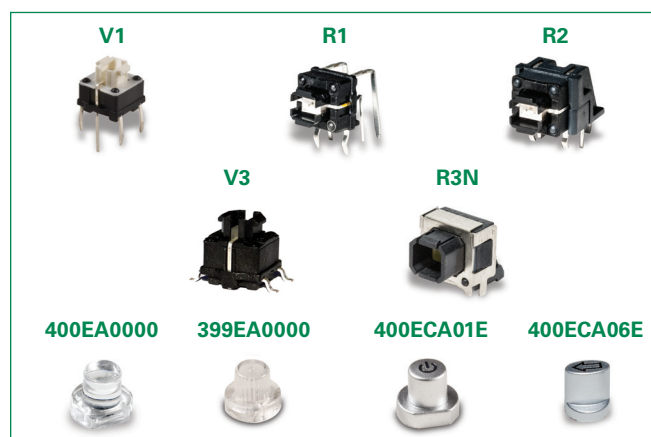


# ITS Series

## Illuminated Tactile Switch



### Specifications

|                  |                                                                                                |
|------------------|------------------------------------------------------------------------------------------------|
| <b>Function</b>  | N.O. Momentary action                                                                          |
| <b>Terminals</b> | SMT & Thru-hole                                                                                |
| <b>Packaging</b> | Thru-hole: 200 pieces per tray<br>SMT: tape & reel (see V2, V3 or R3N mounting style drawings) |

### Mechanical Characteristics

|                                     |                                                                       |
|-------------------------------------|-----------------------------------------------------------------------|
| <b>Operating Force</b>              | 160 ± 50gf for V1; V2; V3; R1; R2 models<br>220 ± 50 gf for R3N model |
| <b>Operating Life</b>               | 50,000 cycles (250m Ω max)                                            |
| <b>Recommended Operating Stroke</b> | 0.25mm ± 0.1mm                                                        |

### Electrical Characteristics

|                                        |                                                |
|----------------------------------------|------------------------------------------------|
| <b>Rating</b>                          | 50mA @ 12 VDC                                  |
| <b>Contact Resistance</b>              | < 100 mΩ (initial)                             |
| <b>Dielectric Withstanding Voltage</b> | >250VAC (50-60 Hz) between terminals - 1 min.Ω |
| <b>Insulation Resistance</b>           | > 100M Ω                                       |
| <b>Bounce Time</b>                     | <10 ms                                         |

### Environmental Characteristics

|                              |               |
|------------------------------|---------------|
| <b>Operating Temperature</b> | -25°C to 70°C |
| <b>Storage Temperature</b>   | -25°C to 80°C |

### Process

|                  |                                                                         |
|------------------|-------------------------------------------------------------------------|
| <b>Soldering</b> | Thru-hole - wave compatible<br>SMT - convection or IR reflow compatible |
|------------------|-------------------------------------------------------------------------|

## Description

The ITS series illuminated tactile switch features vertical and right angle thru-hole and SMT models, ideal for a wide range of products – such as consumer electronics, medical devices and audio/video applications. In addition, multiple custom caps and legends are available to meet application-specific requirements.

## Features & Benefits

- Vertical and right angle SMT models
- Vertical and right angle thru-hole models
- Multiple caps and legends
- Several LED colors and bi-color options
- RoHS compliant /compatible

## Applications

- Consumer electronics
- Server/storage
- Medical devices
- Test/Measurement/Instrumentation
- Audio/Video
- Computers/Peripherals
- Security

## Materials

|                           |                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contacts/Terminals</b> | Base metal: brass, Plating: Ag                                                                                                                                 |
| <b>Dome</b>               | Base metal: Phosphor bronze plating: Ag                                                                                                                        |
| <b>Base</b>               | PA                                                                                                                                                             |
| <b>Actuator</b>           | PA                                                                                                                                                             |
| <b>Cover</b>              | R3N option: Stainless steel<br>V2 & V3 options: PPA<br>Other options: PA                                                                                       |
| <b>Caps</b>               | Caps are ordered separately and shipped bulk. Thru-hole versions available with caps assembled under custom part number. Contact customer service for details. |

