### Tactile Switches

#### Product Selection Guide

**Surface Mount Thru-Hole Options**

<table>
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<tr>
<th>Series</th>
<th>KXT3</th>
<th>KMT2</th>
<th>KMT0</th>
<th>KMR 2-8</th>
<th>KMS</th>
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<th>PTS526</th>
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**Surface Mount Thru-Hole Options**

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<th>PTS810</th>
<th>PTS815</th>
<th>PTS820</th>
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### Tactile Switches

#### Product Selection Guide

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<th>KSS</th>
<th>KSC V</th>
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<th>KSC SLT</th>
<th>KSC DCT</th>
<th>KSC PF</th>
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* Other options available by request
### Tactile Switches
#### Product Selection Guide

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<th>K5V</th>
<th>KSF/KSI</th>
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</table>
Features

- Smallest footprint 3.0 x 2.0 mm
- 0.6 mm thickness
- High number of cycle

Typical Applications

- Wearable electronics
- In-Ear headphones, Earbuds
- Mobile Phones
- Portable Electronics
- Hearing Aids

Specifications

**Electrical**

- MAXIMUM VOLTAGE: 15 VDC
- MAXIMUM CURRENT DC: 20 mA
- DIELECTRIC STRENGTH: (50/60 Hz, 1 min) 250 Vrms
- CONTACT RESISTANCE: ≤ 500 mΩ
- INSULATION RESISTANCE: ≥ 50 MΩ
- BOUNCE TIME: ≤ 10 ms

**Environmental**

- OPERATING TEMPERATURE: -40˚C to 85˚C
- STORAGE TEMPERATURE: -40˚C to 85˚C

**Process**

- SOLDERING: This component is suited to the following methods: Infrared Reflow Soldering in accordance with IEC61760-1

**Packaging**

- In reels of 8,500 pieces
- Dimensions of reels according to EIA 481B
- External diameter 330 mm

**Part Number Description**

For any part number different from those listed above, please consult your local representative.
KMT2 Series
Nano-Miniature SMT Top Actuated

Features
- Smallest footprint
- High number of cycles within the smallest packaging
- Smallest thickness with integrated actuator
- Ground pin option
- Halogen free

Typical Applications
- Mobile Phones
- Hearing Aids
- MP3 accessories
- Bluetooth Headset

Specifications

Operating Temperature: -40°C to 85°C
Storage Temperature: -55°C (10 days), +85°C (4 days)

Environmental

Silver

Operating Force

<table>
<thead>
<tr>
<th>Type G and NG</th>
<th>Operating Force (Newtons) (grams)</th>
<th>Operating Life</th>
<th>Tactile Feeling</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMT 211 HF LFS</td>
<td>1.0 (100) ± 0.25</td>
<td>150,000</td>
<td>≥ 10%</td>
<td>0.15 ± 0.1</td>
</tr>
<tr>
<td>KMT 221 HF LFS</td>
<td>1.6 (160) ± 0.40</td>
<td>150,000</td>
<td>≥ 30%</td>
<td>0.15 ± 0.1</td>
</tr>
</tbody>
</table>

Process

SOLDERING: This component is suited to the following methods:
- Lead free reflow soldering process in accordance with IEC 61760-1.

Packaging

In reels of 4,000 pieces.
Dimensions of reels according to EIA 481B
External diameter 180 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

Part Number Description

For any part number different from those listed above, please consult your local representative.
KMT2 Series
Nano-Miniature SMT Top Actuated

KMT Series – No Ground Pin

KMT Series – With Ground Pin

TAPE & REEL
### Features
- 3.0 x 2.6 mm footprint
- Smallest thickness with integrated actuator
- Extended life cycles
- IP68
- Ultra low current capabilities

### Typical Applications
- Mobile Phones
- Hearing Aids
- MP3 accessories
- Bluetooth Headset
- Automotive keyless entry system
- Smoke and CO detectors
- E-readers
- Home automation remote controls

### Specification
**FUNCTION:** momentary action, normally open  
**CONTACT ARRANGEMENT:** 1 make contact = SPST, N.O.  
**TERMINALS:** J lead type for SMT

**Mechanical**

<table>
<thead>
<tr>
<th>Component</th>
<th>Operating force Newtons (grams)</th>
<th>Tactile Feeling</th>
<th>Operating Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMT011NGJLHS</td>
<td>1.0 (100) ± 25% ≥ 10%</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>KMT021NGJLHS</td>
<td>1.6 (160) ± 25% ≥ 30%</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>KMT071NGJLHS</td>
<td>2.3 (230) ± 25% ≥ 30%</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>KMT031NGJLHS</td>
<td>3.4 (340) ± 25% ≥ 30%</td>
<td></td>
<td>300,000</td>
</tr>
</tbody>
</table>

**Environmental**

- OPERATING TEMPERATURE: -40°C to 85°C  
- STORAGE TEMPERATURE: -55°C (10 days) +85°C (4 days)

**Process**

- SOLDERING: This component is suited to the following methods:  
  - Lead free reflow soldering process in accordance with IEC 61760-1.

**Packaging**

- In reels of 5,000 pieces.
- Dimensions of reels according to EIA 481B
- External diameter 180 mm

**Part Number Description**

For any part number different from those listed above, please consult your local representative.

---

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

---

**Electrical**

- MAXIMUM POWER: 0.5 VA  
- MAXIMUM VOLTAGE: 32 VDC  
- MINIMUM VOLTAGE: 20 mV  
- MAXIMUM CURRENT DC: 50 mA  
- MINIMUM CURRENT DC: 1 mA  
- DIELECTRIC STRENGTH: ≥ 250 Vrms (1mn)  
- CONTACT RESISTANCE: ≤ 150 mΩ  
- INSULATION RESISTANCE: ≥ 50 MΩ  
- BOUNCE TIME: ≤ 6 ms

**Total Height**

0 0.65mm

**Actuation Force**

1 1.0 N (100 grams)  
2 1.6 N (160 grams)  
7 2.3 N (230 grams)  
3 3.4 N (340 grams)

**Contact Material**

1 Silver  
2 Silver long life  
3 Gold

**Grounding Option**

NGJ No Ground Pin, J leads  
LHS Lead free, RoHS, Halogen free, Silver plated

---

**21 mar 18**
KMT0 Series
Nano-Miniature SMT Top Actuated

Minimum actuator diameter is 1.0 mm. It is recommended to enlarge this diameter to a full flat surface covering the switch.

TAPE & REEL
Features/Benefits
- Small footprint
- 4 actuation forces
- Excellent tactile feel
- Ultra low current capabilities
- IP40

Typical Applications
- Automotive
- Industrial electronics
- Medical equipment

Specifications and dimensions subject to change
www.ckswitches.com

Tactile Switches

Contact Material
1 Silver
2 Silver long life*
3 Gold

Actuation Force
1 1.2 N (120 grams)
2 2 N (200 grams)
3 3 N (300 grams)
4 4 N (400 grams)

Grounding option
G Ground pin
NG No Ground pin

Type G and NG
See description below

Mechanical

<table>
<thead>
<tr>
<th>Type G and NG See description below</th>
<th>Operating force N (grs)</th>
<th>Operating life (cycles)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMR211 LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR211 ULC LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR213 LFG</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR213 ULC LFG</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR221 LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR221 ULC LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR222 LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR223 ULC LFG</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR231 LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR231 ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR232 LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>300,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR232 ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>300,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR233 LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR233 ULC LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR241 LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR241 ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR242 LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR242 ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR243 LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR243 ULC LFG</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
</tbody>
</table>

Electrical

- Silver
- Gold

- MAXIMUM POWER: 1 VA 0.2 VA
- MAXIMUM VOLTAGE: 32 VDC 32 VDC
- MINIMUM VOLTAGE: 20 mVDC 20 mVDC
- MAXIMUM CURRENT: 50 mA 10 mA
- MINIMUM CURRENT: 1 mA* 1 mA*
- DIELECTRIC STRENGTH: ≥ 250 Vrms
- CONTACT RESISTANCE: ≤ 100 mΩ
- INSULATION RESISTANCE: ≥ 1GΩ
- BOUNCE TIME: ≤ 3 ms

*For ULC version minimum current is 1µA at 1.8 VDC

Environmental

- Silver
- Gold

- OPERATING TEMPERATURE: -40°C to 85°C -40°C to 125°C
- STORAGE TEMPERATURE: -55°C to 85°C -55°C to 125°C

Process

Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.

Packaging

In reels of 7,000 pieces
External diameter 330 mm ± 2 mm

NOTE: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Tactile Feeling
KMR 2 series with actuation force in 2N - 3N - 4N: ≥ 30%
KMR 2 series with actuation force in 1.2N: ≥ 20%

Part Number Description
For any part number different from those listed above, please consult your local representative.

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
**KMR 2 Series**  
Microminiature Tact Switch for SMT

**KMR 2 Series - 1.9 mm height**

PCB layout shown with ground pin option

---

**TAPE & REEL**

Dimensions are shown: mm  
Specifications and dimensions subject to change

---

First Angle Projection

C&K

8 jun 16
Features/Benefits
• Small footprint
• 4 actuation forces
• Excellent tactile feel
• Ultra low current capabilities
• IP40

Typical Applications
• Automotive
• Industrial electronics
• Medical equipment

Specification
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: Gullwing type for SMT

Mechanical

<table>
<thead>
<tr>
<th>Type G and NG</th>
<th>Operating force (N (grs))</th>
<th>Operating life (cycles)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMR411 LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR411 ULC LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR413 LFG</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR413 ULC LFG</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR421 LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR421 ULC LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR423 LFG</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR423 ULC LFG</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR431 LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR431 ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR432 LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>300,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR432 ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>300,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR433 LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR433 ULC LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR441 LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR441 ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR442 LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR442 ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR443 LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR443 ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
</tbody>
</table>

TACTILE FEELING: KMR 4 series with actuation force in 2N - 3N - 4N: ≥ 25%
KMR 4 series with actuation force in 1.2N: ≥ 20%

Part Number Description
For any part number different from those listed above, please consult your local representative.

Electrical

<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER: 1 VA</td>
<td>0.2 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE: 32 VDC</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MINIMUM VOLTAGE: 20 mVDC</td>
<td>20 mVDC</td>
</tr>
<tr>
<td>MAXIMUM CURRENT: 50 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT: 1 mA*</td>
<td>1 mA*</td>
</tr>
<tr>
<td>DIELECTRIC STRENGTH: ≥ 250 Vrms</td>
<td></td>
</tr>
<tr>
<td>CONTACT RESISTANCE: ≤ 100 mΩ</td>
<td></td>
</tr>
<tr>
<td>INSULATION RESISTANCE: ≥ 1 GΩ</td>
<td></td>
</tr>
<tr>
<td>BOUNCE TIME: ≤ 3 ms</td>
<td></td>
</tr>
</tbody>
</table>

Environmental

<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE: -40°C to 85°C</td>
<td>-40°C to 125°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE: -55°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

Process

Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.

Packaging

In reels of 6,000 pieces
External diameter 330 mm ± 2 mm

NOTE: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

KMR 4 Series
Microminiature SMT Top Actuated

Functional Specifications

Tactile Switches

*Silver long life is available in 3N and 4N actuation force. For other versions, please contact Customer Service.
KMR 4 Series
Microminiature Tact Switch for SMT

KMR 4 Series - 2.5 mm height

PCB layout shown with ground pin option

TAPE & REEL

DE-REELING DIRECTION
OUT OF THE TAPE

SECTION A-A

6° max

2.75 ± 0.1

4 ± 0.1

2 ± 0.05

ø 1.5 ± 0.1

0.292 ± 0.02

GROUND TERMINAL

6° max

3.03 ± 0.1

D R E E L I N G D I R E C T I O N

OUT OF THE TAPE

SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE

Dimensions are shown: mm

Specifications and dimensions subject to change

www.ckswitches.com

8 jun 16

B–16
**Features/Benefits**
- Watertight IP67
- Standard and long life versions
- No ground pin
- Ultra low current capabilities
- Excellent tactile feel

**Typical Applications**
- Automotive
- Medical
- Consumer
- Industrial

---

**Specification**

**FUNCTION:** momentary action

**CONTACT ARRANGEMENT:** 1 make contact = SPST, N.O.

**TERMINALS:** Gullwing type for SMT

---

**Mechanical**

<table>
<thead>
<tr>
<th>Type NG</th>
<th>Operating force N (g)</th>
<th>Operating life (cycles)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMR611NG LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR611NG ULC LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR613NG LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR613NG ULC LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR621NG LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR621NG ULC LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR623NG LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR623NG ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR631NG LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR632NG LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>300,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR632NG ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR633NG LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR641NG LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR641NG ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR642NG LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR642NG ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR643NG LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR643NG ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
</tbody>
</table>

**TACTILE FEELING:** KMR 6 series with actuation force in 2N - 3N - 4N: ≥ 30%
KMR 6 series with actuation force in 1.2N: ≥ 20%

---

**Part Number Description**

For any part number different from those listed above, please consult your local representative.

---

**Electrical**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER:</td>
<td>1 VA</td>
<td>0.2 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE:</td>
<td>32 VDC</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MINIMUM VOLTAGE:</td>
<td>20 mVDC</td>
<td>20 mVDC</td>
</tr>
<tr>
<td>MAXIMUM CURRENT:</td>
<td>50 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT:</td>
<td>1 mA*</td>
<td>1 mA*</td>
</tr>
<tr>
<td>DIELECTRIC STRENGTH:</td>
<td>≥ 250 Vrms</td>
<td></td>
</tr>
<tr>
<td>CONTACT RESISTANCE:</td>
<td>≤ 100 mΩ</td>
<td></td>
</tr>
<tr>
<td>INSULATION RESISTANCE:</td>
<td>≥ 1GΩ</td>
<td></td>
</tr>
<tr>
<td>BOUNCE TIME:</td>
<td>≤ 3 ms</td>
<td></td>
</tr>
</tbody>
</table>

*For ULC version minimum current is 1µA at 1.8 VDC

**Environmental**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40°C to 85°C</td>
<td>-40°C to 125°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE:</td>
<td>-55°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

**Process**

Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.

**Packaging**

In reels of 7,000 pieces
External diameter 330 mm ± 2 mm

**NOTE:** Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

---

**Part Number Description**

For any part number different from those listed above, please consult your local representative.

---

**Contact Material**

1 Silver
2 Silver long life*
3 Gold

**Grounding option**

NG No ground pin

**Actuation Force**

1 1.2 N (120 grams)
2 2 N (200 grams)
3 3 N (300 grams)
4 4 N (400 grams)

---

**Low Current capability**

Void Under standard specification
ULC Low current

---

*Silver long life is available in 3N and 4N actuation force. For other versions, please contact Customer Service.
KMR 6 Series
Microminiature SMT Top Actuated  IP67

KMR 6 Series - 1.9 mm height

PCB layout shown with ground pin option

TAPE & REEL

DE-REELING DIRECTION
OUT OF THE TAPE

SECTION A-A

7° max

DE-REELING DIRECTION
OUT OF THE TAPE

DIRECTION OF FEED

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
Features/Benefits
- Watertight IP67
- Standard and long life versions
- No ground pin
- Ultra low current capabilities
- Excellent tactile feel

Typical Applications
- Automotive
- Medical
- Consumer
- Industrial

Specifications

Electrical
- Silver
- Gold
- MAXIMUM POWER: 1 VA 0.2 VA
- MAXIMUM VOLTAGE: 32 VDC 32 VDC
- MINIMUM VOLTAGE: 20 mVDC 20 mVDC
- MAXIMUM CURRENT: 50 mA 10 mA
- MINIMUM CURRENT: 1 mA* 1 mA*
- DIELECTRIC STRENGTH: ≥ 250 Vrms
- CONTACT RESISTANCE: ≤ 100 mΩ
- INSULATION RESISTANCE: ≥ 1GΩ
- BOUNCE TIME: ≤ 3 ms
  *For ULC version minimum current is 1µA at 1.8 VDC

Environmental
- Silver
- Gold
- OPERATING TEMPERATURE: -40°C to 85°C -40°C to 125°C
- STORAGE TEMPERATURE: -55°C to 85°C -55°C to 125°C

Process
- Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.

Packaging
- In reels of 6,000 pieces
- External diameter 330 mm ± 2 mm

NOTE: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Features/Benefits
- Watertight IP67
- Standard and long life versions
- No ground pin
- Ultra low current capabilities
- Excellent tactile feel

Mechanical

<table>
<thead>
<tr>
<th>Type NG</th>
<th>Operating force N (grs)</th>
<th>Operating life (cycles)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMR711NG LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR711NG ULC LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR713NG LFG</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR713NG ULC LFG</td>
<td>1.2 (120) ± 0.30</td>
<td>100,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR721NG LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR721NG ULC LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR723NG LFG</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR723NG ULC LFG</td>
<td>2.0 (200) ± 0.50</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR731NG LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR731NG ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR732NG LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR732NG ULC LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR733NG LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR733NG ULC LFG</td>
<td>3.0 (300) ± 0.75</td>
<td>100,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR741NG LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR741NG ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR742NG LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR742NG ULC LFS</td>
<td>4.0 (400) ± 1.00</td>
<td>200,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR743NG LFG</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
<tr>
<td>KMR743NG ULC LFG</td>
<td>4.0 (400) ± 1.00</td>
<td>100,000</td>
<td>0.30 mm ± 0.1</td>
</tr>
</tbody>
</table>

TACTILE FEELING: KMR 7 series with actuation force in 2N - 3N - 4N: ≥ 25%
KMR 7 series with actuation force in 1.2N: ≥ 20%

Part Number Description
For any part number different from those listed above, please consult your local representative.

