

Tactile Switches

Product Selection Guide

Surface Mount							
Series	KMX	KMR 2-4	KMS	PTS525	KSR	KSS	KST
Size on PCB L x W (mm)	4,1 x 4,1	4,6 x 2,8	4,6 x 2,8	6,4 x 5,25	7,15x3,8 7,3x3,8	7 x 3,5	J 6,8x6,2 G 10x6,2
Total Height (mm)	0,5 0,58	1,9 2,5	1,42	0,8 1,5	2,5	1,7	5
Travel (mm)	0,2	0,2 to 0,35	0.25 to 0.3	0,3	0,3 to 0,5	0,3	1,33
Actuation Force (N)	1.6 2.2	1.2 2 3 4	2 3	1.6 2.6	1.2 2 3 4.5	2 2.5 4	2.0 3.5
Contact Type	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold
Max. Voltage (V)	32 32	32 32	32 32	32 32	32 32	32 32	30 30
Max. Switching Power (VA)	0.5	1 0.2	1 0.2	1 0.2	1 0.2	1 0.2	.50 0.2
Life Cycles	250,000 250,000	100,000 300,000	100,000	100,000	100,000 200,000	100,000	100,000
Sealing	Dust and flux tight	Dust and flux tight	Dust and flux tight	Dust and flux tight	Dust and flux tight	Dust and flux tight	Flux tight
Page Number	B-7	B-9	B-13	B-15	B-17	B-21	B-39

Surface Mount										
Series	KSC1	2	3	4	6	KSC4 V	KSC5	KSC6V	KT	K5AT
Size on PCB L x W (mm)	J 6,8x6,2	G 10x6,2				7,4 x 3,8	J 6,8x6,2 G 10x6,2	8,2x3,67	SA 7,5x5 SA2 7,5x7	G 8,4x10,8
Total Height (mm)	2,6	3,5	3,5	5,2	7,7	6,9	5,6	6,9	6,6 7,11 with tab	6,1
Travel (mm)				0,20 to 0,75		0,375 to 0,5	axial: 0,25 lateral: 0,5	0,5	0,3 to 0,5	0,5
Actuation Force (N)				1,1 to 5,5		1.7 3.2	2.0 3.0	1,5	3	4
Contact Type	Silver			Gold		Silver Gold	Silver Gold	Silver Gold	Silver Gold	Gold
Max. Voltage (V)	32			32		32 32	32 32	32 32	50 50	32
Max. Switching Power (VA)	1			0.2		1 0.2	1 0.2	1 0.2	1 0.2	1
Life Cycles				100,000 to 1,000,000		300,000	10,000 100,000	100,000	100,000	25,000
Sealing				IP67		IP40	IP50	IP40	IP57	IP40
Page Number				B-23		B-23	B-30	B-23	B-35	B-41

Tactile Switches

Product Selection Guide

B

Tactile Switches

Thru-hole Sealed High Performance							
Series	K5V SMT	K5V THT	K5V PM	KSB	KSF	KSA	KSA MKII
Footprint	8 x 9 x 17	8 x 9 x 17	9 x 13	7,62 x 5,08	7,62 x 5,08	7,62 x 5,08	7,62 x 5,08
Total Height (mm)	9	9	13	2,01	2,6	4,7 button option	4,7
Travel (mm)	1,2	1,2	1,2	0,2	0,3 to 0,5	0,3 to 0,5	0,3 to 0,5
Actuation Force (N)	4,0	4,0	4,0	1.6 3.0	1.3 3.0 1.6 5.0	1.3 3.0 5.0	1.3 3.0 5.0
Contact Type	Gold	Gold	Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold
Max. Voltage (V)	32	32	32	32 32	32 32	32 32	32 32
Max. Switching Power (VA)	1	1	1	1 0.2	1 0.2	1 0.2	1 0.2
Life Cycles	25,000	25,000	25,000	100,000	100,000	100,000	100,000 1,000,000
Sealing	Dust protected	Dust protected	Dust protected	IP40	IP60	IP60	IP67
Page Number	B-43	B-45	B-47	B-49	B-49	B-51	B-56

Thru-hole Sealed High Performance							
Series	KSA-V	KSI	KSI-V	KSL	KSL-V	KSJ	KSJ-V
Footprint	7,62 x 2,54	7,62 x 5,08	7,62 x 2,54	7,62 x 5,08	7,62 x 2,54	7,62 x 5,08	7,62 x 2,54
Total Height (mm)	8	5,4	8	9,9	8	6,65	8
Travel (mm)	0,3 to 0,5	0,4 to 1,1	0,4 to 1,1	0,3 to 0,5	0,3 to 0,5	0,55 to 0,7	0,55 to 0,7
Actuation Force (N)	1.3 3.0 5.0	1.1 3.0	1.1 3.0	1.3 3.0	1.3 3.0	2.0 3.0	2.0 3.0
Contact Type	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold
Max. Voltage (V)	32 32	32 32	32 32	32 32	32 32	32 32	32 32
Max. Switching Power (VA)	1 0.2	1 0.2	1 0.2	1 0.2	1 0.2	1 0.2	1 0.2
Life Cycles	100,000	100,000	100,000	100,000	100,000	100,000 30,000	100,000 30,000
Sealing	IP60	IP60	IP60	IP60	IP60	IP60	IP60
Page Number	B-51	B-58	B-58	B-51	B-51	B-60	B-60

See next page for additional products.



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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Tactile Switches

Product Selection Guide

Thru-hole Flux Tight Only							
Series	PTS635	PTS635-V	PTS645	PTS645-V		PTS125	PTS125-V
Footprint	6,5	7,0 x 2,5	6,5 x 4,5	7,0 x 2,5		12,5 x 5,0	3,20 x 11,53
Total Height (mm)	4,3 5,0	4,3	4,3 5,0 7,0 7,3 Sq. 9,5 13,0 17,0	7,1		4,3 7,3 Sq. 8,5 12,0	14,90
Travel (mm)	0,25	0,25	0,25	0,25		0,30	0,30
Actuation Force (N)	1.3 2.0	1.3 2.0	1.3 1.6 2.0	1.3 1.6 2.0		1.6 2.6	1.6 2.6
Contact Type	Silver	Silver	Silver	Silver		Silver	Silver
Max. Voltage (V)	12	12	12	12		12	12
Max. Current (mA)	50	50	50	50		50	50
Life Cycles	20,000	20,000	100,000	100,000		200,000	200,000
Sealing	Flux tight	Flux tight	Flux tight	Flux tight		Flux tight	Flux tight
Page Number	B-62	B-62	B-65	B-65		B-68	B-68



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**

Specification

FUNCTION: momentary action

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

TERMINALS: Gullwing type for SMT

Mechanical

Type G and NG	Operating force Newtons (grams)	Operating Life	Tactile Feeling	Travel mm
KMT 211 HF LFS	1.0 (100) $\pm$ 0.25	150,000	$\geq$ 10%	0.13 $\pm$ 0.06
KMT 221 HF LFS	1.6 (160) $\pm$ 0.40	150,000	$\geq$ 30%	0.13 $\pm$ 0.06

Electrical

Silver

MAXIMUM POWER: 0.5 VA

MAXIMUM VOLTAGE: 32 VDC

MINIMUM VOLTAGE: 20mV

MAXIMUM CURRENT DC: 50 mA

MINIMUM CURRENT DC: 1 mA

DIELECTRIC STRENGTH: ≥ 250 Vrms (1mn)

CONTACT RESISTANCE: $\leq 300 \text{ m}\Omega$

INSULATION RESISTANCE: $\geq 50 \text{ M}\Omega$

BOUNCE TIME: $\leq 6 \text{ ms}$

Environmental

Silver

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:

– Infrared Reflow Soldering in accordance with IEC61760-1

Packaging

In reels of 4,000 pieces.

Dimensions of reels according to EIA 481B

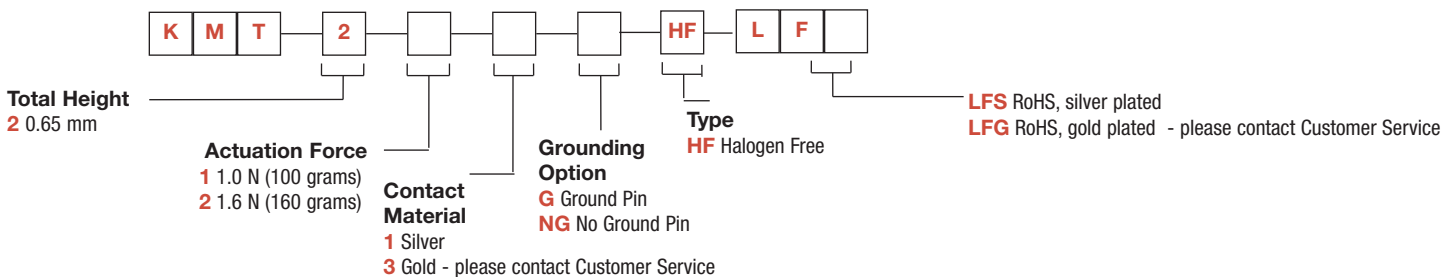
External diameter 180 mm

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

For information on specific and custom switches, consult Customer Service Center.

Part Number Description

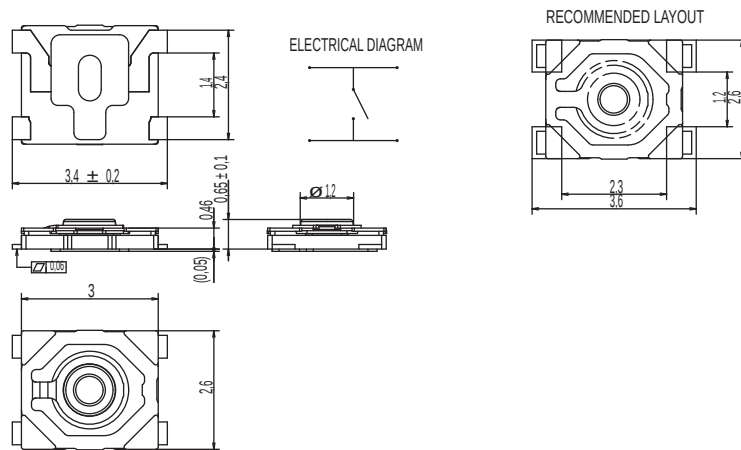
For any part number different from those listed above, please consult your local representative.



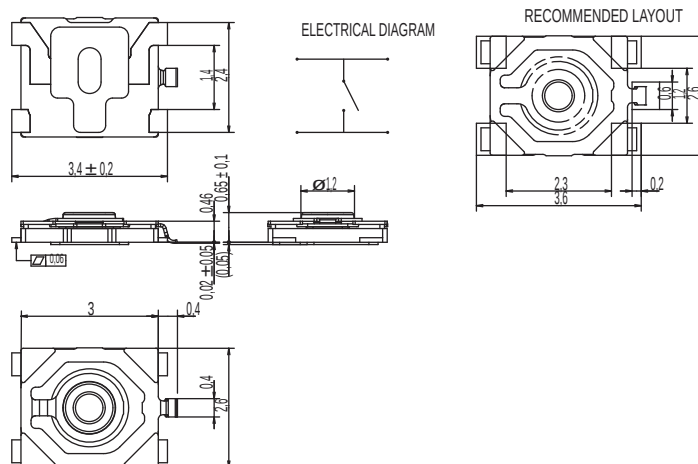
KMT Series

Nano-Miniature SMT Top Actuated

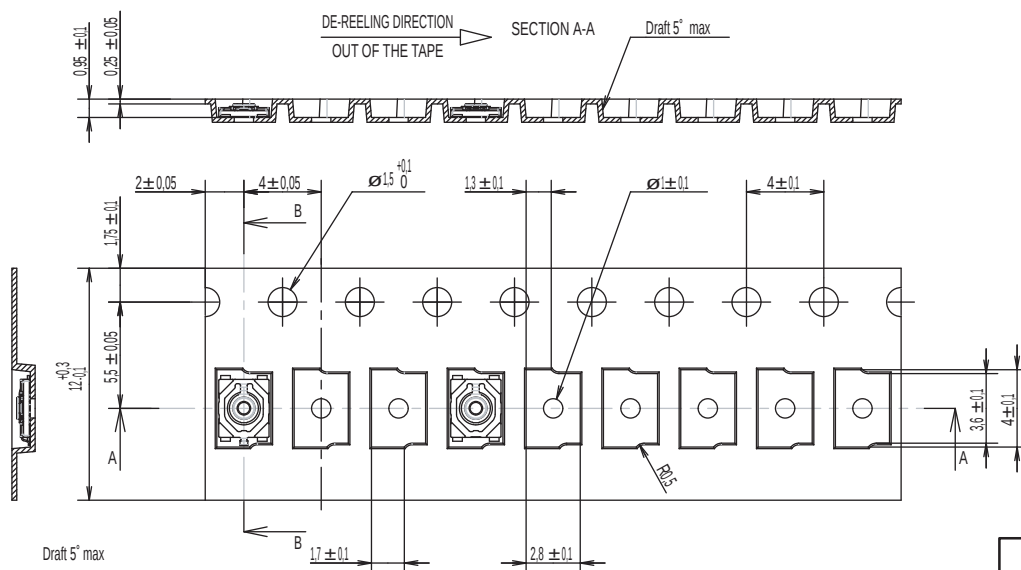
KMT Series – No Ground Pin



KMT Series – With Ground



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Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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KMX Series

Low Profile SMT Top Actuated

B

Tactile Switches



Features

- Ultra low profile 0.58mm
- Compact switch body; 4.1x4.1mm
- 1.6 and 2.2N sharp tactile feel
- 250k cycles
- ø 1.4mm actuator grounded
- RoHS compliant and compatible

Typical Applications

- Allows higher board density with compact SMT switch for ultra low profile environment: cell phones keypads, key fob, white goods, medical and military

Specification

FUNCTION: Snap action push-on type SPST/shielded
CONTACT TYPE: Normally open
TERMINALS: Gullwing type for SMT

Mechanical

OVERLOAD: 50N
TACTILE FEELING: 30% min.
ACTUATION CONDITION LIMITS:
- inclination: 4° max.
- de-centering:
 * series 100: 0.15 mm max.
 * series 200: 0.30 mm max.
- actuator diameter: 1 mm max. with 0.1 mm radius.

Type	Operating force Newtons (grams)	Operating life (operations)	Travel
KMX211G/213G	1.6 (160) ± 30%	250,000	0,20 ± 0,10
KMX221G/223G	2.2 (220) ± 30%	250,000	0,20 ± 0,10

Packaging

Tape and reels in reels of 10,000 pieces.
External diameter 380mm ± 2mm.

