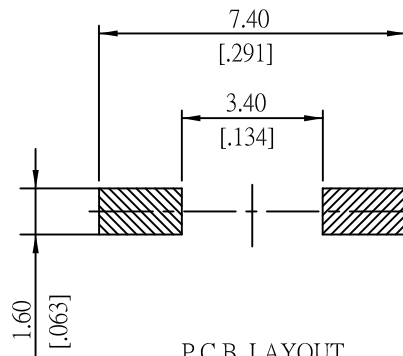
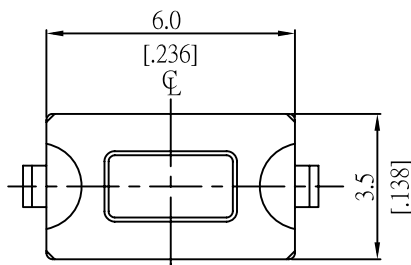
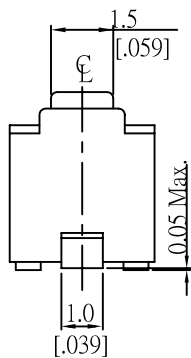
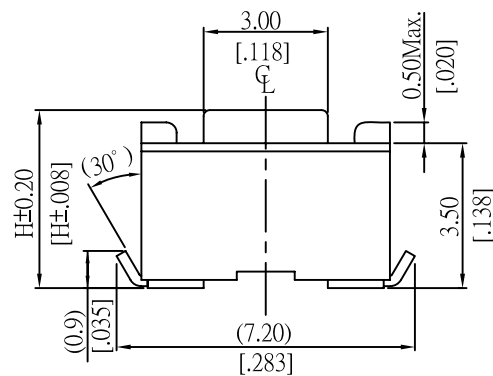


1. ALL DIMENSIONS ARE IN MILLIMETERS, BRACKETED DIMENSIONS ARE IN INCHES.
2. GENERAL TOLERANCES MAX.±0.20mm.



P.C.B. LAYOUT

CIRCUIT DIAGRAM

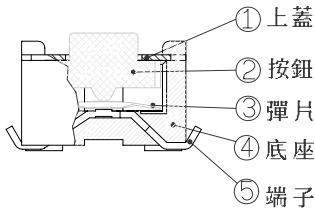


DTSM- 3 2 □-V	5.0 [.197]	Y	YELLOW 520g
		S	SALMON 320g
		R	RED 260g
		N	BROWN 160g
		K	BLACK 125g
DTSM- 3 1 □-V	4.3 [.169]	Y	YELLOW 520g
		S	SALMON 320g
		R	RED 260g
		N	BROWN 160g
		K	BLACK 125g
PROD. NO.	H	COLOR FOR OPERATING RORCE	

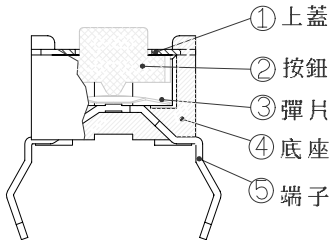
				
				
				
	A	DWG.REL.		
ZONE	REV.	DESCRIPTION	DATE	APPD.

APPD:	QTY:		 圓達實業股份有限公司 DIPTRONICS MANUFACTURING INC.		PART NAME: TACTILE SWITCH (3.5x6) (S.M.T TYPE)
CHKD:	SCALE: 8 : 1				
DR: 陳碧霞	REV: A	UNITS: mm	PART NO:	MAT'L:	DWG NO: DTSM- 3 -V
DESIGN:			DTSM- 3 □□-V	FINISH:	

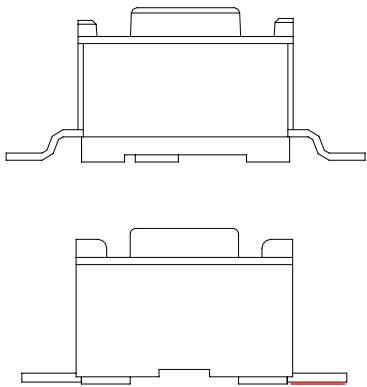
ITEM	DESC.	Q'TY	MATERIALS	TREATMENT	REMARK
1.	COVER	1	STAINLESS STEEL	NONE	-
2.	STEM	1	HIGH – TEMP THERMOPLASTIC NYLON UL 94V-0	→	-
3.	CONTACT	1	STAINLESS STEEL	WITH SILVER CLADDING	-
4.	BASE	1	HIGH – TEMP THERMOPLASTIC NYLON UL 94V-0	MOLDED BLACK	-
5.	TERMINAL	1	BRASS	WITH SILVER PLATING	-



S.M.T TYPE



THROUGH HOLE



S.M.T

REMARK :

①

D T S □ - □ □ □ - 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 DTS
V=Lead Free
Color Of Stem For
Operating Force :
K = Black , 125g
N = Brown , 160g
S = Salmon, 320g
R = RED , 260g
Y = YEELow, 520g



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
REV.	ECO. NO.	APPD.

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

DTS(M)L.F-3-V SPECIFICATION

FILE No.

: E-V-AT04

REV.

