#### 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 equipement. Please contact customer service for the contractual specification package.

**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: 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	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*	0.1 mA

DIELECTRIC STRENGTH (50 Hz, 1 min.): ≥ 250 Vrms

CONTACT RESISTANCE:  $\leq 100 m\Omega$ 

INSULATION RESISTANCE (100 V):  $\geq$  10M  $\Omega$ 

BOUNCE TIME: ≤ 1 ms

 $^{\star}$  Ultra low current with 10  $\mu\text{A}$  - 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**

KSC1	KSC2	KSC3	KSC4	KSC5	KSC6	KSC7	KSC8	KSC9	KSC10
Without actuator	Soft actuator	Hard actuator	Soft actuator	Hard actuator	Hard actuator	Soft actuator	Hard actuator	Hard actuator	Soft actuator
H = 2.5 mm	H = 3.5 mm	H = 3.5 mm	H = 5.2 mm	H = 5.6 mm	H = 7.7 mm	H = 4.3 mm	H = 4.9 mm	H = 7.7 mm compatible with button	H = 4.9 mm
IP67	IP67	IP67	IP67	IP50	IP67	IP67	IP67	IP67	IP67

















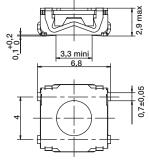


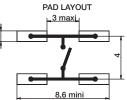


Note: KSC Series is subject to variants. Please contact customer service for other options.

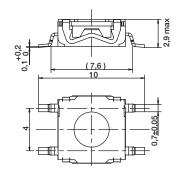


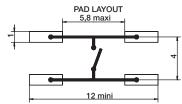




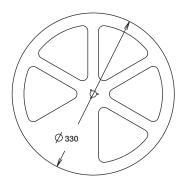


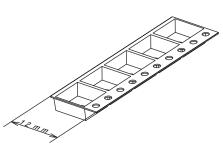
G GULLWING



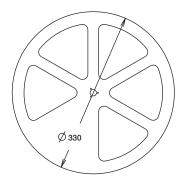


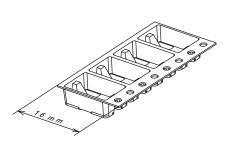
12 MM





16 MM





12 mm	Pieces	16 mm	Pieces
KSC1J	2,000	KSC1G	2,000
KSC2J	2,000	KSC2G	2,000
KSC3J	2,000	KSC3G	2,000
		KSC4J & G	1,000
		KSC5J & G	1,000
		KSC6J & G	750
		KSC7J & G	1,000
		KSC8J & G	1,000
		KSC9J & G	750
		KSC10J & G	1,000



Dimensions are shown: mm Specifications and dimensions subject to change

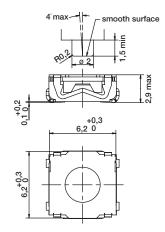


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## KSC1 without actuator 2,5 mm high



Type Operating force FA (Newtons)		Operating life (operations)	Travel (mm)
KSC121	1.8 ± 0.65	200,000	0.3 ± 0.15
KSC141	$3 \pm 0.75$	200,000	0.3 ± 0.15
KSC151	5.5 ± 1.4	100,000	0.35 ± 0.15



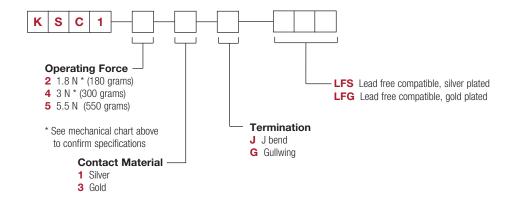
## **Packaging**

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.