Electrical

	Silver	Gold
MAXIMUM POWER:	0.5 VA	0.5 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MAXIMUM CURRENT DC:	50 mA	20 mA
MINIMUM CURRENT DC:	1 mA	1 mA
CONTACT RESISTANCE:	≤ 100 mΩ	
INSULATION RESISTANCE:	≥ 50 MΩ	
BOUNCE TIME:	≤ 6 ms	

Environmental

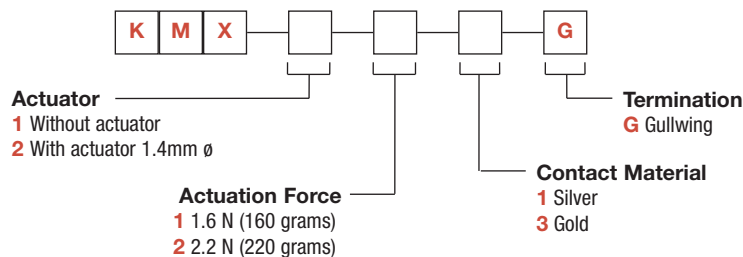
	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 85°C	-40°C to 125°C
STORAGE TEMPERATURE:	-55°C to 85°C	-55°C to 125°C
RELATIVE HUMIDITY	90 to 96%	

Process

Infrared reflow soldering in accordance with IEC 61760-1

How To Order

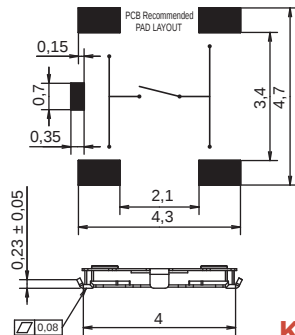
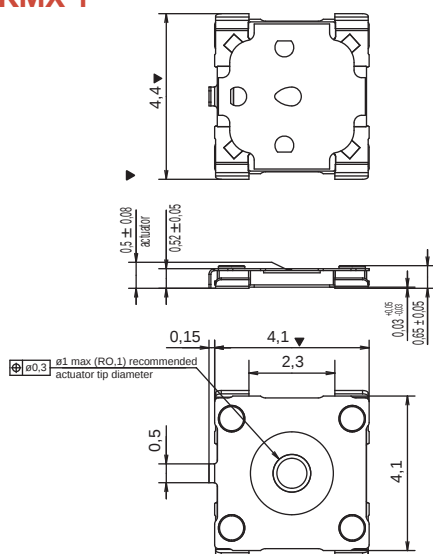
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



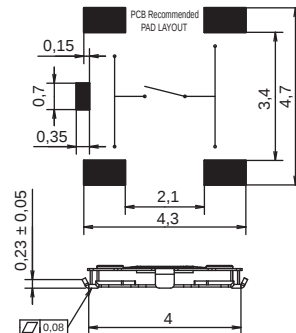
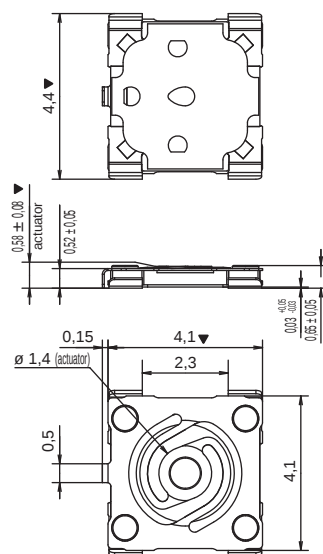
KMX Series

Low Profile SMT Top Actuated

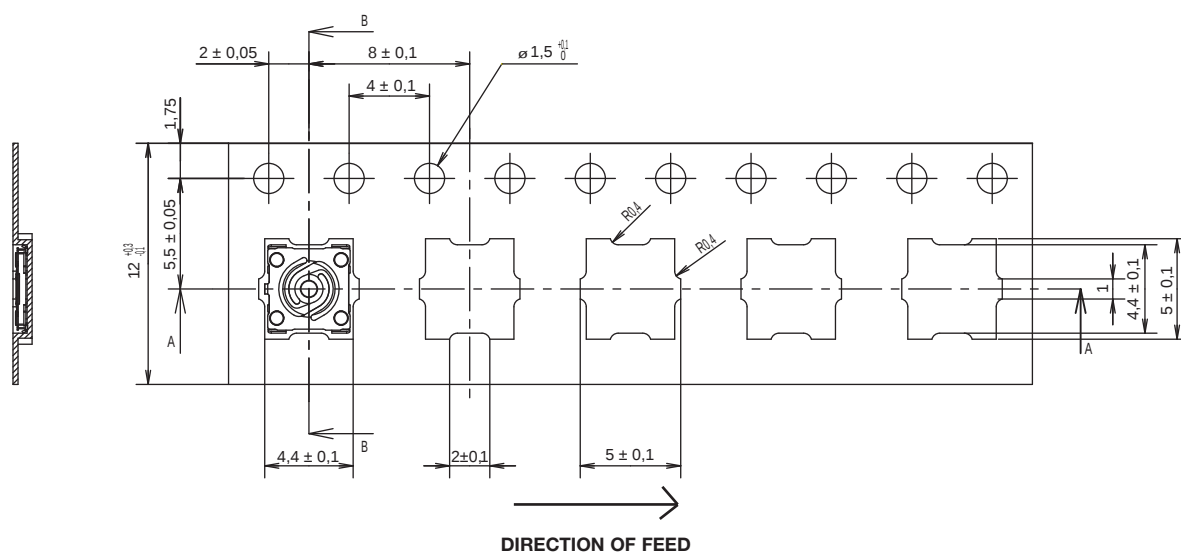
KMX 1



KMX 2



TAPE & REEL



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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Features/Benefits

- **Long Life version**
- **4 actuation forces**
- **Optional ground pin**
- **Ultra low current capabilities**
- **Excellent tactile feel**

Typical Applications

- ***Automotive***
- ***Cellular phones***
- ***Industrial electronics***
- ***Medical equipment***

Specification

FUNCTION: momentary action

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

TERMINALS: Gullwing type for SMT

Mechanical

Type G and NG (except gold version G only) See description below	Operating force N (grs)	Operating life (cycles)	Travel (mm)
KMR211 LFS	1.2 (120) $\pm$ 0.30	200 000	0.20 mm $\pm$ 0.1
KMR213 LFG	1.2 (120) $\pm$ 0.30	200 000	0.20 mm $\pm$ 0.1
KMR221 LFS	2.0 (200) $\pm$ 0.50	200 000	0.25 mm $\pm$ 0.1
KMR223G LFG	2.0 (200) $\pm$ 0.50	200 000	0.25 mm $\pm$ 0.1
KMR231 LFS	3.0 (300) $\pm$ 0.75	150 000	0.25 mm $\pm$ 0.1
KMR233G LFG	3.0 (300) $\pm$ 0.75	150 000	0.25 mm $\pm$ 0.1
KMR231 ULC LFS	3.0 (300) $\pm$ 0.75	150 000	0.25 mm $\pm$ 0.1
KMR232 LFS	3.0 (300) $\pm$ 0.75	300 000	0.25 mm $\pm$ 0.1
KMR232 ULC LFS	3.0 (300) $\pm$ 0.75	300 000	0.25 mm $\pm$ 0.1
KMR241 LFS	4.0 (400) $\pm$ 1.00	100 000	0.30 mm $\pm$ 0.1
KMR243G LFG	4.0 (400) $\pm$ 1.00	100 000	0.30 mm $\pm$ 0.1
KMR241 ULC LFS	4.0 (400) $\pm$ 1.00	100 000	0.30 mm $\pm$ 0.1
KMR242 LFS	4.0 (400) $\pm$ 1.00	200 000	0.30 mm $\pm$ 0.1
KMR242 ULC LFS	4.0 (400) $\pm$ 1.00	200 000	0.30 mm $\pm$ 0.1

TACTILE FEELING: for KMR 2 series: $\geq 30\%$ (1.2N at 20%)

Electrical

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 1 μ A at 1.8 VDC

Environmental

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

Infrared Reflow Soldering in accordance with IEC61760-1

Packaging

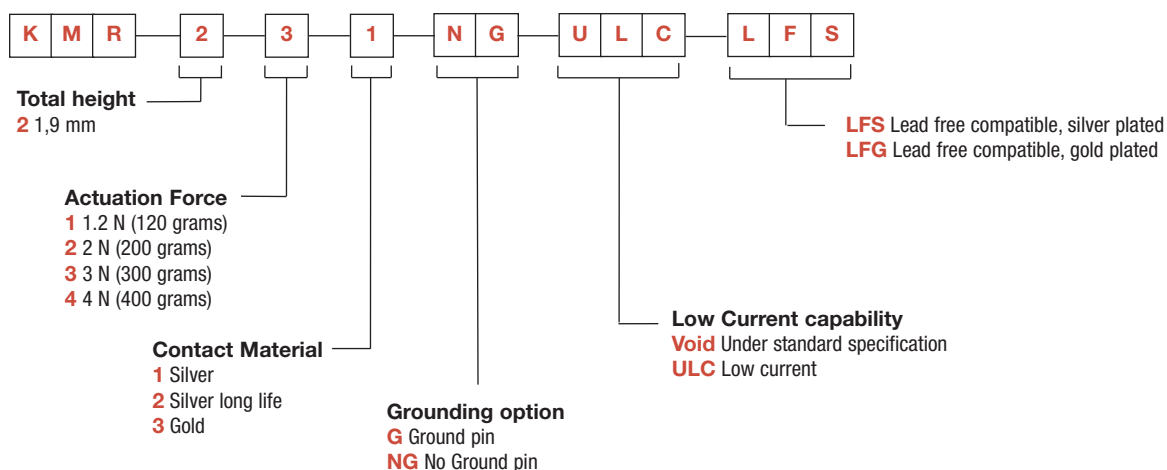
In reels of 7,000 pieces for KMR 2

External diameter 330 mm $\pm$ 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

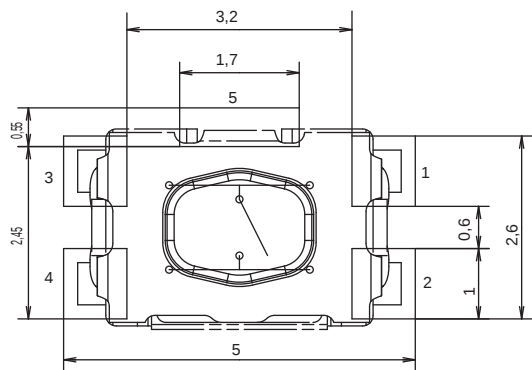
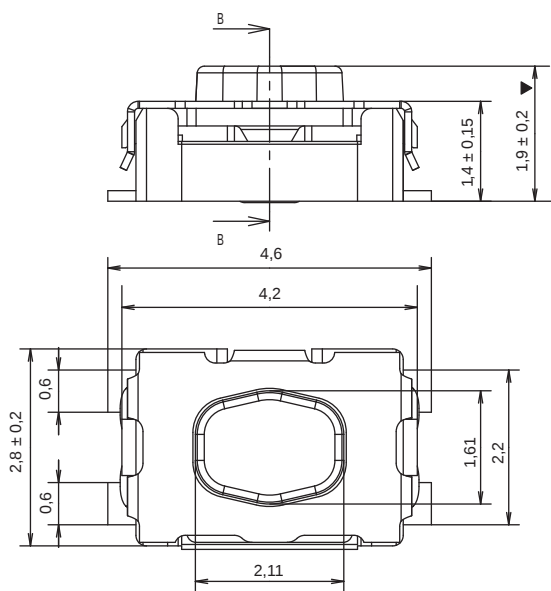
For any part number different from those listed above, please consult your local representative.



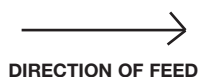
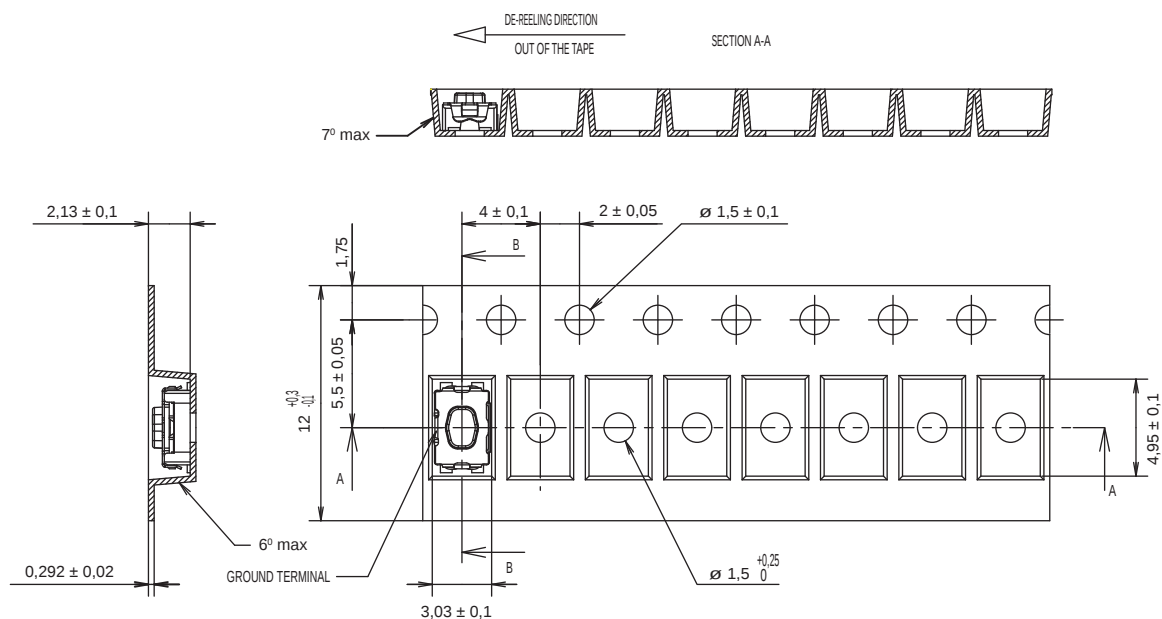
KMR 2 Series Microminiature Tact Switch for SMT

KMR 2 Series - 1.9 mm height

PCB layout shown with ground pin option



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Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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Features/Benefits

- **Long Life version**
- **4 actuation forces**
- **Optional ground pin**
- **Ultra low current capabilities**
- **Excellent tactile feel**



Typical Applications

- ***Automotive***
- ***Cellular phones***
- ***Industrial electronics***
- ***Medical equipment***

Specification

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

Mechanical

Type G and NG (except gold version G only) See description below	Operating force N (grs)	Operating life (cycles)	Travel (mm)
KMR421 LFS	2.0 (200) $\pm$ 0.50	200 000	0.25 mm $\pm$ 0.1
KMR431 LFS	3.0 (300) $\pm$ 0.75	150 000	0.30 mm $\pm$ 0.1
KMR431 ULC LFS	3.0 (300) $\pm$ 0.75	150 000	0.30 mm $\pm$ 0.1
KMR432 LFS	3.0 (300) $\pm$ 0.75	300 000	0.30 mm $\pm$ 0.1
KMR432 ULC LFS	3.0 (300) $\pm$ 0.75	300 000	0.30 mm $\pm$ 0.1
KMR441 LFS	4.0 (400) $\pm$ 1.00	100 000	0.35 mm $\pm$ 0.1
KMR441 ULC LFS	4.0 (400) $\pm$ 1.00	100 000	0.35 mm $\pm$ 0.1
KMR442 LFS	4.0 (400) $\pm$ 1.00	200 000	0.35 mm $\pm$ 0.1
KMR442 ULC LFS	4.0 (400) $\pm$ 1.00	200 000	0.35 mm $\pm$ 0.1

TACTILE FEELING: for KMR 4 series: $\geq 25\%$

Electrical

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 1 μ A at 1.8 VDC

Environmental

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

Infrared Reflow Soldering in accordance with IEC61760-1

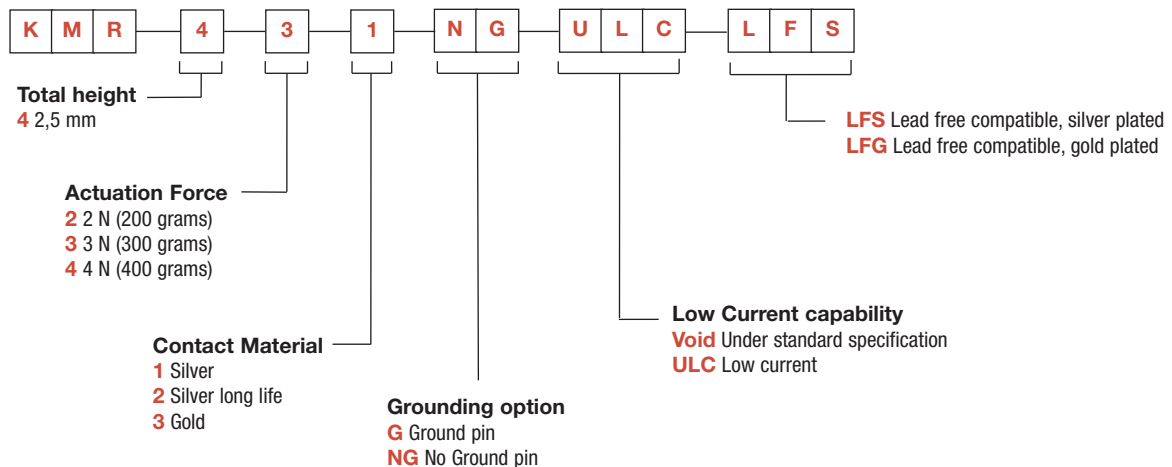
Packaging

In reels of 6,000 pieces for KMR 4
External diameter 330 mm $\pm$ 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

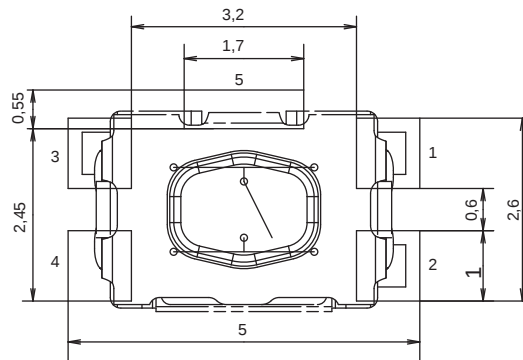
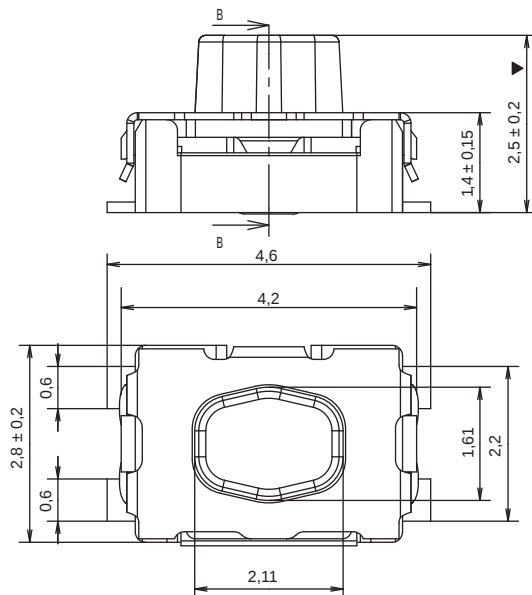
For any part number different from those listed above, please consult your local representative.