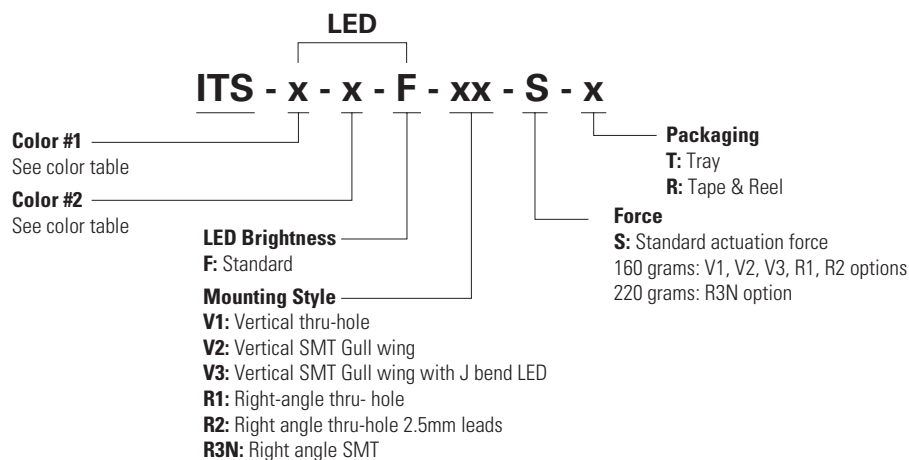
# ITS Series

## Illuminated Tactile Switch



### Ordering Number

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



### LED Color

**00:** No light  
**10:** Red  
**12:** Red/Yellow  
**13:** Red/Green  
**14:** Red/Blue  
**20:** Yellow  
**21:** Yellow/Red  
**23:** Yellow/Green  
**30:** Green  
**31:** Green/Red  
**32:** Green/Yellow  
**40:** Blue  
**41:** Blue/Red  
**50:** White  
**60:** True green

### Notes:

Other colors available by request

### LED Color / Brightness

| LED Characteristic                      | Units     | Standard LED Color Options |                 |                 |                 |                                                 |                 |
|-----------------------------------------|-----------|----------------------------|-----------------|-----------------|-----------------|-------------------------------------------------|-----------------|
|                                         |           | Red (1)                    | Yellow (2)      | Green (3)       | Blue (4)        | White (5)                                       | True Green (6)  |
| Recommended Operating                   | mA @ 5VDC | 20 mA                      | 20 mA           | 20 mA           | 20 mA           | 20 mA                                           | 20 mA           |
| Forward Current                         | mA        | 30 mA                      | 30 mA           | 30 mA           | 30 mA           | 30 mA                                           | 30 mA           |
| Peak Pulsing Current (1/8 duty @ 1 kHz) | mA        | 125 mA                     | 125 mA          | 125 mA          | 125 mA          | 125 mA                                          | 125 mA          |
| Power Dissipation                       | mW        | 75 mW                      | 75 mW           | 75 mW           | 75 mW           | 75 mW                                           | 75 mW           |
| Forward Voltage @ 20 mA                 | Volts     | 2.5 Volts Max.             | 2.5 Volts Max.  | 2.5 Volts Max.  | 3.6 Volts Max.  | 3.6 Volts Max.                                  | 3.6 Volts Max.  |
| Dominant Wavelength @ 20mA              | nm        | 637nm (Typical)            | 590nm (Typical) | 570nm (Typical) | 465nm (Typical) | CIE Coordinates<br>X= 0.25~0.33<br>Y= 0.24~0.34 | 522nm (Typical) |
| Wavelength at Peak Emission @20mA       | nm        | 645nm (Typical)            | 590nm (Typical) | 573nm (Typical) | 460nm (Typical) | CIE Coordinates<br>X= 0.25~0.33<br>Y= 0.24~0.34 | 515nm (Typical) |
| Spectral Half Bandwidth @ 20mA          | nm        | 20nm (Typical)             | 20nm (Typical)  | 17nm (Typical)  | 25nm (Typical)  | CIE Coordinates<br>X= 0.25~0.33<br>Y= 0.24~0.34 | 33nm (Typical)  |
| Luminous Intensity @ 20mA               | mcd       | 50 mcd Min.                | 125 mcd Min.    | 40 mcd Min.     | 100 mcd Min.    | 250 mcd Min.                                    | 500 mcd Min.    |
| Viewing Angle at 50% LV (@ 10mA)        | degrees   | 150° Typical               | 120° Typical    | 120° Typical    | 120° Typical    | 150° Typical                                    | 120° Typical    |

