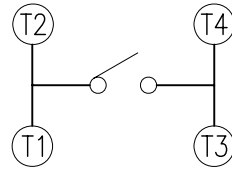
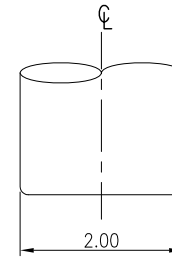


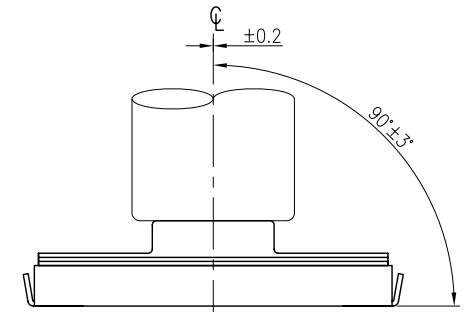
CARRIER TAPE



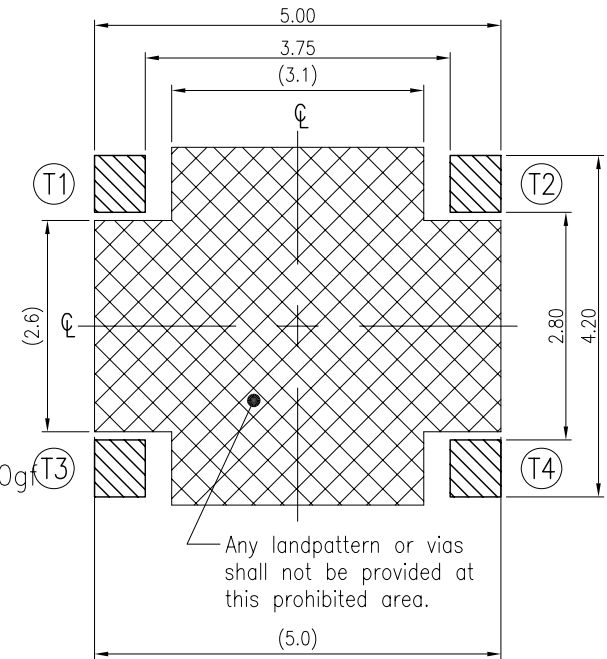
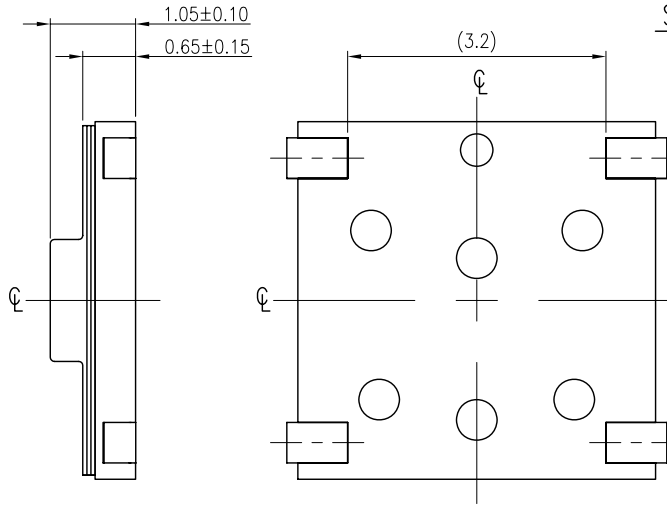
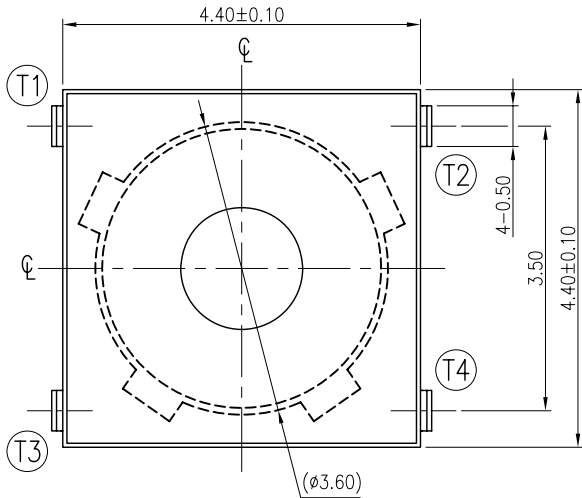
CIRCUIT DIAGRAM



