

P.C.B. LAYOUT

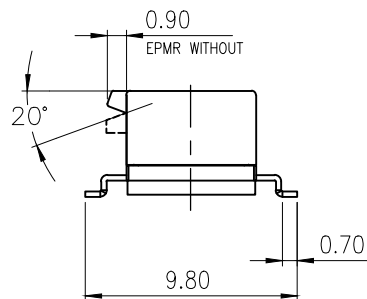
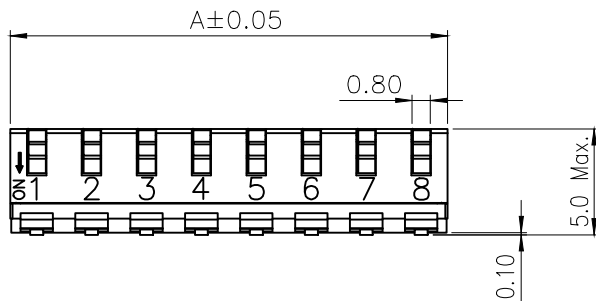
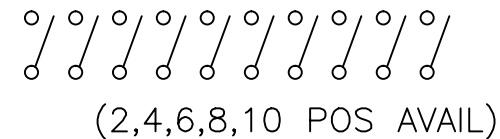


Table 1

EPM(R)10V	10	25.30	22.86
EPM(R)08V	8	20.22	17.78
EPM(R)06V	6	15.14	12.70
EPM(R)04V	4	10.06	7.62
EPM(R)02V	2	4.98	2.54
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

SCHEMATIC(TYP.)



- NOTE:
- 1.ALL DIMENSIONS ARE IN MILLIMETERS.
 - 2.GENERAL TOLERANCES $\pm 0.20\text{mm}$.
 - 3.MATERIAL & * :SEE SPECIFICATION.
 - 4.P:Pitch=2.54mm.



△			
△			
△			
△	A	依工變24024新增自動線料號	2024.08.03 張嘉良
ZONE	REV.	DESCRIPTION	DATE APPD.

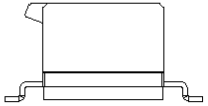
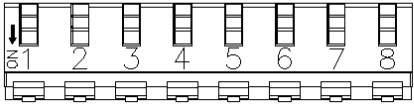
APPD: 張嘉良	Q'TY:
CHKD: 陳峰柏	SCALE: 4:1
DR: Aries	REV: A
DESIGN: 張文逸	UNITS: mm

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

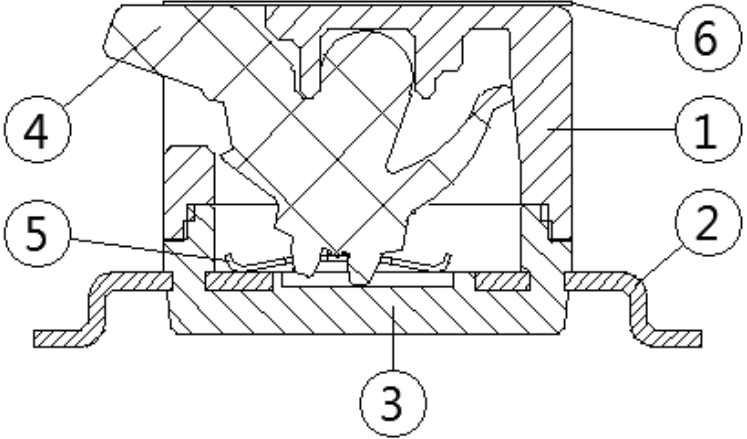
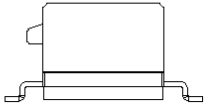
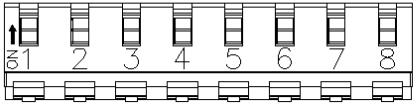
PART NAME: Piano type End Stackable
DWG NO: EPI(R)_V(自動線)

ITEM	DESC.	Q'TY	MATERIALS	TREATMENT	REMARK
1.	COVER	1	HIGH – TEMP. THERMOPLASTIC PA-9T UL 94V-0	MOLDED BLACK	-
2.	TERMINAL	1	BRASS	GOLD PLATED	-
3.	BASE	1	HIGH – TEMP. THERMOPLASTIC PA9T UL 94V-0	MOLDED BLACK	-
4.	ACTUATOR	*	HIGH – TEMP. THERMOPLASTIC LCP UL 94V-0	MOLDED WHITE	-
5.	CONTACT	*	COPPER	GOLD PLATED AT CONTACT AREA.	-
6	TAPE		KATPON	-	-

EP□□□□



EP□□□□F



EP□□□□□V□

- Package Style
□=Tube
R=Tape & Reel<Only S.M.T>
- Soldering
V=Lead Free Solderable
- Seal:
□=Regular
T =Top Tape Sealed (only short TYPE)
- F=Push Down OFF
□=Push Down ON
- Number Of
Positions:02 、 04 、 06 、 08 、 10
- Positions.Actuator Type:
□=Long Actuator
R=Short Actuator
- Terminal Type
I=Through Hole Type
M=S.M.T Type
- End-Stackable Piano Type Dip Switch



A	工變 24024 新 增自動線	張嘉良
RVE.	ECO NO.	APPD.

TITLE:	APPD :	張嘉良
End-Stackable Piano Type	CHKD.:	陳輝煌
PROD. NO. :EP□□□□□V□	PR	: ARIES
FILE NO. : E-V-CD17	REV: A	SHEET:1of1

EP□□ SPECIFICATION

FILE No. : E-V-AD15
REV. : C
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1. Style:

This specification describes "PUSH LEVER SWITCHES" , mainly used as signal switch of electric devices , with the general requirements of mechanical and electrical characteristics.

