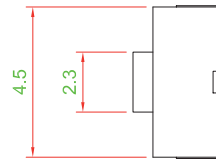
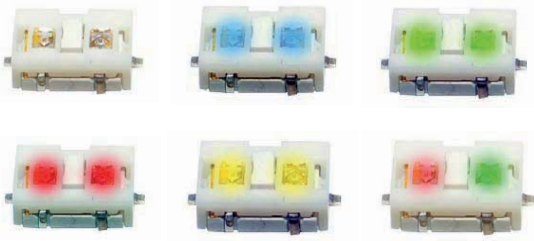


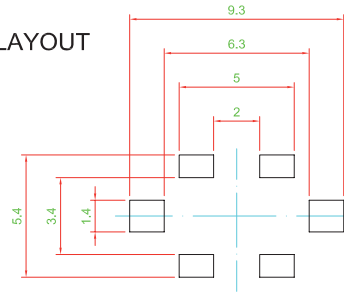
# Tactile Switches

SPST SMT Tactile Switches with LED

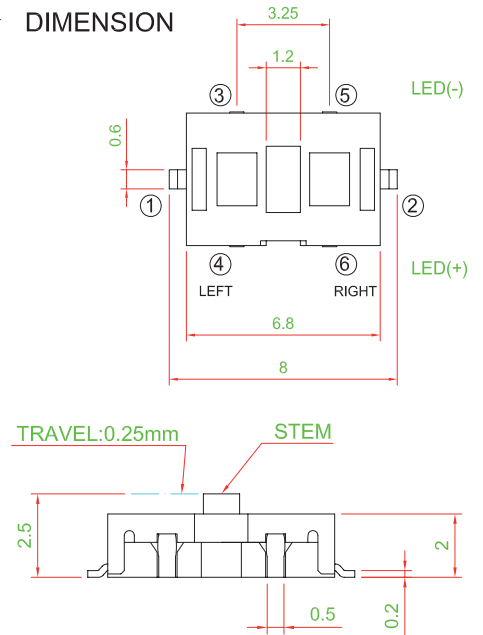
TPA00\_10 Series



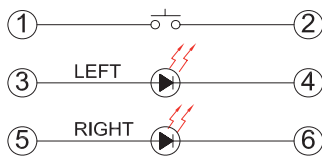
► P.C.B. LAYOUT



► DIMENSION



► CIRCUIT DIAGRAM



## How to order:

TPA00 1 2 3 4 5 10

**1 LEFT LED BRIGHTNESS:**

- U Ultra Bright
- R Regular
- N Without LED

**2 LEFT LED COLORS:**

- G Blue      F Green    B White
- E Yellow    C Red

**3 RIGHT LED BRIGHTNESS:**

- U Ultra Bright
- R Regular
- N Without LED

**4 RIGHT LED COLOR:**

- G Blue      F Green    B White
- E Yellow    C Red

**5 RoHS:**

- 10 EU RoHS compliant

## General Specifications:

Feature -

- Compact size
- Two LEDs inside
- Reflow soldering available

Material -

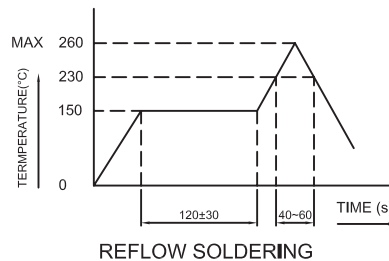
- COVER - PA9T+GF
- ACTUATOR - LCP+GF
- BASE - LCP+GF
- TERMINAL - BRASS SILVER PLATING