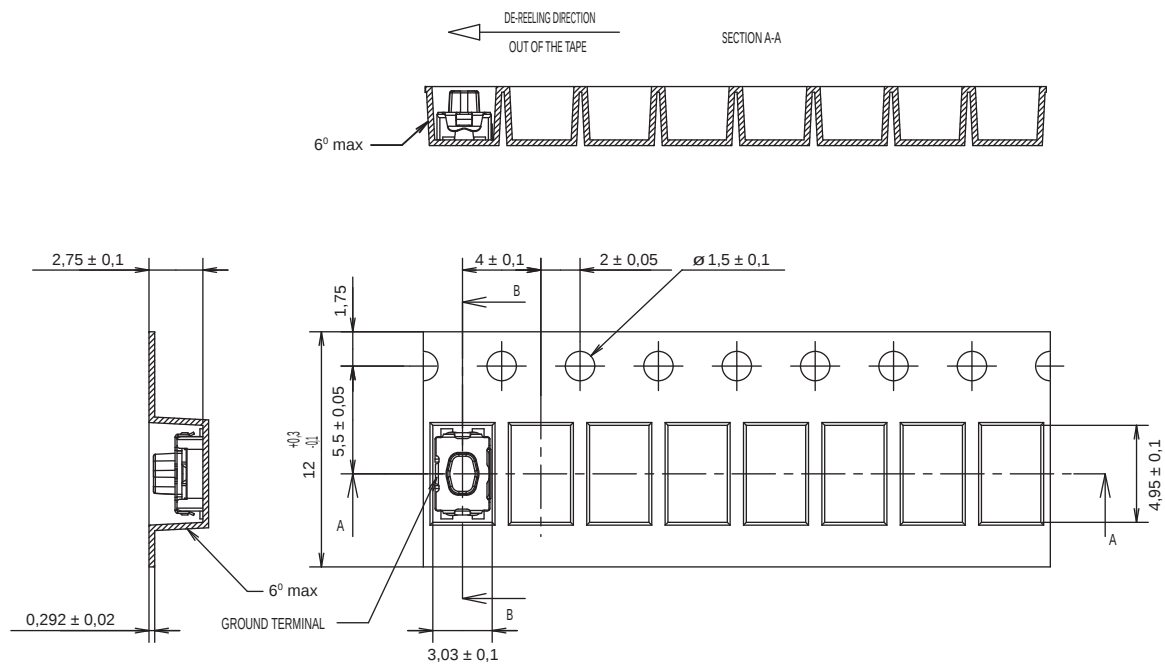
KMR 4 Series Microminiature Tact Switch for SMT

KMR 4 Series - 2.5 mm height

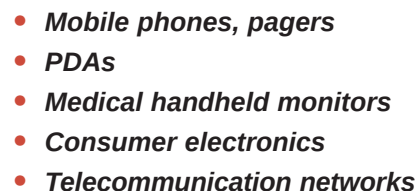
PCB layout shown with ground pin option



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Tactile Switches

Downloaded from Arrow.com.

PTS 525 Series Microminiature Tact Switch for SMT



Features/Benefits

- Ultra low profile, 0.8 & 1.5 mm actuator height
- Long life
- Compact package of 5.25 x 5.25 mm saves PCB space
- RoHS compliant and compatible

Typical Applications

- Consumer products
- Instrumentation
- Computer products
- Hand-held devices

Specification

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

Mechanical

ACTUATION FORCE: PTS525 models: 160 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.
ELECTRICAL TRAVEL: $0,30 \pm 0,15$ mm

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

Environmental

OPERATING TEMPERATURE: -40°C to 60°C

Process

SMT capable of IR solder process. Lead free soldering process compatible. Do not clean switch with solvents.

Materials

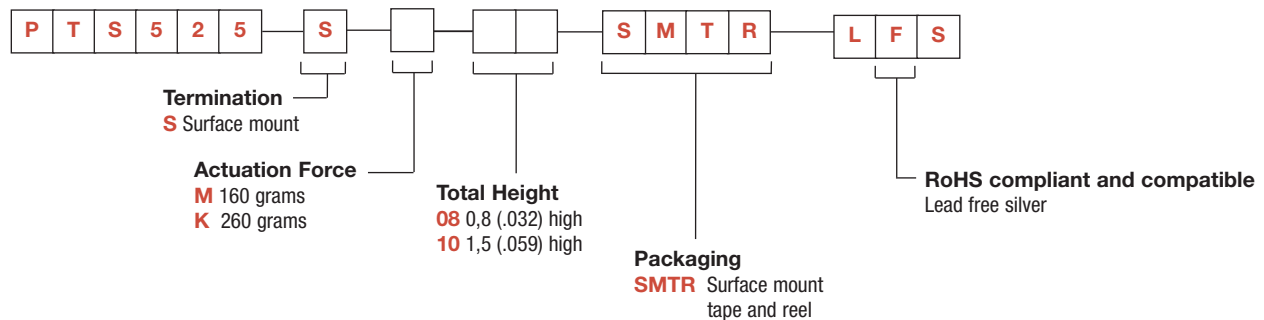
BASE: 6/6 nylon or glass filled polyester (PBT) (UL 94V-0).
ACTUATOR: 6/6 nylon or polyacetal (UL 94HB).
DOME CONTACTS: Phosphor bronze, silver clad.
STATIONARY CONTACTS: Brass, silver plated.
TERMINALS: Brass, silver plated. Insert molded.

Packaging

3000 pieces per Tape and 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.



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

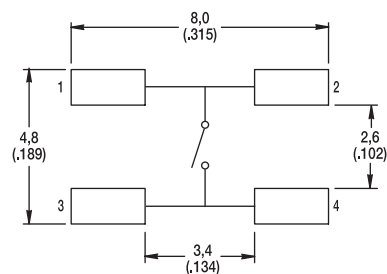
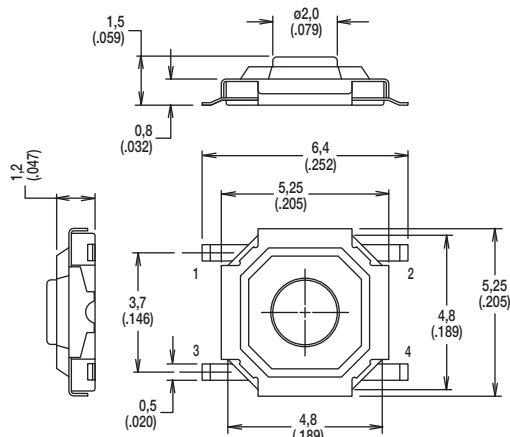
www.ck-components.com

PTS 525 Series Microminiature Tact Switch for SMT

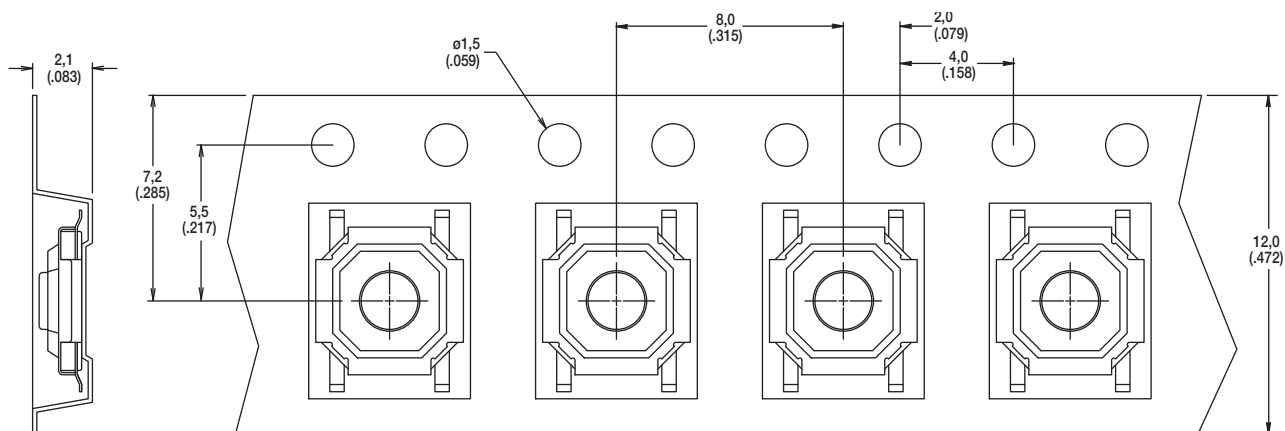
PTS525



PTS525SM10SMTR



TAPE & REEL



→
DIRECTION OF FEED



Dimensions shown in: mm (inch)
 Specifications and dimensions subject to change

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KSR Series Subminiature Tact Switch for SMT

Features/Benefits

- Saves PCB space
- Range of 4 actuation forces
- G terminations
- N.O.
- Detect type available
- Rubber actuator
- IP 50 sealed
- RoHS compliant and compatible

Typical Applications

- Automotive
- Cellular phones & accessories
- Industrial electronics
- Computers & network equipment



Specification

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

Mechanical

Type	Operating force Newtons (grams)	Operating life (operations)	Travel
KSR211/213	1.8 (180) ± 20%	100,000	0,25 ± 0,15
KSR221/223	2.3 (200) ± 25%	200,000	0,3 ± 0,15
KSR231/233	3.0 (300) ± 25%	200,000	0,35 ± 0,15
KSR251/253	4.5 (450) ± 25%	100,000	0,5 ± 0,15
KSR223GNC	2 (200) ± 25%	100,000	0,3 ± 0,15

A detect switch version is available KSR2D3G.
Please see Detect chapter, page F-6.

Packaging

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT DC:	50 mA	50 mA
MINIMUM CURRENT DC:	1 mA	1 mA

CONTACT RESISTANCE: ≤ 100 mΩ
INSULATION RESISTANCE: (100 V): 10⁹ Ω
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: Compatible with the lead free soldering profile.

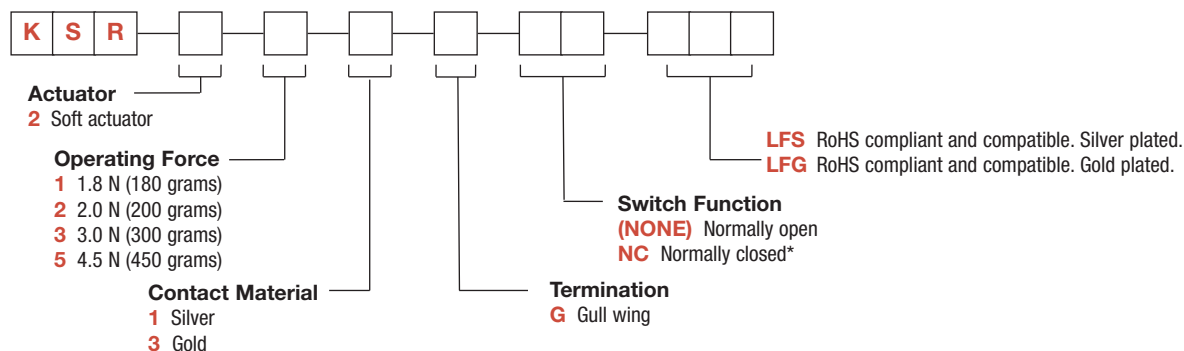
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

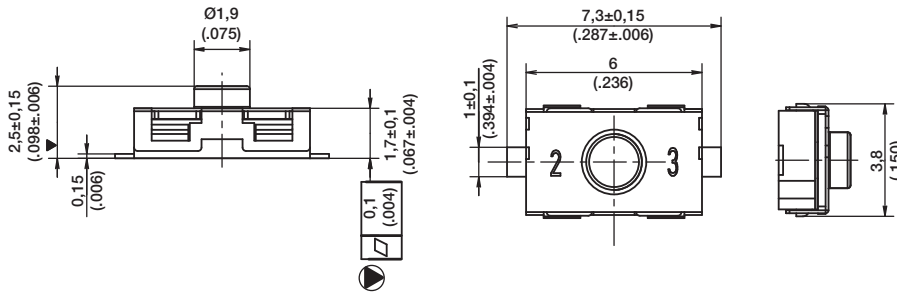


*Available on KSR223GNC only.

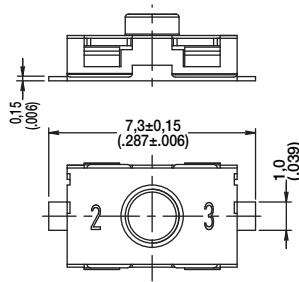
KSR Series

Subminiature Tact Switch for SMT

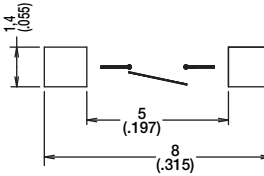
KSR



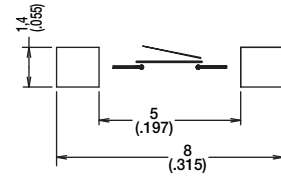
G GULLWING



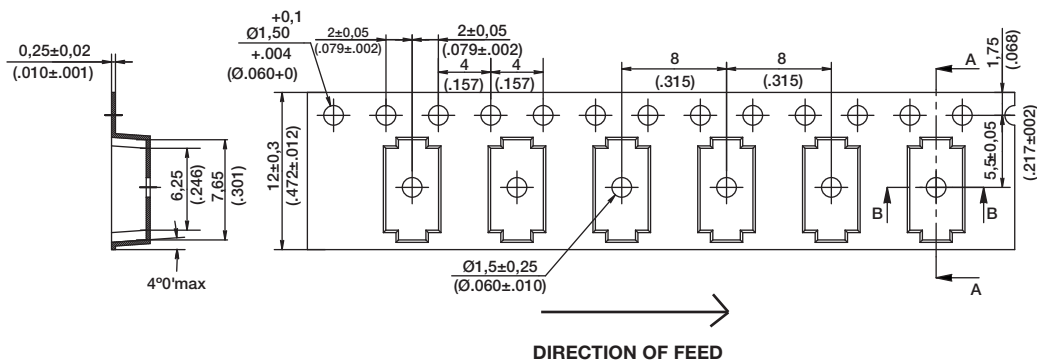
PAD LAYOUT NORMALLY OPEN



PAD LAYOUT NORMALLY CLOSED



TAPE & REEL



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

Features/Benefits

- Saves PCB space
- Range of 4 actuation forces
- G terminations
- N.O.
- Detect type available
- Rubber actuator
- IP 50 sealed
- RoHS compliant and compatible

Typical Applications

- Automotive
- Cellular phones & accessories
- Industrial electronics
- Computers & network equipment



Specification

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

Mechanical

Type	Operating force(Fa) Newtons (grams)	Operating life (operations)	Travel
Silver versions			
KSR212G LFS	1.5 < Fa < 2.2	200,000	0,25 ± 0,15
KSR222G LFS	1.9 < Fa < 2.6	200,000	0,3 ± 0,15
KSR232G LFS	2.25 < Fa < 3.75	200,000	0,35 ± 0,15
KSR252G LFS	3.37 < Fa < 5.6	200,000	0,5 ± 0,15
Gold versions			
KSR214G LFS	1.5 < Fa < 2.2	200,000	0,25 ± 0,15
KSR224G LFS	1.9 < Fa < 2.6	200,000	0,3 ± 0,15
KSR234G LFS	2.25 < Fa < 3.75	200,000	0,35 ± 0,15
KSR254G LFS	3.37 < Fa < 5.6	200,000	0,5 ± 0,15

Packaging

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 V dc	32 V dc
MINIMUM VOLTAGE:	20 m Vdc	20 m Vdc
MAXIMUM CURRENT DC:	50 mA	50 mA
MINIMUM CURRENT DC:	1 mA	1 mA

CONTACT RESISTANCE: ≤ 100 m_Ω
INSULATION RESISTANCE (100 V): 1 G_Ω
BOUNCE TIME: 1 ms max

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: Compatible with the lead free soldering profile.

