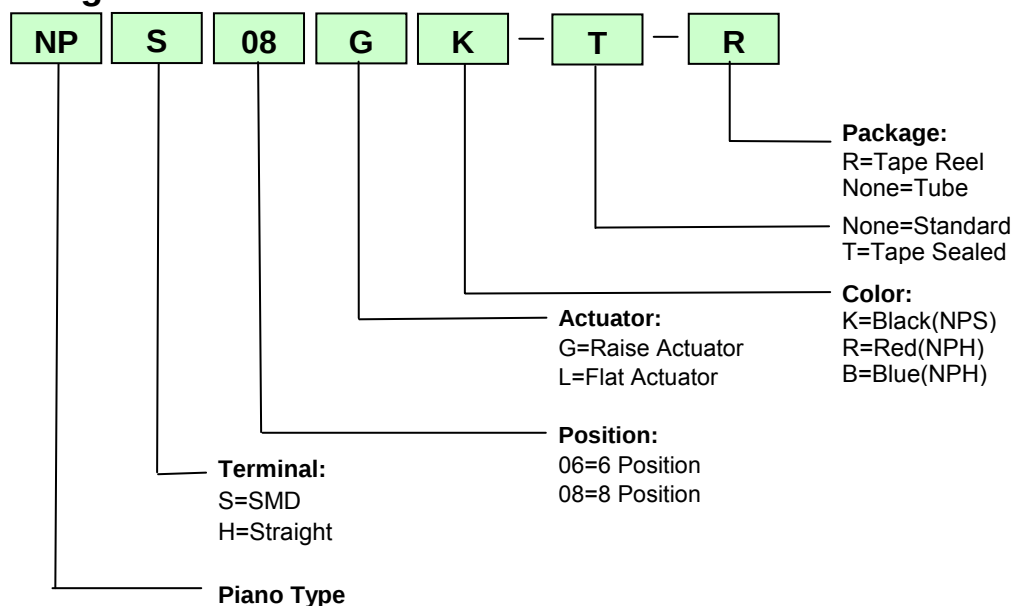


MODEL	SPECIFICATION RoHS Compliant DIP SWITCH	SP-001	Page
NP series			
New Piano Type			1/10

Ordering Information:



Specifications

◆ Contact Rating	Switching.....	25mA, 24VDC
	Non-Switching.....	100mA, 50VDC
◆ Contact Resistance	Initial.....	50mΩ Max.
	After Life Test.....	100mΩ Max.
◆ Insulation Resistance		100MΩ Min. at 500VDC
◆ Dielectric Strength		500VDC / 1 minute
◆ Operation Force		1,000g max
◆ Mechanical Life		5,000 cycles (Min.)
◆ Electrical Life		5,000 cycles(Min.) 100mA,50VDC
◆ Operation Temperature		-40°C ~ +85°C
◆ Storage Temperature		-40°C ~ +85°C

MODEL	SPECIFICATION RoHS Compliant DIP SWITCH	SP-002	Page
NP series			
New Piano Type			2/10

Soldering Information

◆ Hand Soldering

Soldering iron 30W or under at 350 °C for 3 sec max or at 270 °C for 5 sec max.

◆ Reflow Soldering

(1) Gold-plated series available 2~3 times process

(2) Tin-plated series available 1 time process

(3) 260 ±5 °C within 60 sec for reflow. In-line or Batch system. Apply reflow soldering only.

(4) Vapor Phase Heating (VPH) switch must with Tape sealed type

◆ Wave Soldering

For lead free wave solder simulation of typical components, the solder bath temperature Shall be maintained to 275 °C.

The hold time in the solder shall be 10 +2/-0 seconds.

◆ Keep all actuators in " OFF " position during soldering and cleaning process.