Packaging -

- TAPE & REEL - 3000 pcs / reel

Unit Weight -

- TPA00 - 0.1 ± 0.01 g / pcs

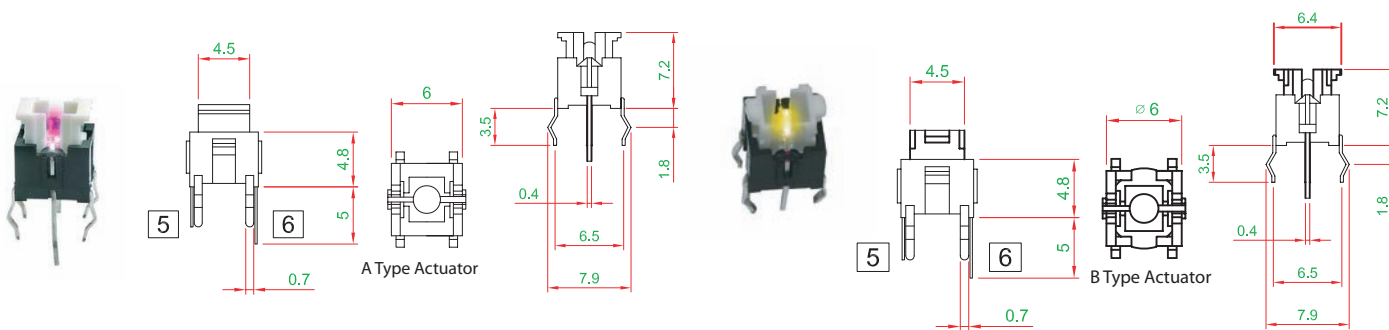


SWITCH SPECIFICATIONS	
POLE - POSITION	Momentary Type , SPST with LED
CONTACT RATING	12 V DC , 50 mA Max ; 1 V DC , 10 µA Min
CONTACT RESISTANCE	500 mΩ max , 1.5 V DC ; 100 mA , by Method of Voltage DROP
INSULATION RESISTANCE	100 MΩ min , 100 V DC for 1 minute
DIELECTRIC STRENGTH	Breakdown is not Allowable ; 250 V AC for 1 Minute
OPERATING FORCE	160 +75 / -30 gf
OPERATING LIFE	30,000 cycles
OPERATING TEMPERATURE RANGE	-20°C ~ 70°C
TOTAL TRAVEL	0.25 +0.2 / -0.1 mm

LED SPECIFICATIONS						
	Unit	Value / LED Color				
		Blue	Green	Red	Yellow	
ATTENTION  LEDs are Electrostatic Sensitive devices						
FORWARD CURRENT	If	30	30	15	20	
REVERSE VOLTAGE	Vr	5.0	5.0	5.0	5.0	
REVERSE CURRENT	Ir	10	10	10	10	
FORWARD VOLTAGE@20mA	Vf	3.5-3.8	1.7-2.6	1.7-2.6	1.7-2.6	
LUMINOUS INTENSITY@20mA	Iv	mcd	45	6	4	5

