -10 (max) ~ +40 (min) ℃ & humidity at 85% (min)
2. environment with corrosive gas
3. storage over 6 months
4. place of direct sunlight

Store with proper packaging conditions and to avoid loading heavy force

We suggest to use the products within 3 months or at least 6 months.

After opening the package, the rest products must be stored in the appropriate moisture-proof & airtight environment.