Actuation Force
- 1 1.2 N (120 grams)
- 2 2 N (200 grams)
- 3 3 N (300 grams)
- 4 4 N (400 grams)

Contact Material
- 1 Silver
- 2 Silver long life
- 3 Gold

Grounding option
- Void Under standard specification
- ULC Low current
- NG No ground pin

Low Current capability
- LFS Lead free compatible, silver plated
- LFG Lead free compatible, gold plated

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
KMR 7 Series
Microminiature SMT Top Actuated IP67

KMR 7 Series - 2.5 mm height

PCB layout shown with ground pin option

TAPE & REEL

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
Features/Benefits
- Small footprint
- 3 actuation forces
- Excellent tactile feel
- Hard actuator
- IP40

Typical Applications
- Automotive
- Mobile phones
- Industrial electronics
- Medical equipment

Specification
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: Gullwing type for SMT

Mechanical

<table>
<thead>
<tr>
<th>Type G and NG</th>
<th>Operating force</th>
<th>Operating life</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>See description below</td>
<td>N (gns)</td>
<td>(cycles)</td>
<td></td>
</tr>
<tr>
<td>KMR811G LFS</td>
<td>1.2 (120) ± 0.30</td>
<td>200,000</td>
<td>0.20 mm ± 0.1</td>
</tr>
<tr>
<td>KMR821G LFS</td>
<td>2.0 (200) ± 0.50</td>
<td>200,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR831LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
<tr>
<td>KMR831NG ULC LFS</td>
<td>3.0 (300) ± 0.75</td>
<td>150,000</td>
<td>0.25 mm ± 0.1</td>
</tr>
</tbody>
</table>

TACTILE FEELING:
KMR 8 series with actuation force in 2N - 3N - 4N: ≥ 30%
KMR 8 series with actuation force in 1.2N: ≥ 20%

Electrical
- Silver
- MAXIMUM POWER: 1 VA
- MAXIMUM VOLTAGE: 32 VDC
- MINIMUM VOLTAGE: 20 mVDC
- MAXIMUM CURRENT: 50 mA
- MINIMUM CURRENT: 1 mA*
- DIELECTRIC STRENGTH: ≥ 250 Vrms
- CONTACT RESISTANCE: ≤ 100 mΩ
- INSULATION RESISTANCE: ≥ 1GΩ
- BOUNCE TIME: ≤ 3 ms

*For ULC version minimum current is 1µA at 1.8 VDC

Environmental
- Silver
- OPERATING TEMPERATURE: -40°C to 85°C
- STORAGE TEMPERATURE: -55°C to 85°C

Process
Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.

Packaging
In reels of 7,000 pieces
External diameter 330 mm ± 2 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

Part Number Description
For any part number different from those listed above, please consult your local representative.

<table>
<thead>
<tr>
<th>K</th>
<th>M</th>
<th>R</th>
<th>8</th>
<th>N</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>N (120 grams)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>N (200 grams)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>N (300 grams)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contact Material
- 1 Silver

Grounding option
- G Ground pin
- NG No Ground pin

Actuation Force

Low Current capability
- Void Under standard specification
- ULC Low current

LFS Lead free compatible, silver plated
LFG Lead free compatible, gold plated

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
KMR 8 Series
Microminiature SMT Top Actuated

G - Ground Pin

NG - No Ground Pin

TAPE & REEL

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
Tactile Switches

KMS Series
Microminiature SMT Side Actuated

Features/Benefits
- 1.42mm thickness with excellent tactile feel
- ESD protection by compact size
- Positioning pegs for stability
- RoHS compliant and compatible

Typical Applications
- Mobile phones
- Medical handheld monitors
- Consumer electronics
- Telecommunication networks

Specification

FUNCTION: Momentary
CONTACT ARRANGEMENT: SPST, N.O.
TERMINALS: Gullwing type for SMT
IP40 Sealed

Mechanical

OVERLOAD: 20N
TACTILE FEELING: 15% min. for the 2N version
25% min for the 2.5N version

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force Newtons (grams)</th>
<th>Operating life (operations)</th>
<th>Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMS221G/GP</td>
<td>2N (200) ± 0.5</td>
<td>100 K cycles</td>
<td>0.25 ± 0.15</td>
</tr>
<tr>
<td>KMS223G/GP</td>
<td>2N (200) ± 0.5</td>
<td>100 K cycles</td>
<td>0.25 ± 0.15</td>
</tr>
<tr>
<td>KMS231G/GP</td>
<td>3N (300) ± 0.6</td>
<td>100 K cycles</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KMS233G/GP</td>
<td>3N (300) ± 0.6</td>
<td>100 K cycles</td>
<td>0.3 ± 0.15</td>
</tr>
</tbody>
</table>

Note: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

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.

K M S 2 G
Actuator
2 Standard

Actuation Force
2 2 N (200 grams)
3 3 N (300 grams)

Termination
G Gullwing

Contact Material
1 Silver
3 Gold

Pegs
NONE No pegs
P With pegs

RoHS compliant and compatible
LFS Lead free silver
LFG Lead free gold

Packaging

Tape and reels in reels of 3,000 pieces.
External diameter 330mm ± 2mm.

Electrical

<table>
<thead>
<tr>
<th></th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER:</td>
<td>1 VA</td>
<td>0.2 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE:</td>
<td>32 VDC</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MAXIMUM CURRENT DC:</td>
<td>50 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT DC:</td>
<td>1 mA</td>
<td>1 mA</td>
</tr>
<tr>
<td>DIELECTRIC STRENGTH:</td>
<td>250 VDC</td>
<td></td>
</tr>
<tr>
<td>CONTACT RESISTANCE:</td>
<td>≤100 mΩ</td>
<td></td>
</tr>
<tr>
<td>INSULATION RESISTANCE:</td>
<td>10⁹ Ω</td>
<td></td>
</tr>
<tr>
<td>BOUNCE TIME:</td>
<td>≤ 3 ms</td>
<td></td>
</tr>
</tbody>
</table>

Environmental

<table>
<thead>
<tr>
<th></th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40°C to 85°C</td>
<td>-40°C to 125°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE:</td>
<td>-55°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

Process

Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.
PTS 525 Series
Microminiature Tact Switch for SMT

Features/Benefits
• 0.8 & 1.5 mm actuator height
• Ruggedized package in a compact size
• High number of cycles

Typical Applications
• Consumer products
• Instrumentation
• Remote controls

Specifications and dimensions subject to change

www.ckswitches.com

---

How To Order
Please see chart below for full part numbers.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Height (mm)</th>
<th>Leads Shape</th>
<th>Ground Pin</th>
<th>Force</th>
<th>Travel (mm)</th>
<th>Operating Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS525 SM08 SMTR 2 LFS</td>
<td>0.8</td>
<td>G</td>
<td>No</td>
<td>160 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>1,000,000</td>
</tr>
<tr>
<td>PTS525 SK08 SMTR 2 LFS</td>
<td>0.8</td>
<td>G</td>
<td>No</td>
<td>260 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>200,000</td>
</tr>
<tr>
<td>PTS525 SM15 SMTR 2 LFS</td>
<td>1.5</td>
<td>G</td>
<td>No</td>
<td>160 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>1,000,000</td>
</tr>
<tr>
<td>PTS525 SK15 SMTR 2 LFS</td>
<td>1.5</td>
<td>G</td>
<td>No</td>
<td>260 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>500,000</td>
</tr>
<tr>
<td>PTS525 SMG15 SMTR 2 LFS</td>
<td>1.5</td>
<td>G</td>
<td>Yes</td>
<td>160 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>1,000,000</td>
</tr>
<tr>
<td>PTS525 SKG15 SMTR 2 LFS</td>
<td>1.5</td>
<td>G</td>
<td>Yes</td>
<td>260 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>500,000</td>
</tr>
<tr>
<td>PTS525 SMG15J SMTR 2 LFS</td>
<td>1.5</td>
<td>J</td>
<td>Yes</td>
<td>160 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>1,000,000</td>
</tr>
<tr>
<td>PTS525 SKG15J SMTR 2 LFS</td>
<td>1.5</td>
<td>J</td>
<td>Yes</td>
<td>260 gf ± 50 gf</td>
<td>0.25 ± 0.2</td>
<td>500,000</td>
</tr>
</tbody>
</table>
PTS 525 Series
Microminiature Tact Switch for SMT

PTS525 SM08 SMTR2 LFS
PTS525 SK08 SMTR2 LFS

RECOMMENDED PCB LAYOUT

PTS525 SM15 SMTR2 LFS
PTS525 SK15 SMTR2 LFS

RECOMMENDED PCB LAYOUT

PTS525 SMG15 SMTR2 LFS
PTS525 SKG15 SMTR2 LFS

RECOMMENDED PCB LAYOUT
PTS 525 Series
Microminiature Tact Switch for SMT

TAPE & REEL

1.5 mm height
4,000 pieces per reel

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
PTS 526 Series
Microminiature SMT Top Actuated

Features/Benefits
• 5.2 x 5.2 mm footprint
• Variable thickness
• Commercial grade

Typical Applications
• IoT devices
• Home automation
• Remote controls

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TERMINALS: J and G type for SMT
TRAVEL: 0.25 mm +/- 0.1 mm

Environmental
OPERATING TEMPERATURE: -20°C to 70°C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

Packaging
In reels of 5,000 pieces for 0.8 mm height
In reels of 4,000 pieces for 1.5, 1.7 and 2.0 mm height
Dimensions of reels according to EIA 481B
External diameter 330 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

For any part number different from those listed above, please consult your local representative.

<table>
<thead>
<tr>
<th>Actuator type</th>
<th>Operation force (gf)</th>
<th>Operating life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S (Standard)</td>
<td>160 ± 50</td>
<td>500,000</td>
</tr>
<tr>
<td>SK</td>
<td>250 ± 50</td>
<td>200,000</td>
</tr>
<tr>
<td>SP</td>
<td>320 ± 50</td>
<td>100,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAXIMUM VOLTAGE:</th>
<th>12 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM CURRENT DC:</td>
<td>50 mA</td>
</tr>
<tr>
<td>DIELLECTRIC STRENGTH:</td>
<td>250 VA C (1mn)</td>
</tr>
<tr>
<td>CONTACT RESISTANCE:</td>
<td>≤ 100 mΩ initial</td>
</tr>
<tr>
<td>INSULATION RESISTANCE:</td>
<td>≥ 100 MΩ</td>
</tr>
<tr>
<td>BOUNCE TIME:</td>
<td>≤ 10 ms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ground Pin</th>
<th>No digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ground pin</td>
<td>Ground pin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Height</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>08</td>
<td>0.8 mm height</td>
</tr>
<tr>
<td>15</td>
<td>1.5 mm height</td>
</tr>
<tr>
<td>17</td>
<td>1.7 mm height</td>
</tr>
<tr>
<td>20</td>
<td>2.0 mm height</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actuation Force</th>
<th>Termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 160 gf</td>
<td>No digit</td>
</tr>
<tr>
<td>K 260 gf</td>
<td>Gullwing SMT leads</td>
</tr>
<tr>
<td>P 320 gf</td>
<td>J bend leads - this option comes only with ground pin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Packaging</th>
<th>LFS</th>
<th>RoHS, silver plated</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMTR2 Tape &amp; reel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PTS526 SM XXXX SMTR2 LFS 160 ± 50 500,000
PTS526 SK XXXX SMTR2 LFS 250 ± 50 200,000
PTS526 SP XXXX SMTR2 LFS 320 ± 50 100,000
PTS 526 Series
Microminiature SMT Top Actuated

0.8 mm height – G leads lead only, no ground pin

1.5 ; 1.7 and 2.0 mm height – G leads, no ground pin

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

20 mar 19
PTS 526 Series
Microminiature SMT Top Actuated

1.5 ; 1.7 and 2.0 mm height – G leads, with ground pin

1.5 ; 1.7 and 2.0 mm height – J leads, with ground pin

Dimensions are shown: mm
Specifications and dimensions subject to change
PTS 526 Series
Microminiature SMT Top Actuated

TAPE & REEL

0.8 mm height
5,000 pieces per reel

1.5; 1.7 and 2.0 mm height
4,000 pieces per reel

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

20 mar 19
### Specifications

**Function:** momentary action  
**Contact Arrangement:** 1 make contact = SPST N.O.  
**Terminals:** Gullwing for SMT  
**Travel:** 0.2mm - 0.1 /+ 0.15mm

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Operating Force (gf)</th>
<th>Operating Life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS330 GN055 SMTR LFS</td>
<td>100 ± 30</td>
<td>1,000,000</td>
</tr>
<tr>
<td>PTS330 GM055 SMTR LFS</td>
<td>160 ± 30</td>
<td>1,000,000</td>
</tr>
<tr>
<td>PTS330 GH055 SMTR LFS</td>
<td>200 ± 30</td>
<td>200,000</td>
</tr>
<tr>
<td>PTS330 GK055 SMTR LFS</td>
<td>260 ± 30</td>
<td>200,000</td>
</tr>
<tr>
<td>PTS330 GG065 SMTR LFS</td>
<td>400 ± 70</td>
<td>300,000</td>
</tr>
<tr>
<td>PTS330 GS065 SMTR LFS</td>
<td>600 - 50/+100</td>
<td>150,000</td>
</tr>
</tbody>
</table>

**Packaging**

Switches in reels of 7,000 pieces.  
Dimensions of reels according to EIA 481B  
External diameter 330 mm

### Electrical

- **Maximum Voltage:** 12 VDC  
- **Maximum Current DC:** 50 mA  
- **Dielectric Strength:** 250 VA C (1mn)  
- **Contact Resistance:** ≤ 100 mΩ  
- **Insulation Resistance:** ≥ 100 MΩ  
- **Bounce Time:** ≤ 10 ms

### Environmental

- **Operating Temperature:** -40°C to 85°C

### Process

- **Soldering:** This component is suited to the following methods:  
  - Infrared Reflow Soldering in accordance with IEC61760-1

**Note:** Specifications listed above are for switches with standard options.  
For information on specific and custom switches, consult Customer Service Center.

### 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.

For any part number different from those listed above, please consult your local representative.

---

**Features/Benefits**

- 4.5 x 4.5 mm footprint  
- 0.55 mm thickness  
- High number of cycles  
- Symbol line identification

**Typical Applications**

- MP3 accessories  
- Bluetooth headset  
- Remote controls  
- Garage door opener

---

**Typical Applications**

- MP3 accessories  
- Bluetooth headset  
- Remote controls  
- Garage door opener

---

**Packaging**

Switches in reels of 7,000 pieces.  
Dimensions of reels according to EIA 481B  
External diameter 330 mm

---

**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.

For any part number different from those listed above, please consult your local representative.
PTS 530 Series
Ultra Low Profile SMT Top Actuated

TERMINATION

G GULLWING

BODY TYPE / ACTUATION FORCE

055 0,55 MM HEIGHT

065 0,65 MM HEIGHT

PART NUMBER
PTS 530 GS 065 SMTR LFS
PTS 530 GG 065 SMTR LFS

HEIGHT
0,72
0,68

Actuation force identification lines:

N: 100 gf
M: 160 gf
H: 200 gf
K: 260 gf
G: 400 gf
S: 600 gf

TAPE & REEL

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
PTS 540 Series
Ultra Low Profile SMT Top Actuated

Features/Benefits
• 3.7 x 3.7 mm footprint
• 0.35 mm thickness
• High number of cycles

Typical Applications
• MP3 accessories
• Bluetooth headset
• Remote controls

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TERMINALS: J type for SMT
TRAVEL: 0.15 mm ± 0.1 mm

Mechanical

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Operating Force (gf)</th>
<th>Operating Life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS540 JM035 SMTR LFS</td>
<td>160 ± 50</td>
<td>500,000</td>
</tr>
<tr>
<td>PTS540 JK035 SMTR LFS</td>
<td>230 ± 50</td>
<td>300,000</td>
</tr>
</tbody>
</table>

Environmental
OPERATING TEMPERATURE: -30°C to 85°C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

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.

For any part number different from those listed above, please consult your local representative.

TERMINATION:
J J bend

Actuation Force:
M 160 gf black casing
K 230 gf gray casing

Packaging:
SMTR Tape & reel
LFS RoHS, silver plated

Body Type:
035 0.35mm height

NOTE: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.
PTS 540 Series
Ultra Low Profile SMT Top Actuated

PTS 540

![Diagram of PTS 540 Series Tactile Switches]

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

---

**Tactile Switches**

PTS 540 Series
Ultra Low Profile SMT Top Actuated

---

**PTS 540**

![Diagram of PTS 540 Series Tactile Switches]

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
### PTS 810 Series
Microminiature SMT Top Actuated

#### Features/Benefits
- **4.2 x 3.2 mm footprint**
- **2.5 mm thickness**
- **High number of cycles**
- **Color coded actuators**

#### Typical Applications
- **Control panels**
- **Nomad devices**
- **Remote controls**
- **Keyless entry system**

#### Specifications
**FUNCTION:** momentary action
**CONTACT ARRANGEMENT:** 1 make contact = SPST N.O.
**TERMINALS:** J type for SMT
**TRAVEL:** 160 & 260 gf: 0.15mm ± 0.1mm
400 & 600 gf: 0.20mm ± 0.1mm

<table>
<thead>
<tr>
<th>Actuator Type</th>
<th>Operating Force (gf)</th>
<th>Operating Life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS810 SJM 250 SMTR LFS</td>
<td>160 ± 50</td>
<td>150,000</td>
</tr>
<tr>
<td>PTS810 SJK 250 SMTR LFS</td>
<td>260 ± 70</td>
<td>50,000</td>
</tr>
<tr>
<td>PTS810 SJG 250 SMTR LFS</td>
<td>400 ± 100</td>
<td>100,000</td>
</tr>
<tr>
<td>PTS810 SJS 250 SMTR LFS</td>
<td>600 ± 150</td>
<td>150,000</td>
</tr>
</tbody>
</table>

#### Electrical
**MAXIMUM VOLTAGE:** 16 VDC
**MAXIMUM CURRENT DC:** 50 mA
**DIELECTRIC STRENGTH:** 250 VA C (1mn)
**CONTACT RESISTANCE:** ≤ 500 mΩ
**INSULATION RESISTANCE:** ≥ 100 MΩ
**BOUNCE TIME:** ≤ 10 ms

#### Environmental
**OPERATING TEMPERATURE:** -40°C to 85°C

#### Process
**SOLDERING:** This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

**NOTE:** Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

#### 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.

For any part number different from those listed above, please consult your local representative.

---

![Switch Diagram](image.png)
PTS 810 Series
Microminiature SMT Top Actuated

PTS810

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

TAPE & REEL

SEE DETAIL A

REEL

DETAIL A
SCALE 0.5

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
PTS 815 Series
Microminiature SMT Top Actuated

Features/Benefits
- 4.2 x 3.2 mm footprint
- 2.5 mm thickness
- Commercial grade

Typical Applications
- IoT devices
- Home Automation
- Remote Controls

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TRAVEL: 0.20mm ± 0.1mm

<table>
<thead>
<tr>
<th></th>
<th>Operating Force (gf)</th>
<th>Operating Life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS815 SJM 250 SMTR LFS</td>
<td>180 ± 50</td>
<td>100,000</td>
</tr>
<tr>
<td>PTS815 SJK 250 SMTR LFS</td>
<td>250 ± 50</td>
<td>50,000</td>
</tr>
<tr>
<td>PTS815 SJG 250 SMTR LFS</td>
<td>400 ± 100</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Packaging
Switches in reels of 3,000 pieces.
Dimensions of reels according to EIA 481B
External diameter 330 mm

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.

For any part number different from those listed above, please consult your local representative.