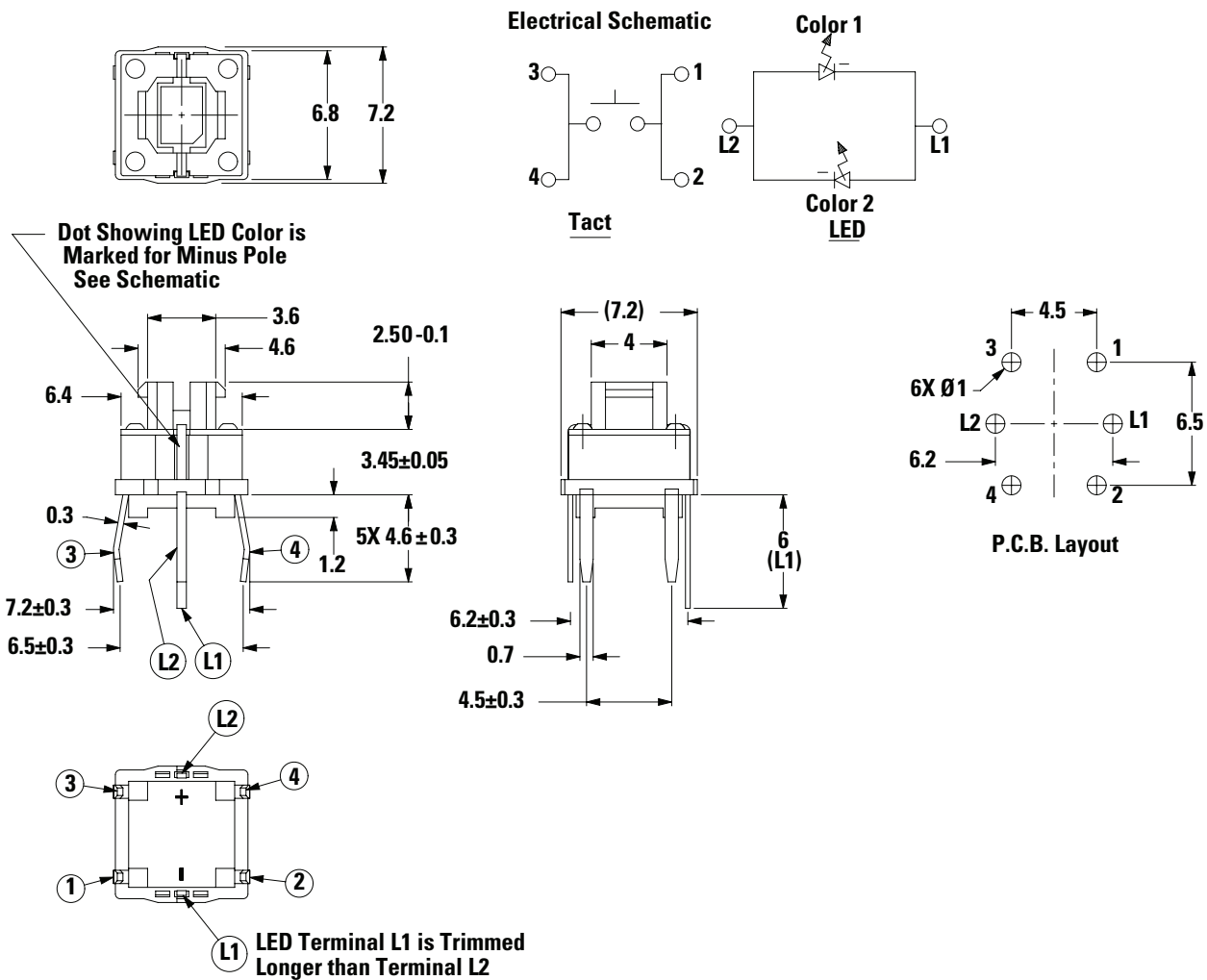
# ITS Series

## Illuminated Tactile Switch



### Mounting Styles

#### V1 - Vertical Thru-hole



**Note:**  
Tray packaging: 200 pieces

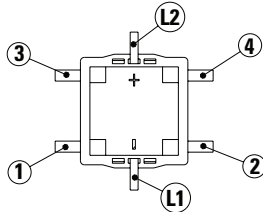
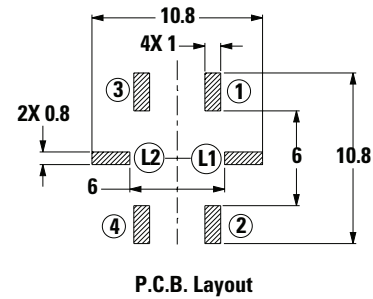
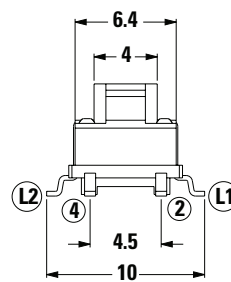
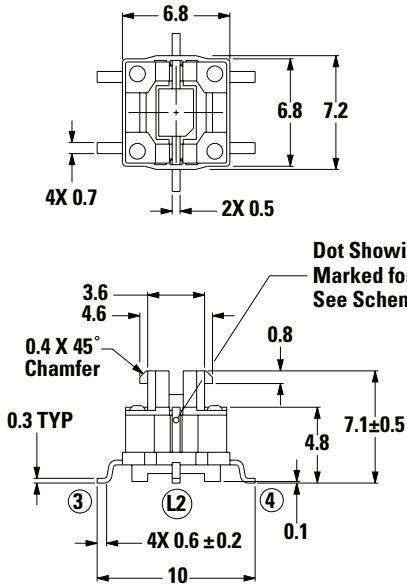
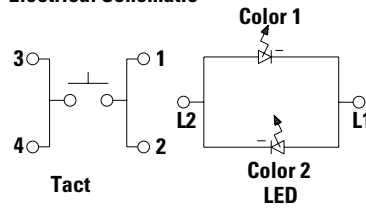
# ITS Series

