

# 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

## Typical Applications

- Automotive
- Industrial
- Telecommunication networks

Tactile Switches

B

## Specification

CONTACT ARRANGEMENT: SPST, N.O.  
 DOUBLE OVERMOLDING ON TERMINAL  
 SEALING: IP60  
 TERMINALS: PC pins, ground pin optional

## Mechanical

| Type     | Actuation force N | Operating life (operations) | Travel to make |
|----------|-------------------|-----------------------------|----------------|
| KSA0M211 | 1,4 ± 0,4         | 100,000                     | 0,5 ± 0,2      |
| KSA0M311 | 1,4 ± 0,4         | 1,000,000                   | 0,5 ± 0,2      |
| KSA0M411 | 3 ± 0,75          | 100,000                     | 0,6 ± 0,2      |
| KSA0M511 | 5 ± 1,5           | 100,000                     | 0,7 ± 0,2      |
| KSA0M911 | 3 ± 0,75          | 500,000                     | 0,6 ± 0,2      |
| KSL0M211 | 1,4 ± 0,4         | 100,000                     | 0,5 ± 0,2      |
| KSL0M311 | 1,4 ± 0,4         | 1,000,000                   | 0,5 ± 0,2      |
| KSL0M411 | 3 ± 0,75          | 100,000                     | 0,6 ± 0,2      |
| KSL0M511 | 5 ± 1,5           | 100,000                     | 0,7 ± 0,2      |
| KSL0M911 | 3 ± 0,75          | 500,000                     | 0,6 ± 0,2      |

**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.

## Electrical

|  | Silver | Gold   |
|--|--------|--------|
| 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: ≤ 100m Ω                       |        |        |
| INSULATION RESISTANCE (100 V): ≥ 10 <sup>9</sup> Ω |        |        |
| BOUNCE TIME: ≤ 1 ms                                |        |        |

## Environmental

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

## 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, KSAV).

## 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 Type**

**A** Short hard plastic

**L** Long hard plastic

**Ground Terminal**

**0** Without

**1** With\*

**Insertion**

**M** Manual (bulk packaging)

**A** Automatic (tube packaging)

**V** Vertical (bulk packaging)\*

**1**

**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

RoHS compliant and compatible.  
Tin plated.

\*Note: "1" Ground terminal not compatible with "V" insertion

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

**Button Style**

**K01** 10 mm square snap-on

**K02** ø8 mm round snap-on

**K03** 8,5 x 3,8 mm single floating

**B T N** — **K 0** —

**Button Color**

|                      |                     |
|----------------------|---------------------|
| <b>10</b> Dark gray  | <b>60</b> Blue      |
| <b>20</b> Light gray | <b>70</b> Gray-blue |
| <b>30</b> Yellow     | <b>80</b> Ivory     |
| <b>40</b> Red        | <b>90</b> Black     |
| <b>50</b> Green      |                     |

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ACTUATOR TYPE 

## KSA & KSL



| Type | H mm    | inch   |
|------|---------|--------|
| KSA  | 4,7±0,2 | (.185) |
| KSL  | 9,9±0,2 | (.390) |

Tactile Switches

GROUND TERMINAL 

0 WITHOUT



1\* WITH



\*Not compatible with "V" insertion



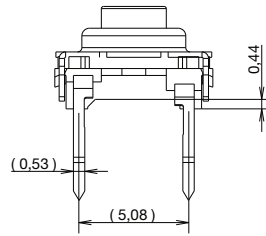
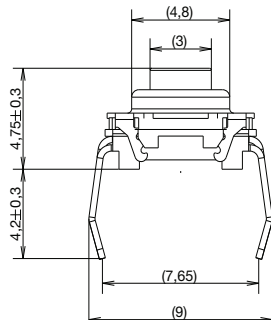
First Angle  
Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

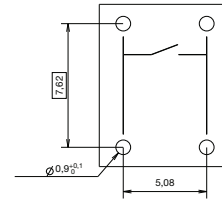
# KSA & KSL Series Sealed Tact Switch

## INSERTION

### M MANUAL (BULK PACKAGING)



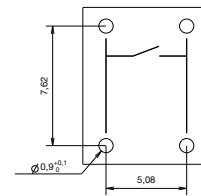
### PCB LAYOUT



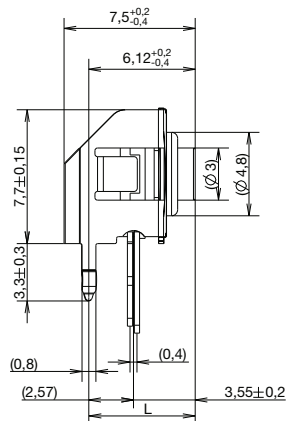
### A AUTOMATIC (TUBE PACKAGING, 65 PIECES PER TUBE)



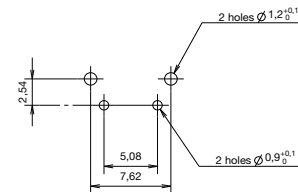
### PCB LAYOUT



### V VERTICAL



### PCB LAYOUT



### DIMENSION L

| Type  | L mm | inch |
|-------|------|------|
| KSA0V | 5,8  | .228 |
| KSL0V | 11,1 | .437 |