Electrical
MAXIMUM VOLTAGE: 12 VDC
MAXIMUM CURRENT DC: 50 mA
DIELECTRIC STRENGTH: 250 VA C (1mm)
CONTACT RESISTANCE: ≤ 100 mΩ initial
INSULATION RESISTANCE: ≥ 100 MΩ
BOUNCE TIME: ≤ 10 ms

Environmental
OPERATING TEMPERATURE: -20°C to 70°C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

NEW

PTS 815 Series
Microminiature SMT Top Actuated

Features/Benefits
- 4.2 x 3.2 mm footprint
- 2.5 mm thickness
- Commercial grade

Typical Applications
- IoT devices
- Home Automation
- Remote Controls

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TRAVEL: 0.20mm ± 0.1mm

<table>
<thead>
<tr>
<th></th>
<th>Operating Force (gf)</th>
<th>Operating Life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS815 SJM 250 SMTR LFS</td>
<td>180 ± 50</td>
<td>100,000</td>
</tr>
<tr>
<td>PTS815 SJK 250 SMTR LFS</td>
<td>250 ± 50</td>
<td>50,000</td>
</tr>
<tr>
<td>PTS815 SJG 250 SMTR LFS</td>
<td>400 ± 100</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Packaging
Switches in reels of 3,000 pieces.
Dimensions of reels according to EIA 481B
External diameter 330 mm

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.

For any part number different from those listed above, please consult your local representative.

Electrical
MAXIMUM VOLTAGE: 12 VDC
MAXIMUM CURRENT DC: 50 mA
DIELECTRIC STRENGTH: 250 VA C (1mm)
CONTACT RESISTANCE: ≤ 100 mΩ initial
INSULATION RESISTANCE: ≥ 100 MΩ
BOUNCE TIME: ≤ 10 ms

Environmental
OPERATING TEMPERATURE: -20°C to 70°C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

NEW

PTS 815 Series
Microminiature SMT Top Actuated

Features/Benefits
- 4.2 x 3.2 mm footprint
- 2.5 mm thickness
- Commercial grade

Typical Applications
- IoT devices
- Home Automation
- Remote Controls

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TRAVEL: 0.20mm ± 0.1mm

<table>
<thead>
<tr>
<th></th>
<th>Operating Force (gf)</th>
<th>Operating Life (operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS815 SJM 250 SMTR LFS</td>
<td>180 ± 50</td>
<td>100,000</td>
</tr>
<tr>
<td>PTS815 SJK 250 SMTR LFS</td>
<td>250 ± 50</td>
<td>50,000</td>
</tr>
<tr>
<td>PTS815 SJG 250 SMTR LFS</td>
<td>400 ± 100</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Packaging
Switches in reels of 3,000 pieces.
Dimensions of reels according to EIA 481B
External diameter 330 mm

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.

For any part number different from those listed above, please consult your local representative.

Electrical
MAXIMUM VOLTAGE: 12 VDC
MAXIMUM CURRENT DC: 50 mA
DIELECTRIC STRENGTH: 250 VA C (1mm)
CONTACT RESISTANCE: ≤ 100 mΩ initial
INSULATION RESISTANCE: ≥ 100 MΩ
BOUNCE TIME: ≤ 10 ms

Environmental
OPERATING TEMPERATURE: -20°C to 70°C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.
PTS 815 Series
Microminiature SMT Top Actuated

PTS815

CIRCUIT DIAGRAM

P.C.B LAND DIMENSION

TAPE & REEL

Dimensions are shown: mm
Specifications and dimensions subject to change
Features/Benefits
- 3.9 x 2.9 mm footprint
- Three different heights
- High number of cycles
- Reduced footprint

Specifications

<table>
<thead>
<tr>
<th>Function</th>
<th>momentary action</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERMINALS:</td>
<td>J type for SMT</td>
</tr>
<tr>
<td>TRAVEL:</td>
<td>0.2mm + 0.1mm / -0.05 mm</td>
</tr>
<tr>
<td>Operating Force (gf)</td>
<td>Life Cycles</td>
</tr>
<tr>
<td>PTS820 J25M SMTR LFS</td>
<td>160 ± 50</td>
</tr>
<tr>
<td>PTS820 J25K SMTR LFS</td>
<td>250 ± 50</td>
</tr>
<tr>
<td>PTS820 J25MP SMTR LFS</td>
<td>160 ± 50</td>
</tr>
<tr>
<td>PTS820 J25KP SMTR LFS</td>
<td>250 ± 50</td>
</tr>
<tr>
<td>PTS820 J20M SMTR LFS</td>
<td>160 ± 50</td>
</tr>
<tr>
<td>PTS820 J20K SMTR LFS</td>
<td>250 ± 50</td>
</tr>
<tr>
<td>PTS820 J20MP SMTR LFS</td>
<td>160 ± 50</td>
</tr>
<tr>
<td>PTS820 J20KP SMTR LFS</td>
<td>250 ± 50</td>
</tr>
<tr>
<td>PTS820 J15M SMTR LFS</td>
<td>160 ± 50</td>
</tr>
<tr>
<td>PTS820 J15K SMTR LFS</td>
<td>250 ± 50</td>
</tr>
<tr>
<td>PTS820 J15MP SMTR LFS</td>
<td>160 ± 50</td>
</tr>
<tr>
<td>PTS820 J15KP SMTR LFS</td>
<td>250 ± 50</td>
</tr>
</tbody>
</table>

Electrical

- MAXIMUM VOLTAGE: 12 VDC
- MAXIMUM CURRENT DC: 50 mA
- DIELECTRIC STRENGTH: 100 VA C (1mn)
- CONTACT RESISTANCE: ≤ 100 mΩ
- INSULATION RESISTANCE: ≥ 100 MΩ
- BOUNCE TIME: ≤ 10 ms

Environmental

- OPERATING TEMPERATURE: -40°C to 85°C

Process

- SOLDERING: This component is suited to the following methods: Infrared Reflow Soldering in accordance with IEC61760-1

Packaging

Switches in reels of 2,500 pieces for 2.0 and 2.5 mm height
Switches in reels of 3,000 pieces for 1.5 mm height
Dimensions of reels according to EIA 481B
External diameter 330 mm

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.

For any part number different from those listed above, please consult your local representative.
PTS 820 Series
Microminiature SMT Top Actuated

2.5 & 2.0 mm height (H) - version shown here with pegs

Dimensions are shown: mm
Specifications and dimensions subject to change
PTS 820 Series
Microminiature SMT Top Actuated

1.5 mm height (H) - version shown here with pegs

RECOMMENDED PCB LAYOUT

CARRIER TAPE

SEE DETAIL A

DETAIL A
SCALE 0.5

REEL

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
# PTS 830 Series
## Microminiature SMT Top Actuated

### Features/Benefits
- 3.5 x 2.6 mm footprint
- High number of cycles
- Optional ground pin

### Typical Applications
- Wearable electronics
- Nomad devices
- Remote controls
- Keyless entry system

## Specifications

<table>
<thead>
<tr>
<th>Function</th>
<th>Contact Arrangement</th>
<th>Contact Arrangement Type</th>
<th>Terminal Type</th>
<th>Travel</th>
<th>Operating Force (gf)</th>
<th>Life Cycles</th>
<th>Grounding Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentary action</td>
<td>SPST N.O.</td>
<td>G type for SMT</td>
<td>Gullwing</td>
<td>0.15 mm ± 0.1 mm</td>
<td>operating Force (gf)</td>
<td>Life Cycles</td>
<td>Packing</td>
</tr>
<tr>
<td>PTS830 GM140 SMTR LFS</td>
<td>160 ± 50</td>
<td>500,000</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTS830 GG140 SMTR LFS</td>
<td>450 ± 80</td>
<td>200,000</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTS830 GM140G SMTR LFS</td>
<td>160 ± 50</td>
<td>500,000</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTS830 GG140G SMTR LFS</td>
<td>450 ± 80</td>
<td>200,000</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Electrical
- **Maximum Voltage:** 12 VDC
- **Maximum Current DC:** 50 mA
- **Dielectric Strength:** 100 VA C (1mn)
- **Contact Resistance:** ≤ 100 mΩ
- **Insulation Resistance:** ≥ 100 MΩ
- **Bounce Time:** ≤ 10 ms

### Environmental
- **Operating Temperature:** -40°C to 85°C

### Process
- **Soldering:** This component is suited to the following methods:
  - Infrared Reflow Soldering in accordance with IEC61760-1

### 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.

For any part number different from those listed above, please consult your local representative.

## How To Order Chart

<table>
<thead>
<tr>
<th>PTS</th>
<th>S</th>
<th>T</th>
<th>S</th>
<th>8</th>
<th>3</th>
<th>0</th>
<th>G</th>
<th>1</th>
<th>4</th>
<th>0</th>
<th>SM</th>
<th>TR</th>
<th>LFS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>G</td>
<td>M</td>
<td></td>
<td></td>
<td>SM</td>
<td>TR</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LFS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

- **Termination:** Gullwing
- **Actuation Force:**
  - M: 160 gf
  - G: 450 gf
- **Height:** 1.4 mm
- **Grounding Option:**
  - G: Ground pin
  - Void: No ground pin
- **Packaging:** Tape & reel
- **LFS:** RoHS, silver plated

## Packing
Switches in reels of 9,500 pieces
Dimensions of reels according to EIA 481B
External diameter 330 mm

## Notes
- Specifications listed above are for switches with standard options.
- For information on specific and custom switches, consult Customer Service Center.
PTS 830 Series
Microminiature SMT Top Actuated

PTS830 GX 140 G SMTR LFS

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

Tactile Switches

PTS 830 Series
Microminiature SMT Top Actuated

PTS830 GX 140 G SMTR LFS

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

Tactile Switches
PTS 840 Series
Microminiature SMT Side Actuated

Features/Benefits
- 3.5 x 3.55 mm footprint
- Front PIP leads option for strong shear resistance
- ESD pin option
- Reduced footprint

Typical Applications
- Nomad devices
- Remote controls
- Personal health diagnostics
- Consumer electronics

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TERMINALS: G and front PIP types for SMT
TRAVEL: 0.2mm + 0.2mm / -0.1 mm
LIFE: 100,000 cycles

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating Force (gf)</th>
<th>SMT Leads</th>
<th>Pegs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without ground pin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTS840 GM SMTR LFS</td>
<td>160 -40/+70</td>
<td>G leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 GK SMTR LFS</td>
<td>220 -70/+80</td>
<td>G leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 PM SMTR LFS</td>
<td>160 -40/+70</td>
<td>P leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 PK SMTR LFS</td>
<td>220 -70/+80</td>
<td>P leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 GMP SMTR LFS</td>
<td>160 -40/+70</td>
<td>G leads</td>
<td>Yes</td>
</tr>
<tr>
<td>PTS840 GKP SMTR LFS</td>
<td>220 -70/+80</td>
<td>G leads</td>
<td>Yes</td>
</tr>
<tr>
<td>With ground pin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTS840 ESDGM SMTR LFS</td>
<td>160 -40/+70</td>
<td>G leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 ESDGK SMTR LFS</td>
<td>220 -70/+80</td>
<td>G leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 ESDPM SMTR LFS</td>
<td>160 -40/+70</td>
<td>P leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 ESDPK SMTR LFS</td>
<td>220 -70/+80</td>
<td>P leads</td>
<td>No</td>
</tr>
<tr>
<td>PTS840 ESDGMP SMTR LFS</td>
<td>160 -40/+70</td>
<td>G leads</td>
<td>Yes</td>
</tr>
<tr>
<td>PTS840 ESDGKP SMTR LFS</td>
<td>220 -70/+80</td>
<td>G leads</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Electrical
MAXIMUM VOLTAGE: 12 VDC
MAXIMUM CURRENT DC: 50 mA
DIELECTRIC STRENGTH: 250 VA C (1mn)
CONTACT RESISTANCE: ≤ 500 mΩ
INSULATION RESISTANCE: ≥ 100 MΩ
BOUNCE TIME: ≤ 10 ms

Environmental
OPERATING TEMPERATURE: -40˚C to 85˚C

Process
SOLDERING: This component is suited to the following methods:
- Infrared Reflow Soldering in accordance with IEC61760-1

Packaging
In reels of 3,500 pieces
Dimensions of reels according to EIA 481B
External diameter 330 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

For any part number different from those listed above, please consult your local representative.

Design Recommendations
- "P" leads are recommended for applications where shear resistance is of importance
- When a precise alignment between application button and the switch is requested, version with pegs are the right choice to limit the possible floating of the switch during solderability.
PTS 840 Series
Microminiature SMT Side Actuated

TAPE & REEL

[Diagram of tactile switches with dimensions and tolerances listed in millimeters]

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
PTS841 Series
Microminiature SMT Side Actuated

Features/Benefits
• 3.6 x 3.5 mm footprint
• 1.25 mm thickness
• ESD pin option
• Peg option
• Commercial grade

Specifications
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TERMINALS: G for SMT
TRAVEL: 0.2mm ± 0.1 mm
LIFE: 100,000 cycles

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating Force (gf)</th>
<th>Pegs</th>
<th>ESD pin option</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS841 GM SMTR LFS</td>
<td>180 ± 50</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>PTS841 GK SMTR LFS</td>
<td>250 ± 50</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>PTS841 GMP SMTR LFS</td>
<td>180 ± 50</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>PTS841 GKP SMTR LFS</td>
<td>250 ± 50</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>PTS841 ESD GM SMTR LFS</td>
<td>180 ± 50</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>PTS841 ESD GK SMTR LFS</td>
<td>250 ± 50</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>PTS841 ESD GMP SMTR LFS</td>
<td>180 ± 50</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PTS841 ESD GKP SMTR LFS</td>
<td>250 ± 50</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Electrical
MAXIMUM VOLTAGE: 12 VDC
MAXIMUM CURRENT DC: 50 mA
DIELECTRIC STRENGTH: 250 VA C (1mn)
CONTACT RESISTANCE: ≤ 100 mΩ Initial
INSULATION RESISTANCE: ≥ 100 MΩ
BOUNCE TIME: ≤ 5 ms

Environmental
OPERATING TEMPERATURE: -40˚C to 85˚C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1

Packaging
In reels of 3,000 pieces
Dimensions of reels according to EIA 481B
External diameter 330 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

For any part number different from those listed above, please consult your local representative.

Design Recommendations
* When a precise alignment between application button and the switch is requested, version with pegs are the right choice to limit the possible floating of the switch during solderability.
PTS 841 Series
Microminiature SMT Side Actuated

G SMT Leads with ESD and Peg options

CIRCUIT DIAGRAM

P.C.B LAND DIMENSION

TAPE & REEL

Dimensions are shown: mm
Specifications and dimensions subject to change

26 jun 19
Features/Benefits
- 4 actuation forces
- G terminations
- N.O. and N.C.
- Detect type available
- Rubber actuator
- RoHS compliant and compatible

Typical Applications
- Automotive
- Medical equipment
- Industrial electronics
- Smart meters

Specification
FUNCTION: momentary action
CONTACT ARRANGEMENT: Normally Open
TERMINALS: Gullwing type for SMT

Mechanical
<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSR211G LFS / KSR213G LFG</td>
<td>1.5 &lt; 1.85 (185) &lt; 2.2</td>
<td>100,000</td>
<td>0.25 ± 0.15</td>
</tr>
<tr>
<td>KSR221G LFS / KSR223G LFG</td>
<td>1.9 &lt; 2.25 (225) &lt; 2.6</td>
<td>100,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSR231G LFS / KSR233G LFG</td>
<td>2.25 &lt; 3.00 (300) &lt; 3.75</td>
<td>100,000</td>
<td>0.35 ± 0.15</td>
</tr>
<tr>
<td>KSR251G LFS / KSR253G LFG</td>
<td>3.4 &lt; 4.50 (450) &lt; 5.6</td>
<td>100,000</td>
<td>0.5 ± 0.15</td>
</tr>
<tr>
<td>KSR221G NC LFS</td>
<td>1.5 &lt; 2.25 (225) &lt; 3</td>
<td>30,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSR223G NC LFG</td>
<td>1.5 &lt; 2 (200) &lt; 2.5</td>
<td>30,000</td>
<td>0.3 ± 0.15</td>
</tr>
</tbody>
</table>

Overload: 20 Newtons
Detect switch versions are available. Please see Detect chapter KSR2D/M series.

Packaging
Switches are delivered on continuous tape, in reels of 2,500 pieces.

Operating Force
1. 1.8 N (180 grams)
2. 2.0 N (200 grams)
3. 3.0 N (300 grams)
4. 4.5 N (450 grams)

Contact Material
1. Silver
2. Gold

Actuator
2 Soft actuator

Switch Function
(NONE) Normally open
NC Normally closed*

Termination
G Gull wing

LFS RoHS compliant and compatible. Silver plated.
LFG RoHS compliant and compatible. Gold plated.

Electrical
<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER:</td>
<td>1 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE:</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MINIMUM VOLTAGE:</td>
<td>20 mV</td>
</tr>
<tr>
<td>MAXIMUM CURRENT DC:</td>
<td>50 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT DC:</td>
<td>1 mA</td>
</tr>
</tbody>
</table>

CONTACT RESISTANCE: ≤ 100 mΩ
INSULATION RESISTANCE: (100 V): 1G Ω (between terminals)
BOUNCE TIME: 1 ms max.

Environmental
<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40°C to 85°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE:</td>
<td>-55°C to 85°C</td>
</tr>
</tbody>
</table>

Process
SOLDERING: Lead free reflow soldering process in accordance with IEC 61760-1.

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

*Available on KSR223G only.
KSR Series
Subminiature Tact Switch for SMT

Recommended PCB layout

TAPe & REEL

DIRECTION OF FEED

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
KSR Long Life-200,000 cycles-Gold and Silver Series Subminiature Tact Switch for SMT

Features/Benefits
- 4 actuation forces
- G terminations
- N.O.
- Detect type available
- Rubber actuator
- IP50 sealed
- RoHS compliant and compatible

Typical Applications
- Automotive
- Medical equipment
- Industrial electronics

Specification

FUNCTION: momentary action
CONTACT ARRANGEMENT: Normally Open
TERMINALS: Gullwing type for SMT

Mechanical

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force (Fa)</th>
<th>Operating life</th>
<th>Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Newtons (grams)</td>
<td>(operations)</td>
<td>(mm)</td>
</tr>
<tr>
<td>Silver versions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSR212G LFS</td>
<td>1.5 &lt; 1.85 (185)</td>
<td>200,000</td>
<td>0.25 ± 0.15</td>
</tr>
<tr>
<td>KSR222G LFS</td>
<td>1.9 &lt; 2.25 (225)</td>
<td>200,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSR232G LFS</td>
<td>2.25 &lt; 3.00 (300)</td>
<td>200,000</td>
<td>0.35 ± 0.15</td>
</tr>
<tr>
<td>KSR252G LFS</td>
<td>3.4 &lt; 4.50 (450)</td>
<td>200,000</td>
<td>0.5 ± 0.15</td>
</tr>
<tr>
<td>Gold versions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSR214G LFS</td>
<td>1.5 &lt; 1.85 (185)</td>
<td>200,000</td>
<td>0.25 ± 0.15</td>
</tr>
<tr>
<td>KSR224G LFS</td>
<td>1.9 &lt; 2.25 (225)</td>
<td>200,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSR234G LFS</td>
<td>2.25 &lt; 3.00 (300)</td>
<td>200,000</td>
<td>0.35 ± 0.15</td>
</tr>
<tr>
<td>KSR254G LFS</td>
<td>3.4 &lt; 4.50 (450)</td>
<td>200,000</td>
<td>0.5 ± 0.15</td>
</tr>
</tbody>
</table>

OVERLOAD: 20 Newtons

Packaging
Switches are delivered on continuous tape, in reels of 2,500 pieces.