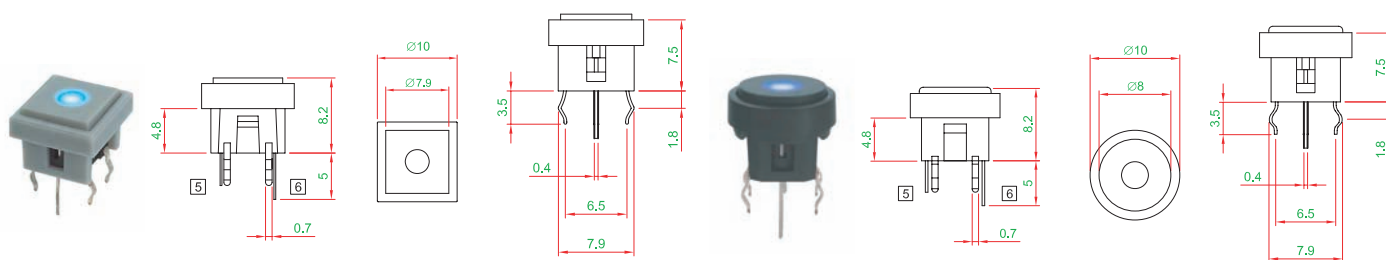
# Tactile Switches

Tactile Switches with LED (two colors available) TP15300B\_10 Series



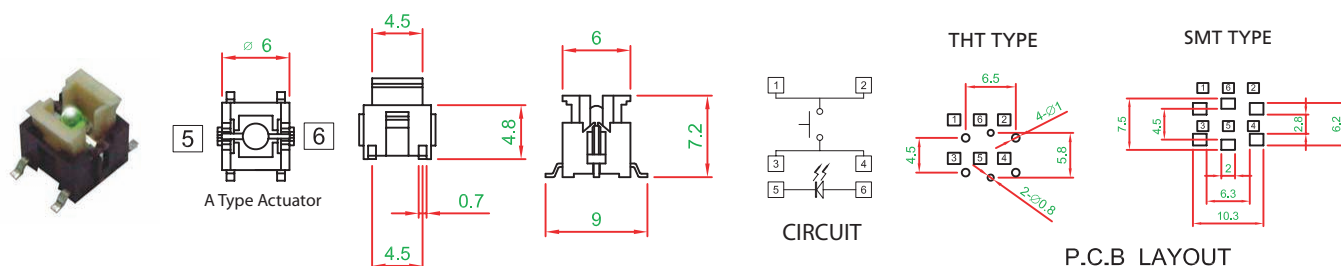
TP15300BTNA THT Terminals, without Cap

TP15300BTNB THT Terminals, without Cap



TP15300BTS THT Terminals, with Square Cap

TP15300BTR THT Terminals, with Round Cap



TP15300BSNA SMT Terminals, without Cap

## How to order:

TP15300B

### 1 TYP OF TERMINALS:

- T THT Type
- S SMT Type

### 2 FRAME TYPE:

- R Round
- S Square
- NA Without Cap(A Type Actuator)
- NB Without Cap(B Type Actuator)

### 3 HOUSING COLOR:

- H Gray
- A Black
- N Without

### 4 CAP COLOR:

- H Gray
- A Black
- B White
- D Orange
- C Red
- N Without

### 5 LED#1 BRIGHTNESS:

- U Ultra Bright
- R Regular

### 6 LED#1 COLORS:

- G Blue
- F Green
- B White
- E Yellow
- C Red
- N Without

### 7 LED#2 BRIGHTNESS:

- U Ultra Bright
- R Regular

### 8 LED#2 COLOR:

- G Blue
- F Green
- B White
- E Yellow
- C Red
- N Without

### 9 RoHS:

- 10 EU RoHS compliant

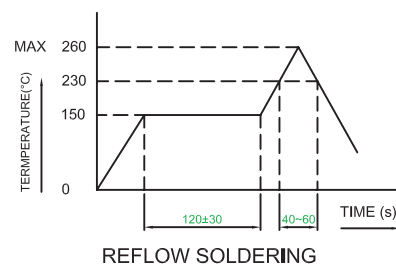
## General Specifications:

### FEATURES

- » NON-Lock Momentary
- » Single pole
- » LED illuminated
- » Two colors available
- » Small size
- » Long life

### MATERIALS

- » COVER - PA
- » ACTUATOR - PBT + GF (SMD TYPE : PA)
- » BASE FRAME - PA + GF (SMD TYPE : PA)
- » TERMINAL - BRASS SILVER PLATING



# Tactile Switches

## Tactile Switches with LED (two colors available) TP15300B\_10 Series



TP15300BTNANN\_-----

Code	Housing	Cap	LED 1	LED 2	Std. packing (PCS)
TP15300BTNANNRFNN	none	none	pure green	none	3400
TP15300BTNANNUGNN	none	none	blue	none	3400
TP15300BTNANNUBNN	none	none	white	none	3400
TP15300BTNANNUFNN	none	none	green	none	3400
TP15300BTNANNUCNN	none	none	red	none	3400
TP15300BTNANNUENN	none	none	yellow	none	3400
TP15300BTNANNUCUF	none	none	red	green	3400
TP15300BTNANNUCUE	none	none	red	yellow	3400
TP15300BTNANNUFUE	none	none	green	yellow	3400



TP15300BTNBNN\_-----

Code	Housing	Cap	LED 1	LED 2	Std. packing (PCS)
TP15300BTNBNNRFNN	none	none	pure green	none	3400
TP15300BTNBNNUGNN	none	none	blue	none	3400
TP15300BTNBNNUBNN	none	none	white	none	3400
TP15300BTNBNNUFNN	none	none	green	none	3400
TP15300BTNBNNUCNN	none	none	red	none	3400
TP15300BTNBNNUENN	none	none	yellow	none	3400
TP15300BTNBNNUCUF	none	none	red	green	3400
TP15300BTNBNNUCUE	none	none	red	yellow	3400
TP15300BTNBNNUFUE	none	none	green	yellow	3400



TP15300BTSHH\_-----

Code	Housing (square)	Cap (square)	LED 1	LED 2	Std. packing (PCS)
TP15300BTSHHRFNN	gray	gray	pure green	none	3400
TP15300BTSHHUGNN	gray	gray	blue	none	3400
TP15300BTSHHUBNN	gray	gray	white	none	3400
TP15300BTSHHUFNN	gray	gray	green	none	3400
TP15300BTSHHUCNN	gray	gray	red	none	3400
TP15300BTSHHUENN	gray	gray	yellow	none	3400
TP15300BTSHHUCUF	gray	gray	red	green	3400
TP15300BTSHHUCUE	gray	gray	red	yellow	3400
TP15300BTSHHUFUE	gray	gray	green	yellow	3400