## Illuminated Tactile Switch

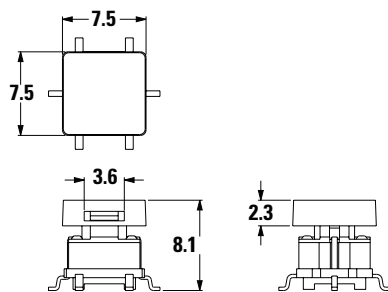


### V2 - Vertical SMT: Gullwing

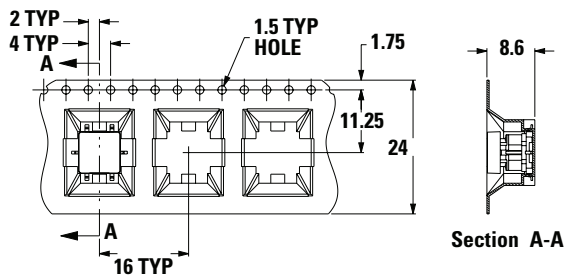
#### Electrical Schematic



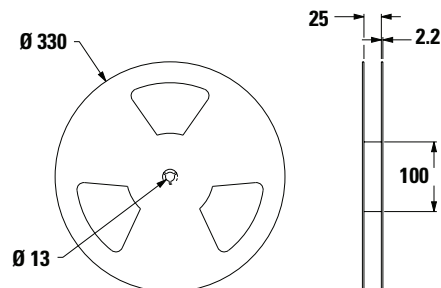
### Tape and Reel



Notes:  
1. Switch with Temporary Pick and Place Cap.