Classification Reflow Profiles

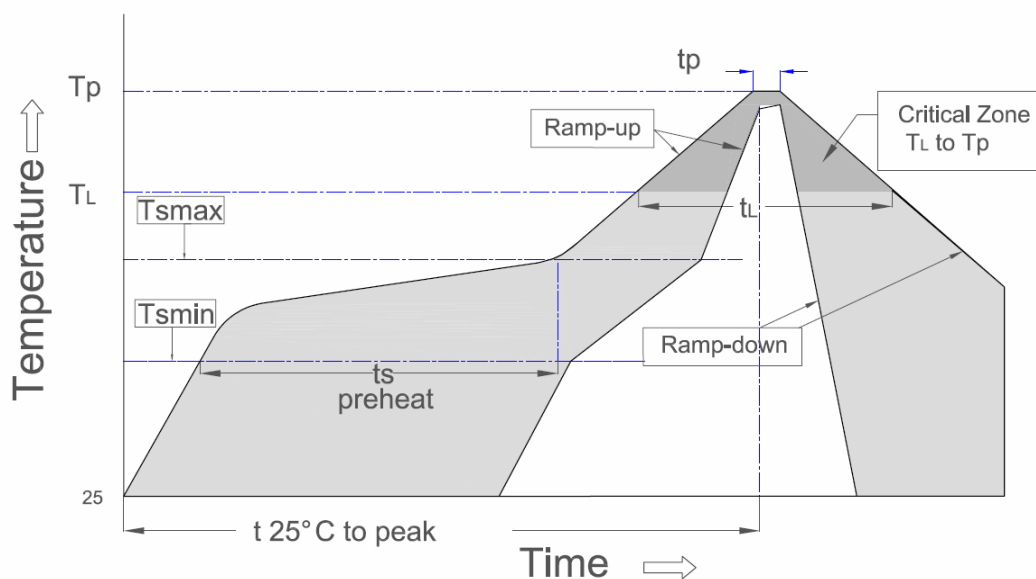
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3 /second max
Preheat: --Temperature Min (T _{smin}) --Temperature Max (T _{smax}) --Time (T _{smin} to T _{smax}) (ts)	150 200 60 ~ 180 seconds
Time maintained above: --Temperature (T _L) --Time (t _L)	217 60 ~ 150 seconds
Peak/Classification Temperature(T _p)	260 ±5
Time within 5 °C of actual peak Temperature (tp)	20~40 seconds
Ramp-Down Rate	6 /second max
Time 25 °C to Peak Temperature	8 minutes max

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

Note 2: Time within 5 °C of actual peak temperature (tp) specified for the reflow profiles is a “supplier” minimum and “user” maximum.

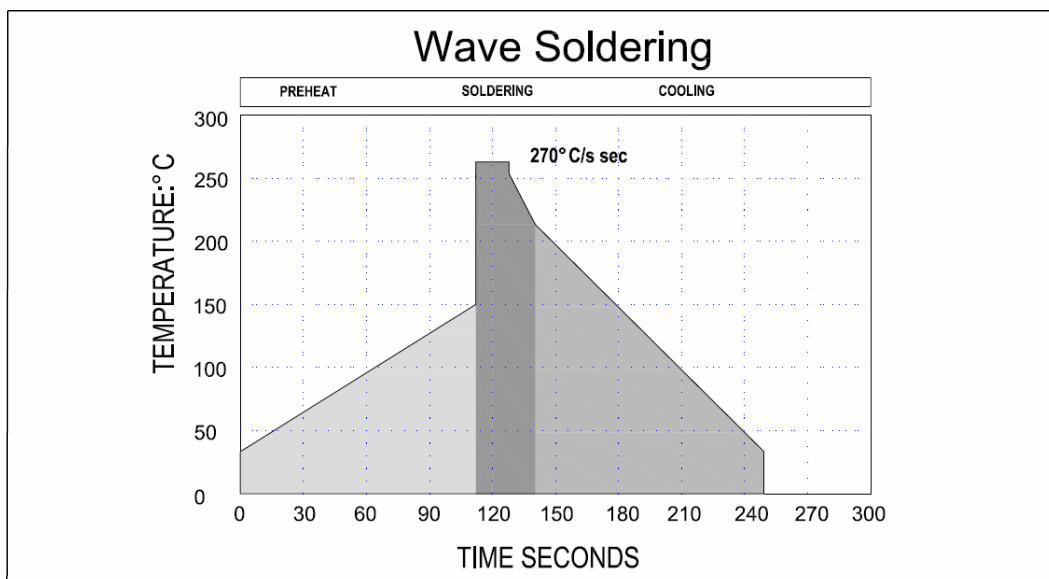
The table copy from IPC/JEDEC J-STD-202C