TP15300BTRAA\_-----

Code	Housing (round)	Cap (round)	LED 1	LED 2	Std. packing (PCS)
TP15300BTRAAFNN	black	black	pure green	none	3400
TP15300BTRAAUGNN	black	black	blue	none	3400
TP15300BTRAAUBNN	black	black	white	none	3400
TP15300BTRAAUFNN	black	black	green	none	3400
TP15300BTRAAUCNN	black	black	red	none	3400
TP15300BTRAAUENN	black	black	yellow	none	3400
TP15300BTRAAUCUF	black	black	red	green	3400
TP15300BTRAAUCUE	black	black	red	yellow	3400
TP15300BTRAAUFUE	black	black	green	yellow	3400

# Tactile Switches

## Tactile Switches with LED (two colors available) TP15300B\_10 Series



TP15300BTSNH \_ \_ \_ \_

Code	Housing	Cap	LED 1	LED 2	Std. packing (PCS)
TP15300BTSNHRFNN	none	gray	pure green	none	3400
TP15300BTSNHUGNN	none	gray	blue	none	3400
TP15300BTSNHUBNN	none	gray	white	none	3400
TP15300BTSNHUFNN	none	gray	green	none	3400
TP15300BTSNHUCNN	none	gray	red	none	3400
TP15300BTSNHUENN	none	gray	yellow	none	3400
TP15300BTSNHUCUF	none	gray	red	green	3400
TP15300BTSNHUCUE	none	gray	red	yellow	3400
TP15300BTSNHUFUE	none	gray	green	yellow	3400



TP15300BTRNF \_ \_ \_ \_

Code	Housing	Cap	LED 1	LED 2	Std. packing (PCS)
TP15300BTRNFRFNN	none	green	pure green	none	3400
TP15300BTRNFUGNN	none	green	blue	none	3400
TP15300BTRNFUBNN	none	green	white	none	3400
TP15300BTRNFUFNN	none	green	green	none	3400
TP15300BTRNFUCNN	none	green	red	none	3400
TP15300BTRNFUENN	none	green	yellow	none	3400
TP15300BTRNFCRUF	none	green	red	green	3400
TP15300BTRNFUCUE	none	green	red	yellow	3400
TP15300BTRNFUFUE	none	green	green	yellow	3400



TP15300BTRNC \_ \_ \_ \_

Code	Housing	Cap	LED 1	LED 2	Std. packing (PCS)
TP15300BTRNCRFNN	none	red	pure green	none	3400
TP15300BTRNCUGNN	none	red	blue	none	3400
TP15300BTRNCUBNN	none	red	white	none	3400
TP15300BTRNCUFNN	none	red	green	none	3400
TP15300BTRNCUCNN	none	red	red	none	3400
TP15300BTRNCUENN	none	red	yellow	none	3400
TP15300BTRNCUCUF	none	red	red	green	3400
TP15300BTRNCUCUE	none	red	red	yellow	3400
TP15300BTRNCUFUE	none	red	green	yellow	3400

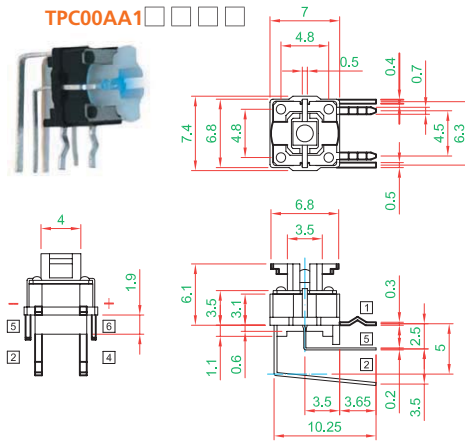
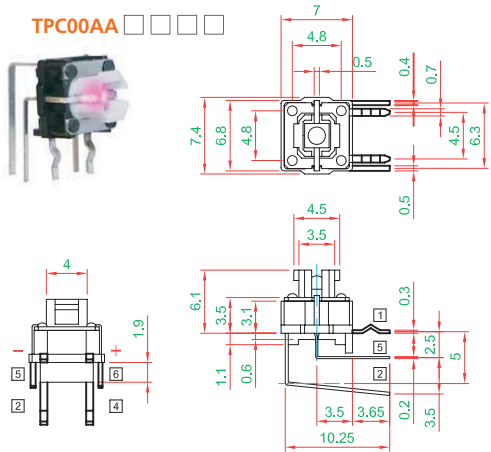
SWITCH SPECIFICATIONS	
POLE - POSITION	1P1T , with LED
CONTACT RATING	12 V DC , 50 mA
CONTACT RESISTANCE	100 mΩ max . 1.5 V DC ; 100 mA , by Method of Voltage DROP
INSULATION RESISTANCE	100 MΩ min . 500 V DC
DIELECTRIC STRENGTH	Breakdown is not Allowable ; 500 V AC for 1 Minute
OPERATING FORCE	180 ± 50 gf
OPERATING LIFE	500,000 cycles
OPERATING TEMPERATURE RANGE	-20°C ~ 70°C
TOTAL TRAVEL	0.2 ± 0.1 mm