Electrical

<table>
<thead>
<tr>
<th></th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER:</td>
<td>1 VA</td>
<td>0.2 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE:</td>
<td>32 V dc</td>
<td>32 V dc</td>
</tr>
<tr>
<td>MINIMUM VOLTAGE:</td>
<td>20 m Vdc</td>
<td>20 m Vdc</td>
</tr>
<tr>
<td>MAXIMUM CURRENT DC:</td>
<td>50 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT DC:</td>
<td>1 mA</td>
<td>1 mA</td>
</tr>
</tbody>
</table>

CONTACT RESISTANCE: ≤ 100 m Ω
INSULATION RESISTANCE (100 V): 1 G Ω (between terminals)
BOUNCE TIME: 1 ms max

Environmental

<table>
<thead>
<tr>
<th></th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40°C to 85°C</td>
<td>-40°C to 125°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE:</td>
<td>-55°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

Process
SOLDERING: Compatible with lead free reflow soldering process.

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.
KSR Long Life-200,000 cycles-Gold and Silver Series
Subminiature Tact Switch for SMT

Tactile Switches

KSR

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

KSR

TERMINATION
TAPE & REEL

DIRECTION OF FEED

First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
KSS Series
Subminiature SMT Side Actuated

Features/Benefits
• Low profile of 1.7 mm
• Excellent tactile feel
• High shear force
• Range of actuation forces
• Large flat top
• RoHS compliant and compatible

Typical Applications
• Cellular phone
• Industrial electronics
• Health diagnostic electronics

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.

However, please note that all the combinations of these options are not feasible. For any part number different from those listed above, please consult your local representative.

Specifications and dimensions subject to change.

Specifications

| FUNCTION | momentary action |
| CONTACT ARRANGEMENT | N.O. |
| TERMINALS | Gullwing |
| IP40 sealed |

Mechanical

OVERLOAD: 20N
TACTILE FEELING: 2 and 4N: 25% min.
2.5N: 30% min.

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force Newtons (grams)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSS221G</td>
<td>2.0 (200) ± 0.5</td>
<td>100,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSS231G</td>
<td>2.5 (250) ± 0.5</td>
<td>100,000</td>
<td>0.3 ± 0.10</td>
</tr>
<tr>
<td>KSS241G</td>
<td>4.0 (400) ± 1.0</td>
<td>100,000</td>
<td>0.3 ± 0.15</td>
</tr>
</tbody>
</table>

NOTE: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Electrical

<table>
<thead>
<tr>
<th>MAXIMUM POWER</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 VA</td>
<td>0.2 VA</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE</td>
<td>32 VDC</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MAXIMUM CURRENT</td>
<td>50 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT</td>
<td>1 mA</td>
<td>1 mA</td>
</tr>
<tr>
<td>DIELECTRIC STRENGTH</td>
<td>≥ 250 VDC</td>
<td></td>
</tr>
<tr>
<td>CONTACT RESISTANCE</td>
<td>&lt; 100 mΩ</td>
<td></td>
</tr>
<tr>
<td>INSULATION RESISTANCE</td>
<td>≥ 10^6 Ω</td>
<td></td>
</tr>
<tr>
<td>BOUNCE TIME</td>
<td>&lt; 3 ms</td>
<td></td>
</tr>
</tbody>
</table>

Environmental

<table>
<thead>
<tr>
<th>OPERATING TEMPERATURE</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40°C to 85°C</td>
<td>-40°C to 125°C</td>
<td></td>
</tr>
<tr>
<td>STORAGE TEMPERATURE</td>
<td>-55°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

Process
Soldering: Lead free reflow soldering process in accordance with IEC 61760-1.

Packaging
Tape and reels in reels of 3,000 pieces.
External diameter 330mm ± 2mm.
KSS Series
Subminiature SMT Side Actuated

**KSS**

**PCB PROPOSED LAYOUT**

**ACTUATOR**

2 STANDARD, 1,1 (0.043)

3 LARGE, 1,8 (0.070)

**TAPE & REEL**

Dimensions are shown: mm
Specifications and dimensions subject to change

First Angle Projection

30 Jan 19
**Features/Benefits**

- Positive tactile feeling
- J or G terminations
- Various heights
- IP67

**Typical Applications**

- Automotive
- Medical instruments
- Industrial electronics
- Network infrastructure and IT
- Elevator

---

**Specification**

FUNCTION: Momentary action  
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.  
TERMINALS: J bend & Gullwing type for SMT  
SEALING: IP67 except KSC5 (IP50)

**Liability Limitation**

This datasheet does not provide enough information for applications that require a certain level of quality or safety such as automotive, medical systems, or safety equipment. Please contact customer service for the contractual specification package.

**Environmental**

<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE: -40°C to 85°C</td>
<td>-40°C to 125°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE: -55°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

**Process**

SOLDERING: Depending on the application, this component is suited to the following methods:

- Terminals being silver or gold plated over a nickel barrier, the use of slightly activated flux is suitable.
- Soldering on double wave machine for vertical versions: soldering time ≤ 5 sec.
- Cleaning according to typical washing processes.
- Lead free reflow soldering process in accordance with IEC 61760-1.

**Electrical**

<table>
<thead>
<tr>
<th></th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER:</td>
<td>1 VA</td>
<td>0.2 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE:</td>
<td>32 VDC</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MINIMUM VOLTAGE:</td>
<td>20 mV</td>
<td>20 mV</td>
</tr>
<tr>
<td>MAXIMUM CURRENT:</td>
<td>50 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>MINIMUM CURRENT:</td>
<td>1 mA*</td>
<td>0.1 mA</td>
</tr>
</tbody>
</table>

DIELECTRIC STRENGTH (50 Hz, 1 min.): ≥ 250 Vrms  
CONTACT RESISTANCE: ≤ 100 mΩ  
INSULATION RESISTANCE (100 V): ≥ 10M Ω  
BOUNCE TIME: ≤ 1 ms

* Ultra low current with 10 µA - 1 VDC version are available upon request for KSC2 and KSC4

**Packaging**

Tape and Reel (see series for quantity information)

**NOTE:** Specifications listed above are for switches with standard options.

---

**KSC Product Range**

<table>
<thead>
<tr>
<th>KSC1</th>
<th>KSC2</th>
<th>KSC3</th>
<th>KSC4</th>
<th>KSC5</th>
<th>KSC6</th>
<th>KSC7</th>
<th>KSC8</th>
<th>KSC9</th>
<th>KSC10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without actuator</td>
<td>Soft actuator</td>
<td>Hard actuator</td>
<td>Soft actuator</td>
<td>Hard actuator</td>
<td>Hard actuator</td>
<td>Soft actuator</td>
<td>Hard actuator</td>
<td>Hard actuator</td>
<td>Soft actuator</td>
</tr>
<tr>
<td>H = 2.5 mm</td>
<td>H = 3.5 mm</td>
<td>H = 3.5 mm</td>
<td>H = 5.2 mm</td>
<td>H = 5.6 mm</td>
<td>H = 7.7 mm</td>
<td>H = 4.3 mm</td>
<td>H = 4.9 mm</td>
<td>H = 7.7 mm compatible with button</td>
<td>H = 4.9 mm</td>
</tr>
</tbody>
</table>

**Note:** KSC Series is subject to variants. Please contact customer service for other options.
KSC Series
Sealed Tact Switch for SMT

**J J BEND**

**G GULLWING**

12 MM

16 MM

<table>
<thead>
<tr>
<th>12 mm</th>
<th>Pieces</th>
<th>16 mm</th>
<th>Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC1J</td>
<td>2,000</td>
<td>KSC1G</td>
<td>2,000</td>
</tr>
<tr>
<td>KSC2J</td>
<td>2,000</td>
<td>KSC2G</td>
<td>2,000</td>
</tr>
<tr>
<td>KSC3J</td>
<td>2,000</td>
<td>KSC3G</td>
<td>2,000</td>
</tr>
<tr>
<td>KSC4J &amp; G</td>
<td>1,000</td>
<td>KSC5J &amp; G</td>
<td>1,000</td>
</tr>
<tr>
<td>KSC6J &amp; G</td>
<td>750</td>
<td>KSC7J &amp; G</td>
<td>1,000</td>
</tr>
<tr>
<td>KSC8J &amp; G</td>
<td>1,000</td>
<td>KSC9J &amp; G</td>
<td>750</td>
</tr>
<tr>
<td>KSC10J &amp; G</td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dimensions are shown: mm
Specifications and dimensions subject to change
**KSC-XA Series**

**Soft Sound Tact Switch**

---

### Features/Benefits
- **New soft sound**
- **Extended cage**
- **IP67**
- **Long life**
- **J terminations**
- **Tape & reel**

### Typical Applications
- **Trunk opening system**
- **Automatic gear shift paddle**
- **Steering wheel**
- **Window lifter**
- **Seat adjustment module**

---

#### Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Life (cycles)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSCXA 35J LFS</td>
<td>3.5 +/-1</td>
<td>1,000,000</td>
<td>0.7 +/- 0.2</td>
</tr>
<tr>
<td>KSCXA 40J LFS</td>
<td>4.0 +/-1</td>
<td>1,000,000</td>
<td>0.7 +/- 0.2</td>
</tr>
<tr>
<td>KSCXA 55J LFS</td>
<td>5.5 +/-1.6</td>
<td>1,000,000</td>
<td>0.7 +/- 0.2</td>
</tr>
<tr>
<td>KSCXA 68J LFS</td>
<td>6.8 +/- 1.7</td>
<td>500,000</td>
<td>0.7 +/- 0.2</td>
</tr>
<tr>
<td>KSCXA 96J LFS</td>
<td>9.6 +/- 2.4</td>
<td>150,000</td>
<td>0.7 +/- 0.2</td>
</tr>
</tbody>
</table>

**POWER:** 0.002 VA min. / 1VA Max.

**VOLTAGE:** 2V min. / 24V Max.

**CURRENT:** 1mA min. / 42mA Max.

**OPERATING TEMPERATURE:** -40°C / +95°C

**CONTACT RESISTANCE:** 0.1 ohm

---

#### Packaging

In reels of 1,400 pieces.
Dimensions of reels according to EIA RS481 or IEC 2863. External diameter 380 mm ± 2 mm.

---

#### 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.

For any part number different from those listed above, please consult your local representative.

---

**Operating Force**

- **35** 3.5 N
- **40** 4.0 N
- **55** 5.5 N
- **68** 6.8 N
- **96** 9.6 N

**Termination**

- **J** J bend

**LFS** Lead free compatible, silver plated

---

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
**Features/Benefits**
- Long travel
- Soft sound
- IP40
- J & G terminations
- Tape & reel

**Typical Applications**
- Automotive interior
- Front panel
- Instrumentation

---

### Specification

**FUNCTION:** Momentary
**CONTACT ARRANGEMENT:** 1 make contact = SPST, N.O.
**TERMINALS:** J bend & Gullwing type for SMT

### Mechanical

**MAXIMUM APPLIED FORCE:** 40N

*VALID ONE TIME. MAXIMUM ALLOWED TRAVEL TO AVOID OVERLOAD ISSUES IS 1.70MM.*

### Electrical

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Life (cycles)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC SLT 221J LFS</td>
<td>2.4 +/- 0.7</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 221G LFS</td>
<td>2.4 +/- 0.7</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 223J LFG</td>
<td>2.4 +/- 0.7</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 223G LFG</td>
<td>2.4 +/- 0.7</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 241J LFS</td>
<td>3.5 +/- 0.9</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 241G LFS</td>
<td>3.5 +/- 0.9</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 243J LFG</td>
<td>3.5 +/- 0.9</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
<tr>
<td>KSC SLT 243J LFG</td>
<td>3.5 +/- 0.9</td>
<td>200,000</td>
<td>1.35 +/-0.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plating</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Silver (with LFS final digits ONLY)</td>
<td>2 Gold (with LFG final digits ONLY)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Silver**
**Gold**

**SWITCHING POWER MAX.:** 1.0 VA
doesn’t apply.
**MAXIMUM POWER:** 1.0 VA
doesn’t apply.
**MAXIMUM VOLTAGE:** 32 VDC
**MINIMUM VOLTAGE:** 20 mV
**MAXIMUM CURRENT:** 50 mA
**MINIMUM CURRENT:** 1 mA

**DIELECTRIC STRENGTH:** ≥ 250 Vrms
**CONTACT RESISTANCE:** ≤ 100mΩ
**INSULATION RESISTANCE:** Initial measurement: ≥ 1GΩ
After damp heat: ≥10MΩ
**BOUNCE TIME:** < 5 ms

### Environmental

**OPERATING TEMPERATURE:** -40°C to +85°C (Silver)
-40°C to +125°C (Gold)
**STORAGE TEMPERATURE:** -40°C to +85°C (Silver)
-40°C to +125°C (Gold)

### Process

- Compatible with the lead free reflow soldering process.

### Packaging

- In reels of 1,000 pieces.
- Dimensions of reels according to EIA RS481 or IEC 2863.
- External diameter 330 mm ± 2 mm.

---

**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.

For any part number different from those listed above, please consult your local representative.

---

**Actuator**

2 Soft 5.0 mm height

**Operating Force**

2 2.4 N
4 3.5 N

**Plating**

1 Silver (with LFS final digits ONLY)
2 Gold (with LFG final digits ONLY)

**Termination**

J J bend
G Gullwing

**LFS** Lead free compatible, silver plated
**LFG** Lead free compatible, gold plated

---

Dimensions are shown: mm
Specifications and dimensions subject to change

5 jun 19  
B-63  
www.ckswitches.com
KSC1 without actuator 2,5 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC121</td>
<td>1.8 ± 0.65</td>
<td>200,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSC141</td>
<td>3 ± 0.75</td>
<td>200,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSC151</td>
<td>5.5 ± 1.4</td>
<td>100,000</td>
<td>0.35 ± 0.15</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 2,000 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

Contact Material
1 Silver
3 Gold

Operating Force
2 1.8 N * (180 grams)
4 3 N * (300 grams)
5 5.5 N (550 grams)

* See mechanical chart above to confirm specifications

Termination
J J bend
G Gullwing

LFS Lead free compatible, silver plated
LFG Lead free compatible, gold plated
KSC2 Series
Sealed Tact Switch for SMT

KSC2 soft actuator 3,5 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC201</td>
<td>1.6 ± 0.6</td>
<td>5,000,000</td>
<td>0.3 ± 0.2</td>
</tr>
<tr>
<td>KSC221</td>
<td>2 ± 0.5</td>
<td>500,000</td>
<td>0.35 + 0.25/- 0.15</td>
</tr>
<tr>
<td>KSC222</td>
<td>2 ± 0.5</td>
<td>1,000,000</td>
<td>0.35 + 0.25/- 0.15</td>
</tr>
<tr>
<td>KSC241</td>
<td>3.5 ± 0.9</td>
<td>300,000</td>
<td>0.5 ± 0.2</td>
</tr>
<tr>
<td>KSC251</td>
<td>5.55 ± 1.45</td>
<td>300,000</td>
<td>0.5 ± 0.2</td>
</tr>
<tr>
<td>KSC241 SPD</td>
<td>3.55 ± 0.9</td>
<td>300,000</td>
<td>0.5 ± 0.2</td>
</tr>
<tr>
<td>KSC251 SPD</td>
<td>6.2 ± 1.55</td>
<td>100,000</td>
<td>0.6 ± 0.2</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 2,000 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible. For any part number different from those listed above, please consult your local representative.

Operating Force
0 1.6 N (160 grams)
2 2 N (200 grams)
4 3.5 N (350 grams)
5 5.5 N (550 grams)

Contact Material
1 Silver
2 Silver long life
3 Gold
4 Gold long life

Termination
J J bend
G Gullwing

LFS Lead free compatible, silver plated
LFG Lead free compatible, gold plated

NONE Standard version
SPD Special delta version

See mechanical chart above to confirm specifications
KSC3 hard actuator 3,5 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC321</td>
<td>2 ± 0.4</td>
<td>300,000</td>
<td>0.2 + 0.3/- 0</td>
</tr>
<tr>
<td>KSC341</td>
<td>3 ± 0.75</td>
<td>300,000</td>
<td>0.2 + 0.3/- 0</td>
</tr>
<tr>
<td>KSC351</td>
<td>5 ± 1</td>
<td>100,000</td>
<td>0.25 + 0.3/- 0</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 2,000 pieces
Dimensions according to EIA RS-481/ IEC 60296-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

Contact Material
1 Silver
3 Gold

Operating Force
2 2 N (200 grams)
4 3 N (300 grams)
5 5 N (500 grams)

See mechanical chart above to confirm specifications

Termination
J J bend
G Gullwing

LFS Lead free compatible, silver plated
LFG Lead free compatible, gold plated
**KSC4 Series**

**Sealed Tact Switch for SMT**

### KSC4 soft actuator 5,2 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC401 50SH</td>
<td>1.45 ± 0.55</td>
<td>5,000,000</td>
<td>0.5 ± 0.25</td>
</tr>
<tr>
<td>KSC411 70SH</td>
<td>1.4 ± 0.35</td>
<td>1,000,000</td>
<td>0.35 ± 0.20</td>
</tr>
<tr>
<td>KSC421 70SH</td>
<td>1.7 ± 0.45</td>
<td>300,000</td>
<td>0.5 ± 0.25</td>
</tr>
<tr>
<td>KSC422 70SH</td>
<td>1.7 ± 0.45</td>
<td>1,000,000</td>
<td>0.5 ± 0.25</td>
</tr>
<tr>
<td>KSC441 70SH</td>
<td>4 ± 1</td>
<td>300,000</td>
<td>0.75 ± 0.25</td>
</tr>
<tr>
<td>KSC442 70SH</td>
<td>4 ± 1</td>
<td>1,000,000</td>
<td>0.75 ± 0.25</td>
</tr>
<tr>
<td>KSC451 70SH</td>
<td>4.25 ± 0.75</td>
<td>300,000</td>
<td>0.8 ± 0.2</td>
</tr>
<tr>
<td>KSC441 SPD</td>
<td>3.5 ± 0.9</td>
<td>300,000</td>
<td>0.7 ± 0.2</td>
</tr>
<tr>
<td>KSC441 ST1</td>
<td>3.4 ± 1</td>
<td>300,000</td>
<td>0.7 ± 0.25</td>
</tr>
<tr>
<td>KSC441 ST2</td>
<td>3.4 ± 1</td>
<td>300,000</td>
<td>0.35 ± 0.20</td>
</tr>
<tr>
<td>KSC461 ST1</td>
<td>6.25 ± 1.75</td>
<td>100,000</td>
<td>1 ± 0.3</td>
</tr>
<tr>
<td>KSC461 ST2</td>
<td>6.25 ± 1.75</td>
<td>300,000</td>
<td>0.5 ± 0.2</td>
</tr>
</tbody>
</table>

### Packaging

Switches delivered on continuous tape & reels of 1,000 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

### 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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.
KSC-DCT Series
Dual Circuit Technology Tact Switch

Features/Benefits
- SPDT NC-NO function
- Silicone actuator
- J or G terminations
- Tape & reel
- IP67

Specifications and dimensions subject to change

www.ckswitches.com

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.

