**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

**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 R3N 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, V3 or R3N 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
Plating; Ag
**DOME:** Base metal: Phosphor bronze
Plating; Ag
**BASE:** PA
**ACTUATOR:** PA
**COVER:** R3N option: Stainless steel
V2 & V3 options - PPA
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 # 1**
See color table

**Color # 2**
See color table

**Force**

S Standard actuation force
160 grams: V1, V2, V3, R1, R2 options
220 grams: R3N option

**Packaging**

T Tray
R Tape & reel

**LED Brightness**

F Standard

**Mounting Style**

V1 Vertical thru-hole
V2 Vertical SMT Gull wing
V3 Vertical SMT Gull wing with J bend LED
R1 Right angle thru-hole
R2 Right angle thru-hole 2.5mm leads
R3N Right angle SMT

**LED Color**

<table>
<thead>
<tr>
<th>Code</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No light</td>
</tr>
<tr>
<td>10</td>
<td>Red</td>
</tr>
<tr>
<td>12</td>
<td>Red/Yellow</td>
</tr>
<tr>
<td>13</td>
<td>Red/Green</td>
</tr>
<tr>
<td>14</td>
<td>Red/Blue</td>
</tr>
<tr>
<td>20</td>
<td>Yellow</td>
</tr>
<tr>
<td>21</td>
<td>Yellow/Red</td>
</tr>
<tr>
<td>23</td>
<td>Yellow/Green</td>
</tr>
<tr>
<td>30</td>
<td>Green</td>
</tr>
<tr>
<td>31</td>
<td>Green/Red</td>
</tr>
<tr>
<td>32</td>
<td>Green/Yellow</td>
</tr>
<tr>
<td>40</td>
<td>Blue</td>
</tr>
<tr>
<td>41</td>
<td>Blue/Red</td>
</tr>
<tr>
<td>50</td>
<td>White</td>
</tr>
<tr>
<td>60</td>
<td>True green</td>
</tr>
</tbody>
</table>

* Other colors available by request

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
# ITS Series
## Illuminated Tact Switch

### LED COLOR / BRIGHTNESS

<table>
<thead>
<tr>
<th>LED Characteristic</th>
<th>units</th>
<th>Red  (1)</th>
<th>Yellow (2)</th>
<th>Green  (3)</th>
<th>Blue  (4)</th>
<th>White  (5)</th>
<th>True Green  (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Operating</td>
<td>mA @ 5VDC</td>
<td>20mA</td>
<td>20mA</td>
<td>20mA</td>
<td>20mA</td>
<td>20mA</td>
<td>20mA</td>
</tr>
<tr>
<td>Forward Current</td>
<td>mA</td>
<td>30 mA</td>
<td>30 mA</td>
<td>30 mA</td>
<td>30 mA</td>
<td>30 mA</td>
<td>30 mA</td>
</tr>
<tr>
<td>Peak Pulsing Current (1/8 duty @ 1kHz)</td>
<td>mA</td>
<td>125 mA</td>
<td>125 mA</td>
<td>125 mA</td>
<td>125 mA</td>
<td>125 mA</td>
<td>125 mA</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>mW</td>
<td>75 mW</td>
<td>75 mW</td>
<td>75 mW</td>
<td>108 mW</td>
<td>108 mW</td>
<td>108 mW</td>
</tr>
<tr>
<td>Forward Voltage @ 20mA</td>
<td>Volts</td>
<td>2.5 Volts Max.</td>
<td>2.5 Volts Max.</td>
<td>2.5 Volts Max.</td>
<td>3.6 Volts Max.</td>
<td>3.6 Volts Max.</td>
<td>3.6 Volts Max.</td>
</tr>
<tr>
<td>Dominant Wavelength @ 20mA</td>
<td>nm</td>
<td>637nm (Typical)</td>
<td>590nm (Typical)</td>
<td>570nm (Typical)</td>
<td>465nm (Typical)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wavelength at Peak Emission @ 20mA</td>
<td>nm</td>
<td>645nm (Typical)</td>
<td>590nm (Typical)</td>
<td>573nm (Typical)</td>
<td>460nm (Typical)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectral Half Bandwidth @ 20mA</td>
<td>nm</td>
<td>20nm (Typical)</td>
<td>20nm (Typical)</td>
<td>17nm (Typical)</td>
<td>25nm (Typical)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luminous Intensity @ 20mA</td>
<td>mcd</td>
<td>50mcd Minimum</td>
<td>125mcd Minimum</td>
<td>40mcd Minimum</td>
<td>100mcd Minimum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viewing Angle at 50% LV (@10mA)</td>
<td>degrees</td>
<td>150˚ Typical</td>
<td>120˚ Typical</td>
<td>120˚ Typical</td>
<td>120˚ Typical</td>
<td>150˚ Typical</td>
<td>120˚ Typical</td>
</tr>
</tbody>
</table>