SHAPE OF KEYING TIP



RESTRICTION IN OPERATION



P.C.B. LAYOUT

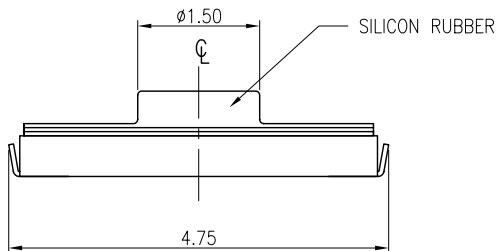


Table 1

PART NO	OF
TJ-4A10QR	100gf
TJ-4A16QR	160gf
TJ-4A20QR	200gf
TJ-4A26QR	260gf

NOTE:

1.ALL DIMENSIONS ARE IN MILLIMETERS.

2.GENERAL TOLERANCES ±0.20mm

3.MECHANICAL:

Stroke: 100.160gf 0.2±0.1mm.

200.260gf 0.3±0.1mm

Operating Force(OF): 100gf、160gf、200gf、260gf

Life: 1,000,000 cycles Min~100gf、160gf.

500,000 cycles Min~200 gf、260gf.

4.ELECTRIAL:

Switch Rating: 50 mA, 12V DC.

Contact Resistance: 100 mΩ Max.

Insulation Resistance: 500V DC, 100MΩ Min.

Dielectric Withstanding Voltage: 300V 1Minute.

Any landpattern or vias shall not be provided at this prohibited area.

ZONE	REV	DESCRIPTION	DATE	APPD.
4				
3				
2				
1	A	DWG.REL.		

APPD:	QTY:
CHKD:	SCALE: 15:1
DR: ARIES	REV: A
DESIGN: 張文遠	UNITS: mm

圓達實業股份有限公司 DIPTRONICS MANUFACTURING INC.	
PART NO:	MAT'L:
See Table 1	FINISH:

PART NAME:	TACT SWITCH
DWG NO:	TJ-4A QR

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 : -20 °C ~ +70 °C

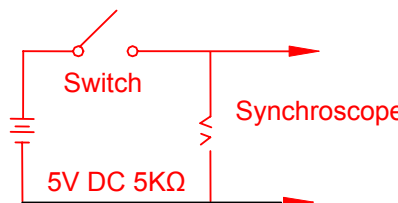
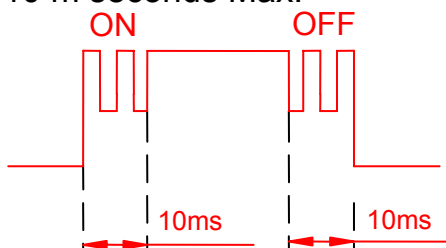
1.2 Storage Temperature Range : -30 °C ~ +80 °C

1.3 The shelf life of product is within 6 months.

2. **Current Range:** 50mA , 12 V 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 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	300 V AC(50Hz or 60Hz) shall be applied across terminals and cover for 1 minute	There shall be no breakdown or flashover.
	5	Bounce	3 to 4 operations at a rate of 1 cycles per second 	10 m seconds Max. 

