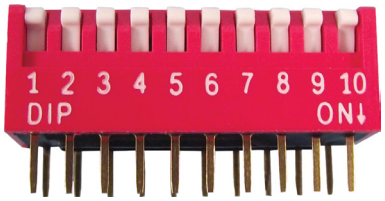
DIP Switch
Piano Type

RoHS Compliant



Application:

- Industrial Control
- Computer and Peripherals
- Variety of Function Controls

Specifications:

- Lever : Thermoplastic PBT UL 94V-0 - White
- Slider : Thermoplastic PBT UL 94V-0 – White
- Cover : Thermoplastic PBT UL 94V-0 – Red
- Contact : Copper Alloy, Gold Plated
- Terminal : Brass, Gold Plated
- Base : Thermoplastic PA66 UL 94V-0 - Black
- Contact Rating : Non-Switching: 100mA, 50V DC
  Switching: 25mA, 24V DC
- Contact Resistance : 50mΩ max.
- Insulation Resistance : 100MΩ min. 500V DC
- Dielectric Strength : 500V AC/1 minute
- Operating Force : 400gf max. (3.92N max.)
- Travel : 25°
- Operating Life : 2000 cycles
- Operating Temperature : -40°C to +85°C
- Storage Temperature : -40°C to +85°C
- Shelf Life : 6 Months

Test Sequence

Properties	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 withstanding Voltage	500V AC(50Hz or 60Hz) 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 ±10kHz	5pF Max.
Mechanical Performance	6	Operation Force	Applied in the direction of operation. ON→OFF OFF→ON 	400gf Max (3.92N Max)

Properties	Item	Description	Test Conditions	Requirements
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: TEMP: 260°C ±5°C; TIME: 5 ±1 sec.	As shown in item 2~6
	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.	As shown in item 2~6
	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. (Testing Direction: 6 sides.) (Test cycle : 3 times in each direction)	As shown in item 2~6
	11	Solderability	1. NDP(L)-VSoldering 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 dip-ping into solder must more than 75% was requested.
Durability	12	Operation Life	Measurements shall be made following the test set forth below: 1. 25mA, 24V DC resistive load 2. Rate of Operation: 15~20 cycles/ minute 3. Cycle of Operation: 2000 cycles.	1. As shown in item 3,4 2. Contact Resistance: 100mΩ Max. (Final-after test)
Weather Proof	13	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity condi-tions for an hour before measurements are made : 1. Temperature : -40°C ±3°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 condi-tions for an hour before measurements are made : 1. Temperature : 85°C ±2°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 condi-tions for an hour before measurements are made : 1. Temperature : 40°C ±2°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.

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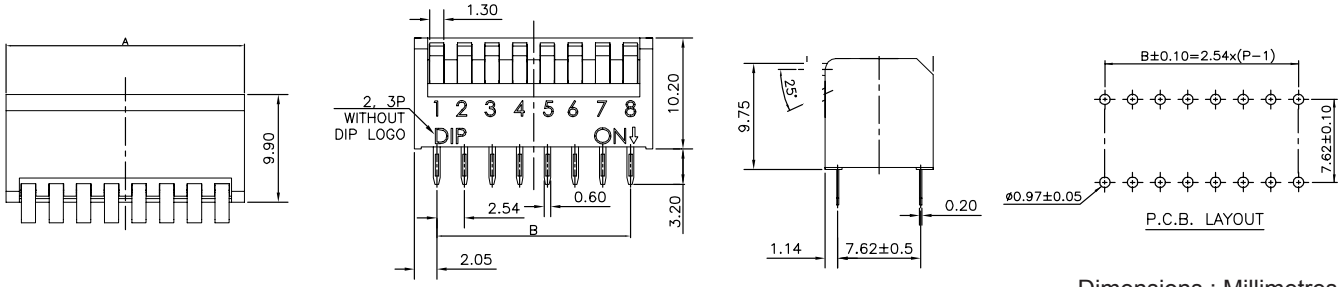
Soldering Conditions

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

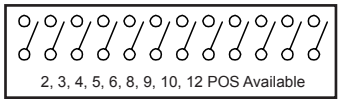
Diagram



Dimensions : Millimetres
Tolerances: ±0.2mm

Part Number	No. of Pos.	"A" mm (Inches)	"B" mm (Inches)
MCNDP-02V	02	6.64 (0.261)	2.5 (0.098)
MCNDP-03V	03	9.18 (0.36)	5.08 (0.2)
MCNDP-04V	04	11.72 (0.461)	7.62 (0.3)
MCNDP-05V	05	14.26 (0.561)	10.16 (0.4)
MCNDP-06V	06	16.8 (0.661)	12.7 (0.5)
MCNDP-08V	08	21.88 (0.861)	17.78 (0.7)
MCNDP-09V	09	24.42 (0.961)	20.32 (0.8)
MCNDP-10V	10	26.96 (1.061)	22.86 (0.9)
MCNDP-12V	12	32.04 (1.261)	27.94 (1.1)

Schematic (TYP.)



Part Number Table

Description	Part Number
DIP Switch, Piano Type, 2Pos, SPST-NO, Push Down On, Red, TH	MCNDP-02V
DIP Switch, Piano Type, 3Pos, SPST-NO, Push Down On, Red, TH	MCNDP-03V
DIP Switch, Piano Type, 4Pos, SPST-NO, Push Down On, Red, TH	MCNDP-04V
DIP Switch, Piano Type, 5Pos, SPST-NO, Push Down On, Red, TH	MCNDP-05V
DIP Switch, Piano Type, 6Pos, SPST-NO, Push D own On, Red, TH	MCNDP-06V
DIP Switch, Piano Type, 8Pos, SPST-NO, Push Down On, Red, TH	MCNDP-08V
DIP Switch, Piano Type, 9Pos, SPST-NO, Push Down On, Red, TH	MCNDP-09V
DIP Switch, Piano Type, 10Pos, SPST-NO, Push Down On, Red, TH	MCNDP-10V
DIP Switch, Piano Type, 12Pos, SPST-NO, Push Down On, Red, TH	MCNDP-12V