For any part number different from those listed above, please consult your local representative.

Typical Applications
- Automotive
- Medical equipment
- Industrial electronics

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Operating Life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC441J DCT 70SH LFS</td>
<td>4.75 +/-1.25</td>
<td>300,000</td>
<td>0.85+0.35/-0.25</td>
</tr>
<tr>
<td>KSC441G DCT 70SH LFS</td>
<td>4.75 +/-1.25</td>
<td>300,000</td>
<td>0.85+0.35/-0.25</td>
</tr>
</tbody>
</table>

Packaging
In reels of 1,000 pieces.
Dimensions of reels according to EIA RS481 or IEC 2863.
External diameter 330 ± 2 mm

PCB Layout

Contact Material
1 Silver

Termination
J J bend
G Gull wing

Force
4 4.75 N

Actuator / Tactile
70SH Silicon 70SH

LFS Lead free compatible, silver plated

First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
**Tactile Switches**

**KSC-PF Series**

**Potting Friendly Tact Switch**

**Features/Benefits**
- Extended Cage
- Silicone actuator
- J or G terminations
- Tape & reel
- IP67

**Specifications and dimensions subject to change**

**www.ckswitches.com**

**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.

For any part number different from those listed above, please consult your local representative.

**Features/Benefits**

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Operating Life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC421G 70SH LFS PF</td>
<td>1.8 +/- 0.45</td>
<td>300,000</td>
<td>0.5 +/- 0.25</td>
</tr>
<tr>
<td>KSC421J 70SH LFS PF</td>
<td>1.8 +/- 0.45</td>
<td>300,000</td>
<td>0.5 +/- 0.25</td>
</tr>
<tr>
<td>KSC422G 70SH LFS PF</td>
<td>1.8 +/- 0.45</td>
<td>1,000,000</td>
<td>0.5 +/- 0.25</td>
</tr>
<tr>
<td>KSC422J 70SH LFS PF</td>
<td>1.8 +/- 0.45</td>
<td>1,000,000</td>
<td>0.5 +/- 0.25</td>
</tr>
<tr>
<td>KSC441G 70SH LFS PF</td>
<td>4 +/- 1</td>
<td>300,000</td>
<td>0.65 +/- 0.25</td>
</tr>
<tr>
<td>KSC441J 70SH LFS PF</td>
<td>4 +/- 1</td>
<td>300,000</td>
<td>0.65 +/- 0.25</td>
</tr>
<tr>
<td>KSC442G 70SH LFS PF</td>
<td>4 +/- 1</td>
<td>1,000,000</td>
<td>0.65 +/- 0.25</td>
</tr>
<tr>
<td>KSC442J 70SH LFS PF</td>
<td>4 +/- 1</td>
<td>1,000,000</td>
<td>0.65 +/- 0.25</td>
</tr>
<tr>
<td>KSC461G 70SH LFS PF</td>
<td>6.25 +/- 1.75</td>
<td>300,000</td>
<td>0.75 +/- 0.25</td>
</tr>
<tr>
<td>KSC461J 70SH LFS PF</td>
<td>6.25 +/- 1.75</td>
<td>300,000</td>
<td>0.75 +/- 0.25</td>
</tr>
<tr>
<td>KSC471G 70SH LFS PF</td>
<td>4 +/- 1</td>
<td>300,000</td>
<td>0.65 +/- 0.25</td>
</tr>
<tr>
<td>KSC471J 70SH LFS PF</td>
<td>4 +/- 1</td>
<td>300,000</td>
<td>0.65 +/- 0.25</td>
</tr>
</tbody>
</table>

Max. potting height: 2.9 mm

**Packaging**

In reels of 1,000 pieces.

Dimensions of reels according to EIA RS481 or IEC 2863.

External diameter 330 ± 2 mm

**Typical Applications**

- Automotive
- Medical equipment
- Industrial electronics

**Termination**

<table>
<thead>
<tr>
<th>Force</th>
<th>Contact Material</th>
<th>Termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Silver</td>
<td>J</td>
</tr>
<tr>
<td>4</td>
<td>Silver</td>
<td>J bend</td>
</tr>
<tr>
<td>6</td>
<td>Silver Long Life</td>
<td>G</td>
</tr>
<tr>
<td>7</td>
<td>Silver Long Life</td>
<td>Gull wing</td>
</tr>
</tbody>
</table>

**Dimensions are shown: mm**

Specifications and dimensions subject to change

[Image of tactile switch]

[Image of dimensions diagram]

[Logo and website URL]
KSC5 Series
Tact Switch with Rocker Option for SMT

KSC5 hard actuator 5,6 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating Force axial FA N (grams)</th>
<th>Operating Force lateral FL N (grams) ±30%</th>
<th>Travel to make axial (mm)</th>
<th>Travel to make lateral (mm)</th>
<th>Life expectancy cycles, axial</th>
<th>Life expectancy cycles, lateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC521</td>
<td>2 ± 0.5</td>
<td>1.2 - 2.6</td>
<td>0.25 ± 0.15</td>
<td>0.5 ± 0.25</td>
<td>100,000</td>
<td>10,000</td>
</tr>
<tr>
<td>KSC541</td>
<td>3 ± 0.75</td>
<td>1.8 - 3.8</td>
<td>0.25 ± 0.15</td>
<td>0.5 ± 0.25</td>
<td>100,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 1,000 pieces, dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

K S C S

Operating Force
2 2 N (200 grams)
4 3 N (300 grams)

Contact Material
1 Silver
3 Gold

ROHS
RoHS compliant, non compatible

Termination
J J bend
G Gullwing
KSC6 Series
Sealed Tact Switch for SMT

KSC6 hard actuator 7,7 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating Force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC621</td>
<td>1.7 ± 0.5</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
<tr>
<td>KSC631</td>
<td>2.55 ± 0.65</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
<tr>
<td>KSC641</td>
<td>3.4 ± 0.85</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 750 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.
KSC7 Series
Sealed Tact Switch for SMT

KSC7 soft actuator 4.3 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC701</td>
<td>1.6 ± 0.6</td>
<td>5,000,000</td>
<td>0.3 ± 0.2</td>
</tr>
<tr>
<td>KSC721</td>
<td>2.25 ± 0.55</td>
<td>300,000</td>
<td>0.3 ± 0.15</td>
</tr>
<tr>
<td>KSC741</td>
<td>3.9 ± 1</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 1,000 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

Operating Force
- 0 1.6 N (160 grams)
- 2 2.25 N (225 grams)
- 4 3.9 N (390 grams)
See mechanical chart above to confirm specifications

Contact Material
- 1 Silver
- 3 Gold

Termination
- J J bend
- G Gullwing
- LFS Lead free compatible, silver plated
- LFG Lead free compatible, gold plated
KSC8 Series
Sealed Tact Switch for SMT

KSC8 hard actuator 4.9 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC821</td>
<td>3.15 ± 0.75</td>
<td>300,000</td>
<td>0.65 ± 0.2</td>
</tr>
<tr>
<td>KSC821 OL</td>
<td>1.7 ± 0.5</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
<tr>
<td>KSC831 OL</td>
<td>2.55 ± 0.65</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
<tr>
<td>KSC841 OL</td>
<td>3.4 ± 0.85</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 1,000 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

Contact Material
1 Silver
3 Gold

Operating Force
2 1.7 / 3.15 N (170/315 grams)
3 2.55 N (255 grams)
4 3.4 N (340 grams)

See mechanical chart above to confirm specifications

Option
NONE Long travel
OL Short travel

LFS Lead free compatible, silver plated
LFG Lead free compatible, gold plated

Termination
J J bend
G Gullwing
KSC9 hard actuator 7.7 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newton)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC921</td>
<td>1.7 ± 0.5</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
<tr>
<td>KSC931</td>
<td>2.25 ± 0.65</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
<tr>
<td>KSC941</td>
<td>3.4 ± 0.85</td>
<td>300,000</td>
<td>0.4 ± 0.2</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 750 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.
For any part number different from those listed above, please consult your local representative.
KSC10 Series
Sealed Tact Switches for SMT

KSC10 soft actuator 4,9 mm high

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC1001</td>
<td>1.45 ± 0.55</td>
<td>5,000,000</td>
<td>0.45 ± 0.25</td>
</tr>
</tbody>
</table>

Packaging
Switches delivered on continuous tape & reels of 1,000 pieces
Dimensions according to EIA RS-481/ IEC 60286-3 standard
External diameter 330 ± 2 mm

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

Operating Force
0 1.45 N (145 grams)
See mechanical chart above to confirm specifications

Contact Material
1 Silver

Termination
J J bend
G Gullwing

LFS Lead free compatible, silver plated

Note: KSC10 offered with yellow actuator as standard, hardness 55 Shore
**KSC V2 Series**

**Side Actuated Sealed Tact Switch**

### Features/Benefits
- Full SMD side actuated
- Haptic adaptability
- Pin in paste terminations
- Tape & reel
- IP67

### Typical Applications
- Automotive
- Industrial electronics
- Network equipment
- Telecommunications

### Specifications and dimensions subject to change

www.ckswitches.com

---

**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.

For any part number different from those listed above, please consult your local representative.

---

**Mechanical**

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Operating Life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSC201 V2 LFS</td>
<td>1.6 ± 0.6</td>
<td>1,000,000</td>
<td>0.5 ± 0.2</td>
</tr>
<tr>
<td>KSC421 V2 70SH LFS</td>
<td>1.55 ± 0.45</td>
<td>300,000</td>
<td>0.45 ± 0.25</td>
</tr>
<tr>
<td>KSC441V2 70SH SP DELTA LFS</td>
<td>3.5 ± 1.0</td>
<td>300,000</td>
<td>0.7 ± 0.2</td>
</tr>
<tr>
<td>KSC443V2 70SH SP DELTA LFG</td>
<td>3.5 ± 1.0</td>
<td>300,000</td>
<td>0.7 ± 0.2</td>
</tr>
<tr>
<td>KSC421 V2 RT LFS</td>
<td>1.8 ± 0.5</td>
<td>300,000</td>
<td>0.5 ± 0.2</td>
</tr>
<tr>
<td>KSC423 V2 RT LFG</td>
<td>1.8 ± 0.5</td>
<td>300,000</td>
<td>0.5 ± 0.2</td>
</tr>
<tr>
<td>KSC441 V2 RT LFS</td>
<td>3.4 ± 1.0</td>
<td>300,000</td>
<td>0.35 ± 0.2</td>
</tr>
</tbody>
</table>

**Actuator / Tactile**

- 2: short, soft
- 4: long, soft

**Contact Material**

- 1: Silver
- 3: Gold

**Operating Force***

- 0: 1.6 N (160 grams)
- 2: 2 N (200 grams)
- 4: 3.5 N (350 grams)

**Actuator**

- for KSC2 version

---

**Electrical**

<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM POWER:</td>
<td>1 VA</td>
</tr>
<tr>
<td>MAXIMUM VOLTAGE:</td>
<td>32 VDC</td>
</tr>
<tr>
<td>MINIMUM VOLTAGE:</td>
<td>20 mA</td>
</tr>
<tr>
<td>MAXIMUM CURRENT:</td>
<td>1 A</td>
</tr>
</tbody>
</table>

**Environmental**

- OPERATING TEMPERATURE: -40°C to 85°C
- STORAGE TEMPERATURE: -55°C to 125°C

---

**Packaging**

- In reels of 800 pieces.
- Dimensions of reels according to EIA RS481 or IEC 2863.
- External diameter 380 mm ± 2 mm.

---

**Notes**

- Basic version is based on KSC441V2 SPDELTA LFS.
- Other configurations of haptics are available upon demand.
- MISUSE OVERLOAD: 40N with back support
- SHEAR FORCE: 10N without back support

---

**Dimensions**

- Dimensions shown: mm

---

For systems where reliability and safety are required, please contact your sales representative to secure product integration and function to secure usage.

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* KSC2 version available upon demand
** Force available upon demand (variant version)
*** Available for KSC4 only
**** for KSC2

---

16 apr 19

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
This actuator is not compatible with grease even with restricted contact.
In case of the integration of an actuator or button by the customer, please consult us if use of plasticizer agent for button raw material (risk of chemical migration).
Our actuator contains carbon particles and is electrical conductive. In consequence, customer actuator must be electric insulating raw material.
Due to the cover raw material plating, small tin balls can appear after the reflow soldering process. These small tin balls are located near all cutting areas.
Tactile Switches

KSE Series
Low Profile Tact Switch

Features/Benefits

- Low profile
- Cost efficient
- J or G terminations
- Tape and reel
- IP67

Typical Applications

- Smart meters
- Home appliances
- Consumer electronics
- Industrial electronics
- Telecommunications

Specifications

FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: J bend & Gullwing type for SMT

Mechanical

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating Force FA (Newtons)</th>
<th>Operating Life Min. Max.</th>
<th>Travel Operations (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSEM31JLFS</td>
<td>1.6 ± 0.6</td>
<td>300,000</td>
<td>0.3 ± 0.1/-0.2</td>
</tr>
<tr>
<td>KSEM31GLFS</td>
<td>1.6 ± 0.6</td>
<td>300,000</td>
<td>0.3 ± 0.1/-0.2</td>
</tr>
<tr>
<td>KSEK43JLFS</td>
<td>2.25 ± 0.75</td>
<td>300,000</td>
<td>0.3 ± 0.2</td>
</tr>
<tr>
<td>KSEK43GLFS</td>
<td>2.25 ± 0.75</td>
<td>300,000</td>
<td>0.3 ± 0.2</td>
</tr>
</tbody>
</table>

NOTE: For cost effectiveness the tactile feeling is not specified and can change along production. If your application requires a defined tactile effect, please consider KSC series for your application.

Electrical

MAXIMUM POWER: 1 VA
MINIMUM/MAXIMUM VOLTAGE: 20 mV / 32 VDC
MINIMUM/MAXIMUM CURRENT: 1 mA / 50 mA
DIELECTRIC STRENGTH: (50 Hz, 1 min.): ≥ 250 V
CONTACT RESISTANCE: ≤ 100 mΩ
INSULATION RESISTANCE: (100 V): ≥ 10^9 Ω
BOUNCE TIME: ≤ 1 ms

Environmental

OPERATING TEMPERATURE: -40˚C to 85˚C
STORAGE TEMPERATURE: -55˚C to 85˚C

Process

SOLDERING: Depending on the application, this component is suited to the following methods:
- Cleaning according to typical washing processes.
- Lead free reflow soldering process in accordance with IEC 61760-1.

NOTE: Specifications listed above are for switches with standard options. KSE series is not subject to adaptation and/or modification for specific use. If you require additional features, please refer to the KSC series. KSE is not recommended for applications requiring high level of performance such as aerospace, automotive and some industrial applications.

Packaging

In reels of 2,000 pieces
Dimensions of reels according to EIA RS481 or IEC 2863.
External diameter 330 mm ± 2 mm.

NOTE: Specifications listed above are for switches with standard options. KSE series is not subject to adaptation and/or modification for specific use. If you require additional features, please refer to the KSC series. KSE is not recommended for applications requiring high level of performance such as aerospace, automotive and some industrial applications.

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.

![Switch Selection Diagram]

KSELFS
Operating Force
- M: 1.5N for 3.1mm height
- K: 2.25N for 4.3mm height

Height
- 31: 3.1mm
- 43: 4.3mm

Termination
- J: J bend
- G: Gullwing

LFS: Lead free compatible, silver plated.
KSE Series
Low Profile Tact Switch

**HEIGHT**

31  3.1 MM HEIGHT

43  4.3 MM HEIGHT

**TERMINATION**

G  GULLWING

J  J BEND
12 mm height

16 mm height
Tactile Switches

**Features/Benefits**
- Rubber actuator
- Silver contact material
- J or G terminals
- Compatible with pick and place machines
- IP40 sealed
- RoHS compliant and compatible

**Specifications**
- Function: Momentary
- Contact arrangement: 1 make contact = SPST N.O.
- Terminals: J bend or gullwing type for SMT

**Mechanical**
- Maximum applied force: 4 KG (4078GF)*
  * Valid one time. Maximum allowed travel to avoid overload issues.
- Is 1.75MM

**Typical Applications**
- Front panel
- Car dashboards
- Telephone set
- Instrumentation

**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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Operating force Fa N (grams)±30%</th>
<th>Operating life (operations)</th>
<th>Travel to make</th>
</tr>
</thead>
<tbody>
<tr>
<td>KST221G / J</td>
<td>1.6-3.2</td>
<td>100,000</td>
<td>1.3+0.3/-0.2</td>
</tr>
<tr>
<td>KST241G / J</td>
<td>2.45-4.55</td>
<td>100,000</td>
<td>1.3+0.3/-0.2</td>
</tr>
</tbody>
</table>

**Environmental**
- Operating temperature: -40°C to +85°C (Silver)
  -40°C to +125°C (Gold)
- Storage temperature: -40°C to +85°C (Silver)
  -40°C to +125°C (Gold)
- Bounce time: < 5 ms

**Electrical**
- Switching power max.: 1.0 VA 0.2 VA
- Maximum power: 1.0 VA 0.2 VA
- Maximum voltage: 32 VDC 32 VDC
- Minimum voltage: 20 MV 20 MV
- Maximum current: 50 MA 10 MA
- Minimum current: 1 MA 1 MA
- Dielectric strength: ≥ 250 Vrms
- Contact resistance: < 100mΩ
- Insulation resistance: Initial measurement: ≥ 1GΩ
  After damp heat: ≥ 10MΩ

**Packaging**
Switches are delivered on continuous tape and reels of 1,000 pieces, 330 (12.992) external diameter. Other dimensions according to IEC 60286-3.

