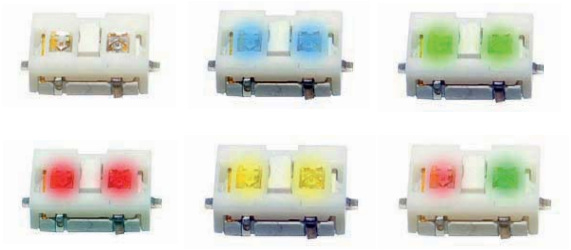
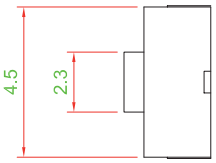
Tactile Switches

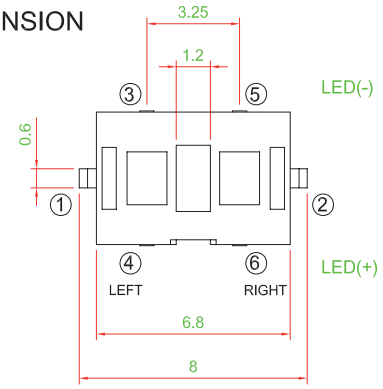
SPST SMT Tactile Switches with LED

TPA00_10 Series

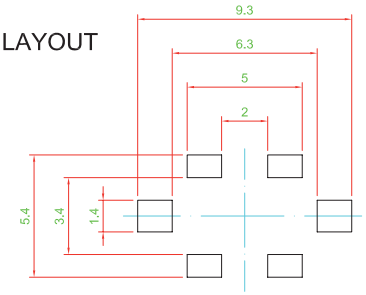




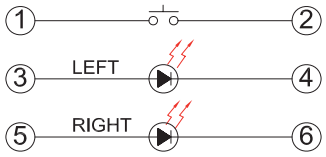
DIMENSION

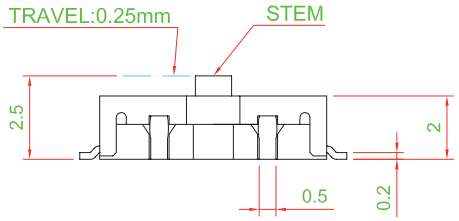


P.C.B. LAYOUT



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

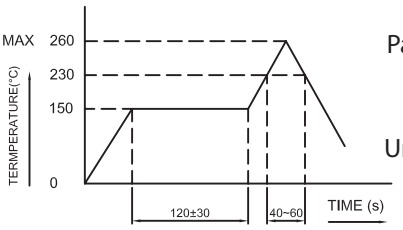
General Specifications:

Feature -

Compact size
Two LEDS inside
Reflow soldering available

Material -

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



REFLOW SOLDERING

Packaging -

TAPE & REEL - 3000 pcs / reel

Unit Weight -

TPA00 - 0.1 ± 0.01 g / pcs

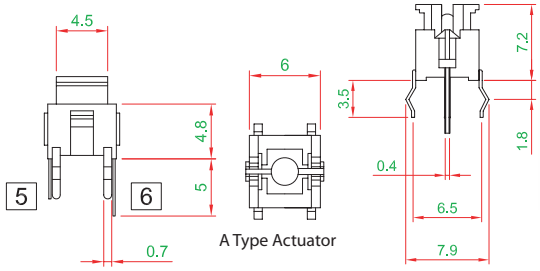
SWITCH SPECIFICATIONS	
POLE - POSITION	Momentary Type , SPST with LED
CONTACT RATING	12 V DC , 50 mA Max ; 1 V DC , 10 μA Min
CONTACT RESISTANCE	500 mΩ max . 1.5 V DC ; 100 mA , by Method of Voltage DROP
INSULATION RESISTANCE	100 MΩ min . 100 V DC for 1 minute
DIELECTRIC STRENGTH	Breakdown is not Allowable ; 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						
ATTENTION (+) (-) LEDs are Electrostatic Sensitive devices		Unit	Value / LED Color			
			Blue	Green	Red	Yellow
FORWARD CURRENT	If	mA	30	30	15	20
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	3.5-3.8	1.7-2.6	1.7-2.6	1.7-2.6
LUMINOUS INTENSITY@20mA	Iv	mcd	45	6	4	5

Tactile Switches

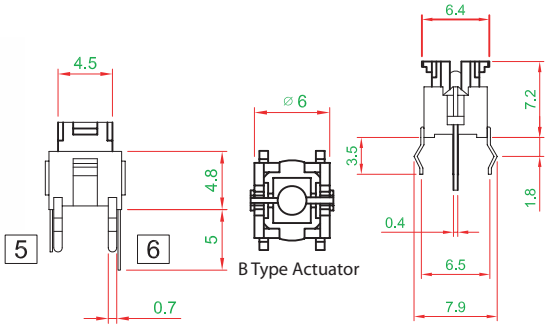
Tactile Switches with LED (two colors available) TP15300B_10 Series