### MOUNTING STYLES

**V1 - Vertical Thru-hole**

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**Electrical Schematic**

**Color 1**

**Color 2**

**P.C.B. Layout**

**Tray Packaging:** 200 Pieces
MOUNTING STYLES

V2 - Vertical SMT; Gullwing

ELECTRICAL SCHEMATIC

DOT SHOWING LED COLOR IS MARKED FOR MINUS POLE (CATHODE) SEE SCHEMATIC

TAPE & REEL: 500 PIECES

NOTES:
1. SWITCH WITH TEMPORARY PICK AND PLACE CAP.
ITS Series
Illuminated Tact Switch

MOUNTING STYLES

V3 - Vertical SMT; Gull wing with J bend LED

DOT SHOWING LED
COLOR IS MARKED
FOR MINUS POLE (CATHODE)
SEE SCHEMATIC

ELECTRICAL SCHEMATIC

COLOR 1

COLOR 2

P.C.B. LAYOUT

TAPE & REEL: 500 PIECES

NOTES:
1. SWITCH WITH TEMPORARY PICK AND PLACE CAP.
ITS Series
Illuminated Tact Switch

MOUNTING STYLES

R1 - Right Angle; Thru-hole

DOT SHOWING LED COLOR IS MARKED FOR MINUS POLE (CATHODE) SEE SCHEMATIC

R2 - Right Angle; Thru-hole 2.5mm leads

DOT SHOWING LED COLOR IS MARKED FOR MINUS POLE (CATHODE) SEE SCHEMATIC

Specifications and dimensions subject to change
ITS Series
Illuminated Tact Switch

MOUNTING STYLES

R3N - Right Angle, SMT

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

Tape & Reel: 500 Pieces

3 may 19

Specifications and dimensions subject to change

www.ckswitches.com
### FORCE

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>FORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Standard&lt;br&gt;160 gf - V1, V2, V3, R1, R2 options&lt;br&gt;220 gf - R3N option</td>
</tr>
</tbody>
</table>

### CAPS

Use the individual ordering code for each cap

399EA0000*<br>Round cap, clear

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

**Material**<br>A Polycarbonate - Natural/Clear

**Marking**<br>00 No marking

**Marking Color**<br>0 No marking

**Paint Color**<br>0 No paint

* Not to be used with right angle versions

---

Dimensions are shown: mm<br>Specifications and dimensions subject to change

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ITS Series
Illuminated Tact Switch

CAPS

400EA0000
Natural/clear

400EB0000
Translucent white, flat edge

400ECA01E
Matte silver paint laser etch, flat edge

Material
A Natural/Clear - polycarbonate
B Translucent white - polycarbonate
C Silver paint laser etch - polycarbonate

Paint Color
0 No paint
A Matte silver

Laser Etch Marking
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)
34 Arrow down (fill)
97 I/O

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

ITSXXFR1ST & 400ECA01E cap

400E cap dimensions shown are “as molded” (no paint).
ITS Series
Illuminated Tact Switch

CAPS

401ECA06E
Matte silver paint, laser etch, tall oval

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

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

Paint Color
0 No paint
A Matte silver

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

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