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

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

Mechanical
OPERATING FORCE: 160 ± 50gf for V1; V2; V3; R1; R2 models
220 ± 50gf 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
Plating; Ag
DOME:
BASE: PA
ACTUATOR: PA
COVER:
R3 option: Stainless steel
V2 & V3 options - PPA
Other options - PA

Capabilities
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

LED Brightness
F Standard

Force
S Standard actuation force
160 grams: V1, V2, V3, V3, R1, R2 options
220 grams: R3 option

Packaging
T Tray
R Tape & reel

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
R3 Right angle SMT

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

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## 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>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)**: 20mA, 30 mA, 125 mA, 75 mW, 637nm (Typical), 645nm (Typical), 20nm (Typical)
- **Yellow (2)**: 20mA, 30 mA, 125 mA, 75 mW, 50mcd Minimum, 150˚ Typical
- **Green (3)**: 20mA, 30 mA, 125 mA, 75 mW, 50mcd Minimum, 120˚ Typical
- **Blue (4)**: 20mA, 30 mA, 125 mA, 75 mW, 40mcd Minimum, 120˚ Typical
- **White (5)**: 20mA, 30 mA, 125 mA, 108 mW, 100mcd Minimum, 120˚ Typical
- **True Green (6)**: 20mA, 30 mA, 125 mA, 108 mW, 250mcd Minimum, 120˚ Typical

### MOUNTING STYLES

**V1 - Vertical Thru-hole**

![Electrical Schematic](image)

**P.C.B. LAYOUT**

![Layout Diagram](image)

**TRAY PACKAGING: 200 PIECES**

Dimensions are shown: mm
Specifications and dimensions subject to change

Downloaded from Arrow.com.
V2 - Vertical SMT; Gullwing

ELECTRICAL SCHEMATIC

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

P.C.B. LAYOUT

TAPE & REEL: 500 PIECES

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

Dimensions are shown: mm
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V3 - Vertical SMT; Gull wing with J bend LED

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

Tactile Switches

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

ELECTRICAL SCHEMATIC

COLOR 1

TACT

COLOR 2

LED

P.C.B. LAYOUT

COLOR IS MARKED
FOR MINUS POLE (CATHODE)
SEE SCHEMATIC

TAPE & REEL: 500 PIECES

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

SCALE 3:1

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
R1 - Right Angle; Thru-hole

ELECTRICAL SCHEMATIC

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

R2 - Right Angle; Thru-hole 2.5mm leads

ELECTRICAL SCHEMATIC

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

TRAY PACKAGING: 200 PIECES
ITS Series
Illuminated Tact Switch

MOUNTING STYLES

R3 - Right Angle, SMT

Dimensions are shown: mm
Specifications and dimensions subject to change
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ELECTRICAL SCHEMATIC

COLOR 1
COLOR 2

PCB RECOMMENDED

TAPE & REEL: 500 PIECES

A-ASECTION
B-BSECTION

TACTILE SWITCHES

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**FORCE**

<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 - R3 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

Dimensions are shown: mm  
Specifications and dimensions subject to change  
www.ckswitches.com
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**CAPS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400EA0000</td>
<td>Natural/clear</td>
</tr>
<tr>
<td>400EB0000</td>
<td>Translucent white, flat edge</td>
</tr>
<tr>
<td>400ECA01E</td>
<td>Matte silver paint laser etch, flat edge</td>
</tr>
</tbody>
</table>

**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

**Material**

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

**Paint Color**

- **0**: No paint
- **A**: Matte silver

**Marking Color**

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

** ITSXXFR1ST & 400ECA01E cap**

400ECA01E cap dimensions shown are "as molded" (no paint).
ITS Series
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**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>

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

**Laser Etch**
- 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).