Projection

Dimensions are shown: mm

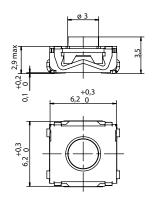


## KSC2 soft actuator 3,5 mm high



	Operating	Operating	
Type	force FA	life	Travel
	(Newtons)	(operations)	(mm)
KSC201	1.6 ± 0.6	5,000,000	0.3 ± 0.2
KSC221	2 ± 0.5	500,000	0.35 + 0.25/- 0.15
KSC222	2 ± 0.5	1,000,000	0.35 + 0.25/- 0.15
KSC241	$3.5 \pm 0.9$	300,000	$0.5 \pm 0.2$
KSC251	5.55 ± 1.45	300,000	$0.5 \pm 0.2$
KSC2/I1 SPD	3 55 + 0 9	300 000	$0.5 \pm 0.2$

100,000



#### **Packaging**

KSC251 SPD

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

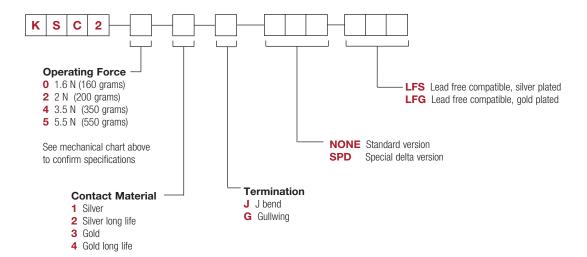
 $6.2 \pm 1.55$ 

#### **How To Order**

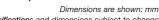
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

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.

 $0.6 \pm 0.2$ 







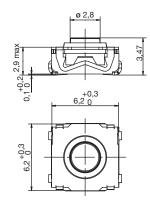


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## KSC3 hard actuator 3,5 mm high



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



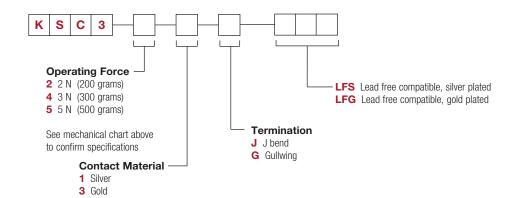
#### **Packaging**

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.





Dimensions are shown: mm



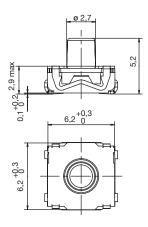
В

## KSC4 soft actuator 5,2 mm high





Туре	Operating force FA (Newtons)	Operating life (operations)	Travel (mm)
KSC401 50SH	1.45 ± 0.55	5,000,000	0.5 ± 0.25
KSC411 70SH	1.4 ± 0.35	1,000,000	$0.35 \pm 0.20$
KSC421 70SH	1.7 ± 0.45	300,000	$0.5 \pm 0.25$
KSC422 70SH	1.7 ± 0.45	1,000,000	$0.5 \pm 0.25$
KSC441 70SH	4 ± 1	300,000	$0.75 \pm 0.25$
KSC442 70SH	4 ± 1	1,000,000	$0.75 \pm 0.25$
KSC451 70SH	4.25 ± 0.75	300,000	$0.8 \pm 0.2$
KSC441 SPD	$3.5 \pm 0.9$	300,000	$0.7 \pm 0.2$
KSC441 ST1	$3.4 \pm 1$	300,000	$0.7 \pm 0.25$
KSC441 ST2	$3.4 \pm 1$	300,000	$0.35 \pm 0.20$
KSC461 ST1	6.25 ± 1.75	100,000	1 ± 0.3
KSC461 ST2	6.25 ± 1.75	300,000	$0.5 \pm 0.2$



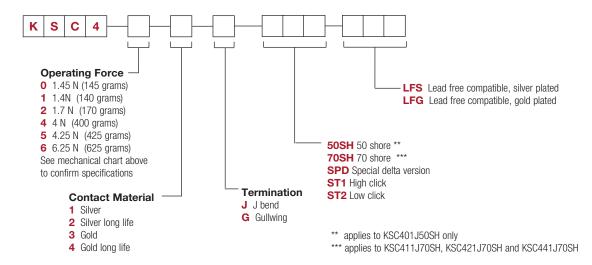
#### **Packaging**

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

#### **How To Order**

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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

## Typical Applications

- Automotive
- Medical equipment
- Industrial electronics





Туре	Force (N)	Operating Life (operations)	Travel (mm)
KSC441J DCT 70SH LFS	4.75 +/-1.25	300,000	0.85+0.35/-0.25
KSC441G DCT 70SH LFS	4.75 +/-1.25	300,000	0.85+0.35/-0.25