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

Mechanical

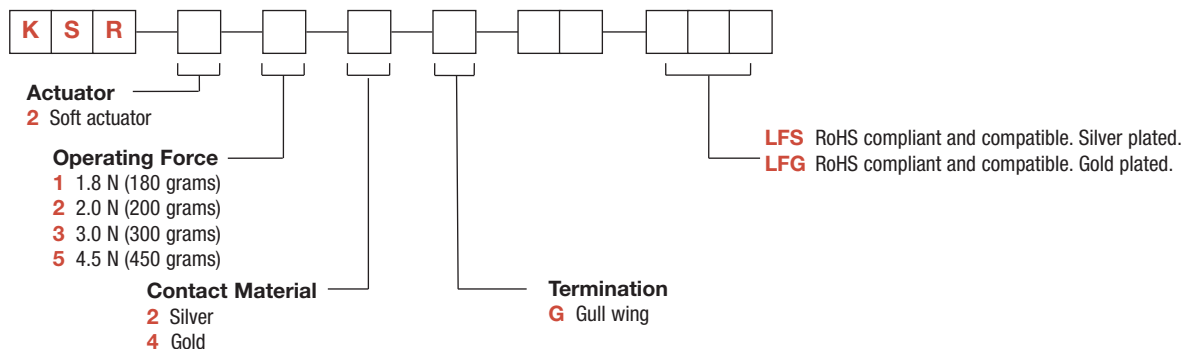
OVERLOAD: 20 Newtons

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.

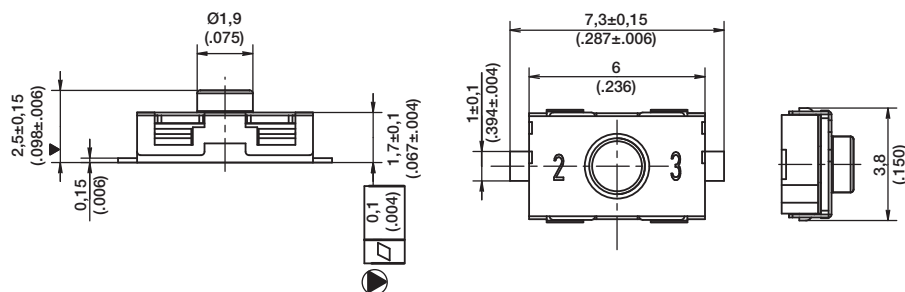
For any part number different from those listed above, please consult your local representative.



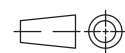
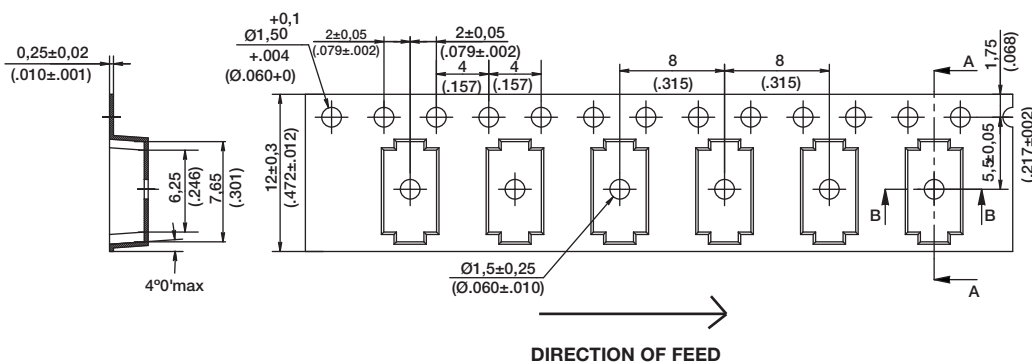
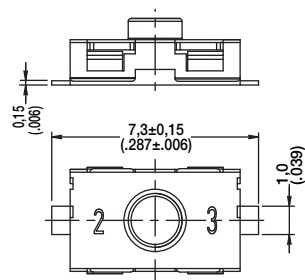
Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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Tactile Switches



⌊



Dimensions shown in: mm (inch)

Specifications and dimensions subject to change

C&K



- **Cellular phone**
- **PDA, pagers**
- **Industrial electronics**
- **Health diagnostic electronics**

Downloaded from Arrow.com.

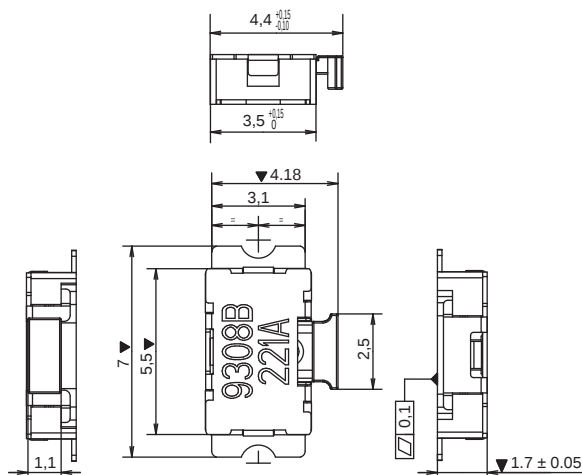
KSS Series Subminiature SMT Side Actuated

KSS



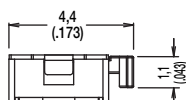
B

Tactile Switches

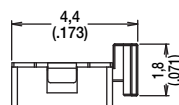


ACTUATOR

2 STANDARD, 1,1 (0.043)

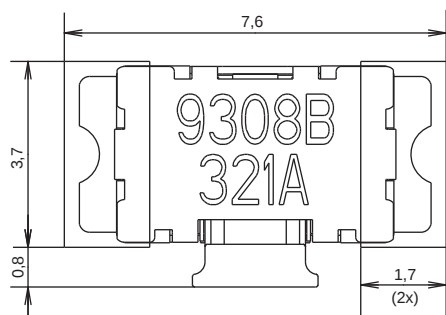


3 LARGE, 1,8 (0.070)

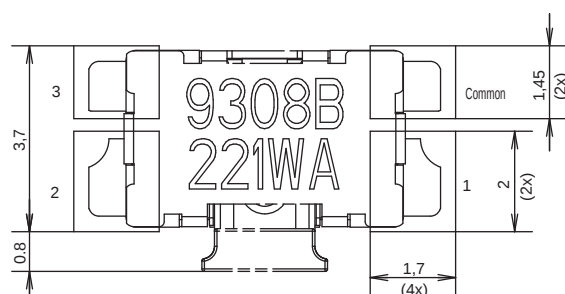


TERMINATION

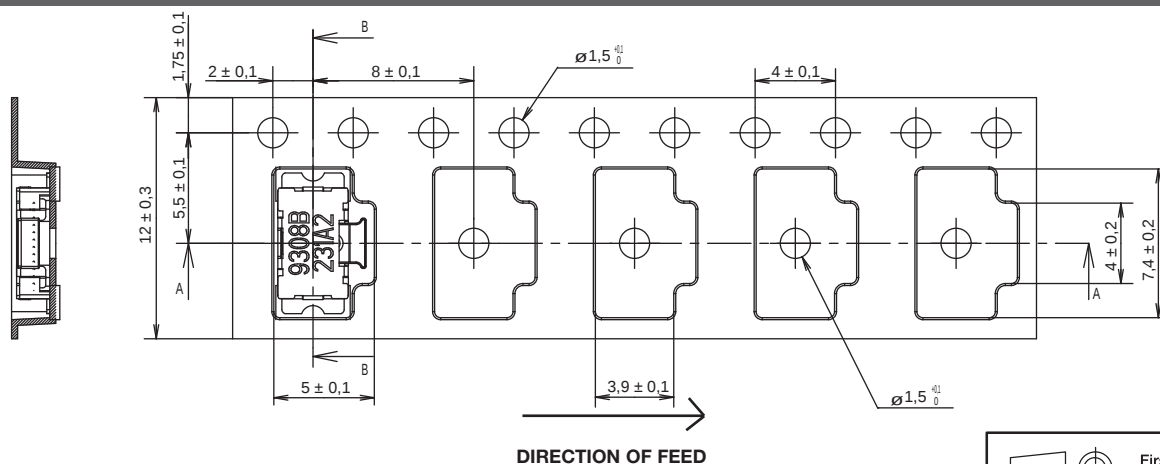
G GULLWING



W 3 WAY, 4 REDUNDANT CONTACTS



TAPE & REEL



DIRECTION OF FEED



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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C&K

KSC Series Sealed Tact Switch for SMT

Features/Benefits

- Positive tactile feeling
- Range of 6 actuation forces
- J or G terminations
- Tape & reel
- IP 67

Typical Applications

- Automotive
- Cellular phones
- Industrial electronics
- Network infrastructure and IT



Specification

FUNCTION: Momentary action

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

TERMINALS: J bend & Gullwing type for SMT

Mechanical

Type	Operating force FA (Newtons) Min/Max	Operating life (operations)	Travel (mm)
KSC121J	1.2 / 2.5	200,000	0.3 ± 0.15
KSC141J	2.25 / 3.75	200,000	0.3 ± 0.15
KSC151J	4.3 / 7.3	100,000	0.3 ± 0.15
KSC201J	0.9 / 2N	300,000	0.3 +0.2 / -0.15
KSC221J	1.5 / 2.5	500,000	0.35 +0.3 / -0.1
KSC222J	1.5 / 2.5	1,000,000	0.35 +0.3 / -0.1
KSC241J	2.6 / 4.4	300,000	0.5 ± 0.2
KSC251J	4.1 / 7.0	300,000	0.5 ± 0.2
KSC321J	1.6 / 2.4	300,000	0.2 +0.3 / 0
KSC341J	2.25 / 3.75	300,000	0.2 +0.3 / 0
KSC351J	4.1 / 6.9	100,000	0.25 +0.3 / 0
KSC401J 50SH	0.9 / 2.0	300,000	0.5 ± 0.25
KSC411J 70SH	1.05 / 1.75	300,000	0.35 ± 0.15
KSC421J 70SH	1.25 / 2.12	300,000	0.5 ± 0.25
KSC422J 70SH	1.25 / 2.12	1,000,000	0.5 ± 0.25
KSC441J 70SH	3.0 / 5.0	300,000	0.75 ± 0.25
KSC442J 70SH	3.0 / 5.0	1,000,000	0.75 ± 0.25
KSC621J	1.0 / 1.65	300,000	0.5 ± 0.2
KSC641J	2.25 / 3.75	300,000	0.5 ± 0.2
KSC421V	1.3 / 2.1	300,000	0.375 ± 0.225
KSC621V	1.1 / 1.9	100,000	0.5 ± 0.2
KSC721 J	1.7 / 2.8	300,000	0.3 ± 0.15
KSC741J	2.9 / 4.9	300,000	0.4 ± 0.20

A detect switch version is available KSC4D1J and KSC4D1G.

Please see Detect chapter, page F-7.

KSC vertical series have an IP40 sealing level.

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 (50 Hz, 1 min.): 250 V

CONTACT RESISTANCE: < 100 mΩ

INSULATION RESISTANCE (100 V): > 10⁹ Ω

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:

- 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.
- Infrared Reflow Soldering in accordance with IEC 61760-1.

Packaging

KSC1, KSC2 and KSC3 are delivered on continuous tape and reels of 2,000 pieces, KSC4 in reels of 1,000 pieces. KSC 6 in reels of 750 pieces. KSC7 in reels of 1,000 pieces. KSCV in boxes of 500 pieces. Dimensions of reels according to EIA RS481 or IEC 2863. External diameter 330 mm ± 2 mm.

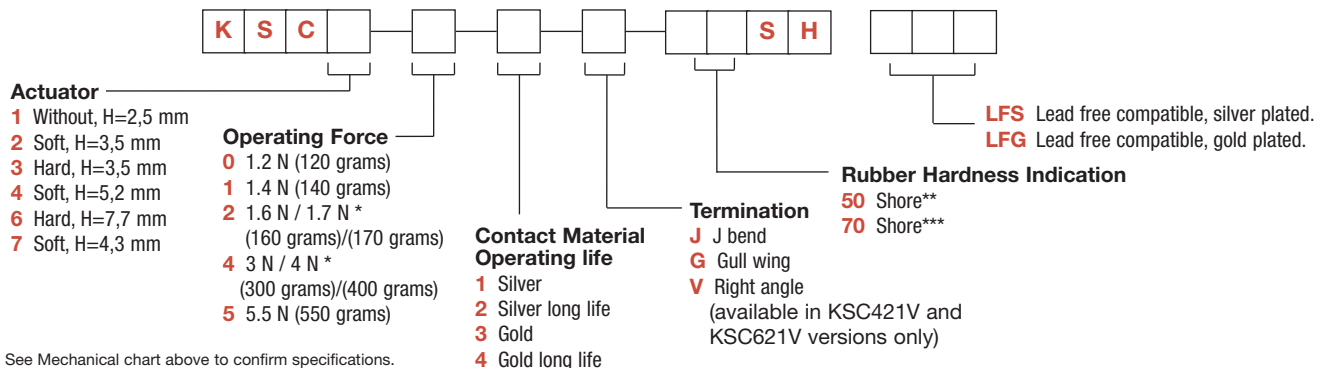
NOTE: Specifications listed above are for switches with standard options.

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.



* See Mechanical chart above to confirm specifications.

** Applies to KSC401J50SH only.

*** Applies to KSC 411J70SH, KSC421J70SH, KSC441J70SH



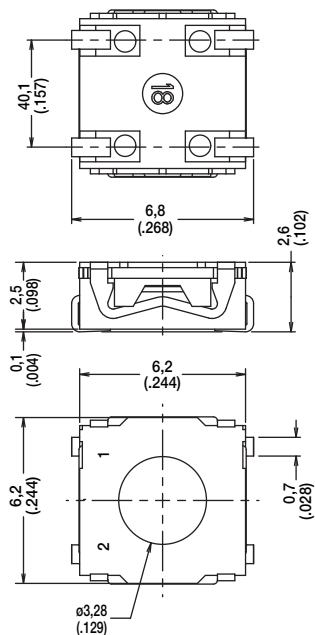
Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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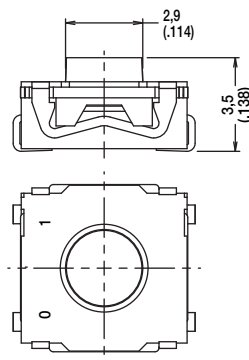
KSC Series Sealed Tact Switch for SMT

ACTUATOR

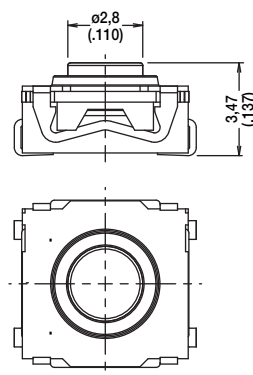
KSC1 WITHOUT, 2,5 mm HIGH



KSC2 SOFT, 3,5 mm HIGH

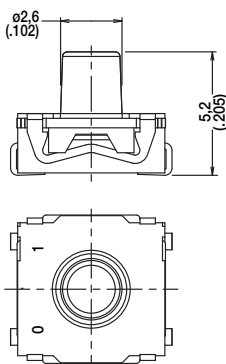


KSC3 HARD, 3,5 mm HIGH



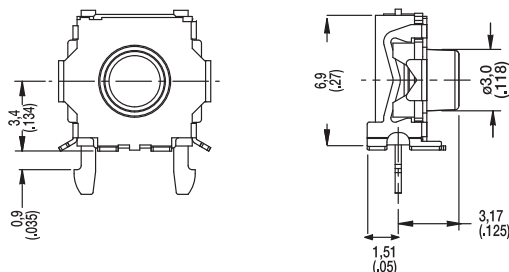
KSC4 SOFT, 5,2 mm HIGH

NOTE: KSC4 standard silicone material is 70 shore, the only exception is KSC401J which is 50 shore.

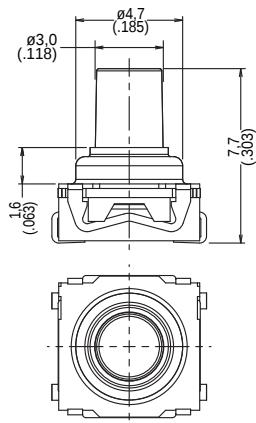


KSC4 KSC421V ONLY

NOTE: KSC421V requires metalized holds for simultaneous reflow soldering of switch terminals and bracket terminals.

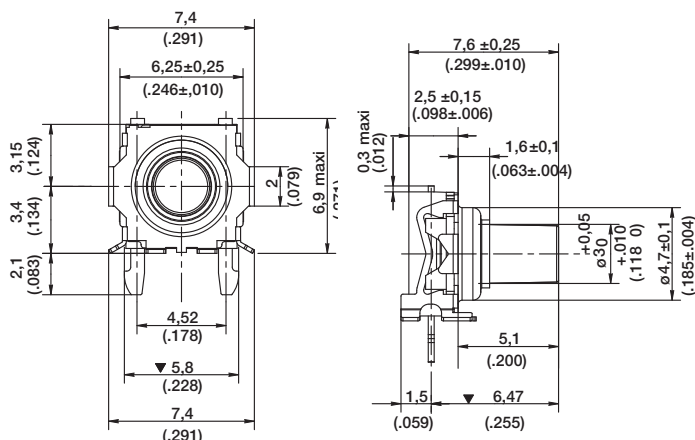


KSC6 HARD, 7,7 mm HIGH



KSC6 KSC621V ONLY

NOTE: KSC621V requires metalized holds for simultaneous reflow soldering of switch terminals and bracket terminals.



