## 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

## Typical Applications

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

NEW Right Angle SMT





## Specification

FUNCTION: N.O. momentary action
TERMINALS: SMT & Thru-hole

## Mechanical

OPERATING FORCE: 160 ± 50gf for V1; V2; V3; R1; R2 models
220 ± 50 gf for R3 model
OPERATING LIFE: 50,000 cycles (250m Ω max)
RECOMMENDED OPERATING STROKE: 0.25mm ± 0.1mm

## Electrical

RATING: 50mA @ 12VDC
CONTACT RESISTANCE: <100m Ω (initial)
DIELECTRIC WITHSTANDING VOLTAGE:
>250VAC (50-60 Hz) between terminals - 1 min.Ω
INSULATION RESISTANCE: >100M Ω
BOUNCE TIME: <10ms

## Packaging

Thru-hole: 200 pieces per tray
SMT: tape & reel (see V2 or V3 mounting style drawings)

## Environmental

OPERATING TEMPERATURE: -25˚C to +70˚C
STORAGE TEMPERATURE: -25˚C to +80˚C

## Process

SOLDERABILITY: Thru-hole - wave compatible
SMT - convection or IR reflow compatible

## Materials

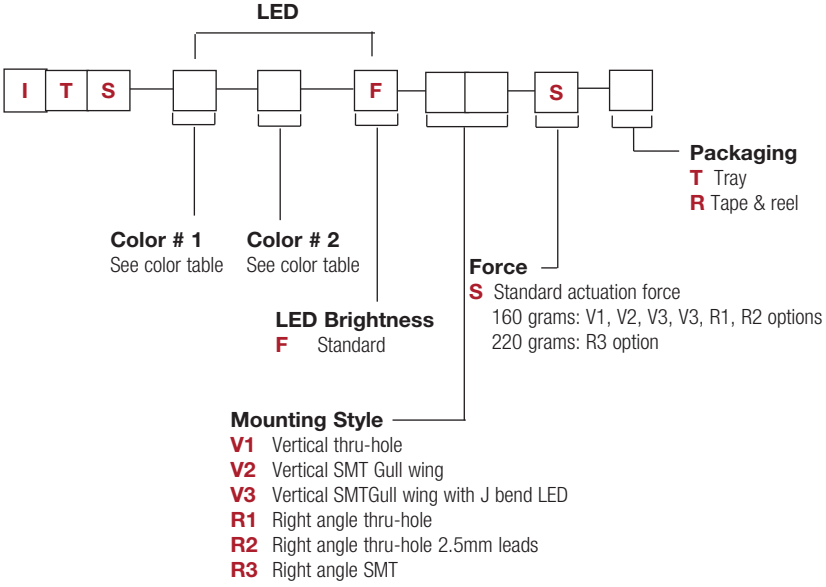
| | |
|---|---|
| CONTACTS/TERMINALS: | Base metal; brass<br>Plating; Ag |
| DOME: | Base metal: Phosphor bronze<br>Plating;<br>Ag |
| BASE: | PA |
| ACTUATOR: | PA |
| COVER: | R3 option: Stainless steel<br>V2 & V3 options - PPA<br>Other options - PA |

## Caps

Caps are ordered separately and shipped bulk. Thru-hole versions available with caps assembled under custom part number. Contact customer service for details.

