

Toggle

N

Series

0.4VA

Max.

AC/DC 28V

Max.

PCB Terminal

Straight

Vertical

Horizontal

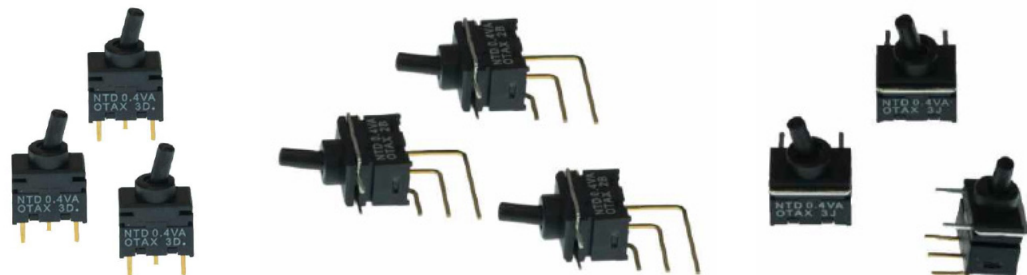
SP 2 P

Outline of the Series

This is an ultra-compact switch series designed exclusively for printed circuit boards, available in toggle, rocker, and push-button types.

Features of the Series

1. The occupied PCB area is just 31.5 mm² with straight terminals, enabling highly space-efficient mounting.
2. The sealed construction allows for full-board washing with flux-cleaning solvents.
3. The terminal pitch conforms to the standard 2.54 mm PCB spacing, and square terminals are used.
4. Three terminal types—straight, vertical, and horizontal—are available, allowing flexible mounting orientations.



Common Specifications

■ Ratings

Voltage	Ratings	Load	Note
AC/DC 28V Max.	0.4VA Max.	Resistive Load	Load only with Resistive, Power Factor=1

* A resistive load refers to a load consisting solely of resistance. In actual circuits, however, there may be inductive, capacitive, or motor loads, each of which can generate inrush current. Therefore, when selecting a switch, be sure to choose a rating with sufficient margin above the steady-state current.

For more details, please refer to "Useful Advices and Precautions on Usage of Operational Switches."

Contact Resistance	80 mΩ Max. (DC2V 10mA) (Initial value)
Withstanding Voltage	AC500V 1 Minute
Insulating Resistance	500MΩ Min. (DC500V)
Electrical Life	50,000 times ~ 100,000 times
Operating Temperature Range	-20°C ~ +80°C
Storage Temperature Range	-20°C ~ +80°C
Hand-soldering Conditions	400°C within 4±1 sec.
Flow Soldering Conditions	265±5°C within 10 sec.

Packaging Quantity

PCB Straight	100 pcs
PCB Vertical	50 pcs
PCB Horizontal	25 pcs

Specifications of Materials

Part Name	Materials
Case	PPS
Lever	PPS
Frame	PA
Insulation Bar	PEI
Fixed Plate (Fixed Contact)	Copper Alloy
Movable Plate (Movable Contact)	Copper Alloy
Coil Spring	Piano Wire

* For products other than those listed above or for custom items, please contact us.



OTAX Co., Ltd. 1215, Nippacho, Kohoku-ward, Yokohama, Kanagawa, 223-8558 Japan

<https://www.otax-en.com/>

Product Designations

Series Name	Operational-part Type	Switch Functions	Type of Terminals
N	T	D	1 2

Operational-part	Symbol
Toggle	T

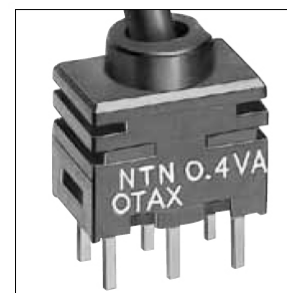
Switch Functions			Symbol	
The Opposite Side	Center	Key Thread Side	SP	DP
ON	-	ON	D	N
ON	OFF	ON	E	P
ON	-	<ON>	F	R
<ON>	OFF	<ON>	G	S
ON	OFF	<ON>	H	T

< > = Momentary

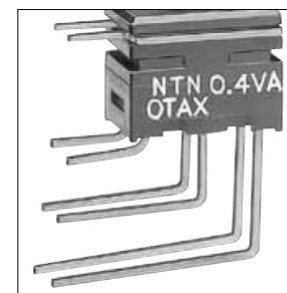
Type of Terminals	Symbol
PCB Straight Terminal	12
PCB Vertical Terminal	22
PCB Horizontal Terminal	32

* Type of Terminals Symbol is not indicated on the body.