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

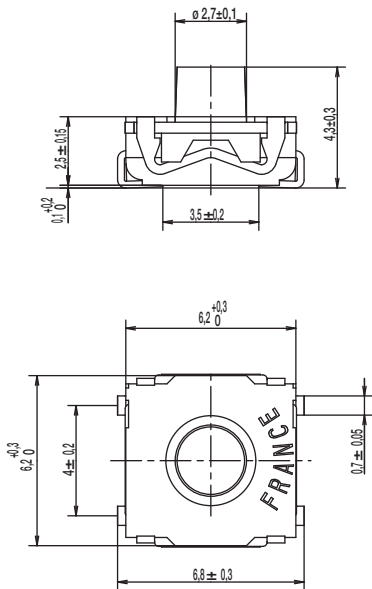
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C&K

KSC Series

Sealed Tact Switch for SMT

KSC7 SOFT, 4,3 mm HIGH



OPERATING FORCE

OPTION CODE	OPERATING FORCE
0	1.2 N (120 grams)
1	1.4 N (140 grams)
2	1.6 N / 1.7 N (160/170 grams)
4	3 N / 3.5 N (300/350 grams)
5	5.5 N (550 grams)

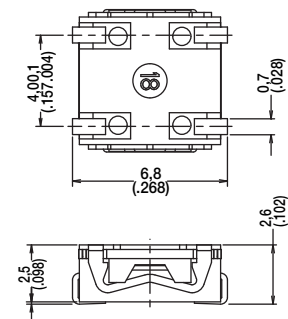
CONTACT MATERIAL

OPTION CODE	MATERIAL
1	SILVER
3	GOLD

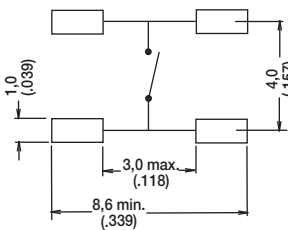
KSC Series Sealed Tact Switch for SMT

TERMINATION

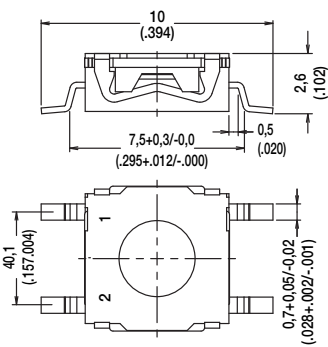
J J BEND



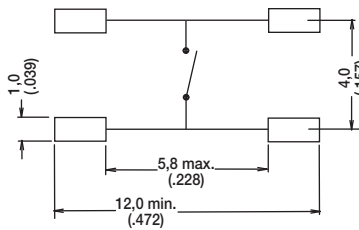
PAD LAYOUT



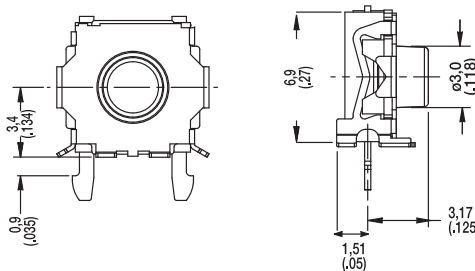
G GULLWING



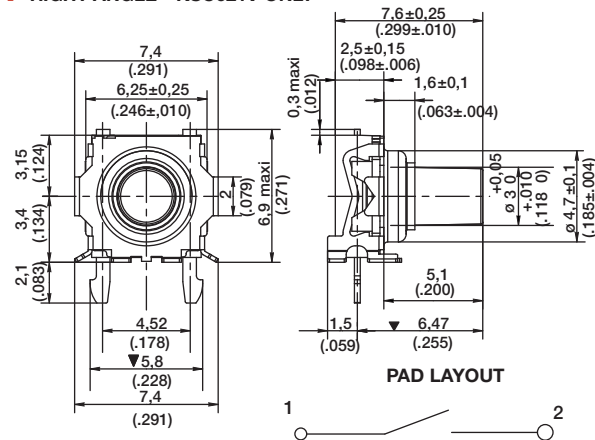
PAD LAYOUT



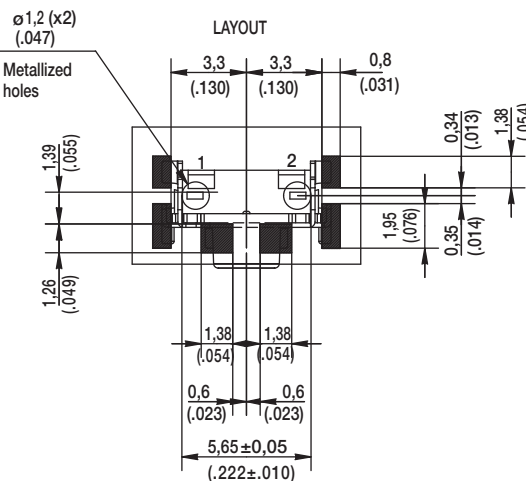
V RIGHT ANGLE - KSC421V ONLY



V RIGHT ANGLE - KSC621V ONLY

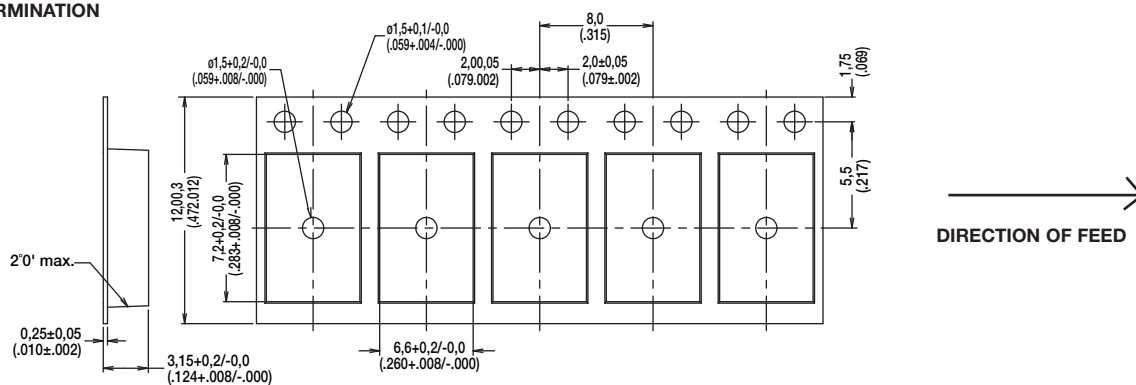


PAD LAYOUT

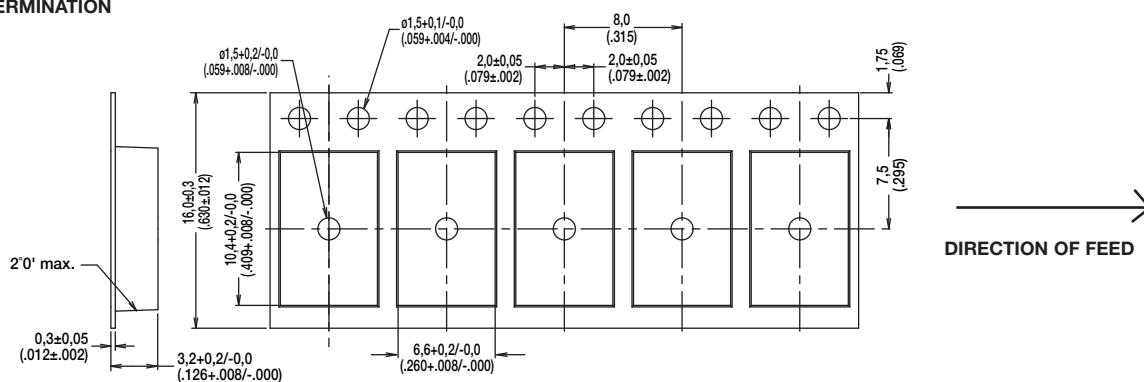


Tactile Switches

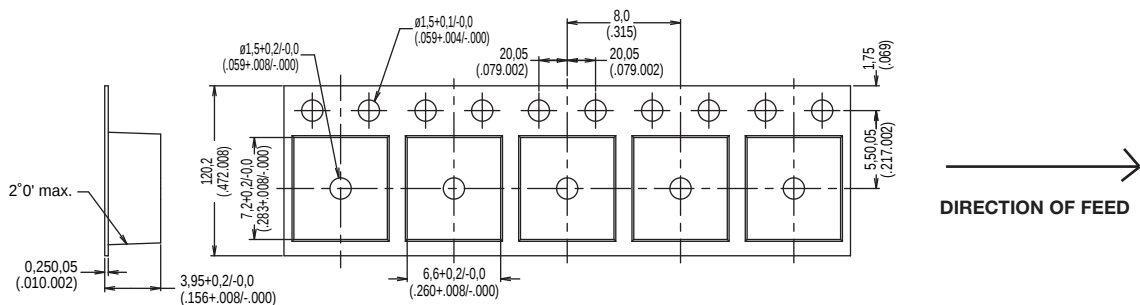
FOR KSC1 J TERMINATION



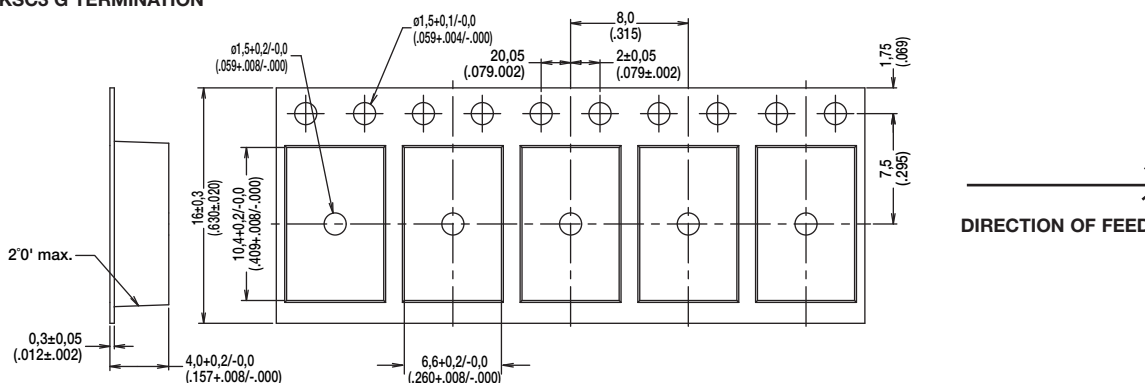
FOR KSC1 G TERMINATION



FOR KSC2 & KSC3 J TERMINATION



FOR KSC2 & KSC3 G TERMINATION



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Tactile Switches

FOR KSC4 FOR G TERMINATION



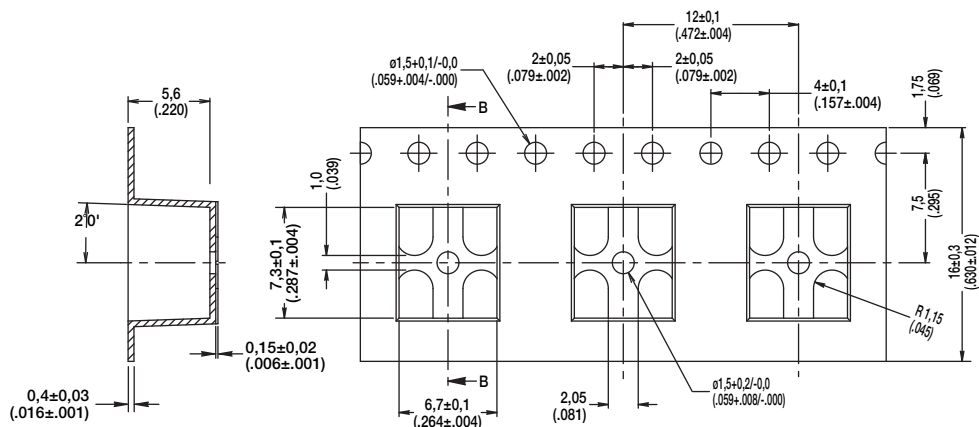
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TAPE & REEL



B

Tactile Switches



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KSC5 Series

Tact Switch with Rocker Option for SMT



Features/Benefits

- Can be actuated from either side or top
- Silver or Gold plated terminals
- Compatible with automatic insertion machines
- IP 50
- RoHS compliant

Typical Applications

- Automotive
- Computers
- Instrumentation

Specification

FUNCTION: Momentary action

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

TERMINALS: J bend & Gullwing type for SMT

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 (50 Hz, 1 min.):	> 250 V	
CONTACT RESISTANCE:	< 100 mΩ	
INSULATION RESISTANCE (100 V):	> 10 ⁹ Ω	
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: Infrared reflow in accordance with IEC61760-1

Packaging

Switches delivered on continuous tape & reels of 1,000 pieces, 330 (12.992) external diameter. Other dimensions according to EIA-RS-481 standard.

Mechanical

Type	Operating force axial FA N (grams) ±25%	Operating force lateral FL N (grams) ±30%	Travel to make axial (mm)	Travel to make lateral (mm)	Life expectancy cycles, axial	Life expectancy cycles, lateral
KSC521G	1,5 - 2,5	1,8 - 3,8	0,25 ± 0,15	0,5 ± 0,25	100,000	10,000
KSC541G	2,25 - 3,75	1,8 - 3,8	0,25 ± 0,15	0,5 ± 0,25	100,000	10,000

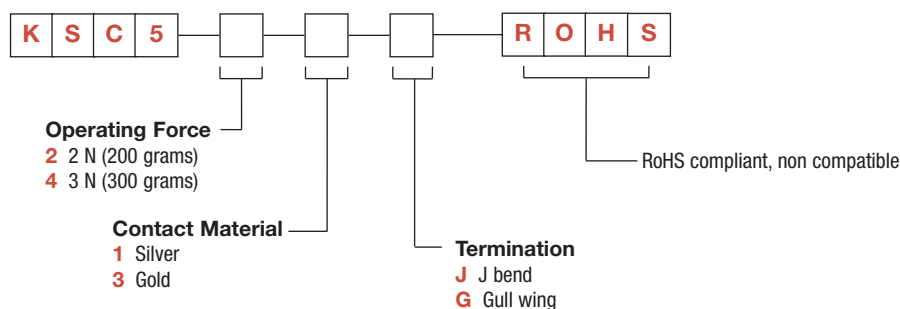
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.



Tactile Switches



Technical drawing of the 100.3 (394.012) pressure washer, showing three views: top, front, and bottom. The top view shows a square body with four mounting holes and a central circular logo. The front view shows the trigger gun assembly with a spray lance. The bottom view shows the base of the unit with four mounting feet. Dimensions are given in millimeters with tolerances in parentheses.

Top View Dimensions:

- Overall width: 100.3 (+0.3/-0.0) mm
- Overall height: 40.1 (+0.1/-0.0) mm
- Central circular logo diameter: 18.5 (+0.1/-0.0) mm

Front View Dimensions:

- Overall width: 185.4 (+0.4/-0.0) mm
- Overall height: 560.2 (+0.2/-0.0) mm
- Trigger gun assembly height: 1.2 (+0.1/-0.0) mm
- Trigger gun assembly diameter: 24.4 (+0.4/-0.0) mm
- Base width: 75.0 (+0.3/-0.0) mm
- Base height: 0.5 (+0.02/-0.0) mm

Bottom View Dimensions:

- Overall width: 244.0 (+0.2/-0.0) mm
- Overall height: 62.0 (+0.3/-0.0) mm
- Base width: 244.0 (+0.2/-0.0) mm
- Base height: 62.0 (+0.3/-0.0) mm

Technical drawing of a 18mm diameter ball bearing. The drawing shows two views: a front view (top) and a side view (bottom). The front view shows the outer ring with a diameter of 4.0 ± 0.1 mm (1.57 ± .004 inches) and a central hole with a diameter of 18 mm. The side view shows the inner ring with a diameter of 3.7 ± 0.2 / -0.1 mm (1.46 ± .008 / -.004 inches) and a central hole with a diameter of 6.8 ± 0.2 / -0.1 mm (2.68 ± .008 / -.004 inches). The bearing is labeled '18' in the center of the front view.

Technical drawing of the 8000 series pressure washer, showing top and front views with dimensions.