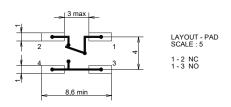
#### **Packaging**

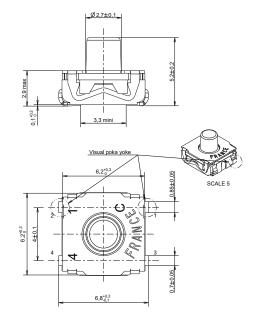
In reels of 1,000 pieces.

Dimensions of reels according to EIA RS481 or IEC 2863.

External diameter 330 ± 2 mm

#### **PCB Layout**

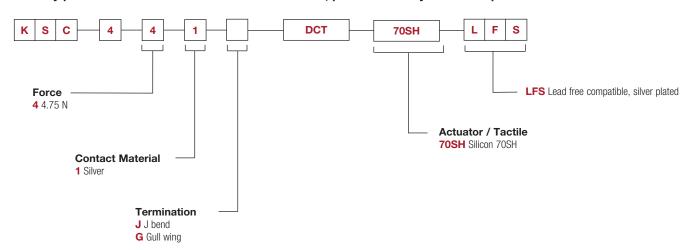




#### **How To Order**

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.





First Angle

Dimensions are shown: mm







#### Features/Benefits

- Extended Cage
- Silicone actuator
- J or G terminations
- Tape & reel
- *IP*67

## **Typical Applications**

- Automotive
- Medical equipment
- Industrial electronics

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

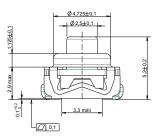
Max. potting height: 2.9 mm

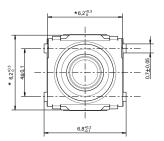
#### **Packaging**

In reels of 1,000 pieces.

Dimensions of reels according to EIA RS481 or IEC 2863.

External diameter 330 ± 2 mm

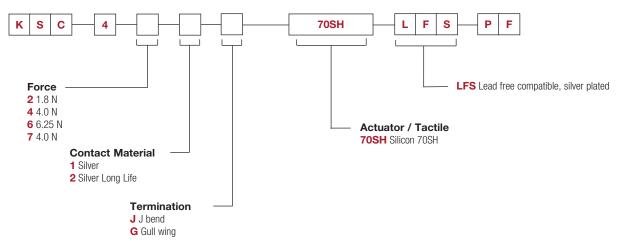




## **How To Order**

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.





Dimensions are shown: mm Specifications and dimensions subject to change



First Angle Projection

# **KSC5 Series**

# **Tact Switch with Rocker Option for SMT**

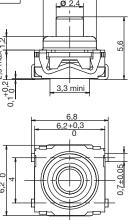
## KSC5 hard actuator 5,6 mm high



	Operating force	Operating force	Travel to	Travel to		
	axial FA	lateral FL	make	make	Life expectancy	Life expectancy
Type	N (grams)	N (grams) ±30%	axial (mm)	lateral (mm)	cycles, axial	cycles, lateral
KSC521	2 ± 0.5	1.2 - 2.6	0.25 ± 0.15	$0.5 \pm 0.25$	100,000	10,000
KSC541	3 ± 0.75	1.8 - 3.8	0.25 ± 0.15	0.5 ± 0.25	100,000	10,000

## **Packaging**

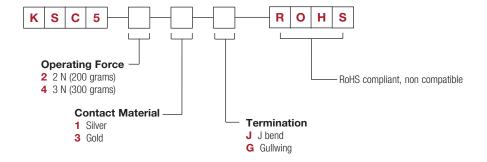
Switches delivered on continuous tape & reels of 1,000 pieces, dimensions according to EIA RS-481/ IEC 60286-3 standard External diameter 330 ± 2 mm



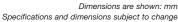
#### **How To Order**

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.