Section A-A



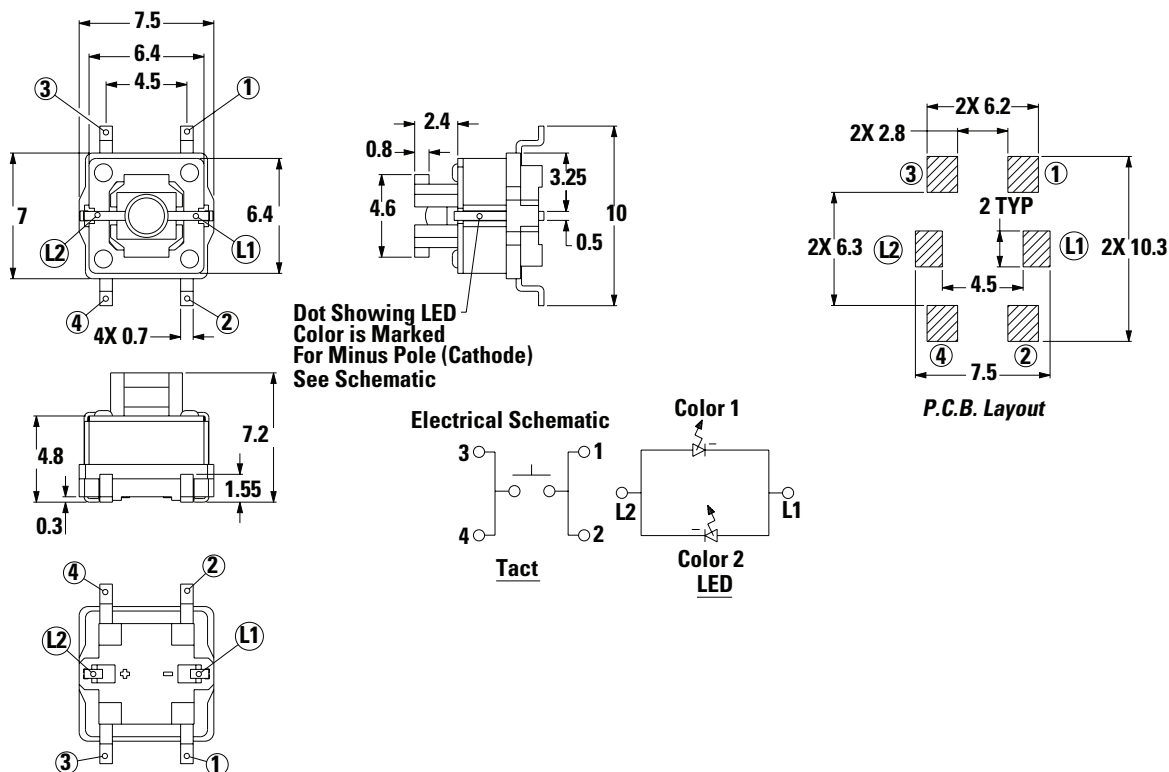
Note:  
Tape and Reel: 500 pieces

# ITS Series

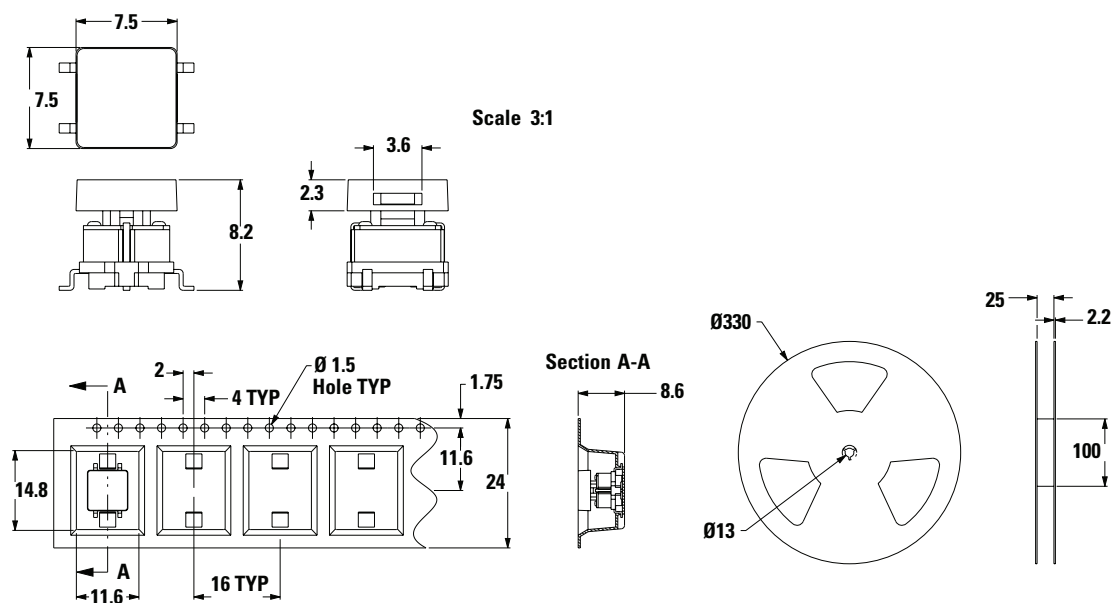
## Illuminated Tactile Switch



### V3 - Vertical SMT: Gull wing with J bend LED



### Tape and Reel



#### Notes:

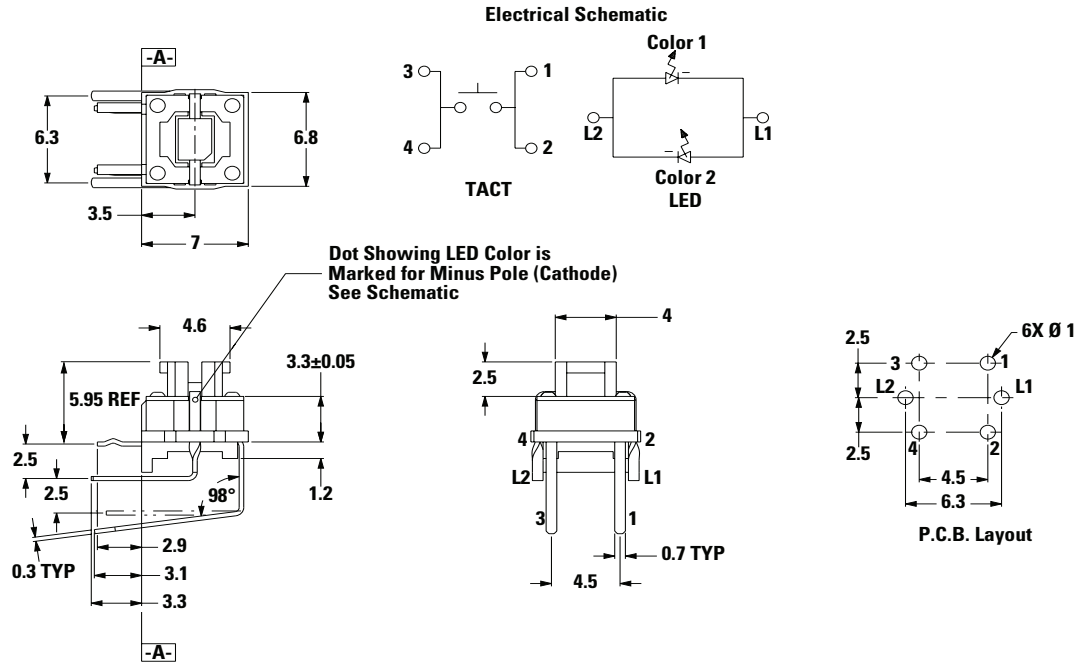
1. Switch with Temporary Pick and Place Cap.
2. Tape and Reel: 500 pieces