Top View Dimensions:

- Overall width: 10 ± 0.3 (394 ± 0.12)
- Overall height: 4 ± 0.1 (157 ± 0.04)
- Right side height: $0.7 \pm 0.05 / -0.02$ (028 ± 0.02 / -0.01)

Front View Dimensions:

- Overall width: $7.5 \pm 0.3 / -0.0$ (295 ± 0.12 / -0.00)

Technical drawing of a three-chamber die casting mold. The drawing shows a top view of the mold with three identical chambers. Key dimensions include: overall width 16±0.3 (630±.012), overall height 10.6 (417), chamber width 6.6 (260), chamber height 7.5 (295), and chamber depth 3.0 (118). There are 12 holes in total, with dimensions for hole diameter (ø1.5±0.1/-0.0), hole position (2±0.05), and hole spacing (4). A fillet radius R 0.9 (035) is indicated. A 'DIRECTION OF FEED' arrow points to the right.

www.ck-components.com

KSC-ST Series Sound Tunable Tact Switch

Features/Benefits

- Positive tactile feeling
- Range of 2 sound intensity
- J or G terminations
- Tape & reel
- IP 67

Typical Applications

- Automotive
- Industrial electronics
- Keyboards
- Medical equipment



Specification

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

Mechanical

Type	Sound Intensity *	Operating Force	Travel (mm)
KSC441J ST1 LFS	>50dBA	3.4 ± 1N	0.7 ± 0.25
KSC441J ST2 LFS	<30dBA	3.4 ± 1N	0.35 ± 0.20
KSC461J ST1 LFS	>50dBA	4.5/8.0N	1.0 ± 0.3
KSC461J ST2 LFS	<30dBA	4.5/8.0N	0.5 ± 0.2

OPERATING LIFE:

300,000 cycles for KSC44 and KSC461JST2LFS
100,000 cycles for KSC461JST1LFS

- (*) Sound intensity is given as a reference, switch isolated, outside any additive part such as PCB, button, etc. The sound intensity after product integration may change according to the surrounding parts. For other features, please refer to the KSC Series data sheets.

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 (50 Hz, 1 min.): 250 V
CONTACT RESISTANCE: < 100 mΩ
INSULATION RESISTANCE (100 V): > 10⁹ Ω
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.
- Infrared Reflow Soldering in accordance with IEC 61760-1.

Packaging

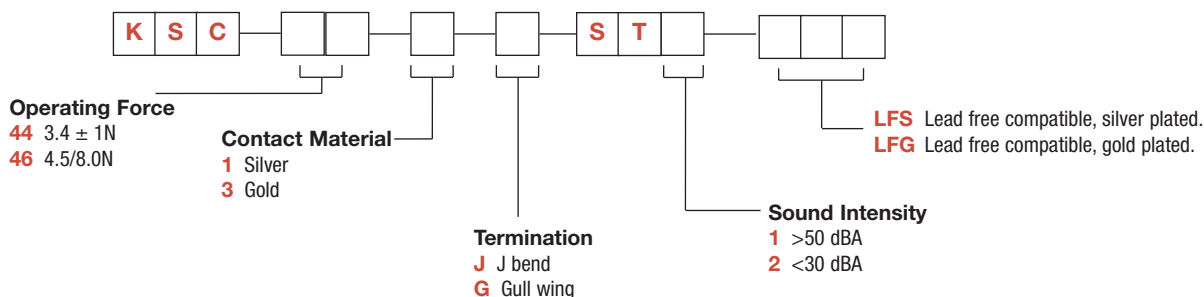
In reels of 1,000 pieces.
Dimensions of reels according to EIA RS481 or IEC 2863.
External diameter 330 mm ± 2 mm.

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

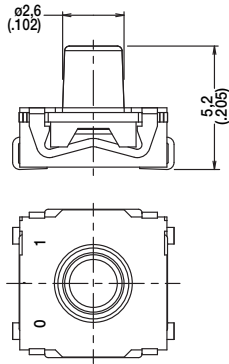
How To Order

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.

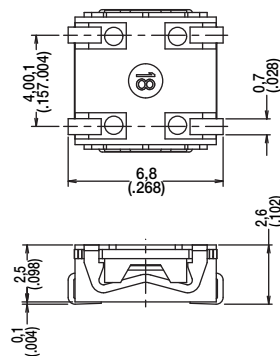


B Tactile Switches

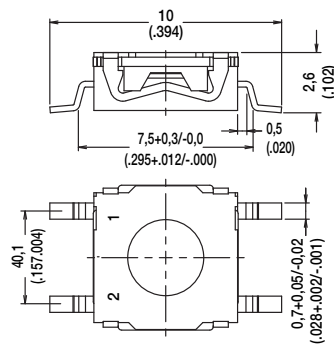


OPTION CODE	MATERIAL
1	SILVER
3	GOLD

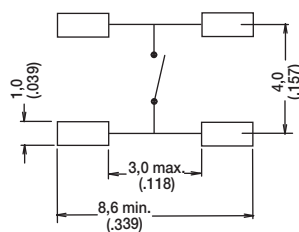
J J BEND



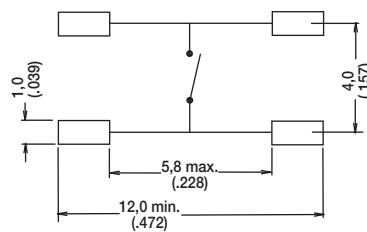
G GULLWING



PAD LAYOUT



PAD LAYOUT



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

KSC-ST Series Sound Tunable Tact Switch

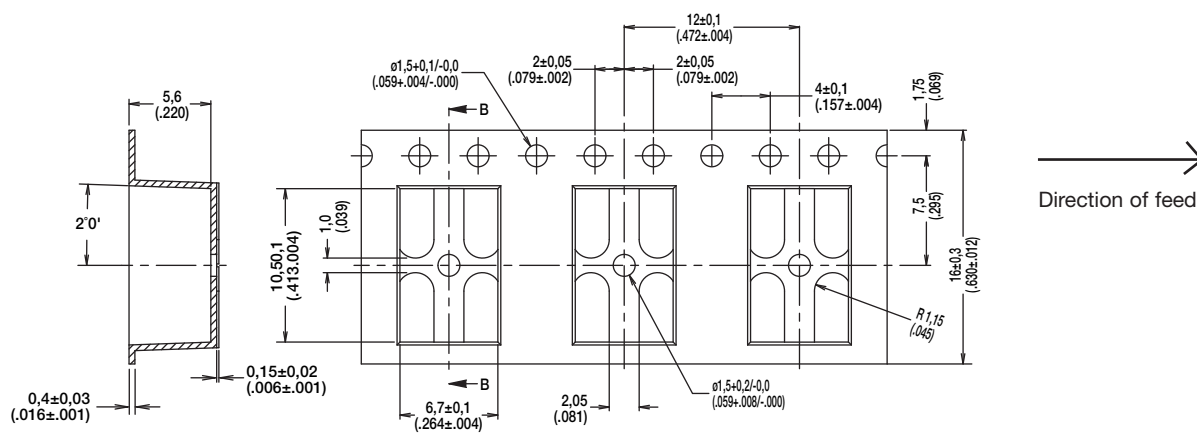
SOUND INTENSITY



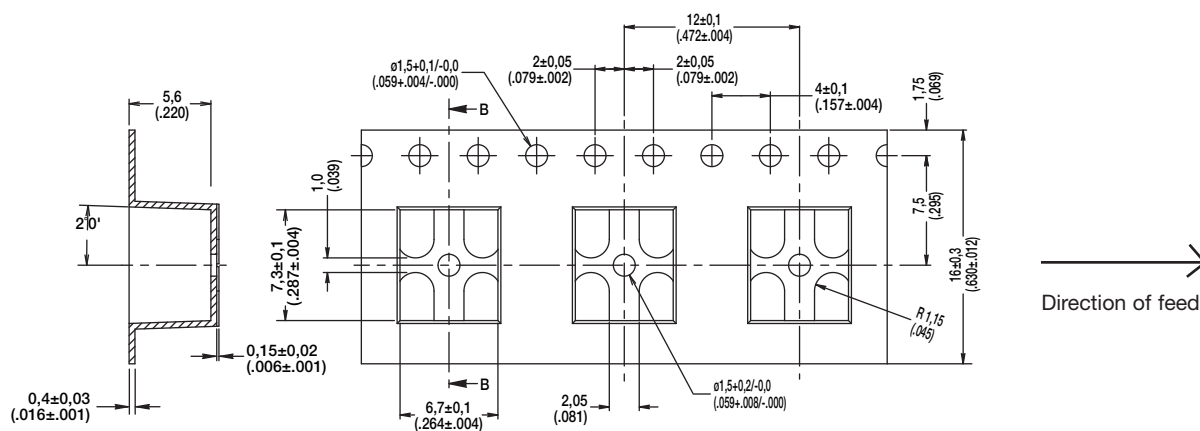
OPTION CODE	SOUND INTENSITY
ST1	>50 dBA
ST2	<30 dBA

TAPE & REEL

FOR KSC4 FOR G TERMINATION



FOR KSC4 FOR J TERMINATION



KT Series Right Angle Sealed Tact Switch for SMT



Features/Benefits

- 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
- IP 57
- RoHS compliant and compatible

Typical Applications

- Telecommunications
- Computer products
- Instrumentation
- Power supply

B

Tactile Switches

Specification

CONTACT ARRANGEMENT: SPST, N.O.
TERMINALS: Gullwing type for SMT

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: 10⁹ Ω min.

Environmental

OPERATING TEMPERATURE: -40°C to 90°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.

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

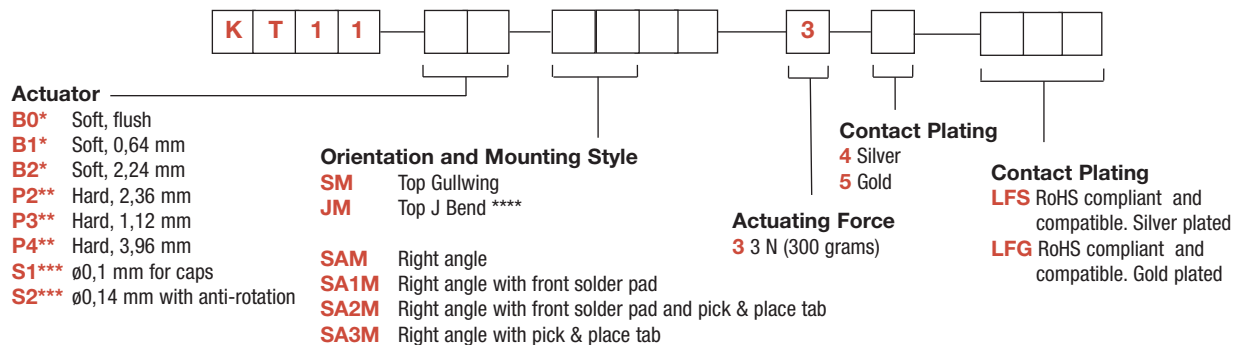
How To Order

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.

SWITCH



* B0, B1 & B2 available with A & A1 mounting bracket only.

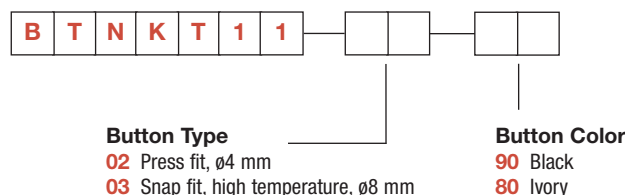
** P4 available with A1 & A2 mounting bracket only.

*** S1 & S2 available with A1 & A2 mounting bracket only.

**** JM available with B0, B1, B2, P2, P3, P4 without mounting bracket.

BUTTON

To order buttons in bulk



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

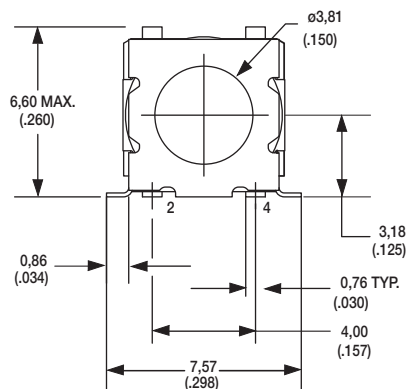
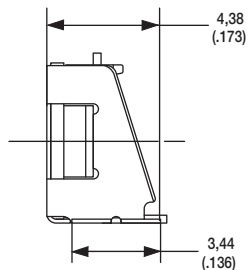
www.ck-components.com

KT Series

Right Angle Sealed Tact Switch for SMT

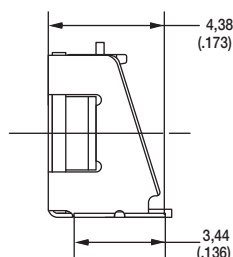
SERIES 

KT11

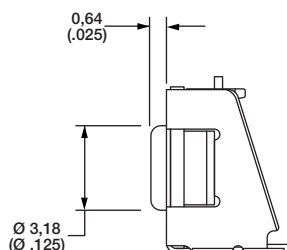


ACTUATOR 

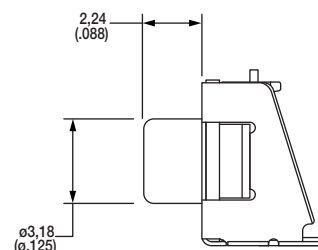
B0 SOFT, FLUSH*



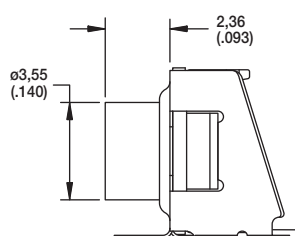
B1 SOFT, 0,64 mm*



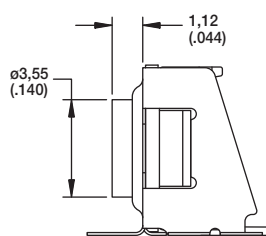
B2 SOFT, 2,24 mm*



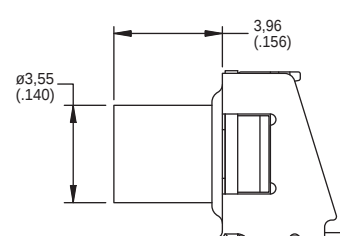
P2 HARD, 2,36 mm



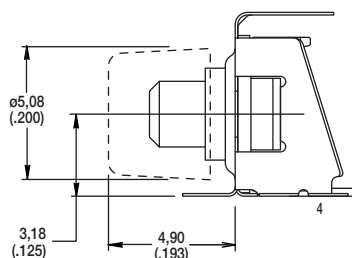
P3 HARD, 1,12 mm



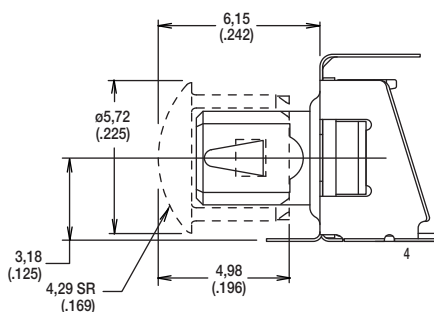
P4 HARD, 3,96 mm**



S1 Ø0,1 mm FOR PRESS FIT CAPS***



S2 Ø0,14 mm FOR SNAP FIT CAPS***



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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C&K