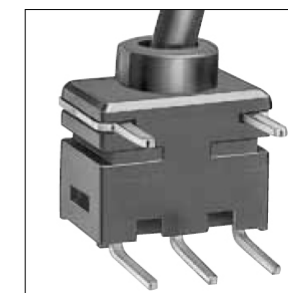
■ Examples of Terminal Figures (SP/ DP, ON-ON)



PCB Straight
(DP ON-ON)

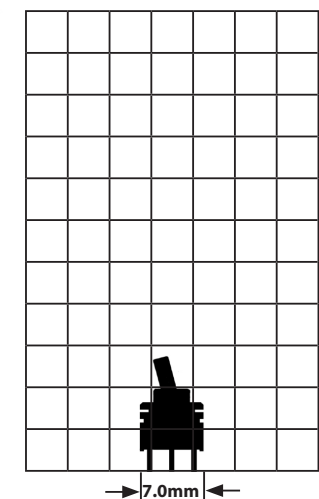


PCB Vertical
(DP ON-ON)



PCB Horizontal
(SP ON-ON)

Silhouette (NTD12)



* For products other than those listed above or for custom items, please contact us.

OTAX Co., Ltd. 1215, Nippacho, Kohoku-ward, Yokohama, Kanagawa, 223-8558 Japan

<https://www.otax-en.com/>



Toggle

N

Series

0.4VA

Max.

AC/DC 28V

Max.

PCB Terminal

Straight

Vertical

Horizontal

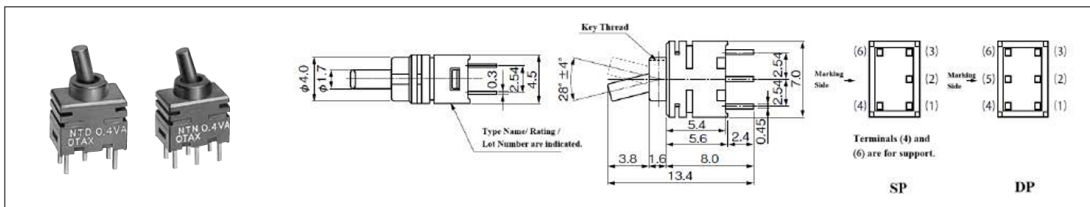
SP 2 P

Switch Names, Functions, Terminal Diagram, PCB Holes Diagram

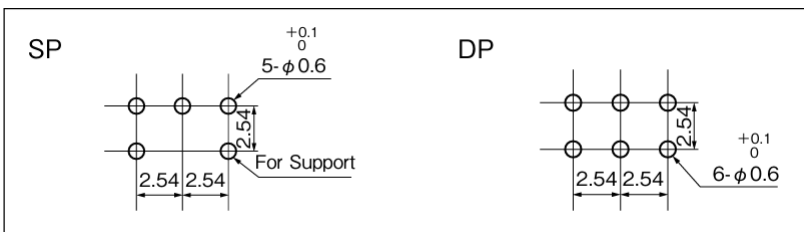
PCB Straight Terminal

Product Name	Circuit	Functions <> = Momentary		
NTD12	SPDT	ON 2-3	—	ON 2-1
NTE12	SPDT	ON 2-3	OFF	ON 2-1
NTF12	SPDT	ON 2-3	—	ON 2-1
NTG12	SPDT	<ON> 2-3	OFF	<ON> 2-1
NTH12	SPDT	<ON> 2-3	OFF	ON 2-1

Product Name	Circuit	Functions <> = Momentary		
NTN12	DPDT	ON 2-3 5-6	—	ON 2-1 5-4
NTP12	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4
NTR12	DPDT	ON 2-3 5-6	—	ON 2-1 5-4
NTS12	DPDT	<ON> 2-3 5-6	OFF	<ON> 2-1 5-4
NTT12	DPDT	<ON> 2-3 5-6	OFF	ON 2-1 5-4



* Terminal numbers are not indicated on the case.

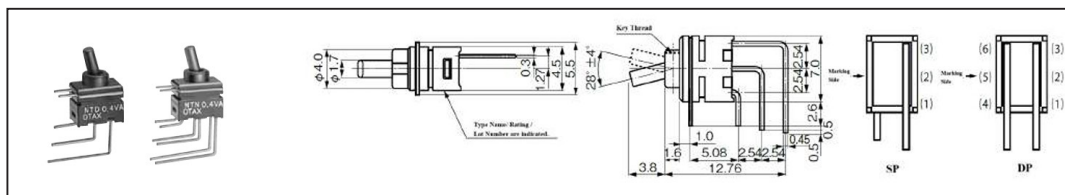


❖ The Case is common both for SP and DP.

