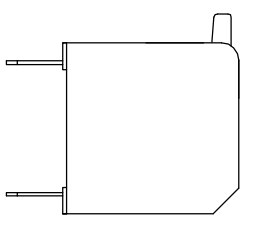
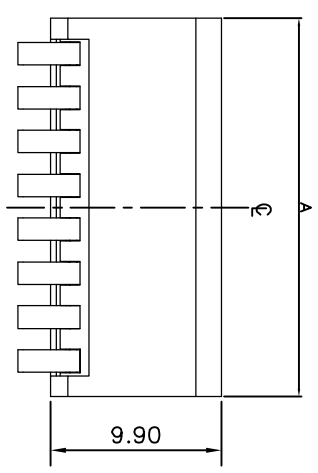
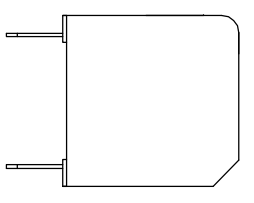


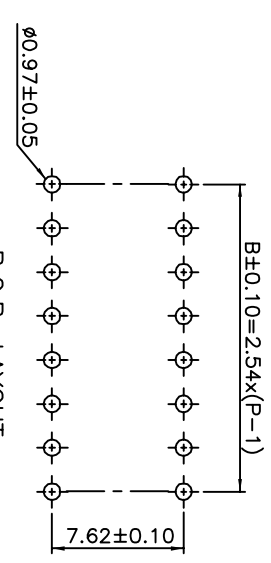
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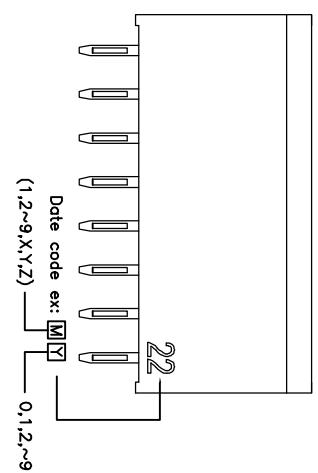
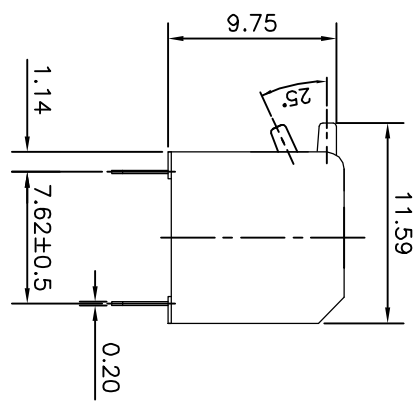
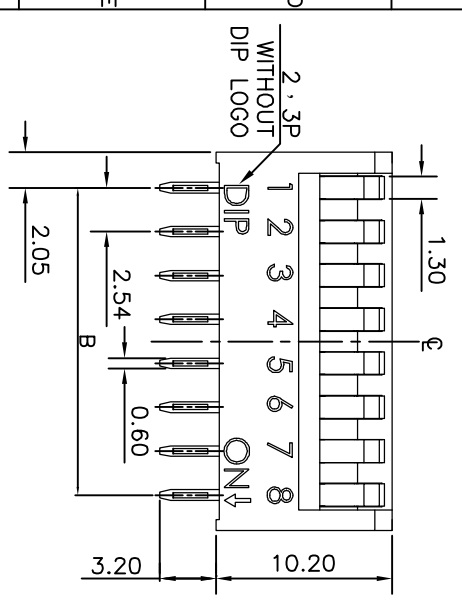
NDPL SERIES



NDP SERIES



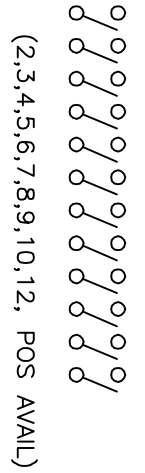
P.C.B. LAYOUT



NOTE: 1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. GENERAL TOLERANCES ±0.2mm