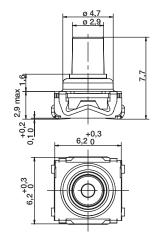


www.ckswitches.com

## KSC6 hard actuator 7,7 mm high



Type Operating force FA (Newtons)		Operating life (operations)	Travel (mm)
KSC621	1.7 ± 0.5	300,000	$0.4 \pm 0.2$
KSC631	$2.55 \pm 0.65$	300,000	$0.4 \pm 0.2$
KSC641	$3.4 \pm 0.85$	300,000	$0.4 \pm 0.2$



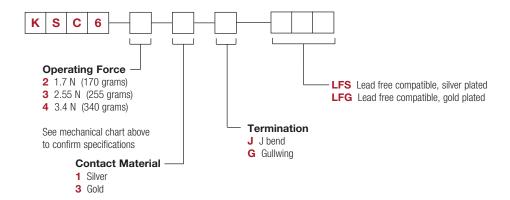
## **Packaging**

Switches delivered on continuous tape & reels of 750 pieces Dimensions according to EIA RS-481/ IEC 60286-3 standard External diameter 330  $\pm$  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.





Dimensions are shown: mm Specifications and dimensions subject to change

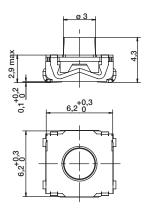


1 mar 17

## KSC7 soft actuator 4,3 mm high



Туре	Operating force FA (Newtons)	Operating life (operations)	Travel (mm)
KSC701	1.6 ± 0.6	5,000,000	$0.3 \pm 0.2$
KSC721	$2.25 \pm 0.55$	300,000	$0.3 \pm 0.15$
KSC741	3.9 ± 1	300,000	0.4 ± 0.2



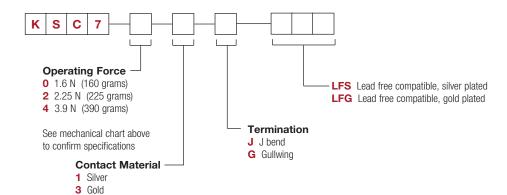
## **Packaging**

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.





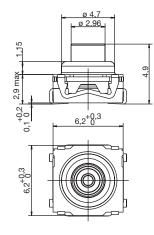
Dimensions are shown: mm Specifications and dimensions subject to change



#### KSC8 hard actuator 4,9 mm high



Туре	Operating force FA (Newtons)	Operating life (operations)	Travel (mm)
KSC821	3.15 ± 0.75	300,000	0.65 ± 0.2
KSC821 OL	1.7 ± 0.5	300,000	$0.4 \pm 0.2$
KSC831 OL	$2.55 \pm 0.65$	300,000	$0.4 \pm 0.2$
KSC841 OL	$3.4 \pm 0.85$	300,000	$0.4 \pm 0.2$



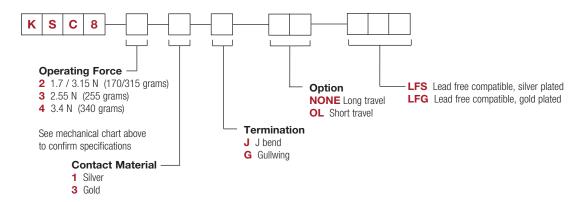
## **Packaging**

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.





Dimensions are shown: mm



## KSC9 hard actuator 7,7 mm high

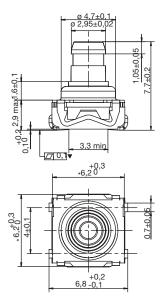




Туре	Operating force FA (Newtons)	Operating life (operations)	Travel (mm)
KSC921	1.7 ± 0.5	300,000	0.4 ± 0.2
KSC931	$2.25 \pm 0.65$	300,000	$0.4 \pm 0.2$
KSC941	$3.4 \pm 0.85$	300,000	$0.4 \pm 0.2$