KT Series Right Angle Sealed Tact Switch

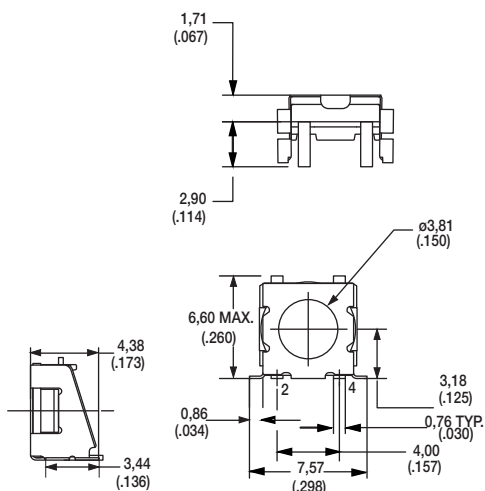
ORIENTATION & MOUNTING STYLE



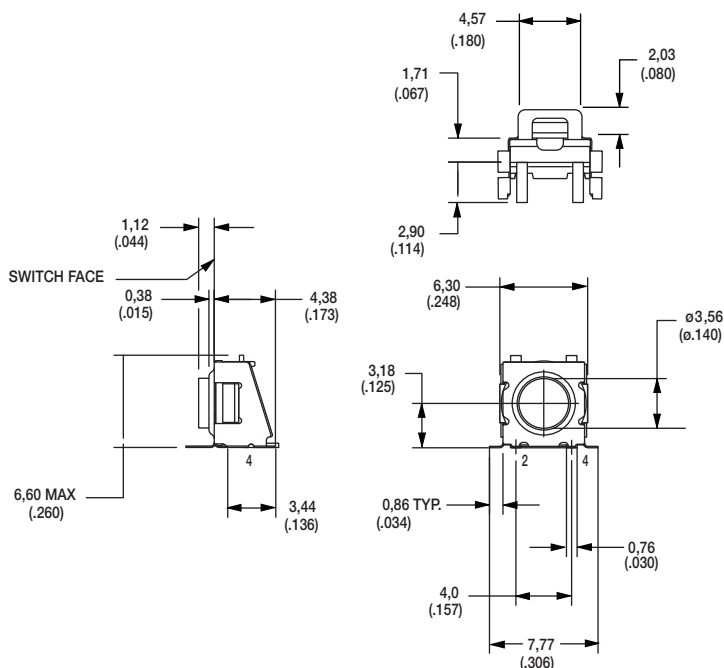
SM TOP GULLWING

JM TOP J BEND

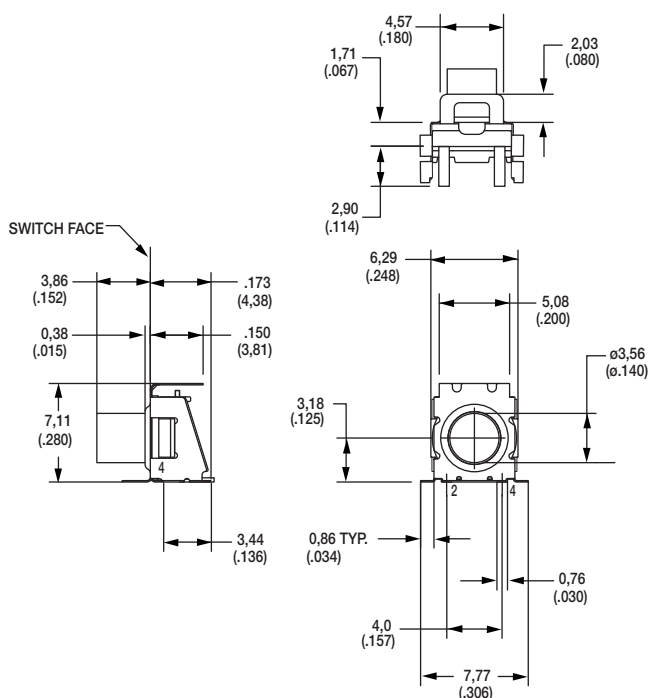
SAM RIGHT ANGLE



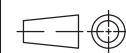
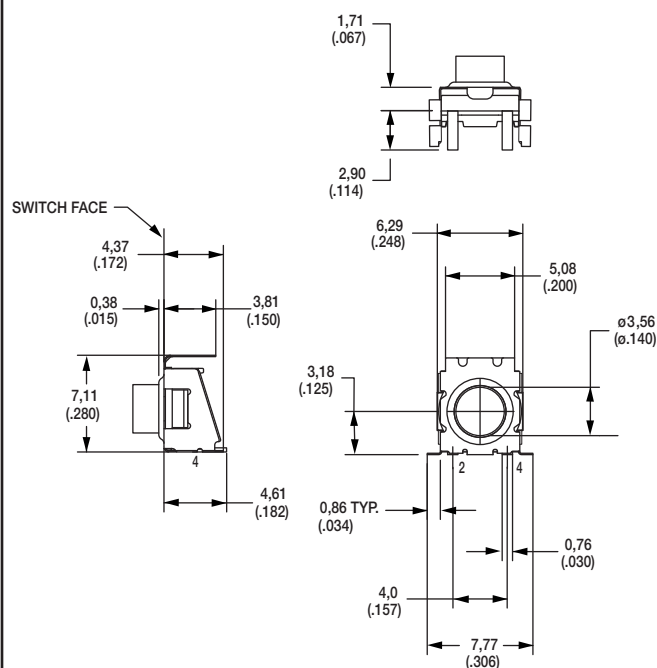
SA1M RIGHT ANGLE WITH FRONT SOLDER PAD



SA2M RIGHT ANGLE WITH FRONT SOLDER PAD AND PICK & PLACE TAB



SA3M RIGHT ANGLE WITH PICK & PLACE TAB



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

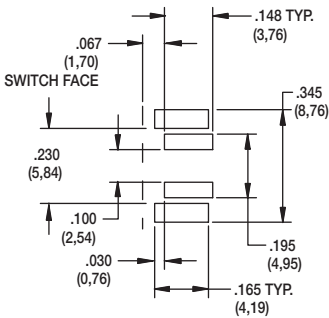
C&K

KT Series

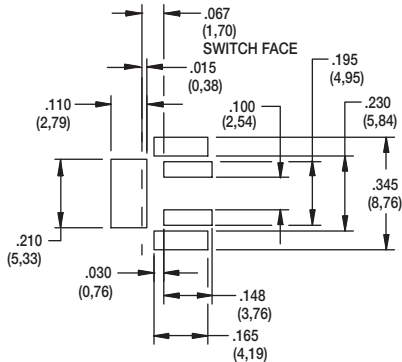
Right Angle Sealed Tact Switch

MOUNTING BRACKET

PAD LAYOUT
SAM & SA3M MOUNTING BRACKET



PAD LAYOUT
SA1M & SA2M MOUNTING BRACKET



ACTUATING FORCE

OPTION CODE	FORCE
3	3 N (300 grams)

CONTACT PLATING

OPTION CODE	MATERIAL
4	SILVER
5	GOLD

BUTTON

BUTTON

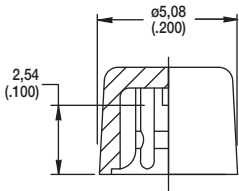
To order buttons in bulk

B T N K T 1 1

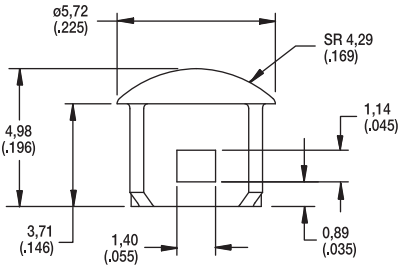
BUTTON TYPE

Button Type

02 PRESS FIT, Ø4 mm

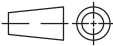


03 SNAP FIT, HIGH TEMPERATURE, Ø8 mm



Button Color

OPTION CODE	BUTTON COLOR
90	BLACK
80	IVORY



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

KST Series Long Travel Tact Switch for SMT

Features/Benefits

- Rubber actuator
- Silver contact material
- J or G terminals
- Compatible with pick and place machines
- IP 40 sealed
- RoHS compliant and compatible

Typical Applications

- Front panel
- Car dashboards
- Telephone set
- Instrumentation



Specification

FUNCTION: Momentary
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TERMINALS: J Bend or Gullwing type for SMT

Mechanical

MAXIMUM APPLIED FORCE: 40 N (400 grams)

Type	Operating force Fa N (grams)±30%	Operating life (operations)	Travel to make
KST221G / J	1,6-3,2	100,000	1,3+0,3/-0.2
KST241G / J	2,45-4,55	100,000	1,3+0,3/-0.2

Packaging

Switches are delivered on continuous tape and reels of 1,000 pieces, 330 (12.992) external diameter. Other dimensions according to EIA-RS-481 standard.

Electrical

	Silver	Gold
SWITCHING POWER MAX.:	1.0 VA	0.50 VA
MAXIMUM POWER:	0.2 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	10 mA	10 mA
MINIMUM CURRENT:	1 mA	1 mA
DIELECTRIC STRENGTH (50 Hz, 1 min.):	> 250 V	
CONTACT RESISTANCE:	<100m Ω	
INSULATION RESISTANCE:	<10 ⁹ Ω	
BOUNCE TIME:	< 1 ms	

Environmental

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

Process

Compatible with the lead free soldering profile.

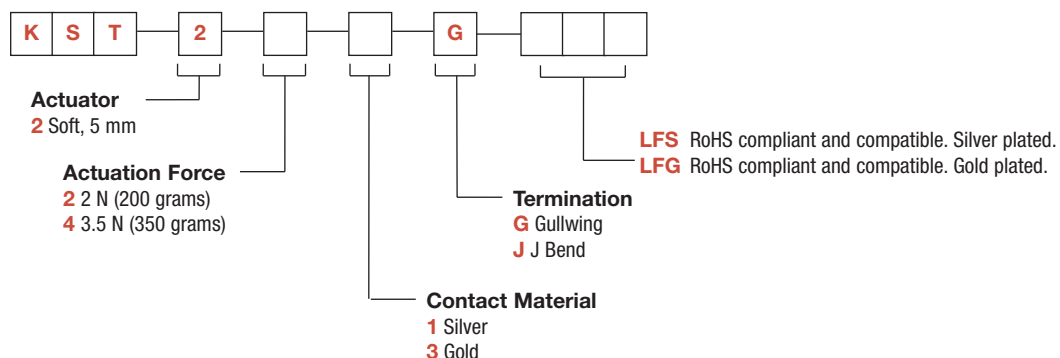
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

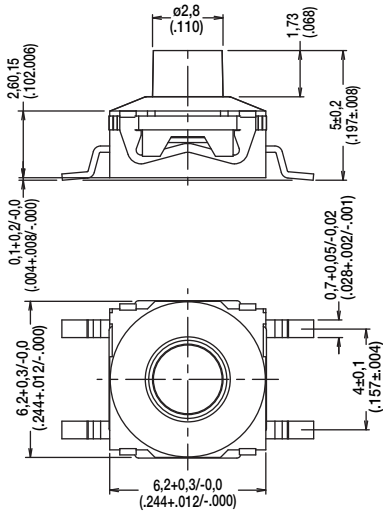
However, please note that all the combinations of these options are not feasible.

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

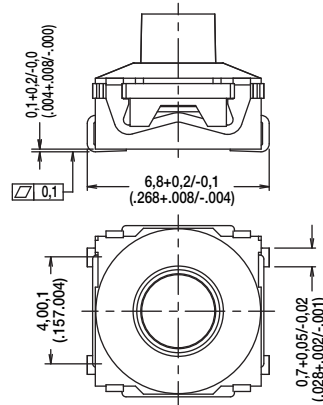


KST Series Long Travel Tact Switch for SMT

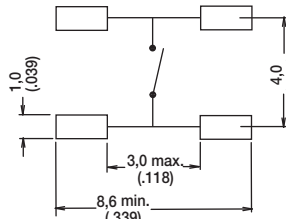
KST



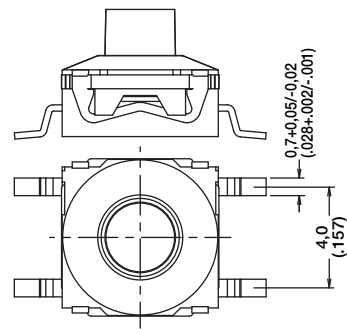
J J BEND



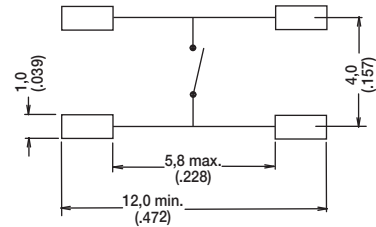
PAD LAYOUT



G GULLWING

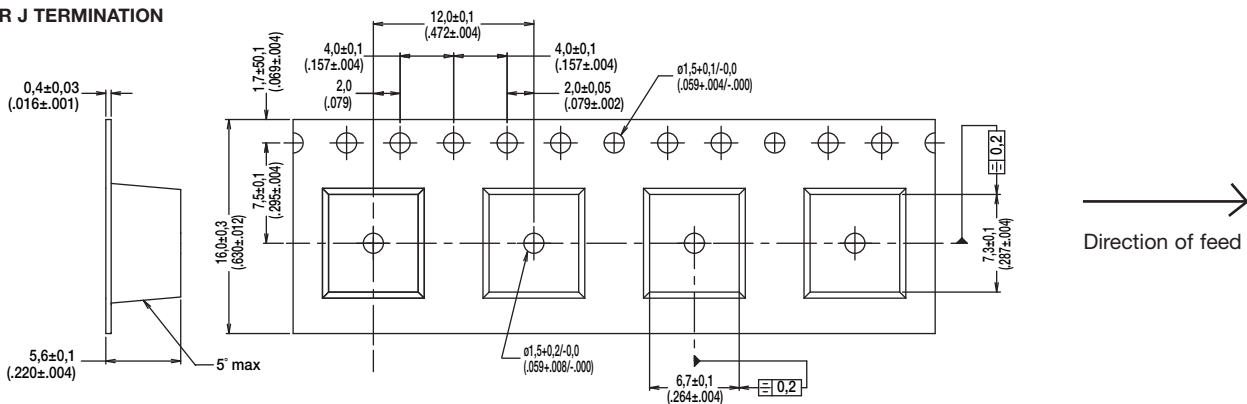


PAD LAYOUT

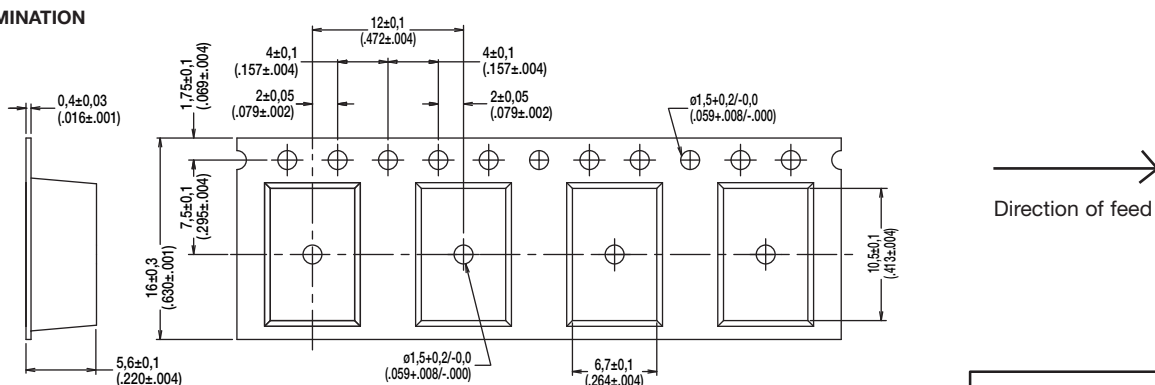


TAPE & REEL

FOR J TERMINATION



FOR G TERMINATION



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

C&K

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



B

Tactile Switches

Specification

FUNCTION: momentary action

CONTACT ARRANGEMENT: Normally Open

TERMINALS: SMT with positioning pegs as an option

Mechanical

Type	Operating force FA ¹ Newtons (grams)	Operating life (operations)	Travel (total travel) mm(mm)
K5AT WH 43GP	4.0 (400)	100,000	0,5 (0.8)

¹ Tolerances of operating force FA is $\pm 25\%$.

Packaging

180 or 900 pieces per reel

Reel dim. 180mm or 380mm

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

Materials

LEAD FREE

CONTACTS: Au over Ni

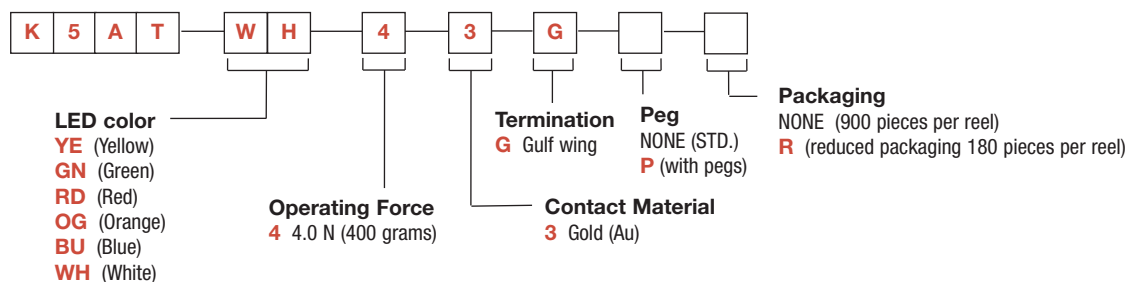
SOLDERING: Au over Ni

HOUSING: Thermoplastic UL94 VO

LED: type P-LCC-2

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



K5V Right Angle Lighted SMT 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: SMT with positioning pegs

Mechanical

Type	Operating force FA ¹ Newtons (grams)	Operating life (operations)	Travel (total travel) mm(mm)
K5V1CL43G	4.0 (400)	25,000	1.2 (2.4)

¹ Tolerances of operating force FA is $\pm 25\%$.

Packaging

330 pieces per reel

Reel ϕ 360mm

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

SOLDERING: Compatible with the lead free soldering profile.