This data sheet does not provide enough information for applications which require a certain level of quality or safety such as automotive, medical systems, safety equipment. Please contact your sales representative to get contractual specification package.

**Process**
Soldering: lead free reflow soldering process in accordance with IEC 61760-1.

**Contact Material**
1. Silver
2. Gold
3. ROHS compliant and compatible. Silver plated.
4. ROHS compliant and compatible. Gold plated.

**Terms and Conditions**
Specifications and dimensions subject to change.
Dimensions are shown: mm
www.ckswitches.com
KST Series
Long Travel Tact Switch for SMT

TAPE & REEL

FOR J AND G TERMINATION

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
KT Series
Full SMT Top & Side Actuated Sealed Tact Switch

Features/Benefits
- Full SMT side-actuated tact switch
- SMT top-actuated tact switch with G or J terminations
- High shear force with extended bracket
- Easy to pick & place with top plate tab
- Rubber or hard plastic actuator
- Press fit or snap fit caps
- RoHS compliant and compatible

Typical Applications
- Telecommunications
- Computer products
- Instrumentation
- Power supply

Specification
CONTACT ARRANGEMENT: SPST, N.O.
TERMINALS: SMT termination

Electrical
CONTACT RATING: 1.0 VA max. @ 32 V AC or DC max.
ELECTRICAL & MECHANICAL LIFE: 100,000 make-and-break cycles at full load.
DIELECTRIC STRENGTH: 250 Vrms min. @ sea level.
CONTACT RESISTANCE: Below 50 mΩ typ. initial @ 2-4 V DC, 100 mA.
INSULATION RESISTANCE: 10^9 Ω min.

Environmental
OPERATING TEMPERATURES: Ag version: -40°C to 90°C
Au version: -40°C to 125°C

Process
SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).
DEGREE OF PROTECTION: IP57; protection against harmful dust deposits, full-scale voltage protection.

Packaging
Switches supplied in anti-static tape and reels per EIA 481-2. Tape and cover strip are conductive for use near statically sensitive components.

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.

However, please note that all the combinations of these options are not feasible. For any part number different from those listed above, please consult your local representative.

SWITCH

Actuator
B0* Soft, flush
B1* Soft, 0.64 mm
B2* Soft, 2.24 mm
P2** Hard, 2.36 mm
P3** Hard, 1.12 mm
P4** Hard, 3.96 mm
S1*** ø0.1” for Press Fit Caps
S2*** ø0.14” for Snap Fit Caps

Orientation and Mounting Style
SM Top Gullwing
JM Top J Bend ****
SAM Right angle
SA1M Right angle with front solder pad
SA2M Right angle with front solder pad and pick & place tab
SA3M Right angle with pick & place tab

Contact Plating
4 Silver
5 Gold

Button Style
02 Press fit
03 Snap fit, high temperature

Button Color
90 Black
80 Ivory (natural)
40 Red

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

* B0, B1 & B2 available with A, A1 & A3 mounting bracket only.
** P2, P3, P4 actuators suitable with A1 & A2 mounting bracket only.
*** S1 & S2 available with A1 & A2 mounting bracket only.
**** JM available with BO, B1, B2, P2, P3, P4 without mounting bracket.
KT Series

Full SMT Top & Side Actuated Sealed Tact Switch

SERIES

KT11

ACTUATOR

B0 SOFT, FLUSH*

B1 SOFT, 0,64 mm*

B2 SOFT, 2,24 mm*

P2 HARD, 2,36 mm

P3 HARD, 1,12 mm

P4 HARD, 3,96 mm**

S1 Ø0,1" FOR PRESS FIT CAPS***

S2 Ø0,14" FOR SNAP FIT CAPS***

* B0, B1 & B2 available with A, A1 & A3 mounting bracket only.
** P2, P3, P4 actuators suitable with A1 & A2 mounting bracket only.
*** S1 & S2 available with A1 & A2 mounting bracket only.
**** JM available with B0, B1, B2, P2, P3, P4 without mounting bracket.
SA2M RIGHT ANGLE WITH FRONT SOLDER PAD AND PICK & PLACE TAB

SA3M RIGHT ANGLE WITH PICK & PLACE TAB

PAD LAYOUT
SA1M & SA2M MOUNTING BRACKET

PAD LAYOUT
SA3M & SA3M MOUNTING BRACKET

Dimensions are shown: mm
Specifications and dimensions subject to change
KT Series
Full SMT Top & Side Actuated Sealed Tact Switch

BUTTON

To order buttons in bulk

**02 PRESS FIT**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>Internal Part Number</th>
<th>Button Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTN KT11 02 80</td>
<td>5081 01000</td>
<td>Ivory (Natural)</td>
</tr>
<tr>
<td>BTN KT11 02 90</td>
<td>5081 02000</td>
<td>Black</td>
</tr>
<tr>
<td>BTN KT11 02 40</td>
<td>5081 03000</td>
<td>Red</td>
</tr>
</tbody>
</table>

Materials: Nylon
Finish: Gloss

**03 SNAP FIT, HIGH TEMPERATURE**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>Internal Part Number</th>
<th>Button Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTN KT11 03 80</td>
<td>685B 01000</td>
<td>Ivory (Natural)</td>
</tr>
<tr>
<td>BTN KT11 03 90</td>
<td>685B 02000</td>
<td>Black</td>
</tr>
</tbody>
</table>

Materials: Nylon
Finish: Gloss

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
Features
- High bright LED’s
- Gold plated dome contact offering superior contact reliability in time
- Excellent ergonomics: sharp tactile feel and audible click
- Reduced space usage on board “2 in 1”
- 40 N overload
- Tape and reel
- RoHS compliant and compatible

Typical Applications
- Application requiring illumination
- Server, storage
- Network infrastructure
- Telecom
- Medical

Specifications

Electrical
- POWER MIN/MAX: 0.02VA / 1.0VA
- VOLTAGE MIN/MAX: 20mVdc – 32 Vdc
- CURRENT MIN/MAX: 0.1mA – 100mA
- CONTACT RESISTANCE: <100m Ω
- INSULATION RESISTANCE: >1G Ω initial, >10M Ω after damp heat
- BOUNCE TIME: <10ms

Environmental
- OPERATING TEMPERATURE: -40˚C to 125˚C
- STORAGE TEMPERATURE: -55˚C to 125˚C
- RELATIVE HUMIDITY: 90 to 96% according to NF EN 60068-2-30
- PROTECTION: dust protection and flux tight (IP 40)
- OVERLOAD: 40N min

Process
- SOLDERING: Compatible with the lead free soldering profile.
- No washing
- MSL Level: 5

Materials
- CONTACTS: Au over Ni
- TERMINALS: Au over Ni
- HOUSING: Thermoplastic UL94 V0

Mechanical

<table>
<thead>
<tr>
<th>Type</th>
<th>Actuation force (N)</th>
<th>Operating life (operations)</th>
<th>Travel (total travel) mm/mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>K5AT xx 43GP</td>
<td>4.0</td>
<td>100,000</td>
<td>0.45 (0.95)</td>
</tr>
</tbody>
</table>

1 Tolerances of operating force FA is ± 25%.

Packaging

- Standard: 900 pcs per reel; Reel diameter 380 mm
- Reduced: 180 pcs per reel; Reel diameter 180 mm

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
- YE Yellow
- GN Green
- RD Red
- BU Blue
- WH White
- GA Green apple

Operating Force
- 4.0 N (400 grams)

Termination
- G Gulf wing

Peg
- NONE (STD.)
- P (with pegs)

Packaging
- NONE (900 pieces per reel)
- R (reduced packaging 180 pieces per reel)

Contact Material
- 3 Gold (Au)
**Features**
- Various LED options
- No light perturbation
- Sound haptic
- Various climatic classes

**Typical Applications**
- Automotive
- Network equipment
- Telecommunications
- Medical equipment
- Industrial controls

**Specification**
FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make control = SPST, N.O.
TERMINALS: Gullwing type for SMT, 2 terminals for LED

**Mechanical**

<table>
<thead>
<tr>
<th>Type</th>
<th>Actuation Force (N)</th>
<th>Operating Life (operations)</th>
<th>Travel (Total Travel) (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K8xx41G LFS</td>
<td>4.0</td>
<td>300,000</td>
<td>0.45 (0.95)</td>
</tr>
</tbody>
</table>

Tolerances on actuation force is ± 25%.
SEALING LEVEL: IP40

**Illumination Colors**
White, blue, pure green, orange, super red
LED technical information available on product specification.
For any extra color, please contact your sales representative.

**Packaging**
In reels of 900 pieces under sealed foil.
Dimensions of reels according to EIA RS481 or IEC 2863. External diameter 380 mm.

**Environmental**
OPERATING TEMPERATURE: -40°C to +85°C
STORAGE TEMPERATURE: -55°C to +85°C

**Process**
SOLDERING: Compatible with the lead free soldering profile.
No washing
MSL level: 5a

**Materials**
CONTACTS: Ag over Ni
TERMINALS: Ag over Ni
HOUSING: Thermoplastic UL94 V0

**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.
Tactile Switches

Illuminated SMT Tact Switch with Dedicated LED

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>REF LED</th>
<th>Emitted Color</th>
<th>Luminous Intensity (mcdd) If = 20 mA</th>
<th>Chromaticity Coordinates or Peak Wave Length (typ) If = 20 mA</th>
<th>Forward Voltage V If = 20 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>K8WH41G LFS</td>
<td>LW T67C-S2U1-5K8L</td>
<td>WHITE</td>
<td>224</td>
<td>560</td>
<td>0.33</td>
</tr>
<tr>
<td>K8BU41G LFS</td>
<td>LB T67C-P2R1-35</td>
<td>BLUE</td>
<td>56</td>
<td>140</td>
<td>465 mm</td>
</tr>
<tr>
<td>K8PG41G LFS</td>
<td>LP T676-L1M2-25</td>
<td>PURE GREEN</td>
<td>11.2</td>
<td>28</td>
<td>562 mm</td>
</tr>
<tr>
<td>K8SR41G LFS</td>
<td>LP T676-Q1R2-1</td>
<td>SUPER RED</td>
<td>71</td>
<td>180</td>
<td>645 mm</td>
</tr>
<tr>
<td>K8OG41G LFS</td>
<td>LO T676-R1S2-24</td>
<td>ORANGE</td>
<td>112</td>
<td>280</td>
<td>610 mm</td>
</tr>
</tbody>
</table>

Specifications and dimensions subject to change

www.ckswitches.com

Dimensions are shown: mm
Specifications and dimensions subject to change
<table>
<thead>
<tr>
<th>TAPE &amp; REEL</th>
</tr>
</thead>
</table>

**Illuminated SMT Tact Switch with Dedicated LED**

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
K5V
Illuminated Tact Switch

**Features**
- Gold plated dome contact SPST/SPDT
- Excellent ergonomics
- High bright leds
- Reduced space usage on board
- 40 N overload
- Tape and reel
- RoHS compliant and compatible

**Typical Applications**
- When backlighting and switch are required to be a “2 in 1” component
- The dome contact secures a superior contact reliability in time
- The ergonomics of K5V provides a long travel, a sharp tactile feel and an audible click
- Server, storage, automotive, network infrastructure, medical

**Specification**
FUNCTION: momentary action
CONTACT ARRANGEMENT: Normally Open + Normally Closed
TERMINALS:
- THT: Through hole terminals with positioning pegs
- SMT: Surface mount terminals with positioning pegs
- PM: Panel mount solder terminals with wire hole

**Mechanical**

<table>
<thead>
<tr>
<th>Version</th>
<th>Operating force FA (Newtons)</th>
<th>Operating life (operations)</th>
<th>Travel (total travel) (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>THT, SMT, PM</td>
<td>4.0 (400)</td>
<td>25,000</td>
<td>1.2 (2.4)</td>
</tr>
</tbody>
</table>

1 Tolerances of operating force FA is ± 25%.

**Packaging**
- THT: 60 pieces per tray; 1800 pieces per box
- SMT: 330 pieces per reel (reel ø 360mm); 1320 pieces per box
- PM: 60 pieces per tray; 2100 pieces per box

**Electrical**
POWER MIN/MAX: 0.02VA / 1.0VA
VOLTAGE MIN/MAX: 20mVdc – 32 Vdc
CURRENT MIN/MAX: 0.1mA – 100mA
CONTACT RESISTANCE: <150m Ω
INSULATION RESISTANCE: >1G Ω initial, >10M Ω after damp heat
BOUNCE TIME: <5ms

**Environmental**
OPERATING TEMPERATURE: -40°C to 85°C
STORAGE TEMPERATURE: -50°C to 85°C
RELATIVE HUMIDITY: 90% to 96% according to NF EN 60068-2-30
PROTECTION: dust protection and flux tight
OVERLOAD: 40N min

**Process**
SMT
- Soldering: Compatible with the lead free soldering profile
- No washing

THT
- Soldering: Compatible with the lead free soldering profile
- No washing

PM
- Soldering: Low wattage soldering iron (25-50 watts max).
- Solder time 3 seconds max. No washing

**Materials**
LEAD FREE
- CONTACTS: Au over Ni
- SOLDERING: Au over Ni
- HOUSING: Thermoplastic UL94 V0

**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 and place it in the appropriate box.

**Actuator**
1 without snap-in, clear (THT and PM version only)
2 with snap-ins, clear for light pipe extension (THT and PM version only)
4 without snap-in, light grey (SMT version only)
5 with snap-ins, light grey for light pipe extension (SMT version only)

**Actuator color/LED color**
- BA Translucid/Blue-Amber
- GN Translucid/Green
- BU Translucid/Blue
- RD Translucid/Red
- RG Translucid/Red-Green
- WH Translucid/White
- WL Translucid/White (low luminosity)
- YE Translucid/Yellow
- YG Translucid/Yellow-Green
- CL Transparent/No LED
- 90 Black Actuator/No LED

**Operating Force**
4 4.0 N (400 grams)

**Termination**
- G Surface mount
- P Panel mount
- T Through-hole 3.5mm
- S Through-hole 2.1mm

**Contact Material**
- 3 Gold (Au)

**Option**
- NONE No option
- P3 Terminal 3 is cut
- P4 Terminal 4 is cut
- P13 Terminal 1 & 3 is cut
- P14 Terminal 1 & 4 is cut
K5V PM

PRODUCT IDENTIFICATION AND DATE CODES

TRAY

SUITABLE FOR PANEL THICKNESS OF 1.8MM MAX

ELECTRICAL DIAGRAM

TERMINAL REFERENCES

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
# KSF & KSFI Series
## Soft Actuated Tact Switch

### Features/Benefits
- Soft actuated switch
- Sealed front end
- Top and side actuated

### Typical Applications
- Low profile keyboards
- Automotive interfaces
- Industrial control

## Specification

**Function**: momentary action  
**Contact Arrangement**: 1 make contact = SPST, N.O.  
**Terminals**: THT pins

### Mechanical

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSF0M211LFTR</td>
<td>1.5 ± 0.5</td>
<td>100,000</td>
<td>0.25 ± 0.1</td>
</tr>
<tr>
<td>KSF0M311LFTR</td>
<td>1.9 ± 0.5</td>
<td>100,000</td>
<td>0.25 ± 0.1</td>
</tr>
<tr>
<td>KSF0M411LFTR</td>
<td>3.0 ± 0.75</td>
<td>100,000</td>
<td>0.25 ± 0.1</td>
</tr>
<tr>
<td>KSF0M511LFTR</td>
<td>5.2 ± 1.0</td>
<td>100,000</td>
<td>0.25 ± 0.1</td>
</tr>
<tr>
<td>KSFI0V91170SHLFTR</td>
<td>3.4 ± 1.5</td>
<td>100,000</td>
<td>0.65 ± 0.25</td>
</tr>
<tr>
<td>KSF0M212 LFT</td>
<td>1.6 ± 0.4</td>
<td>300,000</td>
<td>0.25 ± 0.1</td>
</tr>
<tr>
<td>KSF0M412 70SHLFT</td>
<td>3.2 ± 0.8</td>
<td>100,000</td>
<td>0.75 ± 0.25</td>
</tr>
</tbody>
</table>

**Overload resistance**: 40N, 1 time  
**Sealing**: IP60 or IP67

**Note**: Other configurations of haptics and terminals are available upon demand. Please also refer to KSF and KSFI Mk2 catalogues pages for other options.

This product is designed and manufactured for general electronic devices. For systems where reliability and safety are required, please contact your sales representative to secure product integration and function to secure usage.

## Electrical

<table>
<thead>
<tr>
<th>Type</th>
<th>Force (N)</th>
<th>Operating life (operations)</th>
<th>Travel (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSF0M211LFTR</td>
<td>1.5 ± 0.5</td>
<td>100,000</td>
<td>0.25 ± 0.1</td>
</tr>
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</tr>
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</tr>
<tr>
<td>KSFI0V91170SHLFTR</td>
<td>3.4 ± 1.5</td>
<td>100,000</td>
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</tr>
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<td>KSF0M212 LFT</td>
<td>1.6 ± 0.4</td>
<td>300,000</td>
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</tr>
<tr>
<td>KSF0M412 70SHLFT</td>
<td>3.2 ± 0.8</td>
<td>100,000</td>
<td>0.75 ± 0.25</td>
</tr>
</tbody>
</table>

**Max Force Operating life**: 1.5 N (150 grams)*  
**Max Operation Force**: 3.4 N (340 grams)**

**Note**: Products must be checked according to customers soldering parameters especially in terms of flux resistance.

## 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.

However, please note that all the combinations of these options are not feasible. For any part number different from those listed above, please consult your local representative.

---

**Type**
- F Flat membrane
- FI Soft actuator

**Insertion**
- M Manual (bulk packaging)**
- V Automatic (bulk packaging)**

**Sealing**
- IP60
- IP67*** note selecting this option part number will end with LFT

**Contact Material**
- 1 Silver
- 3 Gold

**Operation Force**
- 1.5 N (150 grams)*
- 1.9 N (190 grams)*
- 3 N (300 grams)*
- 5.2 N (520 grams)*
- 3.4 N (340 grams)**

**RoHS compliant and compatible.**

**Tin plated.**
KSA & KSL Series
Sealed Tact Switch

Features/Benefits
- Designed for automatic or manual insertion
- Cambered terminals to ensure self retention
- Top or side actuated
- Large choice of caps
- RoHS compliant and compatible

Specifications and dimensions subject to change
www.ckswitches.com

Tactile Switches

KSA & KSL Series
Sealed Tact Switch

Features/Benefits
- Designed for automatic or manual insertion
- Cambered terminals to ensure self retention
- Top or side actuated
- Large choice of caps
- RoHS compliant and compatible

Specifications and dimensions subject to change
www.ckswitches.com

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.