# ITS Series

## Illuminated Tactile Switch

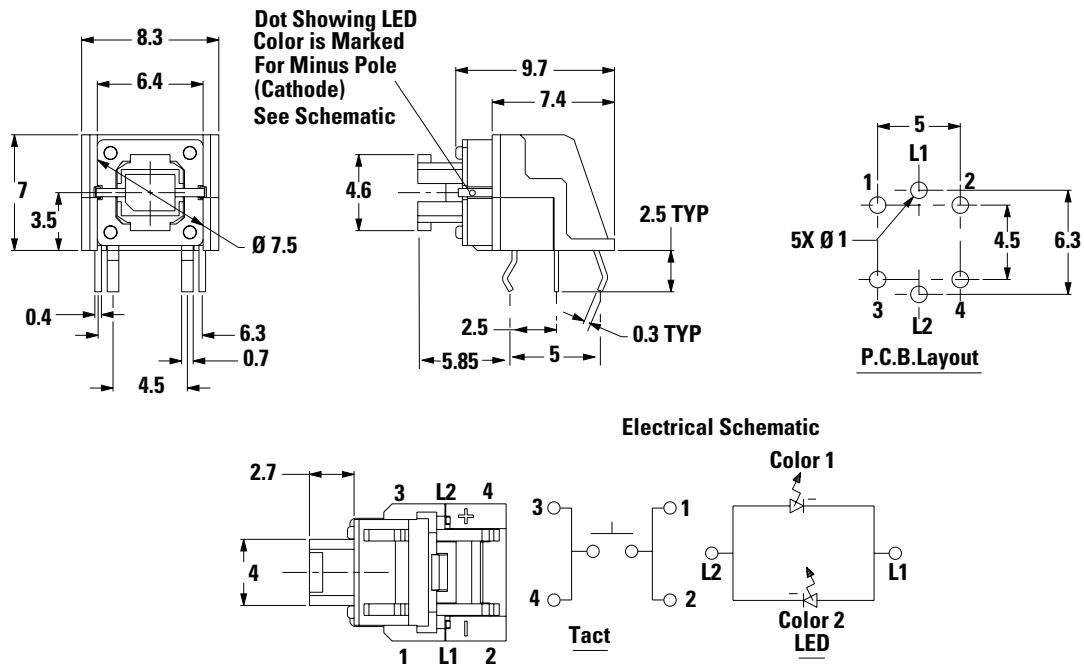


### R1 - Right Angle: Thru-hole



**Note:**  
Tray packaging: 200 pieces

### R2 - Right Angle: Thru-hole 2.5mm leads



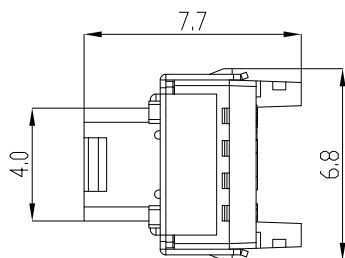
**Note:**  
Tray packaging: 200 pieces

# ITS Series

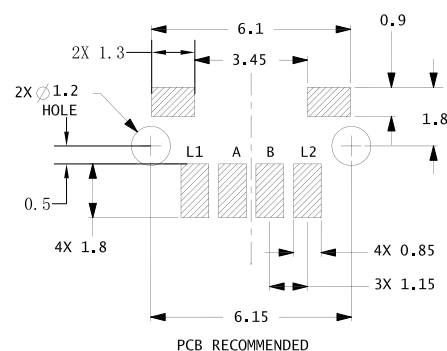
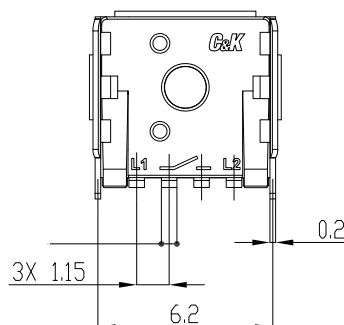
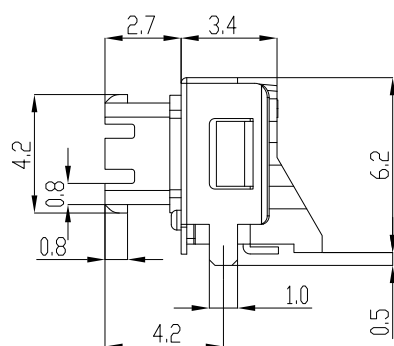
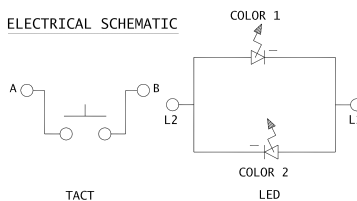
## Illuminated Tactile Switch