## **Packaging**

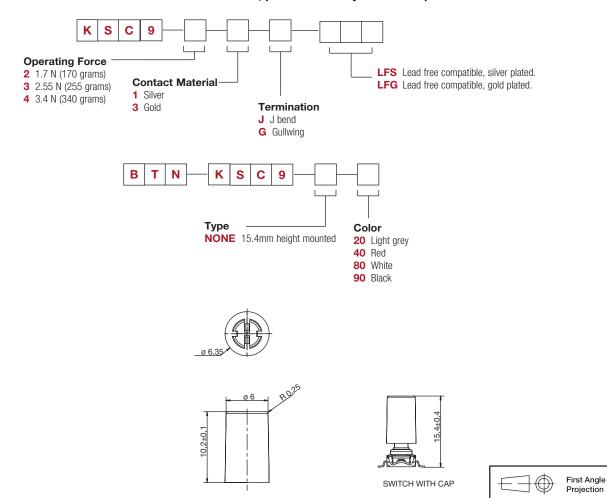
Switches delivered on continuous tape & reels of 750 pieces Dimensions according to EIA RS-481/ IEC 60286-3 standard External diameter 330  $\pm~2\,$  mm



#### **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.



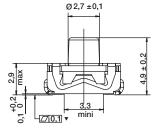


Dimensions are shown: mm Specifications and dimensions subject to change

## KSC10 soft actuator 4,9 mm high

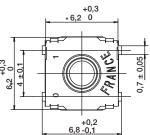


Туре	Operating force FA (Newtons)	Operating life (operations)	Travel (mm)
KSC1001	1.45 ± 0.55	5,000,000	0.45 ± 0.25



## **Packaging**

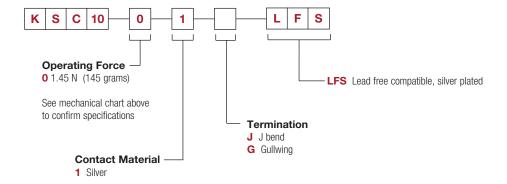
Switches delivered on continuous tape & reels of 1,000 pieces Dimensions according to EIA RS-481/ IEC 60286-3 standard External diameter 330 ± 2 mm



## **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.



Note: KSC10 offered with yellow actuator as standard, hardness 55 Shore



Dimensions are shown: mm



#### Features/Benefits

- Full SMD side actuated
- Haptic adaptability
- Pin in paste terminations
- Tape & reel
- IP67

#### Typical Applications

- Automotive
- Industrial electronics
- Network equipment
- Telecommunications



## **Specification**

FUNCTION: momentary action

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

- 2 pin in paste signal terminals
- 3 SMD ground terminals

#### Mechanical

Туре	Force (N)	Operating Life (operations)	Travel (mm)
KSC201 V2 LFS	1.6 ± 0.6	1,000,000	0.5 ± 0.2
KSC421 V2 70SH LFS	1.55 ± 0.45	300,000	0.45 ± 0.25
KSC441V2 70SH SP DELTA LFS	3.5 ± 1.0	300,000	0.7 ± 0.2
KSC443V2 70SH SP DELTA LFG	3.5 ± 1.0	300,000	0.7 ± 0.2
KSC421 V2 RT LFS	1.8 ± 0.5	300,000	0.5 ± 0.2
KSC423 V2 RT LFG	1.8 ± 0.5	300,000	0.5 ± 0.2
KSC441 V2 RT LFS	3.4 ± 1.0	300,000	0.35 ± 0.2

NOTE: 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

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	0.1 mA

DIELECTRIC STRENGTH (50 Hz, 1 min.):  $\geq$  250 Vrms

CONTACT RESISTANCE:  $\leq$  100 m $\Omega$ 

INSULATION RESISTANCE (100 V, initial stage):  $> 10^{\rm o}\,\Omega$ 

BOUNCE TIME: < 1 ms

**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: 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.

TERMINALS: pin in paste, silver or gold plated

TOP PLATE: tin plated

MSL level: 1

Vacuum pick head mandatory

## **Packaging**

In reels of 800 pieces.

Dimensions of reels according to EIA RS481 or IEC 2863.