However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.

Typical Applications
- Automotive
- Industrial
- Telecommunication networks

Process
Wave soldering compatible with lead free soldering profile.

Packaging
Can be delivered in tubes of 65 pieces for automatic insertion or in boxes of 500 pieces for manual insertion (250 pieces for KSL, KSLV, KSAs).

Note: Other versions in terms of force, termination length and corrosion protection available. Please contact your sales representative.
This data sheet does not provide enough information for applications which require a certain level of quality or safety such as automotive, medical systems, safety equipment. Please contact your sales representative to get contractual specification package.

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.

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For any part number different from those listed above, please consult your local representative.

Typical Applications
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- Industrial
- Telecommunication networks

Process
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Packaging
Can be delivered in tubes of 65 pieces for automatic insertion or in boxes of 500 pieces for manual insertion (250 pieces for KSL, KSLV, KSAs).

Note: Other versions in terms of force, termination length and corrosion protection available. Please contact your sales representative.
This data sheet does not provide enough information for applications which require a certain level of quality or safety such as automotive, medical systems, safety equipment. Please contact your sales representative to get contractual specification package.
KSA & KSL Series
Sealed Tact Switch

ACTUATOR TYPE

KSA & KSL

GROUND TERMINAL

0 WITHOUT

1* WITH

*Not compatible with “V” insertion

Type | H mm | inch
--- | --- | ---
KSA  | 4.7±0.2 | .185
KSL  | 9.9±0.2 | .390

Dimensions are shown: mm
Specifications and dimensions subject to change

First Angle Projection

13 dec 17
www.ckswitches.com
KSA & KSL Series
Sealed Tact Switch

M MANUAl (BULK PACKAGING)

A AUTOMATIC (TUBE PACKAGING, 65 PIECES PER TUBE)

V VERTiCAL

OPERATING FORCE

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>OPERATING FORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.3 N (130 grams)</td>
</tr>
<tr>
<td></td>
<td>100,000 operations</td>
</tr>
<tr>
<td>3</td>
<td>1.3 N (130 grams)</td>
</tr>
<tr>
<td></td>
<td>1,000,000 operations</td>
</tr>
<tr>
<td>4</td>
<td>3.0 N (300 grams)</td>
</tr>
<tr>
<td></td>
<td>100,000 operations</td>
</tr>
<tr>
<td>5</td>
<td>5.0 N (500 grams)</td>
</tr>
<tr>
<td></td>
<td>100,000 operations</td>
</tr>
<tr>
<td>9</td>
<td>3.0 N (300 grams)</td>
</tr>
<tr>
<td></td>
<td>500,000 operations</td>
</tr>
</tbody>
</table>

Dimensions are shown: mm
Specifications and dimensions subject to change
CONTACT MATERIAL

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Silver contacts</td>
</tr>
<tr>
<td>3</td>
<td>Gold contacts</td>
</tr>
</tbody>
</table>

SEALING

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sealing level IP60</td>
</tr>
</tbody>
</table>

BUTTONS

Buttons must be ordered separately and will be supplied in bulk.

<table>
<thead>
<tr>
<th>BUTTON TYPE</th>
<th>KSA</th>
<th>KSL</th>
<th>KSAV</th>
<th>KSLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>K01</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K02</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K03</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
KSA & KSL Series
Sealed Tact Switch

Tactile Switches

K02

K03

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
Typical Applications

- Automotive
- Industrial
- Telecommunication networks
- Household appliances
- Heating control systems

Features/Benefits

- Highest tact switch sealing performance
- Improved sealing through a modification of the crimping technique and to a double overmolding of the terminal
- Totally sealed
- Up to 1M operations
- RoHS compliant and compatible

Specifications

- CONTACT ARRANGEMENT: SPST, N.O.
- TERMINALS: PC pins
- SEALING: IP65

Mechanical Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Actuation force N (grams)</th>
<th>Operating life (operations)</th>
<th>Travel to make</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSA0M212</td>
<td>1.3 ± 0.3</td>
<td>100,000</td>
<td>0.5 ± 0.15</td>
</tr>
<tr>
<td>KSA0M312</td>
<td>1.3 ± 0.3</td>
<td>1,000,000</td>
<td>0.5 ± 0.15</td>
</tr>
<tr>
<td>KSA0M412</td>
<td>3.25 ± 0.5</td>
<td>100,000</td>
<td>0.6 ± 0.25</td>
</tr>
<tr>
<td>KSA0M512</td>
<td>5 ± 1.25</td>
<td>100,000</td>
<td>0.7 ± 0.25</td>
</tr>
</tbody>
</table>

Packaging

Delivered in boxes of 500 pieces (250 pieces for KSL)

Environmental

- OPERATING TEMPERATURE: -40°C to 85°C
- STORAGE TEMPERATURE: -40°C to 125°C

Process

Wave soldering compatible with lead free soldering profile.

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.

However, please note that all the combinations of these options are not feasible. For any part number different from those listed above, please consult your local representative.

Types

- A: Short hard plastic
- L: Long hard plastic
- M: Manual (bulk packaging)
- 0: Without
- K: Ground Terminal
- F: Force (bulk packaging)*
- T: Tact Switch

Sealing

- 2: High sealing performance

Contact Material

- 1: Silver contacts
- 3: Gold contacts

Operation Force

- 2: 1.3 N (130 grams), 100,000 operations
- 3: 1.3 N (130 grams), 1,000,000 operations
- 4: 3 N (300 grams), 100,000 operations
- 5: 5 N (500 grams), 100,000 operations
- 9: 3 N (300 grams), 500,000 operations

Electrical Specifications

- MAXIMUM POWER: 1 VA 0.2 VA
- MAXIMUM VOLTAGE: 32 VDC 32 VDC
- MINIMUM VOLTAGE: 20 mV 20 mV
- MAXIMUM CURRENT: 50 mA 10 mA
- MINIMUM CURRENT: 1 mA 1 mA
- DIELECTRIC STRENGTH: ≥ 250 Vrms
- CONTACT RESISTANCE: ≤ 100mΩ
- INSULATION RESISTANCE (100 V): ≥ 109 Ω
- BOUNCE TIME: ≤ 1 ms

Tactile Switches

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
KSA & KSL MKII Series
High Performance Sealed Tact Switch

Specifications and dimensions subject to change

Dimensions are shown: mm

Recommended PCB (component side)

PCB LAYOUT

First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

30 Jan 19
KSJ Series
Spherical Actuator Tact Switches

Features/Benefits
• Spherical actuator allows actuation force off center ± 30° with regard to vertical
• RoHS compliant and compatible
• Designed for mechanisms
• Compliant side actuation

Typical Applications
• Automotive
• Cranes, off road, railway
• Factory automation
• Security systems

Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Actuation force (N)</th>
<th>Operating life (operations)</th>
<th>Travel to make (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>axial</td>
<td>radial</td>
</tr>
<tr>
<td>KSJM2116SH</td>
<td>2 ± 0,5</td>
<td>100,000</td>
<td>0,6 ± 0,3</td>
</tr>
<tr>
<td>KSJM4118SH</td>
<td>3,0 ± 0,8</td>
<td>100,000</td>
<td>0,55 ± 0,25</td>
</tr>
<tr>
<td>KSJM2118SH</td>
<td>2 ± 0,5</td>
<td>100,000</td>
<td>0,35 ± 0,2</td>
</tr>
<tr>
<td>KSJM9118SH</td>
<td>3,9 ± 0,8</td>
<td>100,000</td>
<td>0,7 ± 0,25</td>
</tr>
</tbody>
</table>

Environmental

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40°C to 85°C</td>
<td>-40°C to 125°C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE:</td>
<td>-40°C to 85°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

Packaging
Delivered in boxes of 250 pieces.

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.

However, please note that all the combinations of these options are not feasible. For any part number different from those listed in the table above, please consult your local representative.

How To Order

KS J S H L F T R

Ground Terminal
0 Without
1 With*

Insertion
M Thru-hole
V Vertical*

Sealing
1 Sealed IP 60

Hardness
60SH 60 Shore Actuator
80SH 80 Shore Actuator

Contact Material
1 Silver contacts
3 Gold contacts

Operation Force
2 2 N (200 grams), 100,000 operations
4 3 N (300 grams), 100,000 operations

RoHS compliant and compatible.
Tin plated.

*Note: “1” ground terminal option not available with “V” version.
The bracket for the “V” version plays this role.
KSJ Series
Spherical Actuator Tact Switches

KSJ

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

Tactile Switches

KSJ0M211

Application area limits of operating force

Recommended direction for a radial actuation

30° MAX

PCB LAYOUT

Ground terminal (option)

PCB LAYOUT

First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

26 jul 16

B–110
PTS635 Series
3,5 mm Tact Switches

Features/Benefits
• Compact size 6 x 3.5 mm
• Variety of switch heights
• Choice of actuation force
• RoHS compliant and compatible

Typical Applications
• Consumer products
• Instrumentation
• Computer products
• Industrial

Specification
FUNCTION: Momentary action
CONTACT ARRANGEMENT: SPST, N.O.
TERMINALS: PC pins

Mechanical
ACTUATION FORCE: PTS635L models: 130 grams.
PT635H models: 200 grams.
LIFE EXPECTANCY: 20,000 operations.

Electrical
CONTACT RATING: 50 mA @ 12 V DC.
DIELECTRIC STRENGTH: 250 V AC min.
CONTACT RESISTANCE: 100 mΩ max. initial.
INSULATION RESISTANCE: 10¹¹Ω min.

Environmental
OPERATING TEMPERATURE: -40˚C to 60˚C

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

Process
SOLDERING: Preheating to 100˚C for 45 sec. max. Keep flux flush with top surface of PCB; do not apply to component side of PCB and area where terminals are located. Soldering to 255˚C for 5 sec. max. Clean by brushing on solder surface. Do not clean switch with solvents.

Materials
BASE: 6/6 nylon or glass filled polyester (PBT) (UL 94V-0).
ACTUATOR: 6/6 nylon or polyacetal (UL 94HB).
COVER PLATE: Tin plated stainless steel
DOME CONTACTS: Phosphor bronze, silver clad.
STATIONARY CONTACTS: Brass, silver plated.
TERMINALS: Brass, silver plated. Insert molded.

Packaging
Bulk packaging.

Tape & reel for:
PTS635Sx43SMTR, 1700 pcs per reel

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.

Termination
S Straight

Actuation Force
L 130 grams
H 200 grams

Insertion Type*
NONE Thru hole
SMTR Surface mount, tape & reel

Actuator Height to PCB / Ground Pin
43 4.3 (.169), Thru-hole and SMT
50 5.0 (.197), Thru-hole

RoHS compliant and compatible. Silver plated.

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

* SMTR only available with PTS635 43 Actuator Height options.
PTS635 Series
3,5 mm Tact Switches

THRU-HOLE

SMT

For “H” dimension please refer to chart on next page

PCB LAYOUT

PCB LAYOUT

ACTUATION FORCE

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>FORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>130 grams</td>
</tr>
<tr>
<td>H</td>
<td>200 grams</td>
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</table>

ACTUATOR HEIGHT

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>HEIGHT “H” or LENGTH “L”</th>
<th>TERMINATION</th>
<th>SCHEMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 50</td>
<td>4.3 (.169) 5.0 (.197)</td>
<td>Thru-hole &amp; SMT</td>
<td>Thru-hole</td>
</tr>
</tbody>
</table>

INSERTION TYPE

SMTR 43
PTS636 Series
6,0 x 3,5 Top Actuated

Features/Benefits
• 6,0 x 3,5 mm footprint
• Multiple heights
• THT or SMT type

Typical Applications
• IoT devices
• Home automation
• Remote controls

Specification
FUNCTION: Momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: THT, J, G and F type for SMT

Electrical
MAXIMUM VOLTAGE: 12 VDC
MAXIMUM CURRENT DC: 50 mA
DIELECTRIC STRENGTH: 250 VA C (1mn)
CONTACT RESISTANCE: ≤ 100 m Ω
INSULATION RESISTANCE: ≥ 100 M Ω
BOUNCE TIME: ≤ 10 ms

Environmental
OPERATING TEMPERATURE: -20˚C to 70˚C

Process
SOLDERING: This component is suited to the following methods:
– Infrared Reflow Soldering in accordance with IEC61760-1

Packaging
In bags of 1,000 pcs for THT
In reels of 3,000 pieces for 2.5 mm height
In reels of 1,500 pieces for 4.3 and 5.0 mm height
Dimensions of reels according to EIA 481B
External diameter 330 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

Available part numbers and characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>Height (mm)</th>
<th>Lead Shape</th>
<th>Ground Pin</th>
<th>Force</th>
<th>Travel (mm)</th>
<th>Operating Life</th>
<th>Actuator Color</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS636 SL43 LFS</td>
<td>4.3</td>
<td>THT</td>
<td>No</td>
<td>130gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM43 LFS</td>
<td>4.3</td>
<td>THT</td>
<td>No</td>
<td>180gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SK43 LFS</td>
<td>4.3</td>
<td>THT</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>30,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SP43 LFS</td>
<td>4.3</td>
<td>THT</td>
<td>No</td>
<td>320gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>20,000</td>
<td>Black</td>
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<tr>
<td>PTS636 SL50 LFS</td>
<td>5.0</td>
<td>THT</td>
<td>No</td>
<td>130gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM50 LFS</td>
<td>5.0</td>
<td>THT</td>
<td>No</td>
<td>180gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
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<tr>
<td>PTS636 SK50 LFS</td>
<td>5.0</td>
<td>THT</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>30,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SP50 LFS</td>
<td>5.0</td>
<td>THT</td>
<td>No</td>
<td>320gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>20,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SL43 SMTR LFS</td>
<td>4.3</td>
<td>G</td>
<td>No</td>
<td>130gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM43 SMTR LFS</td>
<td>4.3</td>
<td>G</td>
<td>No</td>
<td>180gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SK43 SMTR LFS</td>
<td>4.3</td>
<td>G</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>30,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SP43 SMTR LFS</td>
<td>4.3</td>
<td>G</td>
<td>No</td>
<td>320gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>20,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SL50 SMTR LFS</td>
<td>5.0</td>
<td>G</td>
<td>No</td>
<td>130gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM50 SMTR LFS</td>
<td>5.0</td>
<td>G</td>
<td>No</td>
<td>180gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SK50 SMTR LFS</td>
<td>5.0</td>
<td>G</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>30,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SP50 SMTR LFS</td>
<td>5.0</td>
<td>G</td>
<td>No</td>
<td>320gf ± 50gf</td>
<td>0.30 ±0.1</td>
<td>20,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM43J SMTR LFS</td>
<td>4.3</td>
<td>J</td>
<td>No</td>
<td>180gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>50,000</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>PTS636 SK43J SMTR LFS</td>
<td>4.3</td>
<td>J</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>30,000</td>
<td>Red</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM25 SMTR LFS</td>
<td>2.5</td>
<td>J</td>
<td>No</td>
<td>180gf ± 30gf</td>
<td>0.25 ±0.1</td>
<td>70,000</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>PTS636 SMG25 SMTR LFS</td>
<td>2.5</td>
<td>G</td>
<td>Yes</td>
<td>180gf ± 30gf</td>
<td>0.25 ±0.1</td>
<td>70,000</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>PTS636 SKG25 SMTR LFS</td>
<td>2.5</td>
<td>G</td>
<td>Yes</td>
<td>250gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>100,000</td>
<td>Red</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM25J SMTR LFS</td>
<td>2.5</td>
<td>J</td>
<td>No</td>
<td>180gf ± 30gf</td>
<td>0.25 ±0.1</td>
<td>70,000</td>
<td>White</td>
<td></td>
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<tr>
<td>PTS636 SK25J SMTR LFS</td>
<td>2.5</td>
<td>J</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>100,000</td>
<td>Red</td>
<td></td>
</tr>
<tr>
<td>PTS636 SM25F SMTR LFS</td>
<td>2.5</td>
<td>Flat</td>
<td>No</td>
<td>180gf ± 30gf</td>
<td>0.25 ±0.1</td>
<td>70,000</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>PTS636 SKF25 SMTR LFS</td>
<td>2.5</td>
<td>Flat</td>
<td>No</td>
<td>250gf ± 50gf</td>
<td>0.25 ±0.1</td>
<td>100,000</td>
<td>Red</td>
<td></td>
</tr>
</tbody>
</table>
PTS636 Series
6,0 x 3,5 Top Actuated

THT versions (4,3 & 5,0 mm height)

SMT G leads (4,3 & 5,0 mm height)
PTS636 Series
6,0 x 3,5 Top Actuated

SMT J leads (4,3 & 5,0 mm height)

SMT G leads (2,5 mm height)
PTS636 Series
6,0 x 3,5 Top Actuated

SMT J leads (2,5 mm height)

SMT F leads (2,5 mm height)
PTS636 Series
6,0 x 3,5 Top Actuated

SMT G leads, with ground pin (2,5 mm height)

SMT J leads, with ground pin (2,5 mm height)
PTS636 Series
6,0 x 3,5 Top Actuated

PACKAGING

4,3 and 5,0 mm height - G leads

THE DIMENSION OF CARRIER TAPE AND REEL
Packaging quantity : 1500pcs/reel

4,3 and 5,0 mm height - J leads

THE DIMENSION OF CARRIER TAPE AND REEL
Packaging quantity : 1500pcs/reel

2,5 mm height

THE DIMENSION OF CARRIER TAPE AND REEL
Packaging quantity : 3000pcs/reel

Dimensions are shown: mm
Specifications and dimensions subject to change

27 mar 19
Tactile Switches

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
PTS641 Series
SMT Top Actuated Switches

### Specification

**FUNCTION:** Momentary action  
**CONTACT ARRANGEMENT:** 1 make contact = SPST N.O.  
**TERMINALS:** G type for SMT

**Mechanical**

**TRAVEL:**
- 0.20 mm ±0.15 mm for 160 & 250 gf  
- 0.30 mm ±0.15 mm for 320 gf  
**OPERATING LIFE:** 100,000 cycles  
**OPERATION FORCE:**
- 160 gf ±50 gf blue actuator  
- 250 gf ±50 gf red actuator  
- 320 gf ±80 gf black actuator

**Packaging**

Switches in reels of 1,500 pieces.  
Dimensions of reels according to EIA 481B  
External diameter 330 mm

### Electrical

**MAXIMUM VOLTAGE:** 12 VDC  
**MAXIMUM CURRENT DC:** 50 mA  
**DIELECTRIC STRENGTH:** 250 VA C (1mn)  
**CONTACT RESISTANCE:** 100 mΩ  
**INSULATION RESISTANCE:** ≥ 100 MΩ  
**BOUNCE TIME:** < 5 ms

### Environmental

**OPERATING TEMPERATURE:** -20°C to 85°C

### Process

**SOLDERING:** This component is suited to the following methods:  
Infrared Reflow Soldering in accordance with IEC61760-1

**NOTE:** Specifications listed above are for switches with standard options.  
For information on specific and custom switches, consult Customer Service Center.