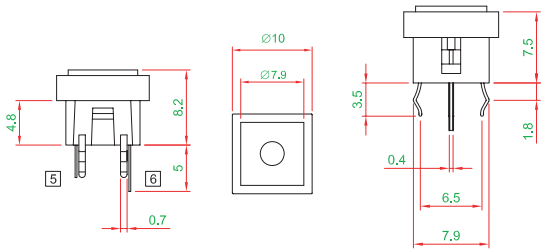
TP15300BTNA_ _ _ _ _ _ THT Terminals, without Cap





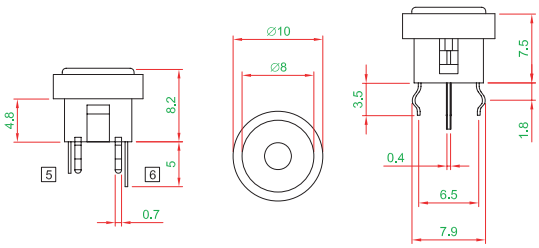
TP15300BTNB_ _ _ _ _ _ THT Terminals, without Cap





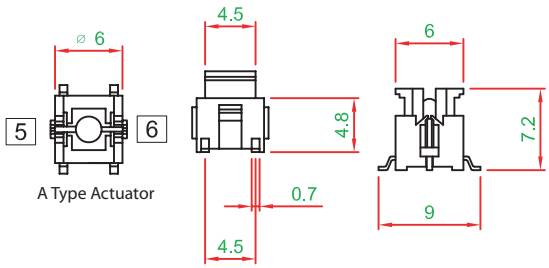
TP15300BTS_ _ _ _ _ _ THT Terminals, with Square Cap

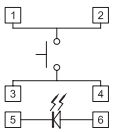


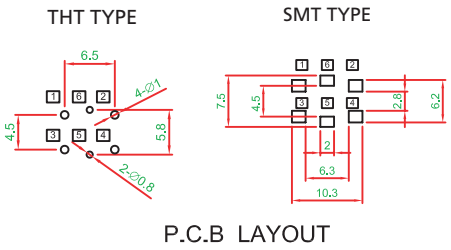


TP15300BTR_ _ _ _ _ _ THT Terminals, with Round Cap









TP15300BSNA_ _ _ _ _ _ SMT Terminals ,without Cap

How to order:

TP15300B [1] [2] [3] [4] [5] [6] [7] [8] [9] 10

1 TYP OF TERMINALS:
- T THT Type
- S SMT Type

2 FRAME TYPE:
- R Round
- S Square
- NA Without Cap(AType 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

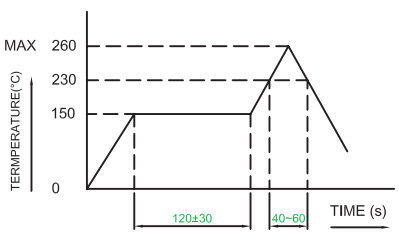
8 LED#2 COLOR:
- G Blue
- F Green
- B White
- E Yellow
- C Red
- N Without

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



REFLOW SOLDERING

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)
TP15300BTRAARFNN	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 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 (+) (-) LEDs are Electrostatic Sensitive devices

		Unit	Value / LED Color				
			Blue	Green	Red	White	Yellow
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

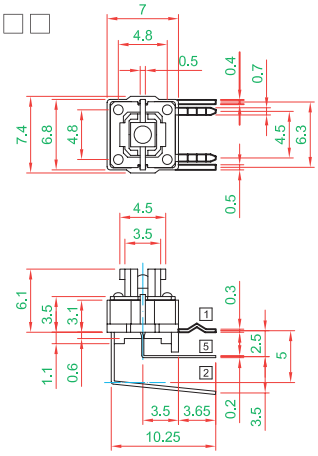
Tactile Switches

SPST THT Tactile Switches with LED

TPC00_10 Series

TPC00AA □□□□

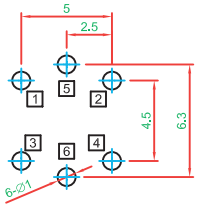




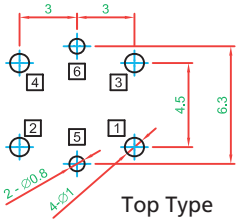
TPC00AA1□□□□



▶ P.C.B. LAYOUT



Right Angle Type



Top Type

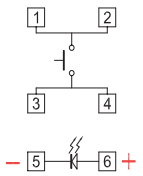
TPC00AB□□□□ - R□



TPC00BA□□□□



▶ CIRCUIT DIAGRAM



How to order:

TPC00 [1] [2] [3] [4] [5] [6] [7] [8] [9] 10

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

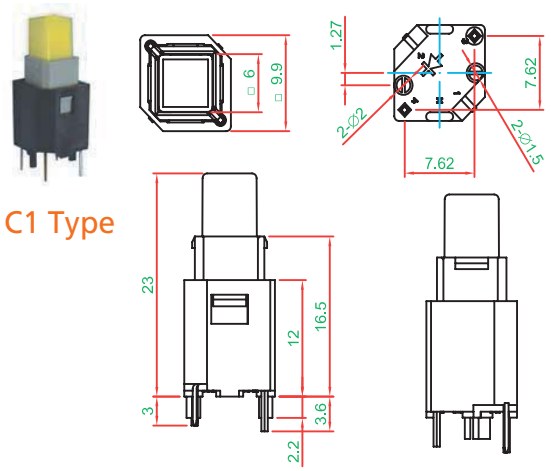
ATTENTION
LEDs are Electrostatic Sensitive devices

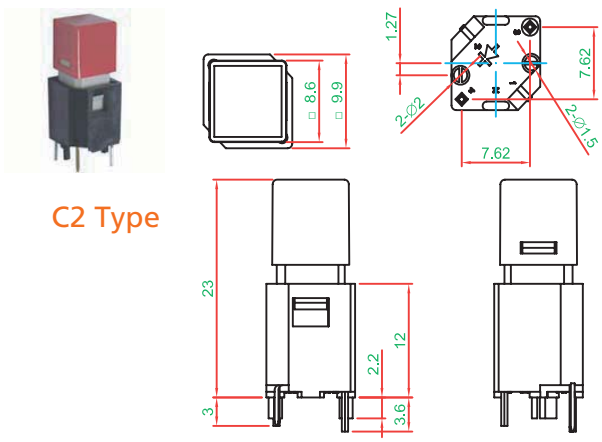
		Unit	Value / LED Color				
			Blue	Green	Red	White	Yellow
FORWARD CURRENT	If	mA	30	30	30	30	30
REVERSE VOLTAGE	Vr	V	5.0	5.0	5.0	5.0	5.0
REVERSE CURRENT	Ir	μA	10	10	10	10	10
FORWARD VOLTAGE@20mA	Vf	V	3.5-4.0	2.0-2.5	2.0-2.5	3.3-3.8	2.2-2.7
LUMINOUS INTENSITY@20mA	Iv	mcd	230	120	50	145	200

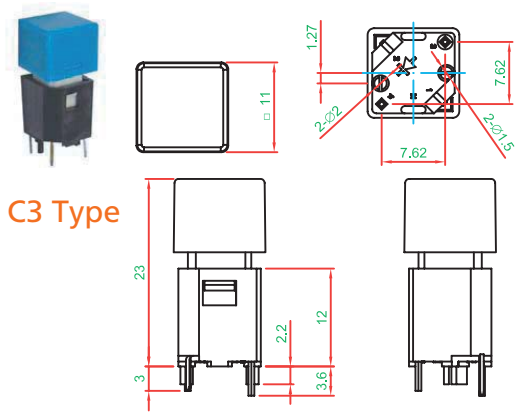
Tactile Switches

SPST THT Tactile Switches with LED

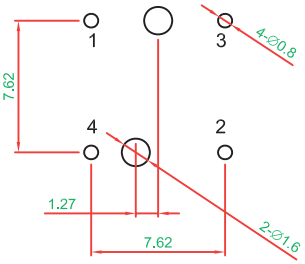
TPAA0_10 Series



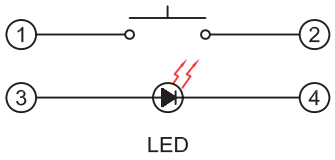




▶ P.C.B. LAYOUT



▶ CIRCUIT DIAGRAM



How to order:

TPAA0 [1] [2] [3] [4] [5] [6] [7] [8] [9] 10

1 CAP:
- C1 C1 Type (s. drawings)
- C2 C2 Type (s. drawings)
- C3 C3 Type (s. drawings)

2 CAP COLOR:
- B White
- C Red
- G Blue
- J Transparent

3 CAP SURFACE:
- S Silver
- N Without

4 CAP SYMBOL:

N	WITHOUT		
01		02	+
03	−	04	⇧
05	⇩	06	⇦
07	⇨	08	⏻
09	OK	10	OK

5 LEFT LED BRIGHTNESS:
- U Ultra Bright
- R Regular
- N Without LED

6 LEFT LED COLORS:
- G Blue F Green B White
- E Yellow C Red

7 RIGHT LED BRIGHTNESS:
- U Ultra Bright
- R Regular
- N Without LED

8 RIGHT LED COLOR:
- G Blue F Green B White
- E Yellow C Red

9 RoHS:
- 10 EU RoHS compliant

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

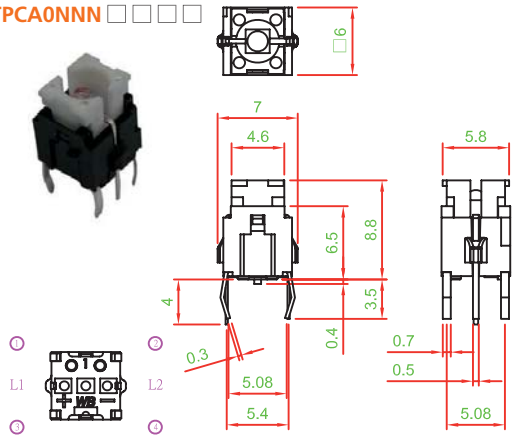
LED SPECIFICATIONS				Value / LED Color			
ATTENTION (+) (-) LEDs are Electrostatic Sensitive devices		Unit		Blue	Green	Red	Yellow
FORWARD CURRENT	If	mA		30	30	15	20
REVERSE VOLTAGE	Vr	V		5.0	5.0	5.0	5.0
REVERSE CURRENT	Ir	μA		10	10	10	10
FORWARD VOLTAGE@20mA	Vf	V		3.5-3.8	1.7-2.6	1.7-2.6	1.7-2.6
LUMINOUS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

Tactile Switches

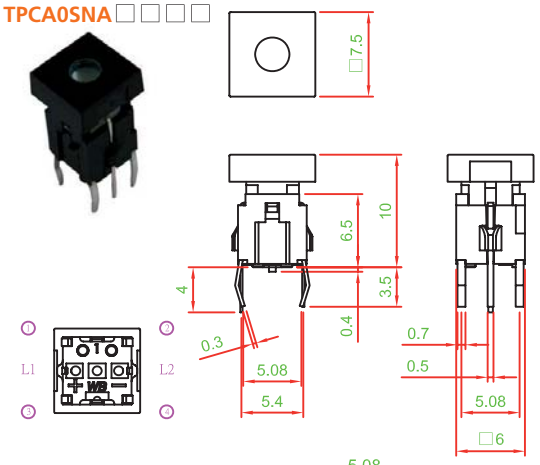
SPST THT Tactile Switches with LED

TPCA0_10 Series

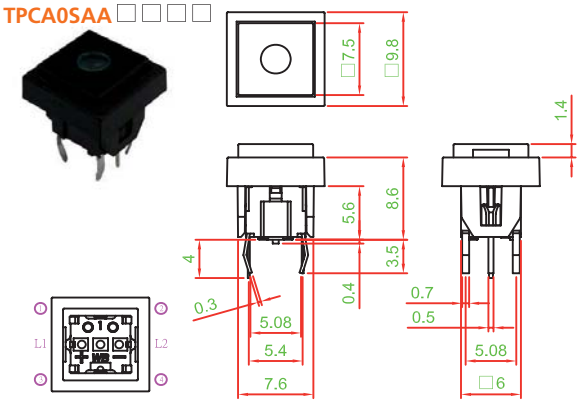
TPCA0NNN □□□□



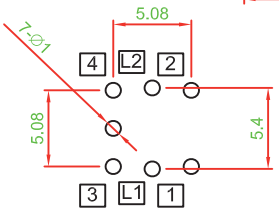
TPCA0SNA □□□□



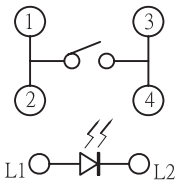
TPCA0SAA □□□□



▶ P.C.B. LAYOUT



▶ CIRCUIT DIAGRAM



How to order:

TPCA0 [1] [2] [3] [4] [5] [6] [7] [8] 10

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

ATTENTION (+) (-) LEDs are Electrostatic Sensitive devices

		Unit	Value / LED Color				
			Blue	Green	Red	White	Yellow
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