ITS Series
Illuminated Tact Switch

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

Specifications

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
DOME: Base metal; Phosphor bronze
BASE: PA
ACTUATOR: PA
COVER: R3N option: Stainless steel
V2 & V3 options - PPA
Other options - PA

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

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</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>3.6 Volts Max.</td>
<td>3.6 Volts Max.</td>
<td>3.6 Volts Max.</td>
<td></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></td>
<td></td>
</tr>
</tbody>
</table>

Standard LED Color Options

- Red (1)
- Yellow (2)
- Green (3)
- Blue (4)
- White (5)
- True Green (6)

V1 - Vertical Thru-hole

- LED TERMINAL L1 IS TRIMMED LONGER THAN TERMINAL L2
- DOT SHOWING LED COLOR IS MARKED FOR MINUS POLE SEE SCHEMATIC
- CIE Coordinates X= 0.25 ˜ 0.33 Y= 0.24 ˜ 0.34
- Spectral Half Bandwidth @ 20mA: nm
- Luminous Intensity @ 20mA: mcd
- Viewing Angle at 50% LV ( @10mA): degrees
- P.C.B. LAYOUT

TRAY PACKAGING: 200 PIECES
ITS Series
Illuminated Tact Switch

MOUNTING STYLES

V3 - Vertical SMT; Gull wing with J bend LED

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

Dimensions are shown: mm
Specifications and dimensions subject to change
MOUNTING STYLES

R1 - Right Angle; Thru-hole

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

ELECTRICAL SCHEMATIC

TRAY PACKAGING: 200 PIECES

R2 - Right Angle; Thru-hole 2.5mm leads

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

ELECTRICAL SCHEMATIC

TRAY PACKAGING: 200 PIECES
ITS Series
Illuminated Tact Switch

MOUNTING STYLES

R3N - Right Angle, SMT

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
FORC

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

CAPS

Use the individual ordering code for each cap

399EA0000*
Round cap, clear

Material
A Polycarbonate - Natural/Clear

Marking
00 No marking

Marking Color
0 No marking

Paint Color
0 No paint

* Not to be used with right angle versions
ITS Series
Illuminated Tact Switch

CAPS

<table>
<thead>
<tr>
<th>Material</th>
<th>Paint Color</th>
<th>Laser Etch Marking</th>
<th>Marking Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>No marking</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Matte silver</td>
<td>E</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>Power On/Off</td>
<td>No marking</td>
</tr>
<tr>
<td>C</td>
<td>0</td>
<td>Arrow right</td>
<td>Laser etch (painted caps only)</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Arrow left</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Arrow up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Arrow down</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Power</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Arrow up (fill)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Arrow down (fill)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I/O</td>
<td></td>
</tr>
</tbody>
</table>

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

400EA0000
- Natural/clear

400EB0000
- Translucent white, flat edge

400ECA01E
- Matte silver paint laser etch, flat edge

All caps not to be used to R3N

ITSXXFR1ST & 400ECA01E cap

400E cap dimensions shown are “as molded” (no paint).

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
**ITS Series**

**Illuminated Tact Switch**

**CAPS**

401ECA06E

Matte silver paint, laser etch, tall oval

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Natural/clear - polycarbonate*</td>
</tr>
<tr>
<td>B</td>
<td>Translucent white - polycarbonate*</td>
</tr>
<tr>
<td>C</td>
<td>Paint laser etch - polycarbonate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laser Etch</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No marking</td>
</tr>
<tr>
<td>06</td>
<td>Arrow up</td>
</tr>
<tr>
<td>07</td>
<td>Arrow down</td>
</tr>
<tr>
<td>33</td>
<td>Arrow up (fill)</td>
</tr>
<tr>
<td>34</td>
<td>Arrow down (fill)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paint Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No paint*</td>
</tr>
<tr>
<td>A</td>
<td>Matte silver</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marking Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No marking</td>
</tr>
<tr>
<td>E</td>
<td>Laser etch (painted caps only)</td>
</tr>
</tbody>
</table>

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

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

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com