NDP -12V NDPL-12V	12	32.04	27.94
NDP -10V NDPL-10V	10	26.96	22.86
NDP -09V NDPL-09V	9	24.42	20.32
NDP -08V NDPL-08V	8	21.88	17.78
NDP -07V NDPL-07V	7	19.34	15.24
NDP -06V NDPL-06V	6	16.80	12.70
NDP -05V NDPL-05V	5	14.26	10.16
NDP -04V NDPL-04V	4	11.72	7.62
NDP -03V NDPL-03V	3	9.18	5.08
NDP -02V NDPL-02V	2	6.64	2.54
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

SCHEMATIC(TYP.)



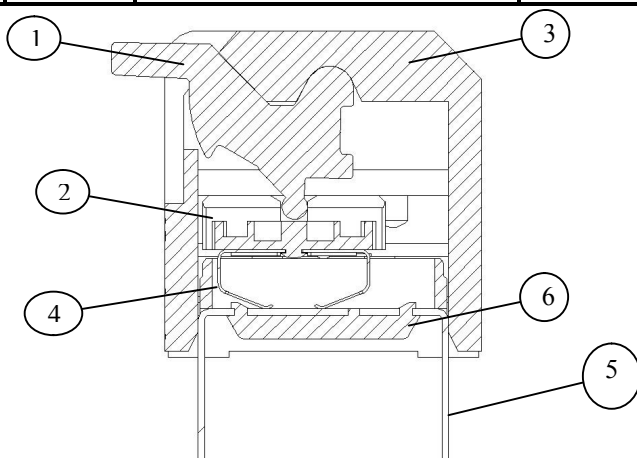
△			
△			
△			
△	A	DWG.REL	06.14.16
△		DESCRIPTION	DATE
△			APPD.

APPD:	DATE:
CHKD:	SCALE: 5:1
DR: Michelle	REV: A
06.14.16	UNITS: mm
DESIGN: LARRY	
NDP-0000V	

圖達實業股份有限公司
 DIPTRONICS MANUFACTURING INC.
 MAT'L:
 FINISH:

PART NAME:	PIANO TYPE DIP SWITCH
DWG NO:	RD2P1

ITEM	DESC.	Q'TY	MATERIALS	TREATMENT	REMARK
1.	LEVER	1	THERMOPLASTIC PBT UL 94V-0	WHITE	
2.	SLIDER	1	THERMOPLASTIC PBT UL 94V-0	WHITH	
3.	COVER	1	THERMOPLASTIC PBT UL 94V-0	RED/BLUE/BLACK	
4.	CONTACT	1	COPPER ALLOY	GOLD PLATED	
5.	TERMINAL	1	BRASS	GOLD PLATED	
6	BASE	1	THERMOPLASTIC PA66 UL 94V-0	BLACK	



PROD . NO . : NDP - V

Actuator Type:

- = Short Key
- L = Long Key

Number Of Position :

- 02 = 2 Position .
- 03 = 3 Position .
- 04 = 4 Position .
- 05 = 5 Position .
- 06 = 6 Position .
- 07 = 7 Position .
- 08 = 8 Position .
- 09 = 9 Position .
- 10 = 10 Position .
- 12 = 12 Position .

Lead Free Solderable

Seal:

- = Regular
- T = Top Tape Sealed

On/Off Postiion

- = Push Down On
- U = Push Down Off

Color of Cover:

- = Red
- B= Blue
- K = Black

A	DWG.REL	林嚴政
REV.	ECO. NO.	APPD.



TITLE :	SLIDE TYPE DIP SWITCHES	APPD. :	林嚴政
PRROD.NO:	NDP(L)- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> V	CHKD.:	潘淑暖
FILE NO:	E-V-CD24	PR. :	Michelle
		REV :	A
			SHEET :1of1



NDP(L)-□□□□V SPECIFICATION

FILE No. : E-V-AD21
 REV. : A1
 Page : 1 / 4

1. Style:

This specification describes "DUAL IN-LINE PACKAGE SWITCHES" mainly used as signal switch of electric devices with the general requirements of mechanical and electrical characteristics.

