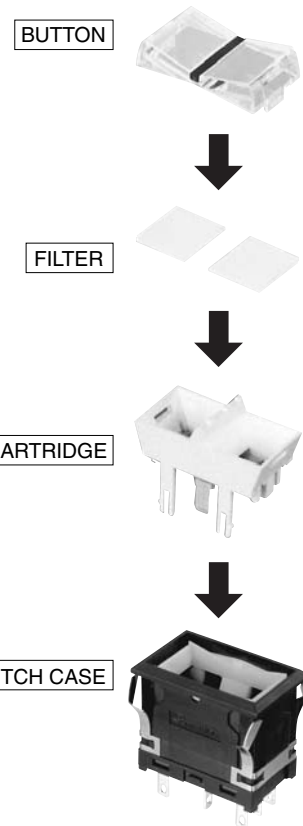


## TA 2-action Lighted Switch

**Unique 2-action lighted switch which is useful to control two directions such UP/DOWN, LEFT/RIGHT etc.**

### ■ FEATURES

- Depth behind panel: Only 22.5mm
- LED Full-Face, Split-Face, Dual-Color illumination available.
- Hi-Bright LED Super Blue, Super Green available.
- Built-in resistor for 5V, 12V, 24V use.
- Light Cartridge is removable from front panel.
- Precision-snap action switch movement with coil spring assures long life and outstanding tactile feedback.
- Silver Contact (Gold-Plated) and W/E Alloy #1 Cross-bar Contact provided.
- Accessory: Guard Cover



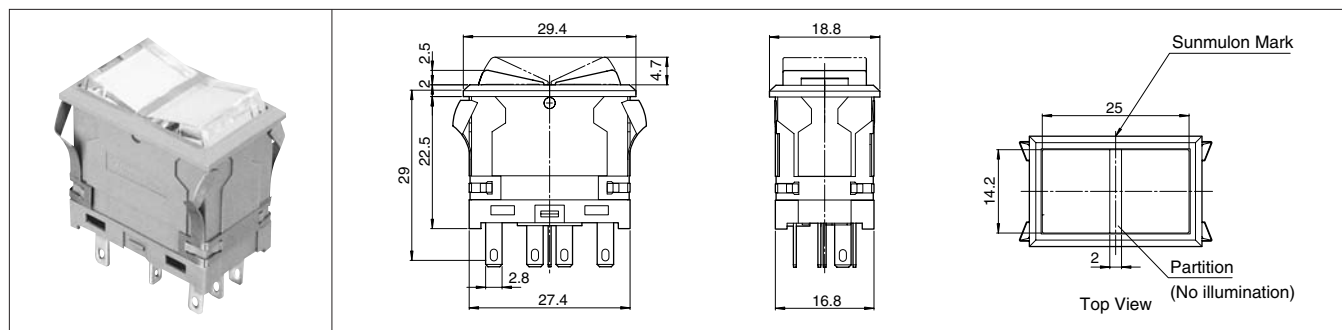
### SPECIFICATIONS

Contact	Silver Contact (Gold-Plated)	W/E Alloy #1 Cross-bar Contact
Electrical Rating	AC125V, 250V 5A (Resistive)	AC125V 0.1A, DC30V 0.1A (Resistive)
Insulation Resistance	More than 100MΩ at 500V DC	
Dielectric Strength	1000V AC RMS between NC and NO terminal 1500V AC RMS between terminals and ground 50/60Hz for 60sec. at normal ambient temperature and humidity	600V AC RMS between NC and NO terminal 1500V AC RMS between terminals and ground 50/60Hz for 60sec. at normal ambient temperature and humidity
Contact Resistance	Less than 30mΩ (Initial) at DC6V 1A	Less than 50mΩ (Initial) at DC6V 0.1A
Mechanical Life	Momentary Action : more than 1,000,000 operations	Alternate Action : more than 200,000 operations
Electrical Life	More than 30,000 operations at max. rated load	More than 100,000 operations at max. rated load
Withstand Vibration	Double Amplitude 1.5mm, Vibration 10-55Hz at 2 hours	
Withstand Shock	More than 30G (miss indicate), More than 50G (endurance)	
Ambient Temperature	-15°C to +50°C	
Ambient Humidity	Less than 80% RH	