LED SPECIFICATIONS									
ATTENTION	LED Symbol	Unit	Value / LED Color						
			Blue	Green	Red	White	Yellow		
ATTENTION LEDs are Electrostatic Sensitive devices		FORWARD CURRENT	If	mA	30	30	15	30	20
		REVERSE VOLTAGE	Vr	V	5.0	5.0	5.0	5.0	5.0
		REVERSE CURRENT	Ir	μA	10	10	10	10	10
		FORWARD VOLTAGE@20mA	Vf	V	3.5-4.0	1.7-2.8	1.7-2.8	3.3-3.8	1.7-2.8
		LUMINOUS INTENSITY@10mA	Iv	mcd	@20mA 180-245	24-40	4.0-7.0	@20mA 145	18-30

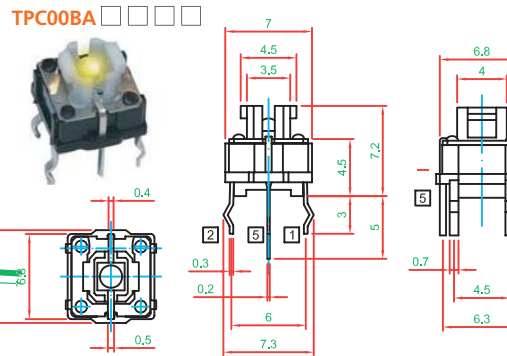
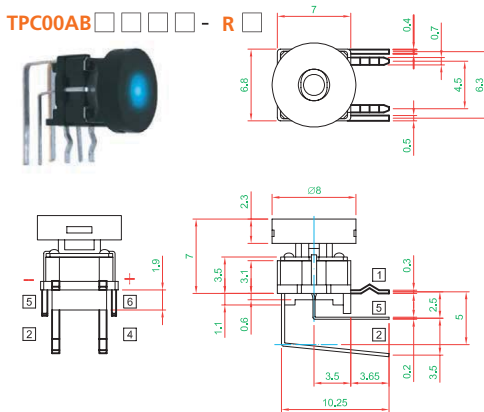
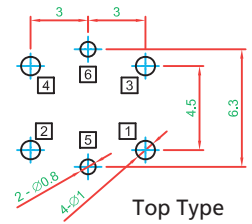
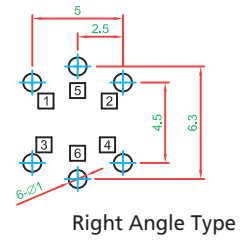
# Tactile Switches

## SPST THT Tactile Switches with LED

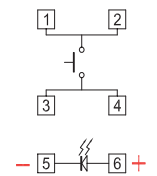
## TPC00\_10 Series



### ► P.C.B. LAYOUT



### ► CIRCUIT DIAGRAM



## How to order:

TPC00

- 1 FRAME TYPE:**
  - A Right Angle Type
  - B Top Type
- 2 ACTUATOR TYPE:**
  - A A Type (std.)
  - A1 A1 Type
  - B B Type With Cap
- 3 LEFT LED BRIGHTNESS:**
  - U Ultra Bright
  - R Regular
  - N Without LED
- 4 LEFT LED COLORS:**
  - G Blue F Green B White
  - E Yellow C Red
- 5 RIGHT LED BRIGHTNESS:**
  - U Ultra Bright
  - R Regular
  - N Without LED
- 6 RIGHT LED COLOR:**
  - G Blue F Green B White
  - E Yellow C Red
- 7 CAP TYPE:**
  - R Round
  - N Without
- 8 CAP COLOR:**
  - H Gray A Black F Green
  - E Yellow C Red N Without
- 9 RoHS:**
  - 10 EU RoHS compliant