## OPERATING FORCE

| OPTION CODE | OPERATING FORCE                           |
|-------------|---|
| <b>2</b>    | 1.3 N (130 grams)<br>100,000 operations   |
| <b>3</b>    | 1.3 N (130 grams)<br>1,000,000 operations |
| <b>4</b>    | 3.0 N (300 grams)<br>100,000 operations   |
| <b>5</b>    | 5.0 N (500 grams)<br>100,000 operations   |
| <b>9</b>    | 3.0 N (300 grams)<br>500,000 operations   |



First Angle  
Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

## CONTACT MATERIAL



| OPTION CODE | CONTACT MATERIAL |
|-------------|------------------|
| <b>1</b>    | Silver contacts  |
| <b>3</b>    | Gold contacts    |

## SEALING



| OPTION CODE | SEALING            |
|-------------|--------------------|
| <b>1</b>    | Sealing level IP60 |

## BUTTONS

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

| BUTTON TYPE | KSA | KSL | KSAV | KSLV |
|-------------|-----|-----|------|------|
| <b>K01</b>  | X   |     |      |      |
| <b>K02</b>  | X   |     |      |      |
| <b>K03</b>  | X   | X   | X    | X    |

**K01**



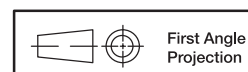
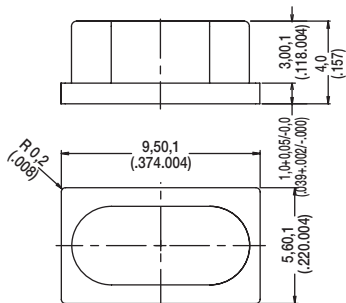
Dimensions are shown: mm  
Specifications and dimensions subject to change

# KSA & KSL Series Sealed Tact Switch

**K02**



**K03**



First Angle  
Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## C&K Switches:

[KSL0M511](#) [KSL0M512](#) [KSL0V411](#) [KSL0V311](#) [KSL0V511](#) [KSA0V411](#) [KSA0V511](#) [KSA0M211](#) [KSL0V211](#)  
[KSL0M212](#) [KSL0M211](#) [KSA0M411](#) [KSL1M411](#) [KSL0M312](#) [KSL0M412](#) [KSL0M411](#) [KSA0V211](#) [KSA0M311](#)  
[KSA0M511](#) [KSL1M211](#) [KSL1M311](#) [KSL0M412 LFT](#) [KSL0M211 LFT](#) [KSA0M211 LFT](#) [KSL0V411 LFT](#) [KSA0M411](#)  
[LFT](#) [K0390](#) [KSA0V211 ACTION.H2.9 LFT](#) [KSA0A311LFT](#) [KSA0A331LFT](#) [KSA0A411LFT](#) [KSA0A431LFT](#)  
[KSA0A511LFT](#) [KSA0A931LFT](#) [Ksa0a211Act2.9Lft](#) [KSA0M212LFT](#) [KSA0M311LFT](#) [KSA0M312LFT](#) [KSA0M331LFT](#)  
[KSA0M332LFT](#) [KSA0M412LFT](#) [KSA0M431LFT](#) [KSA0M432LFT](#) [KSA0M511LFT](#) [KSA0M512LFT](#) [KSA0M531LFT](#)  
[KSA0M532LFT](#) [KSA0M912LFT](#) [KSA0M931LFT](#) [KSA0M911LFT](#) [Ksa0m211Act2.9Lft](#) [KSA0V211LFT](#) [KSA0V311LFT](#)  
[KSA0V331LFT](#) [KSA0V411LFT](#) [KSA0V431LFT](#) [KSA0V511LFT](#) [KSA0V531LFT](#) [KSA0V911LFT](#)  
[Ksa0v211Acti0n.H2.9Lft](#) [Ksa0v511Acti0n.H2.9Lft](#) [Ksa0v211SansEtrierLft](#) [Ksa0v511SansEtrierLft](#)  
[Ksa0v511Act2.9SsEtri](#) [Ksa0v211C0nnexi0ns3.3LFT](#) [Ksa0v411C0nnexi0ns3.3LFT](#) [Ksa0v511C0nnexi0n3.3LFT](#)  
[KSA1A211LFT](#) [KSA1A331LFT](#) [KSA1A511LFT](#) [KSA1A531LFT](#) [KSA1A211 ACT 2.9 LFTR](#) [KSA1M211LFT](#)  
[KSA1M311LFT](#) [KSA1M331LFT](#) [KSA1M411LFT](#) [KSA1M431LFT](#) [KSA1M511LFT](#) [KSA1M531LFT](#) [KSA1M211 ACT](#)  
[2.9 LFTR](#) [KSL0A411LFT](#) [KSL0M212LFT](#) [KSL0M311LFT](#) [KSL0M312LFT](#) [KSL0M331LFT](#) [KSL0M332LFT](#)  
[KSL0M411LFT](#) [KSL0M431LFT](#) [KSL0M432LFT](#) [KSL0M511LFT](#) [KSL0M512LFT](#) [KSL0M531LFT](#) [KSL0M532LFT](#)  
[KSL0M911LFT](#) [KSL0M912LFT](#) [KSL0M931LFT](#) [KSL0M412H7.5LFT](#) [KSL0M912H7.5LFT](#) [KSL0V211LFT](#)  
[KSL0V311LFT](#)