TJ-4□□AQ SPECIFICATION

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MECHANICAL PERFORMANCE

6	Operating Force	Applied in the direction of operation. 	TJ-410-V	TJ-416-V	TJ-420-V	TJ-426-V
			100g±50g (.98N±.49N)	160g±50g (1.57N±.49N)	200g±50g (1.96N±.49N)	260g±50g (2.55N±.49N)
7	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.	0.2±0.1mm			
8	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	As shown in item 4~6			
9	Solder Heat Resistance	■ SMT Type ~ Series(4/4) (PCB is 1.2 mm in thickness)	① Shall be free from pronounced backlash and falling-off or breakage terminals ② As shown in item 4、5 ③ Contact Resistance: 200mΩ Max ④ Insulation Resistance: 10MΩ Min			
10	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1) Swing distance=1.5mm 2) Frequency: 10-55-10Hz in 1-min/cycle. 3) Direction: 3 vertical directions including the directions of operation 4) Test time: 2 hours each direction	1) As shown in item 4~7 2) Contact Resistance: 200mΩ Max 3) Insulation Resistance: 10MΩ Min			
11	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	Ditto			

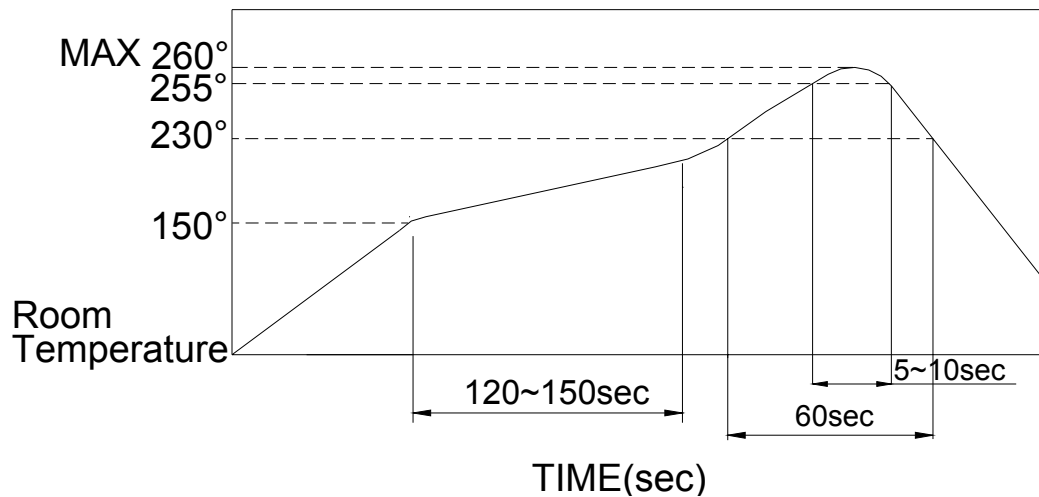
TJ-4□□AQ SPECIFICATION

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DURABILITY	12	Operating Life	<p>Measurements shall be made following the test forth below:</p> <p>1)5 mA,5 VDC resistive load 2)Applying a static load the operating force to the center of the stem in the direction of operation 3)Cycle of Operation: 1,000,000cycles Min~100gf、160gf 500,000 cycles Min~200 gf、260gf</p>	<p>1)As shown in item 4、5 2)Operating force:±50% of initial force. 3)Contact Resistance: 10Ω Max 4)Insulation Resistance: 10MΩ Min 5)Bounce: 20 m seconds Max</p>
WEATHER-PROOF	13	Resistance Low Temperature	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made:</p> <p>1) Temperature:-30±2℃ 2) Time: 96 hours</p>	<p>1)As shown in item 4~7 2)Contact Resistance: 200mΩ Max 3)Insulation Resistance: 10MΩ Min</p>
	14	Heat Resistance	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made:</p> <p>1) Temperature:80±2℃ 2) Time: 96 hours</p>	Ditto
	15	Humidity Resistance	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made:</p> <p>1) Temperature:60±2℃ 2) Relative Humidity: 90~95% 3) Time: 96 hours</p>	Ditto

5. SOLDERING CONDITIONS:

■ Condition for Soldering TJ4 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	350°C MAX.
Continuous Soldering Time	5 second MAX.

■ 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.

■ 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) ~ +40 (min) °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.

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