### 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 and place it in the appropriate box.
NO GROUND PIN  \( H = 2.5, 3.1, \) or 3.4 mm

GROUND PIN  \( H = 2.5, 3.1, \) or 3.4 mm
PTS645 Series
6 mm Tact Switches

Features/Benefits
- Compact size 6 x 6 mm
- Variety of actuator lengths
- Choice of actuation force
- RoHS compliant and compatible

Typical Applications
- Consumer products
- Instrumentation
- Computer products
- Industrial

Specification
FUNCTION: Momentary action
CONTACT ARRANGEMENT: SPST, N.O.
TERMINALS: PC pins

Mechanical
ACTUATION FORCE: 130 grams, 160 grams, 200 grams, 260 grams
LIFE EXPECTANCY: 100,000 operations.

Electrical
CONTACT RATING: 50 mA @ 12 V DC.
DIELECTRIC STRENGTH: 250 V AC min.
CONTACT RESISTANCE: 100 mΩ max. initial.
INSULATION RESISTANCE: 10^11 Ω min.

Environmental
OPERATING TEMPERATURE:
- Thru-hole and SMT with J actuator shape: -20°C to 70°C
- SMT (except for J actuator shape): -20°C to 85°C

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.

<table>
<thead>
<tr>
<th>P</th>
<th>T</th>
<th>S</th>
<th>6</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Termination</td>
<td>S</td>
<td>Straight</td>
<td>T</td>
<td>Straight with ESD pin</td>
<td>V</td>
</tr>
<tr>
<td>Actuator Shape</td>
<td>NONE</td>
<td>Round actuator, All versions</td>
<td>J</td>
<td>Square actuator, 2.4 mm side (available for Straight 7.3 mm and Vertical 6.15 mm)</td>
<td></td>
</tr>
<tr>
<td>Actuation Force</td>
<td>L</td>
<td>130 grams</td>
<td>M</td>
<td>160 grams</td>
<td>H</td>
</tr>
</tbody>
</table>

Process
SOLDERING: Preheating to 100°C for 45 sec. max. Keep flux flush with top surface of PCB; do not apply to component side of PCB and area where terminals are located. Soldering to 255°C for 5 sec. max. Clean by brushing on solder surface. Do not clean switch with solvents.

Packaging
Bulk packaging.

Tape & reel for the SMT type:
- Reels of 1,000 pieces for 4.3 and 5.0 mm height
- Reels of 700 pieces for 7.0 mm height
- Reels of 500 pieces for 9.5 mm height
- Reels of 400 pieces for 13.0 mm height

NOTE: Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Features/Benefits

Typical Applications

Process

Packaging

Tape & reel for the SMT type:

Environmental

How To Order

Termination

Actuator Shape

Actuation Force

Switch height from PCB for S and T only (H dimension see actuator height drawings):
- 43: 4.3 (.169), thru-hole and SMT
- 50: 5.0 (.197), thru-hole and SMT
- 70: 7.0 (.275), thru-hole and SMT
- 73: 7.3 (.287), thru-hole and SMT, square actuator 2.4 mm side only
- 95: 9.5 (.374), thru-hole and SMT
- 13: 13.0 (.512) SMT only

Switch length from front leads for V only (H dimension see actuator height drawings):
- 31: 3.15 (.124), vertical
- 39: 3.85 (.151), vertical
- 58: 5.85 (.230), vertical
- 61: 6.15 (.242), vertical, square actuator 2.4 mm side only
- 83: 8.35 (.329), vertical

*C only the straight type termination without ESD pin is available in SMT type.

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
PTS645 Series
6 mm Tact Switches

TERMINATION

S STRAIGHT

T STRAIGHT WITH ESD PIN

V VERTICAL

Dimensions are shown: mm
Specifications and dimensions subject to change
PTS645 Series
6 mm Tact Switches

ACTUATOR SHAPE

VERTICAL THT - FOR 7,3MM HEIGHT ONLY

STRAIGHT SMT - FOR 7,3MM HEIGHT ONLY
PTS645 Series
6 mm Tact Switches

ACTUATION FORCE

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>FORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>130 grams Black</td>
</tr>
<tr>
<td>M</td>
<td>160 grams Blue</td>
</tr>
<tr>
<td>H</td>
<td>200 grams Gray</td>
</tr>
<tr>
<td>K</td>
<td>260 grams Red</td>
</tr>
</tbody>
</table>

ACTUATOR HEIGHT

Switch height from PCB for S and T only

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>DIMENSION H</th>
<th>TERMINATION</th>
<th>SCHEMATIC Without EMC pin</th>
<th>SCHEMATIC With EMC pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>4.3 (.169)</td>
<td>Thru-hole and SMT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>5.0 (.197)</td>
<td>Thru-hole and SMT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>7.0 (.275)</td>
<td>Thru-hole and SMT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>9.5 (.374)</td>
<td>Thru-hole and SMT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>13.0 (.512)</td>
<td>SMT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Switch length from front leads for V only

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>DIMENSION H</th>
<th>TERMINATION</th>
<th>SCHEMATIC Without EMC pin</th>
<th>SCHEMATIC With EMC pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>3.15 (.124)</td>
<td>Vertical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>3.85 (.151)</td>
<td>Vertical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>5.85 (.230)</td>
<td>Vertical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>8.35 (.329)</td>
<td>Vertical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TAPE & REEL

Pocket Height
For 4.3 and 5.0 mm: Height 5.3 mm
For 7.0 mm: Height 7.3 mm
For 9.5 mm: Height 10.3 mm
For 13.0 mm: Height 13.3 mm
PTS645 V SMT Series
6 mm SMT Side Actuated Tact Switch

Features/Benefits
- Full SMT processing
- Strong PCB soldering pads
- Compact 6 x 6 mm design

Typical Applications
- Consumer Products
- Set Top and Access Boxes
- Instrumentation
- Home and Garden Equipment

Specification
FUNCTION: Momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: G type for SMT
TRAVEL: 0.25 mm +0.2/-0.1 mm
OPERATING LIFE: 100,000 cycles

Mechanical
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Operating Force (gf)</th>
<th>Actuator Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS645 VN13 SMTR92 LFS</td>
<td>100 ± 30</td>
<td>Dark grey</td>
</tr>
<tr>
<td>PTS645 VM13 SMTR92 LFS</td>
<td>160 ± 50</td>
<td>Yellow green</td>
</tr>
</tbody>
</table>

Electrical
MAXIMUM VOLTAGE: 12 V DC
MAXIMUM CURRENT: 50 mA
DIELECTRIC STRENGTH: 100 V AC (1μm)
CONTACT RESISTANCE: ≤ 100 mΩ
INSULATION RESISTANCE: ≥ 100 MΩ
BOUNCE TIME: ≤ 10 ms

Environmental
OPERATING TEMPERATURE: -20°C to 70°C
STORAGE TEMPERATURE: -30°C to 80°C

Process
SOLDERING: This component is suited to the following methods:
Infrared Reflow Soldering in accordance with IEC61760-1
Recommended solder paste thickness is ≥ 15μm

Packaging
In reels of 650 pieces
Dimensions of reels according to EIA 481B
External diameter 330 mm

NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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 and place it in the appropriate box.

Termination
V Vertical
Actuation Force
M 160 gf
N 100 gf
Actuator Length
13 1.3 mm from metal front face

RoHS compliant and compatible.
Silver plated.

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
Features/Benefits
- Compact size 4.5 x 4.5 mm
- SMT terminals
- Different actuator heights
- Choice of actuation forces
- Tape & reel

Typical Applications
- Consumer
- Industrial control panels
- Computer products

### Mechanical
TRAVEL: 0.25 mm +/- 0.15 mm

### Electrical
CONTACT RATING: 50 mA @ 12 V DC.
DIELECTRIC STRENGTH: 250 V AC min.
CONTACT RESISTANCE: 100 mΩ max. initial.
INSULATION RESISTANCE: 100 MΩ min.

### Environmental
OPERATING TEMPERATURE: -20°C to 70°C

### Packaging
In reels of 1,000 pieces for 7.0 mm height
In reels of 1,500 pieces for 5.0 mm height
In reels of 2,000 pieces for 3.8 mm height
Dimensions of reels according to EIA RS481 or IEC 2863.
External diameter 330 mm ± 2 mm.

### 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 and place it in the appropriate box.

For any part number different from those listed above, please consult your local representative.

### Part Number Table

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Operating Force (gf)</th>
<th>Life</th>
<th>Height (H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS 647 SN38 SMTR2 LFS</td>
<td>100 +/- 50</td>
<td>100,000</td>
<td>3.8 mm</td>
</tr>
<tr>
<td>PTS 647 SM38 SMTR2 LFS</td>
<td>180 +/- 50</td>
<td>100,000</td>
<td>3.8 mm</td>
</tr>
<tr>
<td>PTS 647 SK38 SMTR2 LFS</td>
<td>250 +/- 50</td>
<td>100,000</td>
<td>3.8 mm</td>
</tr>
<tr>
<td>PTS 647 SN50 SMTR2 LFS</td>
<td>100 +/- 50</td>
<td>100,000</td>
<td>5.0 mm</td>
</tr>
<tr>
<td>PTS 647 SM50 SMTR2 LFS</td>
<td>180 +/- 50</td>
<td>100,000</td>
<td>5.0 mm</td>
</tr>
<tr>
<td>PTS 647 SK50 SMTR2 LFS</td>
<td>250 +/- 50</td>
<td>100,000</td>
<td>5.0 mm</td>
</tr>
<tr>
<td>PTS 647 SN70 SMTR2 LFS</td>
<td>100 +/- 50</td>
<td>100,000</td>
<td>7.0 mm</td>
</tr>
<tr>
<td>PTS 647 SM70 SMTR2 LFS</td>
<td>180 +/- 50</td>
<td>100,000</td>
<td>7.0 mm</td>
</tr>
<tr>
<td>PTS 647 SK70 SMTR2 LFS</td>
<td>250 +/- 50</td>
<td>100,000</td>
<td>7.0 mm</td>
</tr>
</tbody>
</table>

### Recommended PCB Layout

Termination
- S Straight

Actuation Force
- N 100 grams
- M 180 grams
- K 250 grams

Total Height
- 38 3.8 mm
- 50 5.0 mm
- 70 7.0 mm

LFS Lead free compatible, silver plated

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
PTS647 Series
4.5 mm Tact Switch

Tape & Reel

Specifications and dimensions subject to change.

Part Number | Pocket Height (H)
--------------|------------------
PTS 647 SN38 SMTR2 LFS | 4.2 mm
PTS 647 SM38 SMTR2 LFS | 4.2 mm
PTS 647 SK38 SMTR2 LFS | 4.2 mm
PTS 647 SN50 SMTR2 LFS | 5.4 mm
PTS 647 SM50 SMTR2 LFS | 5.4 mm
PTS 647 SK50 SMTR2 LFS | 5.4 mm
PTS 647 SN70 SMTR2 LFS | 7.2 mm
PTS 647 SM70 SMTR2 LFS | 7.2 mm
PTS 647 SK70 SMTR2 LFS | 7.2 mm

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

www.ckswitches.com
PTS125 Series
12 mm Tact Switches

Features/Benefits
- THT and SMT terminations
- Various heights
- Snap fit actuator option

Typical Applications
- Consumer products
- Instrumentation
- Computer products
- Industrial

Specification
FUNCTION: Momentary action
CONTACT ARRANGEMENT: 1 make contact SPST, N.O.
TERMINALS: PC pins for THT and G type for SMT
TRAVEL: 0.30 mm ± 0.15 mm

Environmental
OPERATING TEMPERATURE: -20˚C to 70˚C

Process
SOLDERING: This component is suited to the following methods:
Infrared reflow soldering in accordance with IEC 61760-1 for SMT version
Wave soldering compatible with lead free soldering profile

Packaging

<table>
<thead>
<tr>
<th>Soldering Style</th>
<th>Height</th>
<th>Packaging</th>
<th>Parts per Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>THT</td>
<td>All heights</td>
<td>Plastic bag</td>
<td>500</td>
</tr>
<tr>
<td>SMT</td>
<td>4.3 mm</td>
<td>tape &amp; reel</td>
<td>900</td>
</tr>
<tr>
<td>SMT</td>
<td>4.3 mm with pegs</td>
<td>tape &amp; reel</td>
<td>600</td>
</tr>
<tr>
<td>SMT</td>
<td>7.3 mm</td>
<td>tape &amp; reel</td>
<td>500</td>
</tr>
<tr>
<td>SMT</td>
<td>7.3 mm with pegs</td>
<td>tape &amp; reel</td>
<td>500</td>
</tr>
<tr>
<td>SMT</td>
<td>8.5 mm</td>
<td>tape &amp; reel</td>
<td>500</td>
</tr>
<tr>
<td>SMT</td>
<td>8.5 mm with pegs</td>
<td>tape &amp; reel</td>
<td>500</td>
</tr>
<tr>
<td>SMT</td>
<td>12 mm</td>
<td>tape &amp; reel</td>
<td>250</td>
</tr>
</tbody>
</table>

Dimensions of reels according to EIA 481B. External diameter 330 mm.

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.

Style
- S Straight, top actuated

Actuator Shape
- NONE Round
- J Snap fit 73 height only

Actuator Force
- M 180 grams
- K 250 grams

Termination & Packaging
- NONE THT in bags
- SMTR SMT in tape & reel

Pegs Option
- NONE no pegs
- P with pegs - only for SMT version in round and square snap fit actuator (not for 12 switch height)

Switch Height
- 43 4.3 mm round actuator
- 73 7.3 mm square snap fit actuator
- 85 8.5 mm round actuator
- 12 12.0 mm round actuator with ribs

Other heights with the round actuator are available upon request. Different minimum order quantities than the stand may apply.

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
PTS125 Series
12 mm Tact Switches

THT VERSION WITH ROUND ACTUATOR H= 4.3 & 8.5 MM (other height upon request)

SMT VERSION WITH ROUND ACTUATOR AND PEGS H= 4.3 & 8.5 MM (other height upon request)
PTS125 Series
12 mm Tact Switches

**THT** VERSION WITH SQUARE SNAP FIT ACTUATOR H= 7.3 MM

![THT version schematic]

**SMT** VERSION WITH SQUARE SNAP FIT ACTUATOR AND PEGS H= 7.3 MM

![SMT version schematic]
PTS125 Series
12 mm Tact Switches

**THT VERSION WITH ROUND RIBBED ACTUATOR  H= 12.0 MM**

**SMT VERSION WITH ROUND RIBBED ACTUATOR  H= 12.0 MM**
### 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)

### 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.

### 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.

### LED
- **Color # 1**
  - See color table
- **Color # 2**
  - See color table
- **LED Brightness**
  - Standard
- **Force**
  - Standard actuation force
  - 160 grams: V1, V2, V3, V3, R1, R2 options
  - 220 grams: R3N option
- **Packaging**
  - T Tray
  - R Tape & reel

### 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

<table>
<thead>
<tr>
<th>LED Characteristic</th>
<th>units</th>
<th>Red</th>
<th>Yellow</th>
<th>Green</th>
<th>Blue</th>
<th>White</th>
<th>True Green</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>30mA</td>
<td>30mA</td>
<td>30mA</td>
<td>30mA</td>
<td>30mA</td>
<td>30mA</td>
</tr>
<tr>
<td>Peak Pulsing Current (1/8 duty @ 1kHz)</td>
<td>mA</td>
<td>125mA</td>
<td>125mA</td>
<td>125mA</td>
<td>125mA</td>
<td>125mA</td>
<td>125mA</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>mW</td>
<td>75mW</td>
<td>75mW</td>
<td>75mW</td>
<td>108mW</td>
<td>108mW</td>
<td>108mW</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>522nm (Typical)</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>515nm (Typical)</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>33nm (Typical)</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>250mcd Minimum</td>
<td>500mcd Minimum</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

**Electrical Schematic**

**CIE Coordinates**

- X = 0.25 ~ 0.33
- Y = 0.24 ~ 0.34

**Spectral Half Bandwidth @ 20mA**

- 20nm (Typical)
- 17nm (Typical)
- 25nm (Typical)

**Luminous Intensity @ 20mA**

- 125mcd Minimum
- 40mcd Minimum
- 100mcd Minimum

**Viewing Angle at 50% LV (@10mA)**

- 150˚ Typical
- 120˚ Typical
- 120˚ Typical

*Recommended Operating Current @ 5VDC: 20mA*
**ITS Series**

**Illuminated Tact Switch**

**MOUNTING STYLES**

**V2 - Vertical SMT; Gullwing**

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

**ELECTRICAL SCHEMATIC**

**P.C.B. LAYOUT**

**TAPE & REEL: 500 PIECES**

**NOTES:**

1. SWITCH WITH TEMPORARY PICK AND PLACE CAP.

**Dimensions are shown: mm**

Specifications and dimensions subject to change

www.ckswitches.com
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

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

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

TRAY PACKAGING: 200 PIECES

Dimensions are shown: mm
Specifications and dimensions subject to change

3 may 19

www.ckswitches.com
**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 - 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

---

*Dimensions are shown: mm*  
*Specifications and dimensions subject to change*
## ITS Series
### Illuminated Tact Switch

### CAPS

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
<th>Code</th>
<th>Laser Etch</th>
<th>Marking Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Natural/Clear - polycarbonate</td>
<td>400E</td>
<td>01 Power On/Off</td>
<td>E Laser etch (painted caps only)</td>
</tr>
<tr>
<td>B</td>
<td>Translucent white - polycarbonate</td>
<td></td>
<td>04 Arrow right</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Silver paint laser etch - polycarbonate</td>
<td></td>
<td>05 Arrow left</td>
<td></td>
</tr>
</tbody>
</table>

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

### Laser Etch Marking
- 00: No marking
- 01: Power On/Off
- 04: Arrow right
- ... (other markings listed)

### ITSXXFR1ST & 400ECA01E cap
- Natural/clear

### 400ECA01E 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>

**Paint Color**

- 0: No paint
- A: Matte silver

**Material**

- Matte silver paint, laser etch, tall oval

**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)

**Dimensions**

- 3.7 ± 0.05
- 2X 0.8
- 2X 2.8
- 2X 3.6
- 2X 4.1
- 3.6
- 3.85
- 1.5
- 2.3
- 1.4
- 9

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