## How To Order

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 |

* Other colors available by request

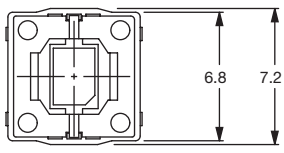
## LED COLOR / BRIGHTNESS

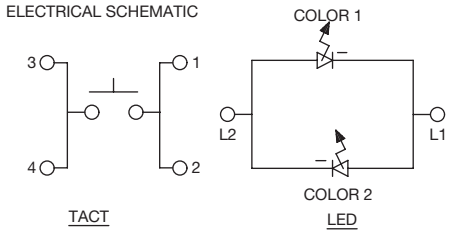
| LED Characteristic | units | Standard LED Color Options | | | | | |
|---|---|---|---|---|---|---|---|
| | | Red (1) | Yellow (2) | Green (3) | Blue (4) | White (5) | True Green (6) |
| Recommended Operating | mA @ 5VDC | 20mA | 20mA | 20mA | 20mA | 20mA | 20mA |
| Forward Current | mA | 30 mA | 30 mA | 30 mA | 30 mA | 30 mA | 30 mA |
| Peak Pulsing Current (1/8 duty @ 1kHz) | mA | 125 mA | 125 mA | 125 mA | 125 mA | 125 mA | 125 mA |
| Power Dissipation | mW | 75 mW | 75 mW | 75 mW | 108 mW | 108 mW | 108 mW |
| Forward Voltage @ 20mA | 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 X= 0.25 ~ 0.33 Y= 0.24 ~ 0.34 | 522nm (Typical) |
| Wavelength at Peak Emission @ 20mA | nm | 645nm (Typical) | 590nm (Typical) | 573nm (Typical) | 460nm (Typical) | | 515nm (Typical) |
| Spectral Half Bandwidth @ 20mA | nm | 20nm (Typical) | 20nm (Typical) | 17nm (Typical) | 25nm (Typical) | | 33nm (Typical) |
| Luminous Intensity @ 20mA | mcd | 50mcd Minimum | 125mcd Minimum | 40mcd Minimum | 100mcd Minimum | 250mcd Minimum | 500mcd Minimum |
| Viewing Angle at 50% LV (@10mA) | degrees | 150˚ Typical | 120˚ Typical | 120˚ Typical | 120˚ Typical | 150˚ Typical | 120˚ Typical |