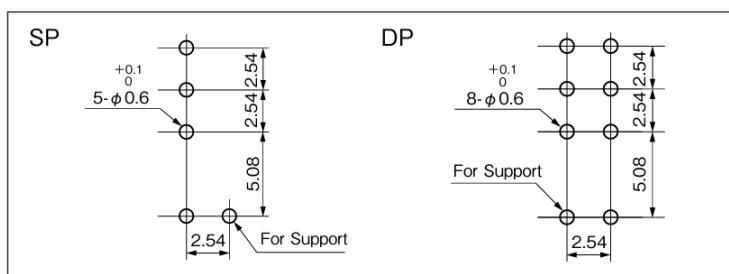
PCB Vertical Terminal

Product Name	Circuit	Functions <> = Momentary		
NTD22	SPDT	ON 2-3	—	ON 2-1
NTE22	SPDT	ON 2-3	OFF	ON 2-1
NTF22	SPDT	ON 2-3	—	ON 2-1
NTG22	SPDT	<ON> 2-3	OFF	<ON> 2-1
NTH22	SPDT	<ON> 2-3	OFF	ON 2-1

Product Name	Circuit	Functions <> = Momentary		
NTN22	DPDT	ON 2-3 5-6	—	ON 2-1 5-4
NTP22	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4
NTR22	DPDT	ON 2-3 5-6	—	ON 2-1 5-4
NTS22	DPDT	<ON> 2-3 5-6	OFF	<ON> 2-1 5-4
NTT22	DPDT	<ON> 2-3 5-6	OFF	ON 2-1 5-4



* Terminal numbers are not indicated on the case.



❖ The Case is common both for SP and DP.

* For products other than those listed above or for custom items, please contact us.

Toggle

N

Series

0.4VA

Max.

AC/DC 28V

Max.

PCB Terminal

Straight

Vertical

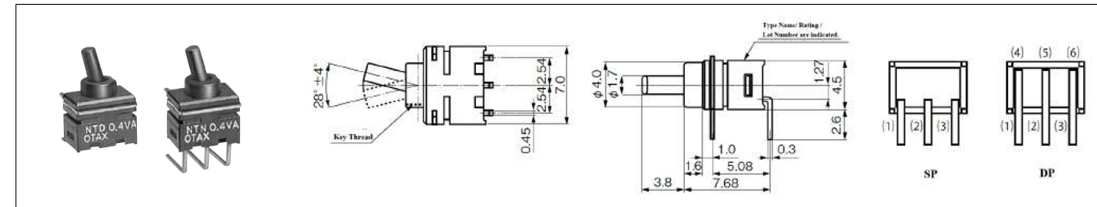
Horizontal

SP 2 P

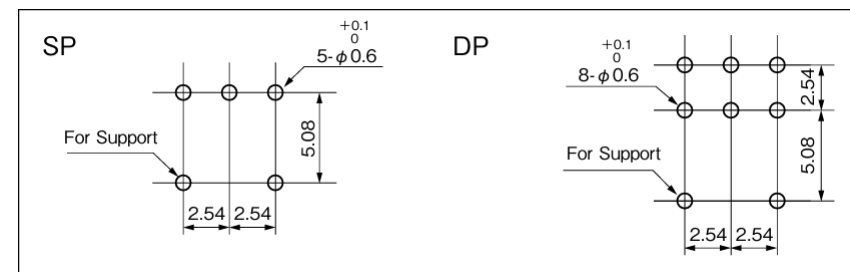
PCB Horizontal Terminal

Product Name	Circuit	Functions <> = Momentary		
NTD32	SPDT	ON 2-3	—	ON 2-1
NTE32	SPDT	ON 2-3	OFF	ON 2-1
NTF32	SPDT	ON 2-3	—	ON 2-1
NTG32	SPDT	<ON> 2-3	OFF	<ON> 2-1
NTH32	SPDT	<ON> 2-3	OFF	ON 2-1

Product Name	Circuit	Functions <> = Momentary		
NTN32	DPDT	ON 2-3 5-6	—	ON 2-1 5-4
NTP32	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4
NTR32	DPDT	ON 2-3 5-6	—	ON 2-1 5-4
NTS32	DPDT	<ON> 2-3 5-6	OFF	<ON> 2-1 5-4
NTT32	DPDT	<ON> 2-3 5-6	OFF	ON 2-1 5-4



* Terminal numbers are not indicated on the case.



❖ The Case is common both for SP and DP.

Cautions on Handling

1. Alcohol-based cleaning agents can be used.
2. Thanks to the sealed construction, full-board washing is possible; however, please verify the cleaning conditions in advance under your actual usage environment.

Compliance with the European RoHS Directive

All DIP switches, control switches, connectors, and terminal blocks manufactured by OTAX with the following RoHS Directive:

Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

Our products do not contain any of the ten specified hazardous substances (except for exempted applications):

Lead (Pb) Mercury (Hg) Cadmium (Cd) Hexavalent chromium (Cr⁶⁺) Polybrominated biphenyls (PBB)

Polybrominated diphenyl ethers (PBDE) Di(2-ethylhexyl) phthalate (DEHP) Butyl benzyl phthalate (BBP)

Dibutyl phthalate (DBP) Diisobutyl phthalate (DIBP)

* For products other than those listed above or for custom items, please contact us.

OTAX Co., Ltd. 1215, Nippacho, Kohoku-ward, Yokohama, Kanagawa, 223-8558 Japan

<https://www.otax-en.com/>