### OPERATING CHARACTERISTICS

Operating Force(max.)		Total Travel(max.)	
TA1, TA2, TA5, TA6, TA7	3.92N	TA1, TA2, TA5	3mm
TA3, TA4	4.9N	TA3, TA4, TA6, TA7	5mm

## DIMENSIONS



## OPERATION/SWITCH CONNECTION

View from "Japan mark" side						
Operation			Switch Connection			
TA1	(Impossible to push from N position)	N	M	No switch		
TA2	(Impossible to push from N position)	N	A	No switch		
TA3	No switch	—	A		—	
TA4	A	—	A		—	
TA5	M	N	M			
TA6	A	N	M			
TA7	A	N	A			

M : Momentary, A : Alternate, N : Neutral

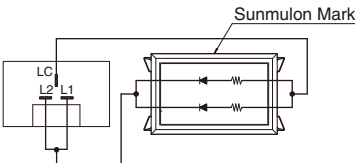
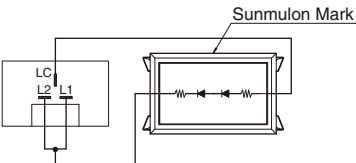
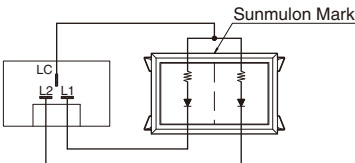
## INTERNAL CONNECTION

	Mono-color	Dual-color	Split-face
5 V			
12 V			
24 V			<div>           Dual-color combination            LC-L1 R G Y            LC-L2 G Y R         </div>

Tolerance :  $\pm 0.4\text{mm}$

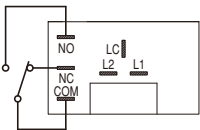
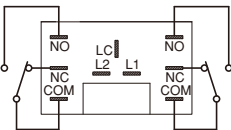
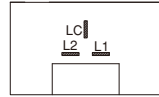
## INTERNAL CONNECTION

### ● Super LED (Super Blue, Super Green) type

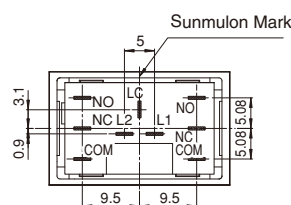
	5V	12.24V		5.12.24V
Mono-color			Split-face	

## TERMINALS

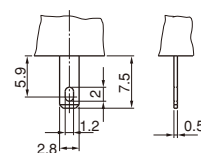
### ● TERMINALS LAYOUT

SPDT	SPDT × 2	INDICATOR
		

### ● TERMINALS DIMENSIONS (BOTTOM VIEW)



### ● TERMINAL SHAPE



#110 TAB • Soldering Terminal

## LED DATA

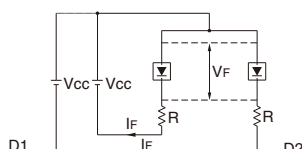
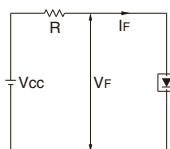
### ● LED RATING

	Current Rating (mA)												
	Mono-Color			Dual-Color			Split-Face			Super LED Mono-color		Super LED Split-Face	
Supply Voltage	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	S. Blue	S. Green	S. Blue	S. Green
5 (±5%)	32			20			10			20	18	10	9
12 (±5%)	16			10			10			10	9	10	9
24 (±5%)	16			10			10			10	9	10	9

### ● EXTERNAL RESISTOR

Switches are normally fitted with internal resistors to operate on 5,12,24V DC supply.  
In case of non-resistor type, suitable external current limiting resistors must be installed as shown by the table and formula

ITEM		Mono-Color						Dual-Color						Sprit			Super, Mono		Super, Split
		DC5V			DC12V,24V			DC5V			DC12V,24V			DC5V, 12V,24V			DC5V	DC12V,24V	DC5V,12V,24V
		R	G	Y	R	G	Y	R	G	Y	R	G	Y	R	G	Y	S.Blue , S.Green	S.Blue , S.Green	S.Blue S.Green
Max. operating current I <sub>FM</sub> (mA)		50	40	50	25	20	25	50	40	50	25	20	25	25	20	25	40	20	20
DC reverse voltage V <sub>R</sub> (V)		10	10	10	20	20	20	10	10	10	20	20	20	10	10	10	5	10	5
Forward voltage V <sub>F</sub> (V)		3.8	4.2	3.8	7.6	8.4	7.6	3.8	4.2	3.8	7.6	8.4	7.6	3.8	4.2	3.8	3.4	6.8	3.4
Recommended operating current I <sub>F</sub> (mA)		32	32	32	16	16	16	32	32	32	16	16	16	16	16	16	26	13	13
Current Reduced Factor (Over 25 °C working temperature)		0.66mA/°C			0.33mA/°C			0.66mA/°C			0.33mA/°C			0.33mA/°C			0.5mA/°C	0.25mA/°C	0.25mA/°C
Pulse Lighting	Pulse Width PW ( μS)	100															100		
	Duty Ratio DR	10 <sup>-1</sup>																	
	I <sub>F M</sub> ( m A )				90						90			90					100
Diagram		D1			D2			D1			D2			D2			D1		D2