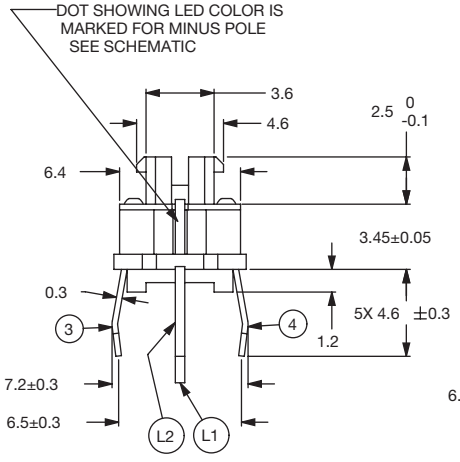
## MOUNTING STYLES

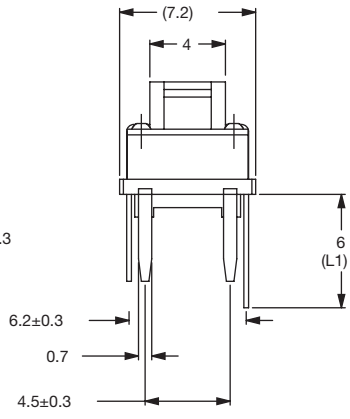
### V1 - Vertical Thru-hole

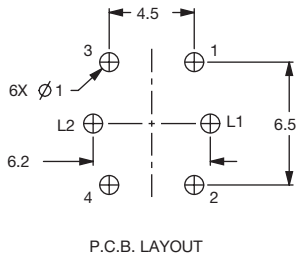




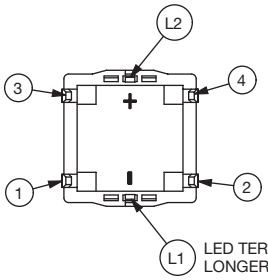




P.C.B. LAYOUT

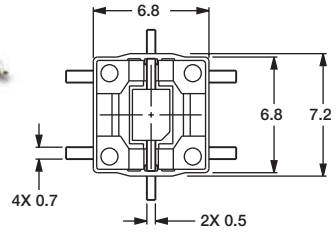


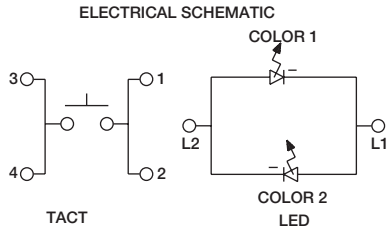

TRAY PACKAGING: 200 PIECES

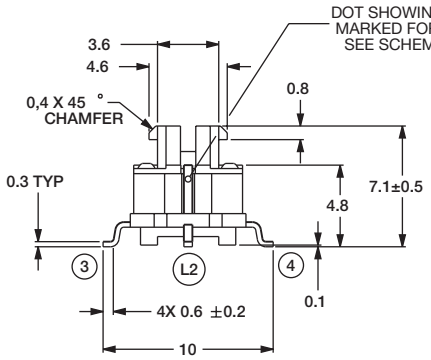
## MOUNTING STYLES

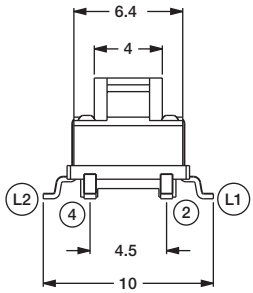
### V2 - Vertical SMT; Gullwing

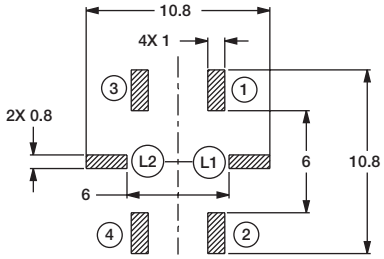




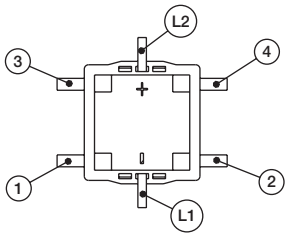



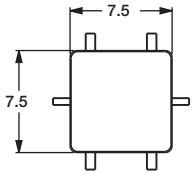




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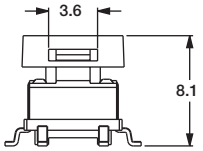


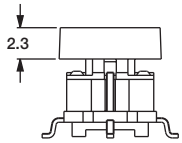

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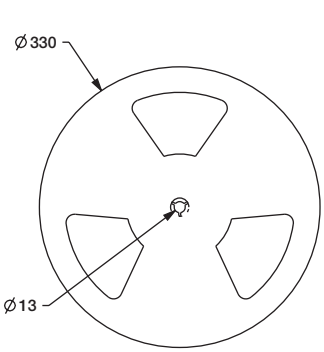


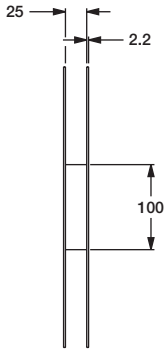



TAPE & REEL: 500 PIECES

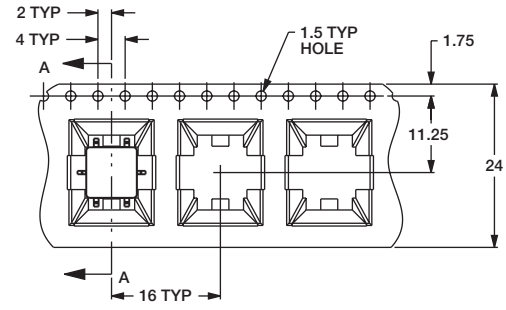


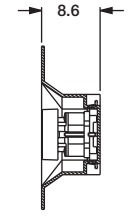




NOTES:
1. SWITCH WITH TEMPORARY PICK AND PLACE CAP.



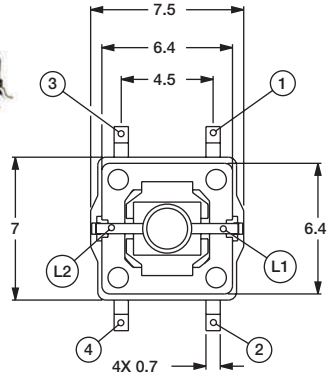

SECTION A-A

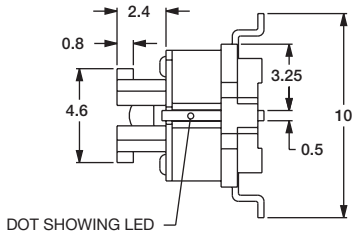
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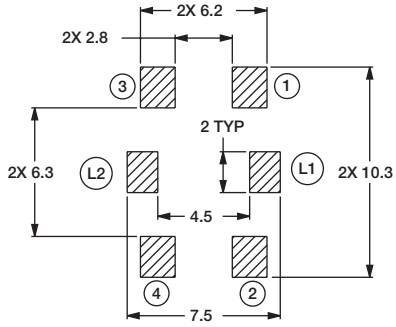
### V3 - Vertical SMT; Gull wing with J bend LED