Reflow Soldering Standard Conditions



MODEL	SPECIFICATION RoHS Compliant DIP SWITCH	SP-004	Page
NP series			
New Piano Type			4/10

Classification Wave Soldering Profiles



Maximum dwell time in the solder wave (270) shall not exceed 5 seconds.

Switch Operation and Taping

- (1) Use tweezers for operation.
- (2) Flux cleaning should be done without removing the Tape.
- (3) If the tape is removed, it adheres less than before when it is placed back on, possibly causing flux inflow
- (4) Do Not Remove Tape sealed before Reflow processing
- (5) Ultrasonic cleaning not re-commended.

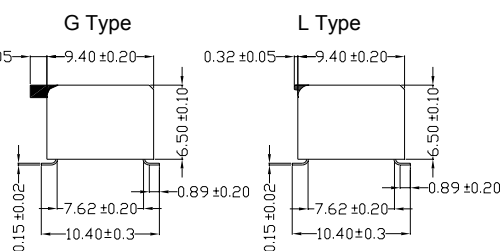
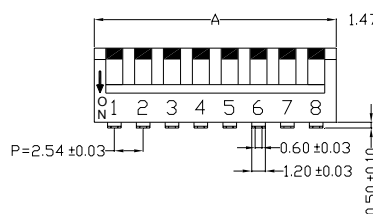
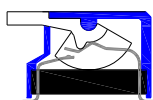
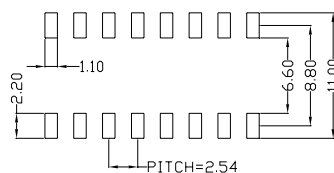
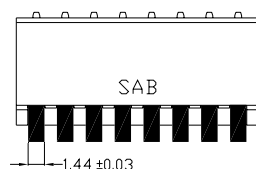
- ※ All switch must set in OFF position when through Soldering process .
- ※ Any flux enters the switch may influence contact function .

MODEL	SPECIFICATION RoHS Compliant DIP SWITCH	SP-005	Page
NP series			
New Piano Type			5/10

Materials:

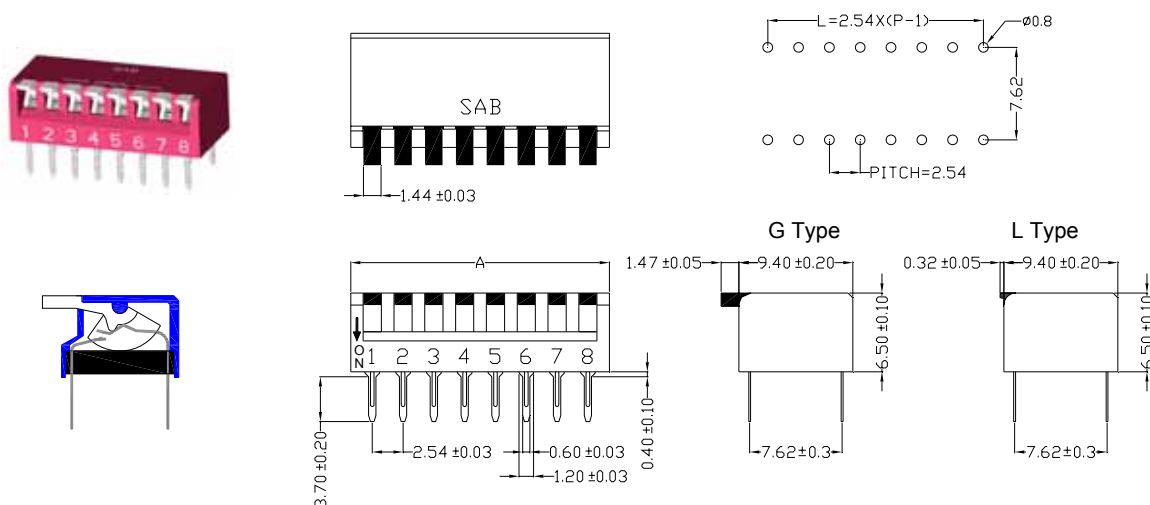
◆ Cover	NPS/H.....PPS/PA9T (UL 94V-0), Black NPH.....PBT (UL 94V-0), Red / Blue
◆ Base	NPS.....PA6T (UL 94V-0), Black NPH.....PA66 (UL 94V-0), Black
◆ Actuator	NPS.....PA46 (UL 94V-0), White NPH.....PA66 (UL 94V-0), White
◆ Contact	Gold plated
◆ Terminal	Pure-Tin plated
◆ Tape	Polyester Film