1.1 Operating Temperature Range : -40°C~+85°C

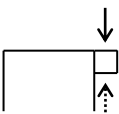
1.2 Storage Temperature Range : -40°C~+85°C

2. Contact Rating : 100mA 、 50VDC

Switching Rating : 25mA 、 24VDC

3. Type of Actuation: Actuated by Rotating

4. Test Sequence:

ELECTRIC PERFORMANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
	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	1)To be measured between the two terminals associated with each switch pole. 2)Measurements shall be made with a 1 kHz shall current contact resistance meter.	1)100mΩ max. (initial) 2)After various kinds of test, it contacts impedance and can not be worth being higher than 200 mΩ Max
	3.	Insulation Resistance	500V DC, 1 minute ± 5 sec.	100MΩ min.
	4.	Dielectric withstanding Voltage	500 V AC (50Hz or 60 Hz) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.	There shall be no breakdown or flashover.
	5	Capacitance	1MHz±10kHz	5-pF max.
MECHANICAL PERFORMANCE	6	Operation Force	Applied in the direction of operation. ON→OFF OFF→ON 	800gf Max

EP□□ SPECIFICATION

FILE No. : E-V-AD15
REV. : C
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MECHANICAL PERFORMANCE

7	Stop Strength	A static load of 1 kgf is applied in the operating direction and pulling direction operated for a period of 60 seconds.		There shall be no sign of damage mechanically	
8	Soldering Heat Resistance	1.Soldering Temperature :			As shown in item 1、2、3、4、6
			EPI□	EPM□	
		Temp	260±5°C	SMT Type ~ Series(4/5)	
		Time	5±1sec		
2.Frequency of Soldering Process: 2 times max. (PCB is 1.6mm in thickness.)					
9	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1)Frequency: 10-55-10 Hz 1 min/cycle. 2)Direction: 3 vertical directions including the direction of operation. 3)Test Time: 2 hours each direction. 4)Swing distance=1.5mm			As shown in item 1、2、3、4、6
10	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1)Acceleration: 50G. 2>Action Time : 11 ± 1 m sec. 3)Testing Direction: 6 sides. Test cycle:3 times in each direction			As shown in item 1、2、3、4、6
11	Solderability	1)EPI(R)-V Soldering Temperature:245±3°C Lead-Free solder : M705E JIS Z 3282 Class A (Tin 96.5% , Silver 3% , Copper 0.5%) 2)Flux: 5-10 seconds. 3)Duration of solder Immersion: 5±1 sec.			No anti-soldering and the coverage of dipping into solder must more than 75% was requested.
12	Operation Life	Measurements shall be made following the test set forth below: 1)10 mA, 5V DC resistive load 2)Rate of Operation: 15~20 cycles/minute 3)Cycle of Operation: 2000 cycles.			1)As shown in item 1、3、4 2>Contact Resistance: 200mΩ max. (final-after test)

DURABILITY

EP ☐ ☐ SPECIFICATION

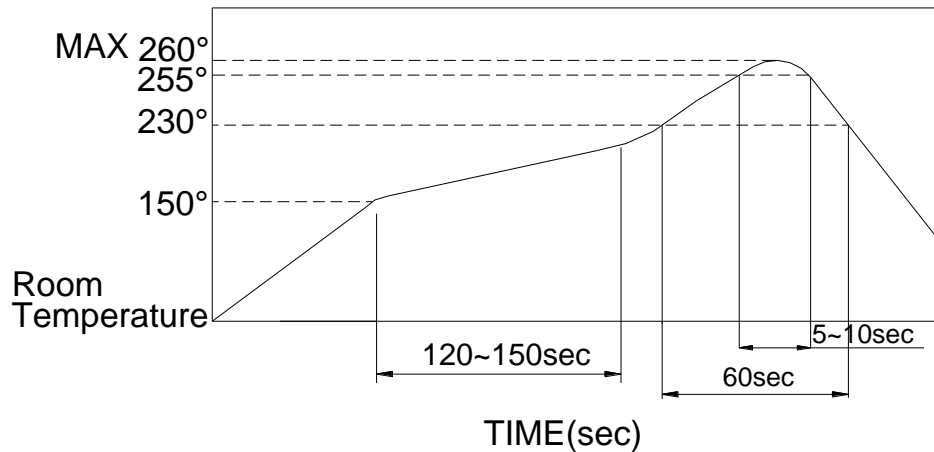
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REV. : C
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WEATHER-PROOF

13	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made : 1.Temperature : $-40\pm 2^{\circ}\text{C}$ 2.Time: 96 hours	As shown in item 2 、 3 、 4 、 6
14	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made : 1.Temperature : $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ 2.Time: 96 hours	1.As shown in item 3 、 4 、 6 2.Contact Resistance: 200mΩ max.
15	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made : 1.Temperature : $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ 2.Relative Humidity :90~95% 3.Time: 96 hours	1.As shown in item 1 、 4 、 6 2.Contact Resistance: 200mΩ max. 3.Insulation Resistance : 100MΩ min.

5. SOLDERING CONDITIONS:

S.M.T Temperature profile



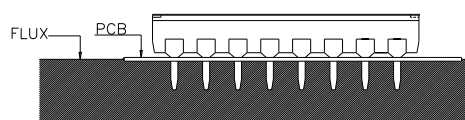
- The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface temperature depending on board's material, size, thickness, etc. Care, therefore, should be used not to allow switch's surface temperature 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. Don't clean the switch body except with top tape sealed type, which can only spray of cleaning method from top of s/w.
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 solderability:

1. environment with corrosive gas
2. 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