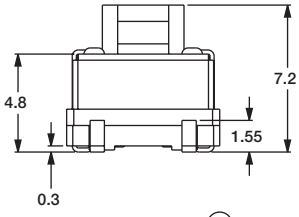




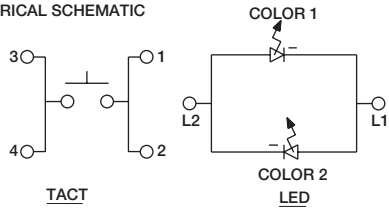



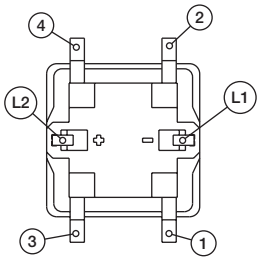




*P.C.B. LAYOUT*

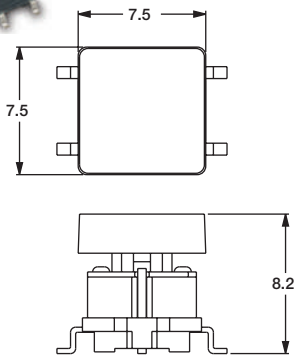



ELECTRICAL SCHEMATIC

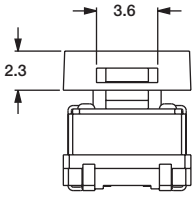




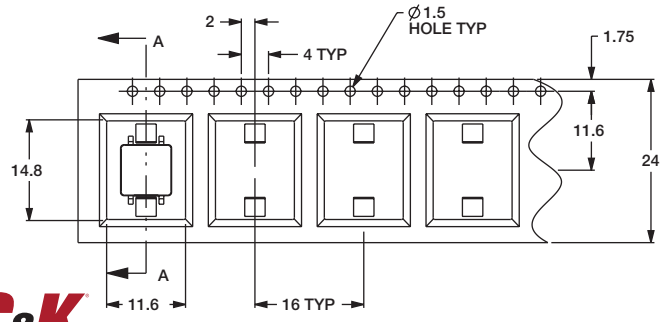




SCALE 3:1

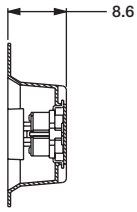


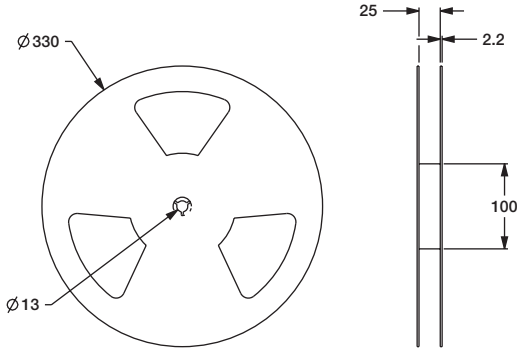

TAPE & REEL: 500 PIECES

NOTES:
1. SWITCH WITH TEMPORARY PICK AND PLACE CAP.