## General Specifications:

### Material

- COVER - POM
- ACTUATOR - PBT + GF , PA + GF
- BASE FRAME - PA + GF
- BRASS TERMINAL - SILVER PLATING

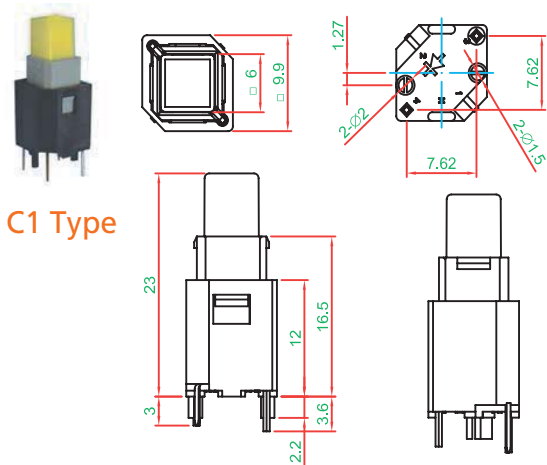
SWITCH SPECIFICATIONS	
POLE - POSITION	1P1T, Right Angle Push on Type, with or w/o LED are available
CONTACT RATING	12 V DC , 50 mA
CONTACT RESISTANCE	100 mΩ max . 1.5 V DC ; 100 mA , by Method of Voltage DROP
INSULATION RESISTANCE	100 MΩ min . 500 V DC
DIELECTRIC STRENGTH	Breakdown is not Allowable ; 500 V AC for 1 Minute
OPERATING FORCE	160 ± 50 gf
OPERATING LIFE	500,000 cycles
OPERATING TEMPERATURE RANGE	-20°C ~ 70°C
TOTAL TRAVEL	0.2 ± 0.1 mm

LED SPECIFICATIONS						
ATTENTION  LEDs are Electrostatic Sensitive devices	Unit	Value / LED Color				
		Blue	Green	Red	White	Yellow
FORWARD CURRENT	If	mA	30	30	30	30
REVERSE VOLTAGE	Vr	V	5.0	5.0	5.0	5.0
REVERSE CURRENT	Ir	μA	10	10	10	10
FORWARD VOLTAGE@20mA	Vf	V	3.5-4.0	2.0-2.5	2.0-2.5	3.3-3.8
LUMINOUS INTENSITY@20mA	Iv	mcd	230	120	50	145