: B

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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 °C~+70°C

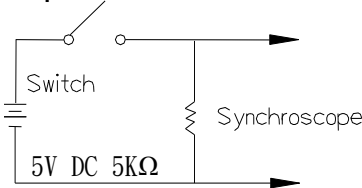
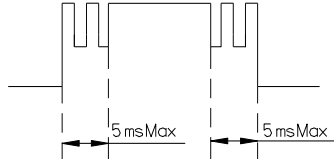
1.2 Storage Temperature Range : -30°C~+80°C

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.
	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
ELECTRIC PERFORMANCE	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. 

DTS(M)L.F-3-V SPECIFICATION

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MECHANICAL PERFORMANCE

7	Operating Force	Applied in the direction of operation 	O F	N 160±50 [1.568±.49N]	R 260±50 [2.548±.49N]	S 320±80 [3.136±.784N]	Y 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 mm 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				

DTS(M)L.F-3-V SPECIFICATION

FILE No.

: E-V-AT04

REV.

: B

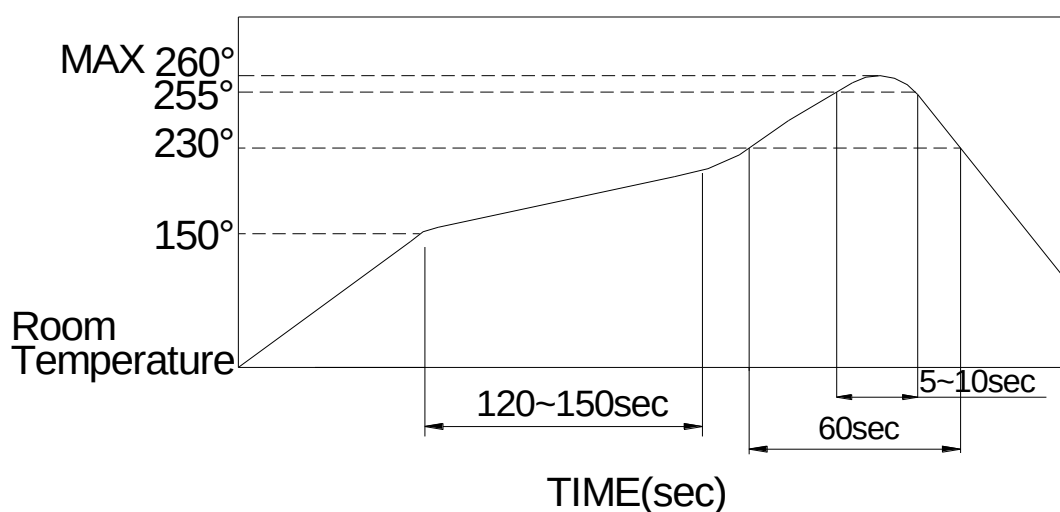
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MECHANICAL PERFORMANCE	13	Solderability	1)Through Hole Soldering Temperature : $245\pm 3^{\circ}\text{C}$ 2)Lead-Free solder : M705E JIS Z 3282 A (Tin 96.5% , Silver 3% , Copper 0.5%) 3)Flux : 5~10 sec 4)Duration of solder Immersion : 5 ± 1 sec	No anti-soldering and the coverage of dipping into solder must more than 66% was requested.
	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 160 、260 gf 30,000 cycles Min. For 320 、520gf	①As shown in item 4 、5 ②Operating force: $\pm 50\%$ of initial force. ③Contact Resistance: 10 Ω Max ④Insulation Resistance: 10M Ω 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: $-40\pm 3^{\circ}\text{C}$ 2)Time:96 hours	1) As shown in item 4~7 2) Contact Resistance: 200m Ω Max 3) Insulation Resistance: 10M Ω 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: $80\pm 2^{\circ}\text{C}$ 2)Time:96 hours	1) As shown in item 4~7 2) Contact Resistance: 200m Ω Max 3) Insulation Resistance: 10M Ω 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: $40\pm 2^{\circ}\text{C}$ 2) Relative Humidity:90~95% 3) Time:96 hours	1) As shown in item 4~7 2)Contact Resistance: 200m Ω Max 3)Insulation Resistance: 10M Ω Min

5. SOLDERING CONDITIONS:

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



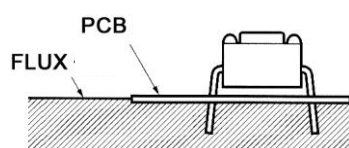
- The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface be used not to allow switch's surface temperature to exceed 260°C.

■ Manual Soldering

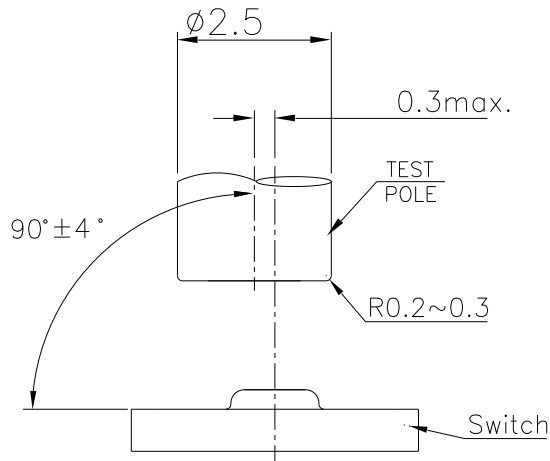
Soldering Temperature	Max.350°C
Continuous Soldering Time	Max. 5 seconds

■ 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



■ Operating Conditions



■ Notes on storage conditions:

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

1. temperature of -10 (max) $\sim +40$ (min) $^\circ\text{C}$ & 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.