SECTION A-A



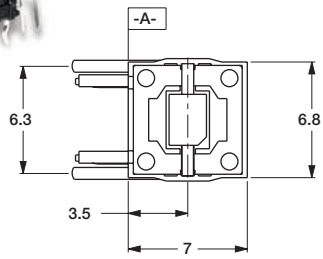

*Dimensions are shown: mm*
*Specifications and dimensions subject to change*

## MOUNTING STYLES

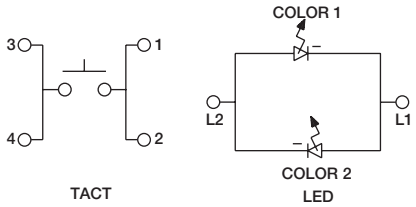


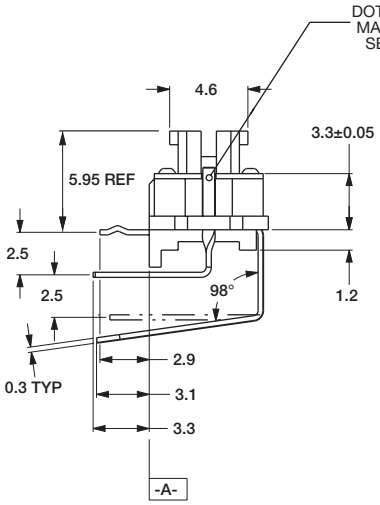
### R1 - Right Angle; Thru-hole

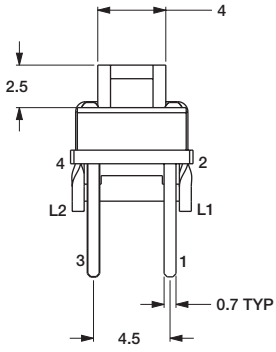


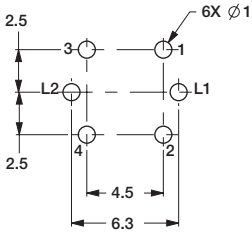



ELECTRICAL SCHEMATIC



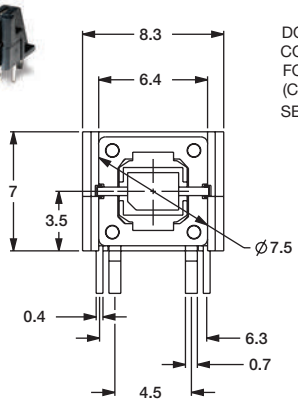



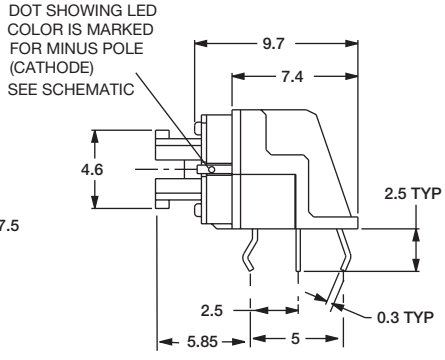

TRAY PACKAGING: 200 PIECES

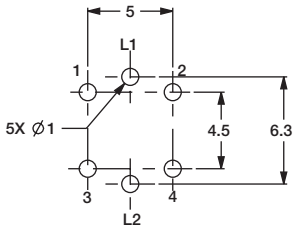
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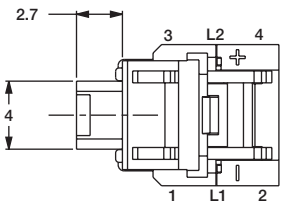
### R2 - Right Angle; Thru-hole 2.5mm leads