NPS



MODEL NP series New Piano Type	SPECIFICATION RoHS Compliant DIP SWITCH		SP-006	Page 6/10
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NPH



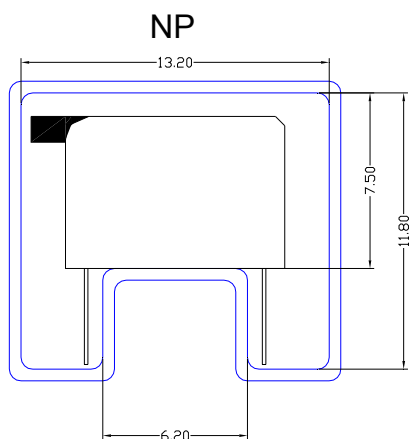
Part Number Table

No. Pos.	Dim. "A"	Through Hole Raise Actuator Red Color Tube Package	SMD Flat Actuator Black Color Tape Reel
2	6.08	NPH02G-R	NPS02L-K-R
3	8.62	NPH03G-R	NPS03L-K-R
4	11.16	NPH04G-R	NPS04L-K-R
5	13.70	NPH05G-R	NPS05L-K-R
6	16.24	NPH06G-R	NPS06L-K-R
7	18.78	NPH07G-R	NPS06L-K-R
8	21.32	NPH08G-R	NPS08L-K-R
10	26.40	NPH10G-R	NPS10L-K-R
12	31.48	NPH12G-R	NPS12L-K-R

MODEL	SPECIFICATION RoHS Compliant DIP SWITCH	SP-007	Page
NP series			
New Piano Type			7/10

Tube Package:

POLE	2	3	4	5	6	7	8	10	12
TUBE	85	61	47	38	32	28	24	20	16
BOX	4760	3416	2632	2128	1792	1568	1344	1120	896
CTN 1	9520	6832	5264	4256	3584	3136	2688	2240	1792
CTN 2	19040	13664	10528	8512	7168	6272	5376	4480	3584

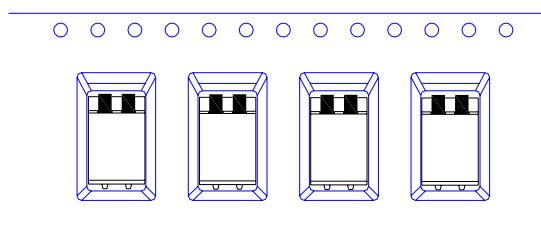


Tape & Reel package

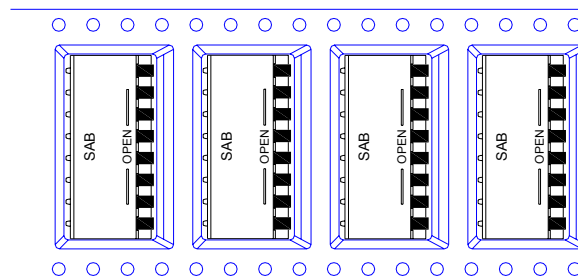
◆ NPS

POLE	02	03	04	05	06	07	08	10	12
Pitch (mm)	12	16	16	16	16	16	16	16	16
Width (mm)	24	24	24	24	24	44	44	44	44
Per Reel	700	500	500	500	500	500	500	500	500