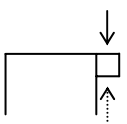
- 1.1 Operating Temperature Range : -20°C ~ +70°C
- 1.2 Storage Temperature Range : -40°C ~ +85°C
- 1.3 The shelf life of product is within 6 months.

2. Current Range:

- 2.1 Non-Switching : 100mA, 50V DC
- 2.2 Switching : 25mA , 24V DC

3. Type of Actuation: Actuated by sliding

4. Test Sequence :

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
ELECTRIC PERFORMANCE	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 1kHz shall current contact resistance meter.	50mΩ Max. (initial)
	3	Insulation Resistance	500V DC, 1 minute ± 5 sec.	100MΩ Min.
	4	Dielectric withstand- ing Voltage	500V 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	1 MHz ± 10 kHz	5 pF Max.
MECHANICAL PERFORMANCE	6	Operation Force	Applied in the direction of operation. ON→OFF OFF→ON 	400gf Max (3.92N Max)



NDP(L)-□□□□V SPECIFICATION

FILE No. : E-V-AD21
 REV. : A1
 Page : 2 / 4

MECHANICAL PERFORMANCE	7	Stop Strength	A static load of 1 kgf(9.8N) is applied in the operating direction and pulling direction operated for a period of 15 seconds.	There shall be no sign of damage mechanically	
	8	Soldering Heat Resistance	Soldering Temperature :		As shown in item 2~6
			TEMP	TIME	
			260°C±5°C	5±1 sec.	
	(PCB is 1.6mm in thickness.)				
9	Vibration	<p>Shall be vibrated in accordance with Method 201A of MIL-STD-202F</p> <p>①Frequency: 10-55-10 Hz 1 min/cycle.</p> <p>②Direction: 3 vertical directions including the direction of operation.</p> <p>③Test Time: 2 hours each direction.</p>	As shown in item 2~6		
10	Shock	<p>Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F</p> <p>①Acceleration: 50G.</p> <p>②Action Time : 11 ± 1 m sec.</p> <p>(Testing Direction: 6 sides.</p> <p>(Test cycle : 3 times in each direction</p>	As shown in item 2~6		
11	Solderability	<p>1.NDP(L)-V□□Soldering Temperature:245±3°C Lead-Free solder : M705E JIS Z 3282 Class A (Tin 96.5% , Silver 3% , Copper 0.5%)</p> <p>2.Flux: 5-10 seconds.</p> <p>3.Duration of solder Immersion: 5±1 sec.</p>	No anti-soldering and the coverage of dipping into solder must more than 75% was requested.		
DURABILITY	12	Operation Life	<p>Measurements shall be made following the test set forth below:</p> <p>1. 25 mA, 24V DC resistive load</p> <p>2. Rate of Operation: 15~20 cycles/ minute</p> <p>3. Cycle of Operation: 2000 cycles.</p>	<p>1.As shown in item 3,4</p> <p>2.Contact Resistance: 100mΩ Max. (final-after test)</p>	



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 : $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ② Time: 96 hours	As shown in item 2~6
	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 3~6 2.Contact Resistance: 100mΩ Max.
	15	Humidity Resistance	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 : $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ② Relative Humidity :90~95% ③ Time: 96 hours	1 As shown in item 4,6 2 Contact Resistance: 100mΩ Max. 3 Insulation Resistance : 10MΩ Min.

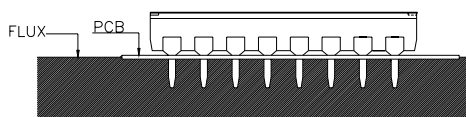
5. SOLDERING CONDITIONS:

■ Manual Soldering

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

■ Precautions in Handling

- Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
- Don't clean the switch body except with top tape sealed type, which can only spray of cleaning method from top of s/w.
- 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. 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