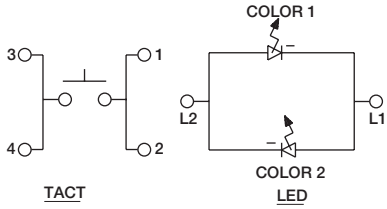



ELECTRICAL SCHEMATIC

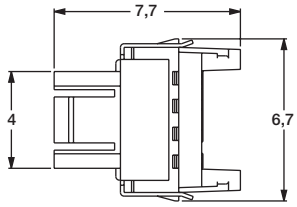


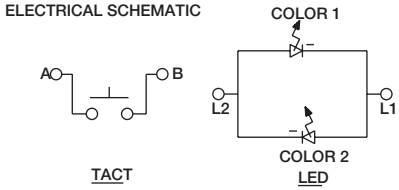

TRAY PACKAGING: 200 PIECES

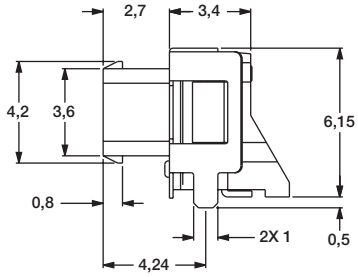
## MOUNTING STYLES

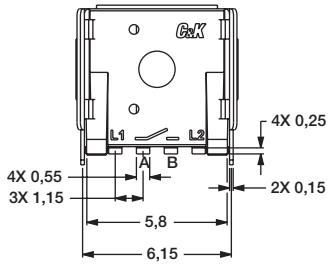
### R3 - Right Angle, SMT

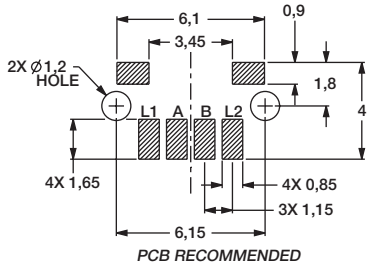




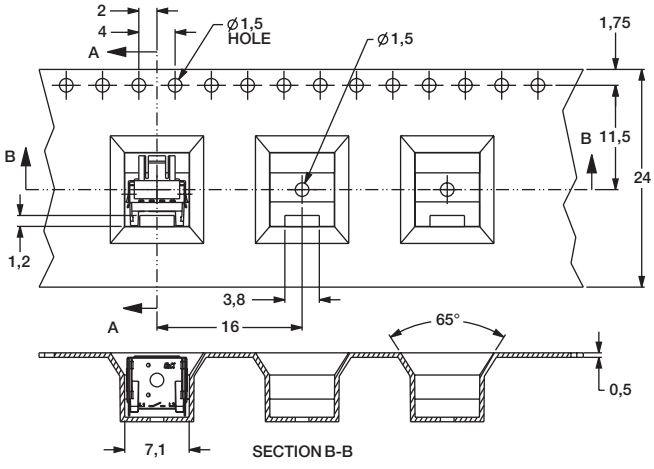



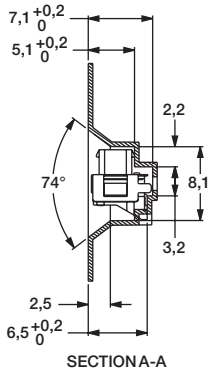



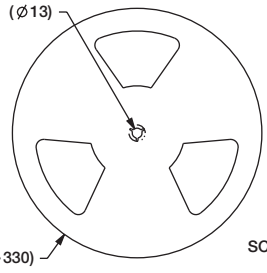



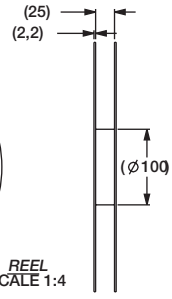




TAPE & REEL: 500 PIECES



## FORCE

| OPTION CODE | FORCE |
|---|---|
| S | Standard<br>160 gf - V1, V2, V3, R1, R2 options<br>220 gf - R3 option |

## CAPS

**Use the individual ordering code for each cap**



**399EA0000**

Round cap, clear

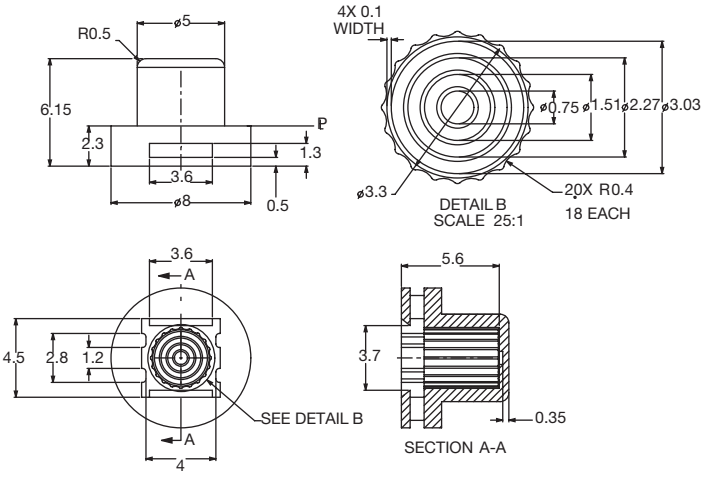
| 3 | 9 | 9 | E | A | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|

