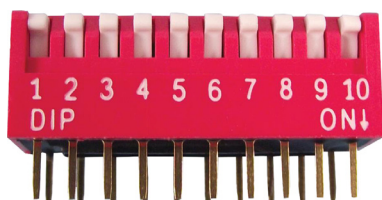


# DIP Switch

## Piano Type

**multicomp** PRO

**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)

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**multicomp** PRO

# DIP Switch

## Piano Type

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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:		As shown in item 2~6
			TEMP	TIME	
			260°C ±5°C	5 ±1 sec.	
	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 dipping 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 conditions 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 conditions 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 conditions 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.	

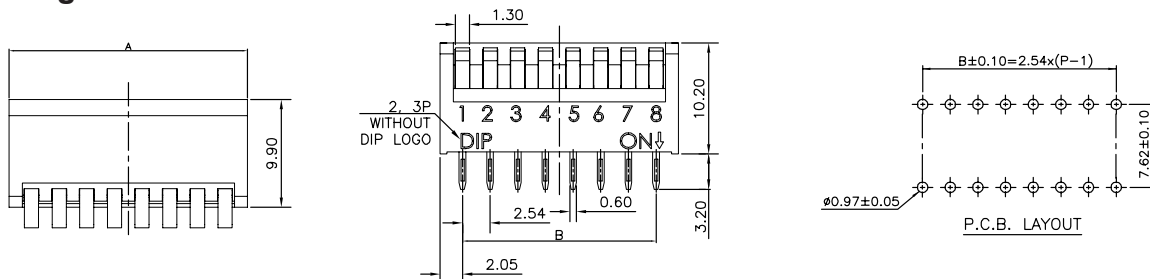
# DIP Switch

## Piano Type

### Soldering Conditions

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

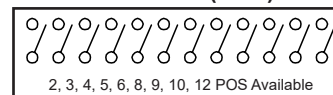
### Diagram



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)

Dimensions : Millimetres  
Tolerances: ±0.2mm

### 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

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