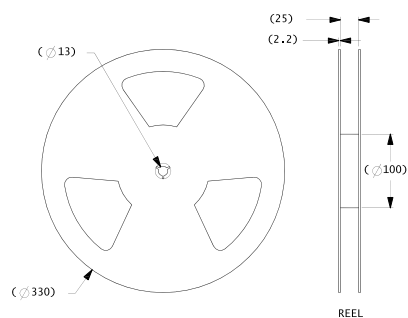
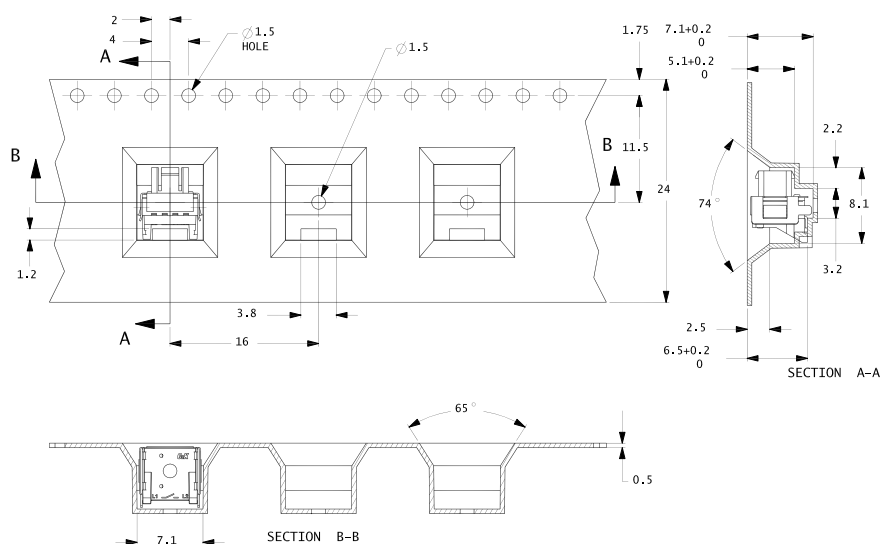
### R3N - Right Angle, SMT



ELECTRICAL SCHEMATIC



### Tape & Reel



### Force

| Option Code | Force                                                               |
|-------------|---------------------------------------------------------------------|
| S           | Standard 160 gf - V1, V2, V3, R1, R2 options<br>220 gf - R3N option |