**Material**
**A** Polycarbonate - Natural/Clear

**Paint Color**
**0** No paint

**Marking**
**00** No marking

**Marking Color**
**0** No marking



## CAPS



**400EA0000**

Natural/clear



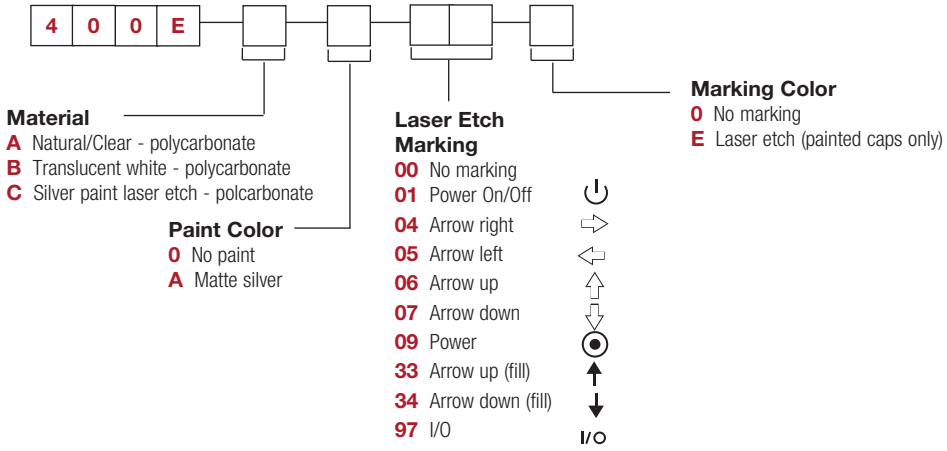
**400EB0000**

Translucent white, flat edge



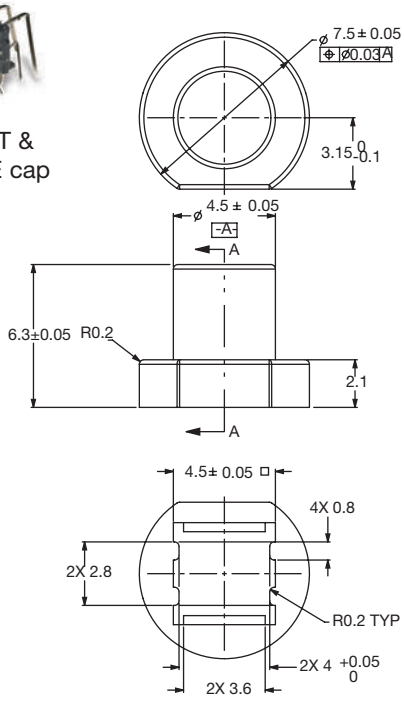
**400ECA01E**

Matte silver paint laser etch, flat edge



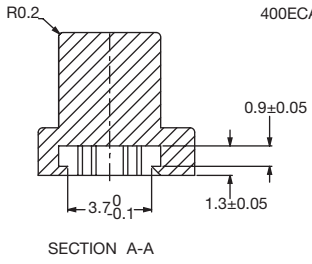



ITSXXFR1ST &
400ECA01E cap






400ECA01E SHOWN




SECTION A-A

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

## CAPS



**401ECA06E**

Matte silver paint, laser etch, tall oval

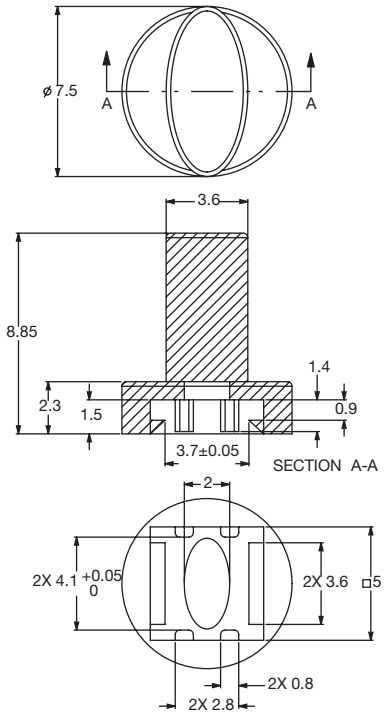
4 0 1 E

**Material**
**A** Natural/clear - polycarbonate
**B** Translucent white - polycarbonate
**C** Paint laser etch - polycarbonate

**Paint Color**
**0** No paint
**A** Matte silver

**Laser Etch Marking**
**00** No marking
**06** Arrow up
**07** Arrow down
**33** Arrow up (fill)
**34** Arrow down (fill)

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




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