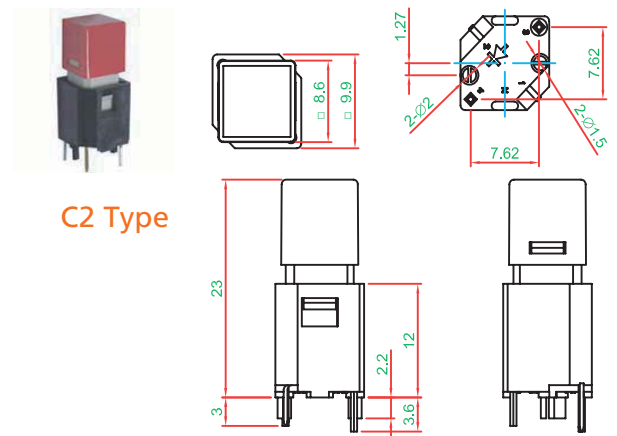
# Tactile Switches

## SPST THT Tactile Switches with LED

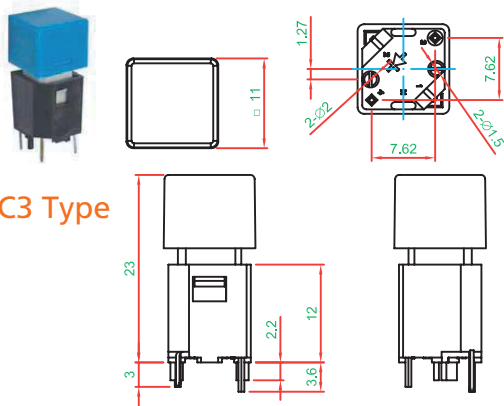
## TPAA0\_10 Series



C1 Type

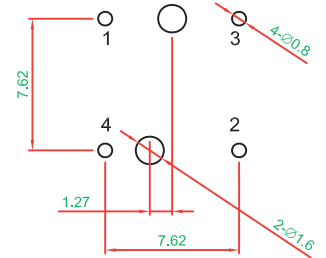


C2 Type

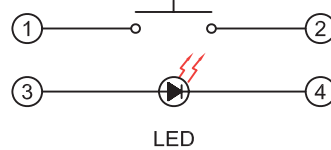


C3 Type

### ► P.C.B. LAYOUT



### ► CIRCUIT DIAGRAM



## How to order:

TPAA0

- |          |                       |          |                              |
|----------|-----------------------|----------|------------------------------|
| <b>1</b> | <b>CAP:</b>           | <b>5</b> | <b>LEFT LED BRIGHTNESS:</b>  |
| C1       | C1 Type (s. drawings) | U        | Ultra Bright                 |
| C2       | C2 Type (s. drawings) | R        | Regular                      |
| C3       | C3 Type (s. drawings) | N        | Without LED                  |
| <b>2</b> | <b>CAP COLOR:</b>     | <b>6</b> | <b>LEFT LED COLORS:</b>      |
| B        | White                 | G        | Blue                         |
| C        | Red                   | F        | Green                        |
| G        | Blue                  | B        | White                        |
| J        | Transparent           | <b>7</b> | <b>RIGHT LED BRIGHTNESS:</b> |
| <b>3</b> | <b>CAP SURFACE:</b>   | U        | Ultra Bright                 |
| S        | Silver                | R        | Regular                      |
| N        | Without               | N        | Without LED                  |
| <b>4</b> | <b>CAP SYMBOL:</b>    | <b>8</b> | <b>RIGHT LED COLOR:</b>      |
|          |                       | G        | Blue                         |
|          |                       | F        | Green                        |
|          |                       | B        | White                        |
|          |                       | E        | Yellow                       |
|          |                       | C        | Red                          |
|          |                       | <b>9</b> | <b>RoHS:</b>                 |
|          |                       | 10       | EU RoHS compliant            |

N	WITHOUT
01	02
03	04
05	06
07	08
09	10

## General Specifications:

SWITCH SPECIFICATIONS	
POLE - POSITION	Momentary Type , SPST with LED
CONTACT RATING	12 V DC , 50 mA
CONTACT RESISTANCE	500 mΩ max . 1.5 V DC ; 100 mA , by Method of Voltage DROP
INSULATION RESISTANCE	100 MΩ min . 100 V DC for 1 minute
DIELECTRIC STRENGTH	Breakdown is not Allowable ; 250 V AC for 1 Minute
OPERATING FORCE	350 gf +/- 100gf
OPERATING LIFE	30,000 cycles
OPERATING TEMPERATURE RANGE	-20°C ~ 70°C
TOTAL TRAVEL	1.4 + 0.2 / - 0.1 mm

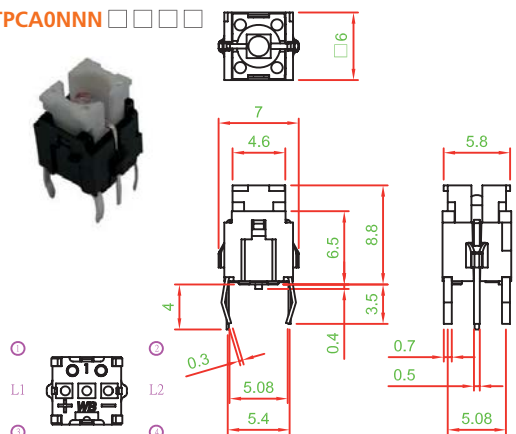
LED SPECIFICATIONS		Value / LED Color			
ATTENTION	Unit	Blue	Green	Red	Yellow
		LEDs are Electrostatic Sensitive devices	Blue	Green	Red
FORWARD CURRENT	I <sub>f</sub>	30	30	15	20
REVERSE VOLTAGE	V <sub>r</sub>	5.0	5.0	5.0	5.0
REVERSE CURRENT	I <sub>r</sub>	10	10	10	10
FORWARD VOLTAGE@20mA	V <sub>f</sub>	3.5-3.8	1.7-2.6	1.7-2.6	1.7-2.6
LUMINOUS INTENSITY@20mA	I <sub>v</sub>	45	6	4	5