The value of the series resistor for other voltage use can be determined by the formula (Switch should be without resistor type):

$$R = \frac{V_{CC} - V_F}{I_F}$$

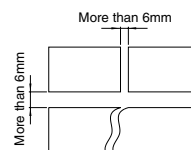
V<sub>CC</sub> : Supply Voltage  
V<sub>F</sub> : Forward Voltage  
I<sub>F</sub> : Forward Current  
Tolerance : ±0.4mm

## PANEL LAYOUT / PANEL CUT DIMENSIONS

Panel thickness 1mm ~ 3.2mm

		Panel Layout	Panel Cut Dimensions
Ordinary Mounting	Independent (Horizontal)		
	Serial (Horizontal)		
	Independent (Vertical)		
	Serial (Vertical)		
		Panel Layout	Panel Cut Dimensions
With Guard Cover	Independent		
	Serial		

In case of block mounting,  
leave space between arrays as a figure :



## ACCESSORIES

### Guard Cover



Guard Cover prevents inadvertent and unintentional operations.

※ The cover opens 180°C and returns by spring.

Part No	
Black	TA-3305-K
Grey	TA-3305-H

## ORDERING CODE

TA   -       1 2   1 2        

### ● OPERATION

1	N—M	※	※ 1-Action type only (select SPDT)
2	N—A	※	
3	—A	※	
4	A—A	☆	☆ 2-Action type only (select SPDT×2)
5	M—N—M	☆	
6	A—N—M	☆	
7	A—N—A	☆	Note) M : Momentary A : Alternate N : Neutral
8	Indicator		

### ● CONTACT

0	Indicator
3	SPDT・Silver (Gold-Plated)
4	SPDT×2・Silver (Gold-Plated)
5	SPDT・W/E Alloy #1Crossbar
6	SPDT×2・W/E Alloy #1Crossbar

### ● Illumination

0	Mono-Color
1	Split-Face ※1)、※2)
3	Dual-Color ※1)、※3)
X	Without LED

### ● LED COLOR

7	Red	Mono-Color : Put color no. into the frame 1
8	Green	
9	Yellow	
14	S. Blue	Split-Face : Put color no. into the frame 1,2 (7,8,9 or 14,18 combination)
18	S.Green	
X	Without LED	
		Dual-Color : Put color no. into the frame 1,2 (78,89,97 only)

### ● HOUSING COLOR

K	Black
H	Grey

### ● MOUNTING

1	For Vertical Mtg.
2	For Horizontal Mtg.

### ● SUPPLY VOLTAGE TO LED

1	5V
2	12V
3	24V
4	5V Non-Resistor
5	12V Non-Resistor
6	24V Non-Resistor
X	Without LED

### ● LED CIRCUIT

A	Anode Common
K	Cathode Common
X	Without LED

Please select A for Mono-color type.

### ● TERMINAL

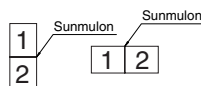
P	#110 TAB・Soldering Terminal
X	Without LED Terminal

### ● FILTER COLOR ※2)

1	Red	Put color no. into the frame 1,2 (all types)
2	Green	
3	Orange Yellow	
4	Milk White	
6	Blue	
7	Black	
X	Without Filter	

1) Simultaneous Lighting of Split-Face and Dual-Color is available for all types.

2) LED and Filter Color location should be specified as follow:



3) In case of Dual-Color type, Filter color should be "Milk White".

4) Snap-spring metal plates come out Left/Right direction for Vertical Mounting, and Top/Bottom direction for Horizontal Mounting to avoid interfering mutually. Therefore, in case of independent use, it does not matter. (select 2 Horizontal ordinary)