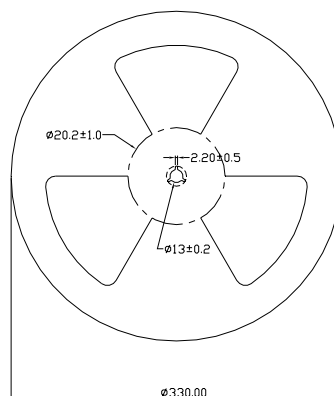
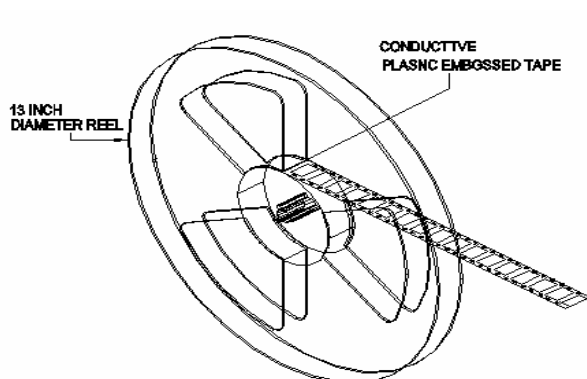
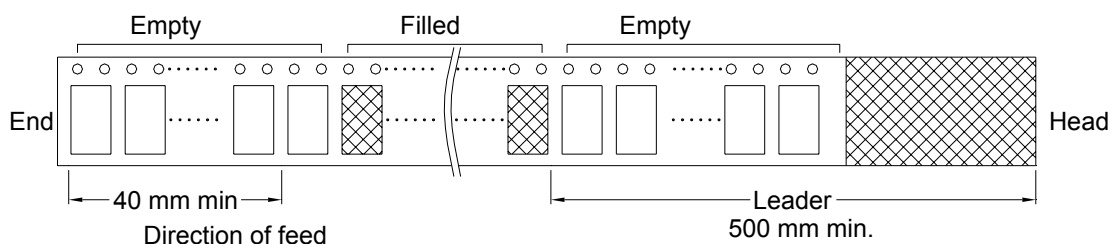
NPS02



NPS03~NPS12



MODEL NP series New Piano Type	SPECIFICATION RoHS Compliant DIP SWITCH	SP-008	Page
			8/10

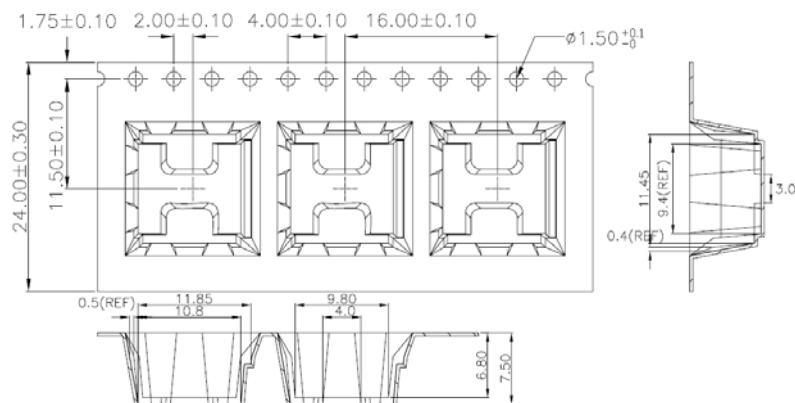


Carry Tape Table:

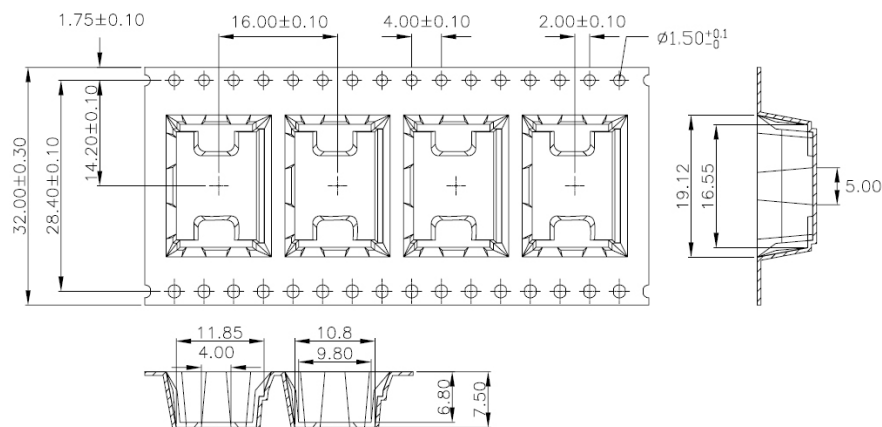
P/N.	Pitch(mm)	Thickness(mm)	Width (mm)	Sellotape(mm)	@REEL/BOX	Q'ty/Reel
NPS02	12	0.4	24	21.3	4	700
NPS03	16	0.4	24	21.3		500
NPS04	16	0.4	24	21.3		500
NPS05	16	0.4	24	21.3		500
NPS06	16	0.4	32	25.5	3	500
NPS08	16	0.4	44	37.5	2	500
NPS10	16	0.4	44	37.5		500
NPS12	16	0.4	44	37.5		500

MODEL NP series New Piano Type	SPECIFICATION RoHS Compliant DIP SWITCH	SP-009	Page
			9/10

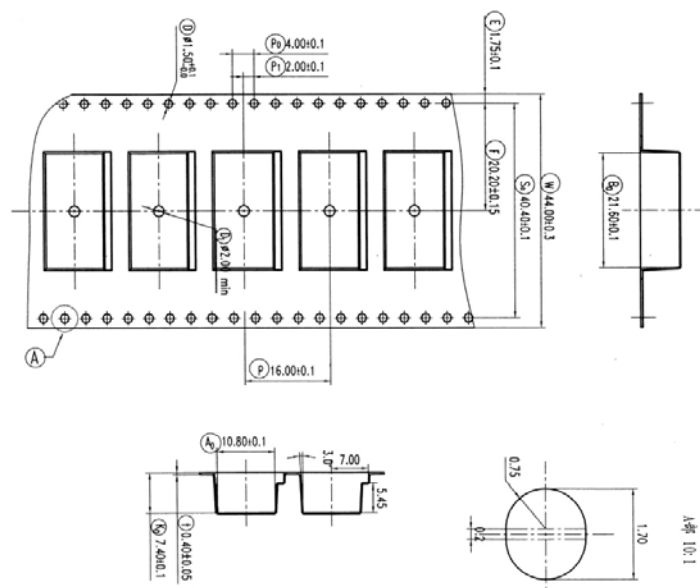
24mm



32mm



44mm



MODEL	SPECIFICATION RoHS Compliant DIP SWITCH	SP-0010	Page
NP series			
New Piano Type			10/10

Box Dimension:

- ◆ Tube56cm × 12cm × 12cm
- ◆ Tape & Reel34cm x 12cm x 33cm

Carton Dimension:

- ◆ Tube CTN 1 / 2 Boxes.....58.5cm x 26.5cm x 16cm
 CTN 2 / 4 Boxes.....58.5cm x 26.5cm x 24cm
- ◆ Tape & Reel 34cm x 26cm x 35cm