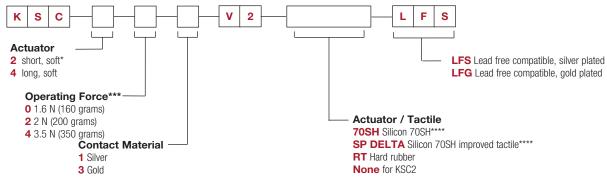
External diameter 380 mm ± 2 mm.

**NOTE**: 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.

#### **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.





<sup>\*\*\*</sup> Force available upon demand (variant version)

Dimensions are shown: mm Specifications and dimensions subject to change

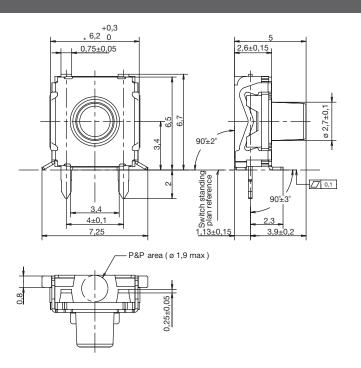


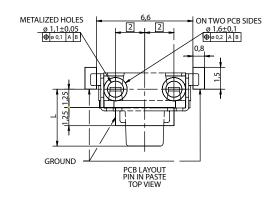
B-70 www.ckswitches.com

<sup>\*\*\*\*</sup> Available for KSC4 only

Ю

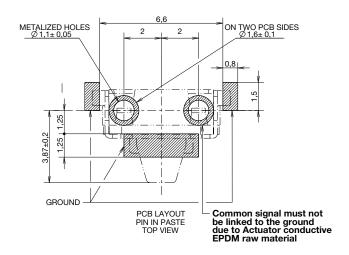
# KSC V2 Series Side Actuated Sealed Tact Switch





Series	L
KSC2	2,3
KSC4	3,9

## IMPORTANT NOTE FOR RT ACTUATOR



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).

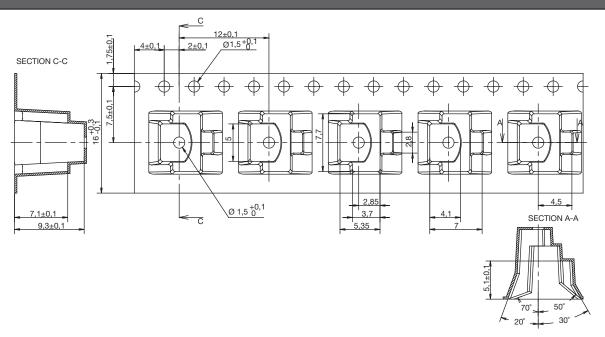
Our actuator contains carbon particles and is electrical conductive. In consequence, customer actuator must be electric insulating raw material.

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.





## **TAPE AND REEL**



## **INTEGRATION**





# **Mouser Electronics**

**Authorized Distributor** 

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

## **C&K Switches:**

KSC121G KSC123J KSC121J KSC241J KSC241G KSC441G KSC421V30ACT3.17 KSC421G KSC421J KSC351J KSC351J KSC351G KSC321G KSC141G KSC141G KSC141J KSC411JB KSC221G KSC621J KSC621G KSC421J KSC401JB KSC341G KSC341G KSC641J KSC641G KSC141G KSC151J KSC541G KSC541J KSC541G KSC421J-LFS KSC441J70SH LFS KSC411J70SH LFS KSC221G LFS KSC221G LFS KSC221J LFS KSC641G LFS KSC351J LFS KSC241G LFS KSC421G70SH LFS KSC241J LFS KSC341J LFS KSC321J LFS KSC641J LFS KSC441G 70SH LFS KSC401J 50SH LFS KSC621J LFS KSC421J 70SH LFS KSC422J 70SH LFS KSC442J 70SH LFS KSC441G ST1 LFS KSC441G ST2 LFS KSC441J ST2 LFS KSC441J ST1 LFS KSC421 V30 ACT3.17 LFS KSC443J 70SH LFG KSC521J ROHS KSC521J ROHS KSC541J ROHS KSC721J LFS KSC721G LFS KSC741J LFS KSC741G LFS KSC