# Tactile Switches

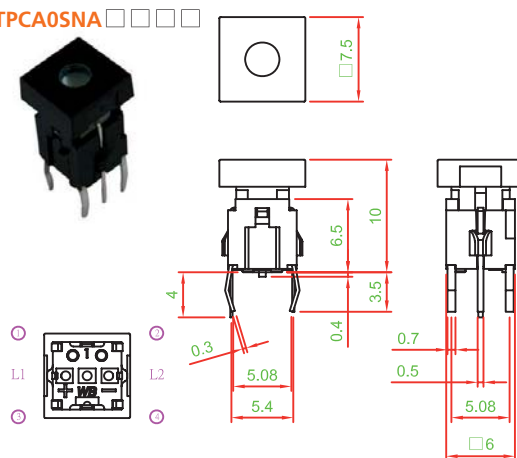
## SPST THT Tactile Switches with LED

## TPCA0\_10 Series

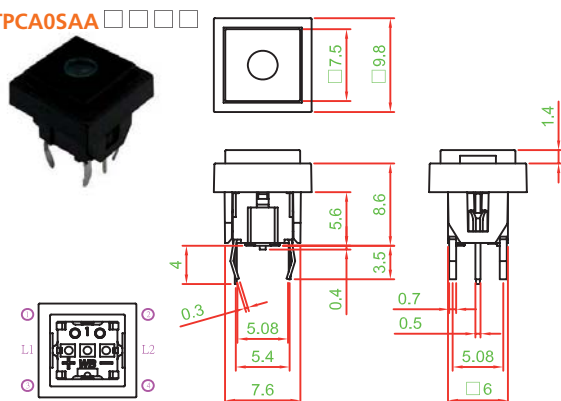
TPCA0NNN □□□□



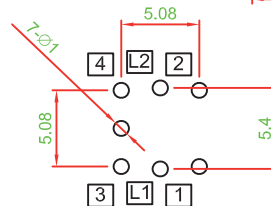
TPCA0SNA □□□□



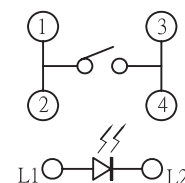
TPCA0SAA □□□□



► P.C.B. LAYOUT



► CIRCUIT DIAGRAM



### How to order:

TPCA0

- 1 FRAME TYPE:**  
S Square With Cap  
N Square Without Cap
- 2 HOUSING COLOR:**  
A Black (std.)  
H Gray
- 3 CAP COLOR:**  
A Black (std.) H Gray F Green  
D Orange C Red N Without
- 4 LEFT LED BRIGHTNESS:**  
U Ultra Bright  
R Regular (std.)  
N Without LED
- 5 LEFT LED COLORS:**  
G Blue F Green B White  
E Yellow C Red
- 6 RIGHT LED BRIGHTNESS:**  
U Ultra Bright  
R Regular (std.)  
N Without LED
- 7 RIGHT LED COLOR:**  
G Blue F Green B White  
E Yellow C Red
- 8 RoHS:**  
10 EU RoHS compliant

### General Specifications:

#### Material

- COVER - PA
- ACTUATOR - PBT + GF
- BASE FRAME - PA + GF
- BRASS TERMINAL - SILVER PLATING

SWITCH SPECIFICATIONS	
POLE - POSITION	1P1T , with LED
CONTACT RATING	12 V DC , 50 mA
CONTACT RESISTANCE	100 mΩ max . 1.5 V DC ; 100 mA , by Method of Voltage DROP
INSULATION RESISTANCE	100 MΩ min . 500 V DC
DIELECTRIC STRENGTH	Breakdown is not Allowable ; 500 V AC for 1 Minute
OPERATING FORCE	180 ± 50 gf
OPERATING LIFE	500,000 cycles
OPERATING TEMPERATURE RANGE	-20°C ~ 70°C
TOTAL TRAVEL	0.2 ± 0.1 mm

LED SPECIFICATIONS		Unit	Value / LED Color				
			Blue	Green	Red	White	Yellow
ATTENTION	(+) ○ (−) ○ (−)						
LEDs are Electrostatic Sensitive devices							
FORWARD CURRENT	I <sub>f</sub>	mA	30	30	15	30	20
REVERSE VOLTAGE	V <sub>r</sub>	V	5.0	5.0	5.0	5.0	5.0
REVERSE CURRENT	I <sub>r</sub>	μA	10	10	10	10	10
FORWARD VOLTAGE@20mA	V <sub>f</sub>	V	3.5-4.0	1.7-2.8	1.7-2.8	3.3-3.8	1.7-2.8
LUMINOUS INTENSITY@10mA	I <sub>v</sub>	mcd	@20mA 180-245	24-40	4.0-7.0	@30mA 145	18-30