# ITS Series

## Illuminated Tactile Switch



### Caps

**399E - A - 0 - 00 - 0**

**Material:**

**A:** Polycarbonate - Natural/Clear

**Paint Color**

**0:** No paint

**Marking Color**

**0:** No marking

**Marking**

**00:** No Marking

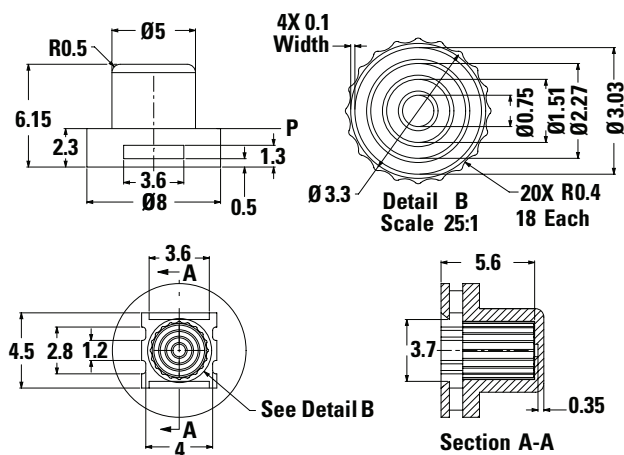
**Notes:**

Use the individual ordering code for each cap

**Note:**

All caps not to be used to R3N

### 399EA0000<sup>1</sup> Round cap, clear



**Notes:**

1: Not to be used with right angle versions

**400E - x - xx - x**

**Material:**

**A:** Polycarbonate<sup>1</sup> - Natural/Clear

**B:** Polycarbonate<sup>2</sup> - Translucent white

**C:** Polycarbonate - Silver paint laser tech

**Paint Color**

**0:** No paint<sup>3</sup>

**A:** Matte Silver

**Marking Color**

**0:** No marking

**E:** Laser etch (painted caps only)

**Laser Etch**

**00:** No Marking

**01:** Power On/Off

**04:** Arrow right

**05:** Arrow left

**06:** Arrow up

**07:** Arrow down

**09:** Power

**33:** Arrow up (fill)



**Notes:**

1: Material A has only one part number 400EA0000

2: Material B has only one part number 400EB0000

3: Paint color option 0 is not available for 400EC

# ITS Series

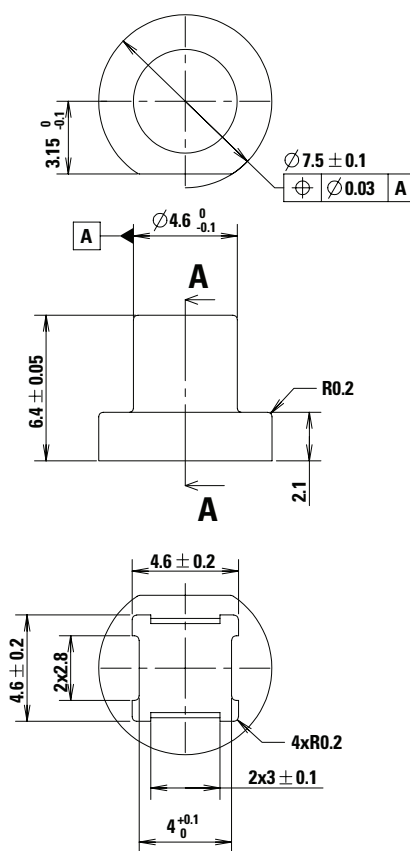
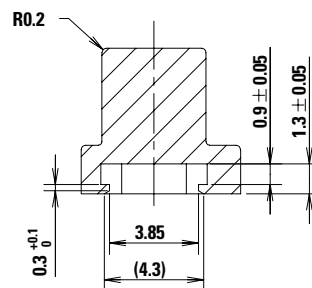
## Illuminated Tactile Switch

**400EA0000**

Natural/clear

**400EB0000**

Translucent white, flat edge

**400ECA01E**Matte silver paint  
laser etch, flat edge**ITSXXFR1ST & 400ECA01E cap****400ECA01E SHOWN****SECTION A-A**

**Notes:**  
400E cap dimensions shown are "as molded" (no paint).

# ITS Series

## Illuminated Tactile Switch



### 401E - x - xx - x

**Material:**

**A:** Polycarbonate<sup>1</sup> - Natural/Clear  
**B:** Polycarbonate<sup>2</sup> - Translucent white  
**C:** Polycarbonate - paint laser tech

**Paint Color**

**0:** No paint<sup>3</sup>  
**A:** Matte Silver

**Marking Color**

**0:** No marking  
**E:** Laser etch (painted caps only)

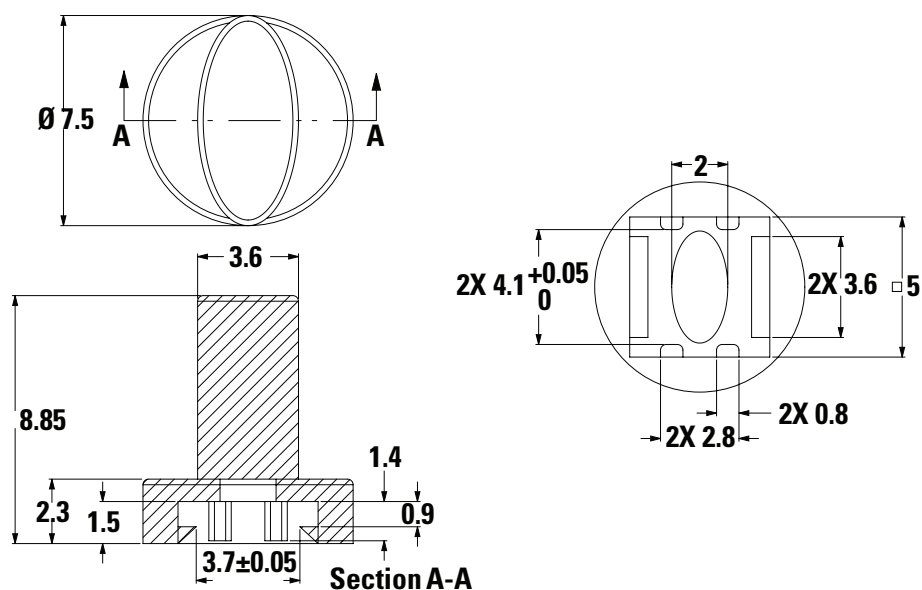
**Laser Etch**

**00:** No Marking  
**06:** Arrow up  
**07:** Arrow down  
**33:** Arrow up (fill)  
**34:** Arrow down (fill)


**Notes:**

- 1:** Material A has only one part number 400EA0000  
**2:** Material B has only one part number 400EB0000  
**3:** Paint color option 0 is not available for 400EC

### Dimensions


**Notes:**

401E cap dimensions shown are "as molded" (no paint).

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