No washing

Materials

LEAD FREE

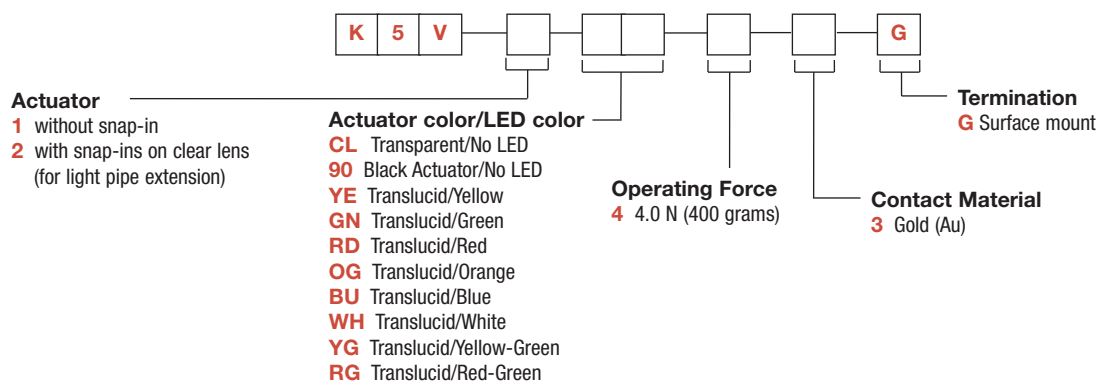
CONTACTS: Au over Ni

SOLDERING: Au over Ni

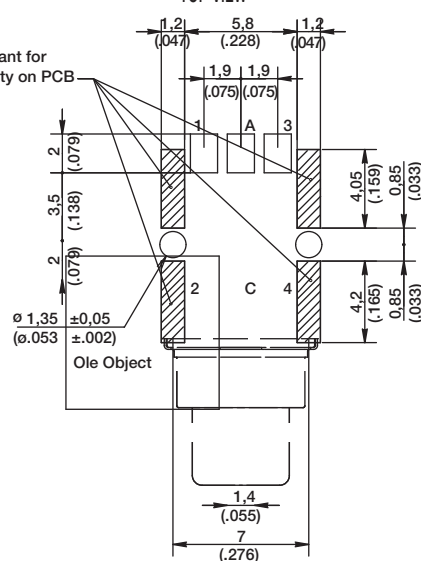
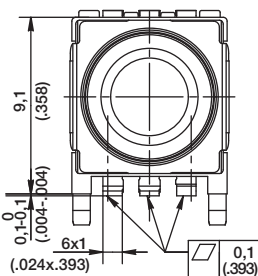
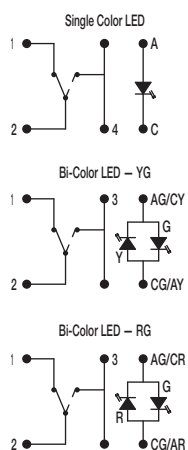
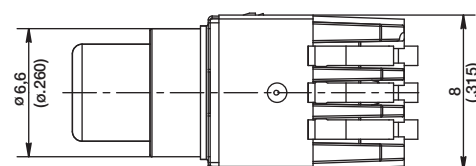
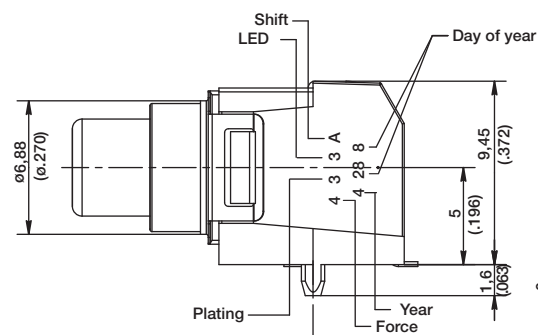
HOUSING: Thermoplastic UL94 HB

How To Order

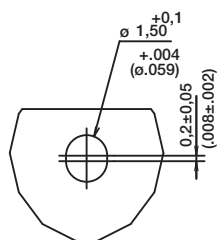
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



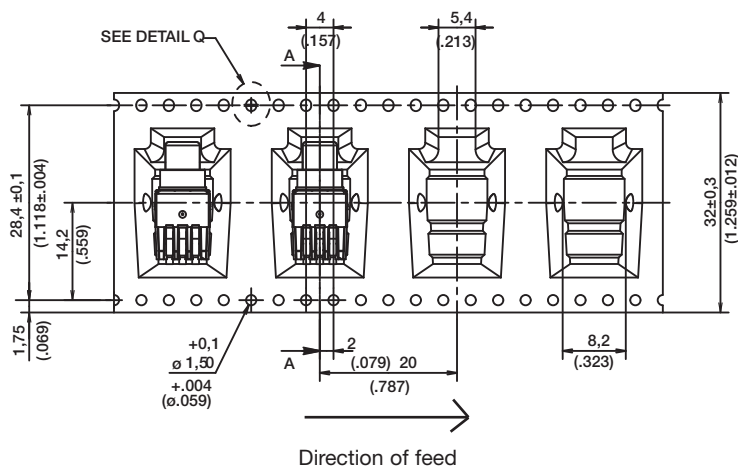
K5V SMT

[illegible]

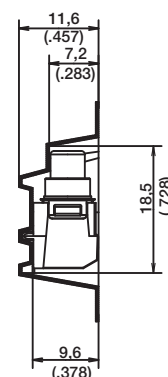
DETAIL Q



SEE DETAIL Q-



COUPE A-A

**C&K**

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

K5V Right Angle Lighted THT Tact Switch

Features

- Gold plated dome contact SPST/SPDT
- Excellent ergonomics
- High bright LEDs
- Reduced space usage on board
- 40 N overload
- 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: Through hole terminals with positioning pegs.
Terminals keying in option

Mechanical

Type	Operating force FA ¹ Newtons (grams)	Operating life (operations)	Travel (total travel) mm(mm)
K5V1CL43T	4.0 (400)	25,000	1.2 (2.4)

¹Tolerances of operating force FA is $\pm 25\%$.

Packaging

60 pieces per tray
300 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

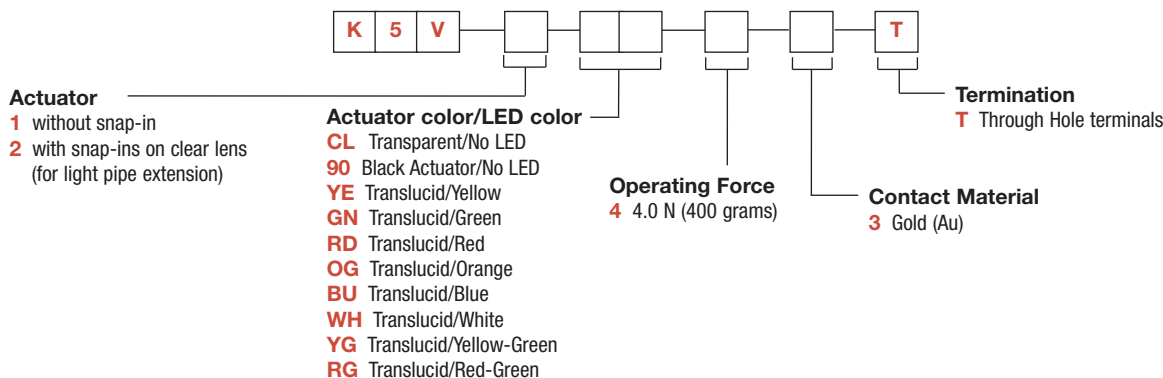
SOLDERING: Compatible with the lead free soldering profile.

Materials

LEAD FREE
CONTACTS: Au over Ni
SOLDERING: Au over Ni
HOUSING: Thermoplastic UL94 HB

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.

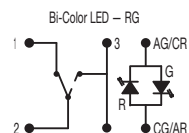
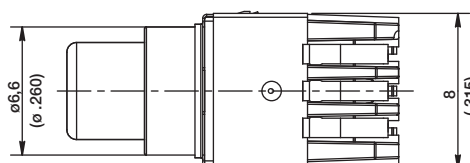


Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

K5V THT

Tactile Switches



COUPE B-B

COUPE A-A

DETAIL Q

DETAIL Q

Dimensions (mm):

- 26 (1.023)
- 22 (0.866)
- 123.5 (4.862)
- 146 ±1 (5.748 ±.0393)
- 290 ±1 (11.417 ±.0393)
- 8.25 (.324)
- 5 (.196)
- 2.5 (.098)
- 10.65 (.419)
- 14.75 (.580)
- 8.75 (.344)
- 10.45 (.411)
- 14.25 (.561)

Annotations:

- ø 6.6 (.260)
- Sens de thermoformage
- DETAIL Q

www.ck-components.com

K5V Panel Mount Lighted Tact Switch

Features

- Gold plated dome contact SPST/SPDT
- Excellent ergonomics
- High bright leds
- Reduced space usage on panel
- 40 N overload
- RoHS compliant

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

BACKLIGHTING: high bright LED, independent terminals

TERMINALS: Solder terminals with wire holes 1.3 x 0.6mm

Mechanical

Type	Operating force FA ¹ Newtons (grams)	Operating life (operations)	Travel (total travel) mm(mm)
K5V1CL43P	4.0 (400)	25,000	1.2 (2.4)

¹ Tolerances of operating force FA is $\pm 25\%$.

Packaging

60 pieces per tray

300 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

SOLDERING: Low wattage soldering iron (25-50 watts max.

Solder time 3 seconds max. No washing.

Materials

LEAD FREE

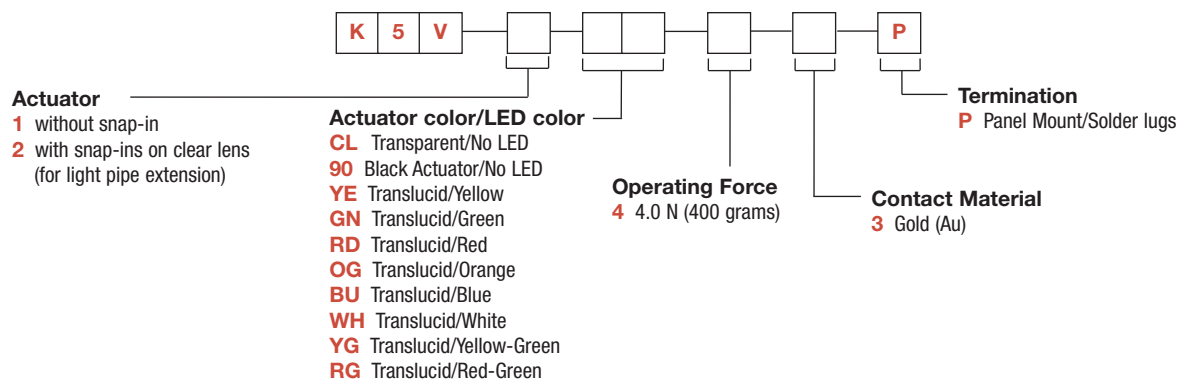
CONTACTS: Au over Ni

SOLDERING: Au over Ni

HOUSING: Thermoplastic UL94 HB

How To Order

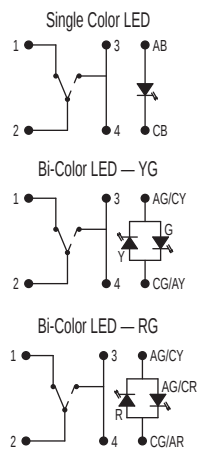
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



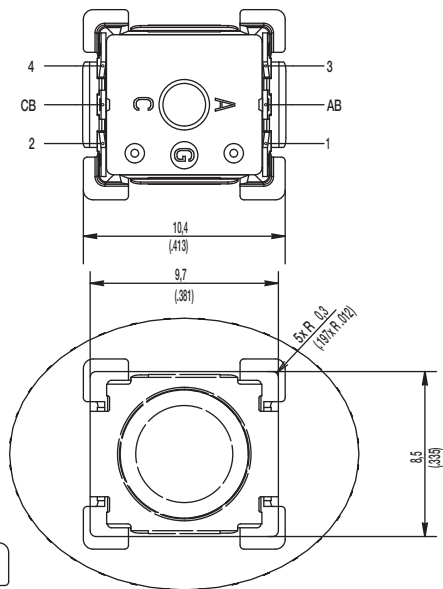
K5V Panel Mount Lighted Tact Switch

K5V PM

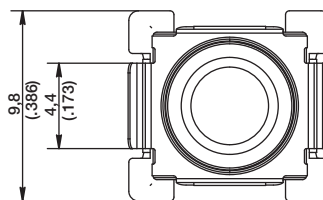
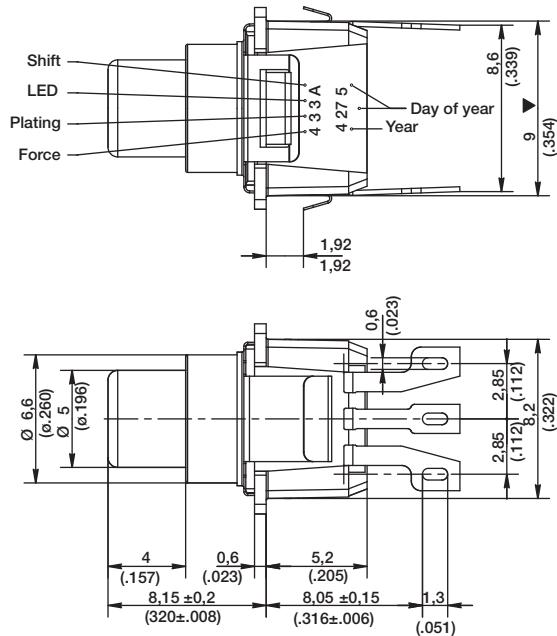
ELECTRICAL DIAGRAM



TERMINAL REFERENCES

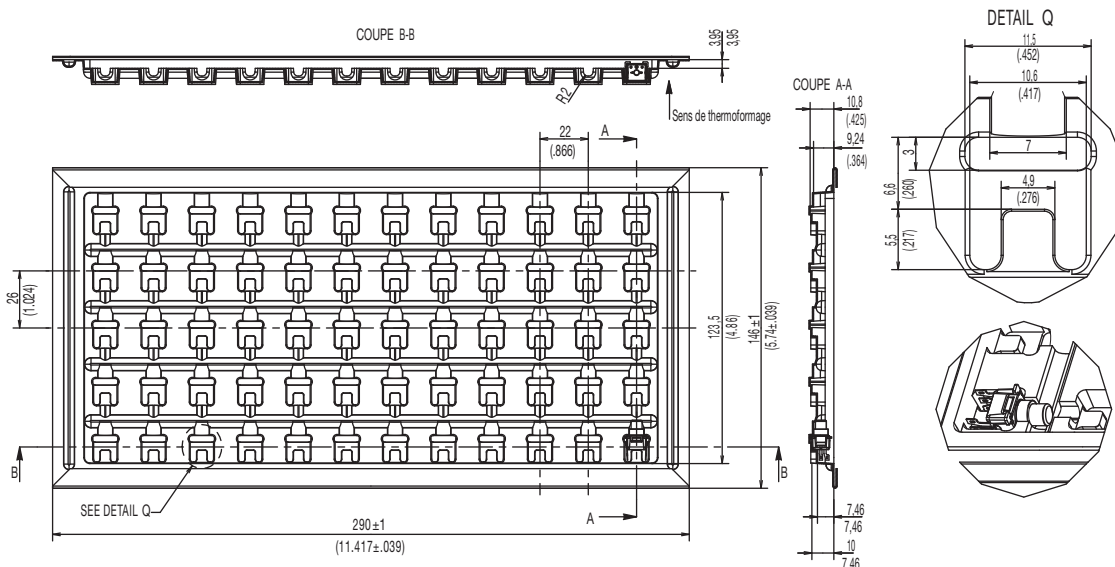


PRODUCT IDENTIFICATION AND DATE CODES



TRAY

SUITABLE FOR PANEL THICKNESS OF 1.8MM MAX



KSB & KSF Series Low-profile Tact Switch



Features/Benefits

- Low profile
- Protected against flux
- KSB without top sealing
- KSF with top sealing
- RoHS compliant and compatible

Typical Applications

- Low profile keyboards
- Instrumentation
- Industrial control
- Medical
- Military

Specification

CONTACT ARRANGEMENT: SPST, N.O.
DOUBLE OVERMOLDING ON TERMINAL
MEMBRANE SEALING
TERMINALS: PC pins

Mechanical

Type	Actuation force Newtons (grams)	Operating life (operations)
KSB0M110	1,2 - 2	100,000
KSB0M410	2,25 - 3,75	500,000
KSF0M210	1.3 (130)	100,000
KSF0M310	1.6 (160)	500,000
KSF0M410	3.0 (300)	100,000
KSF0M510	5.0 (500)	100,000
KSF0M910	3.0 (300)	500,000

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

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 (50 Hz, 1 min.):	300 Vrms	
CONTACT RESISTANCE: KSF 100 m Ω; KSB 100 m Ω		
INSULATION RESISTANCE (100 V):	≤ 10 ⁹ Ω	
BOUNCE TIME:	1 ms	

Environmental

	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 90°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 90°C	-55°C to 125°C

Process

Wave soldering compatible with lead free soldering profile.

Packaging

KSF can be delivered in tubes of 65 pieces for automatic insertion.
KSB in boxes of 500 pieces for manual insertion.

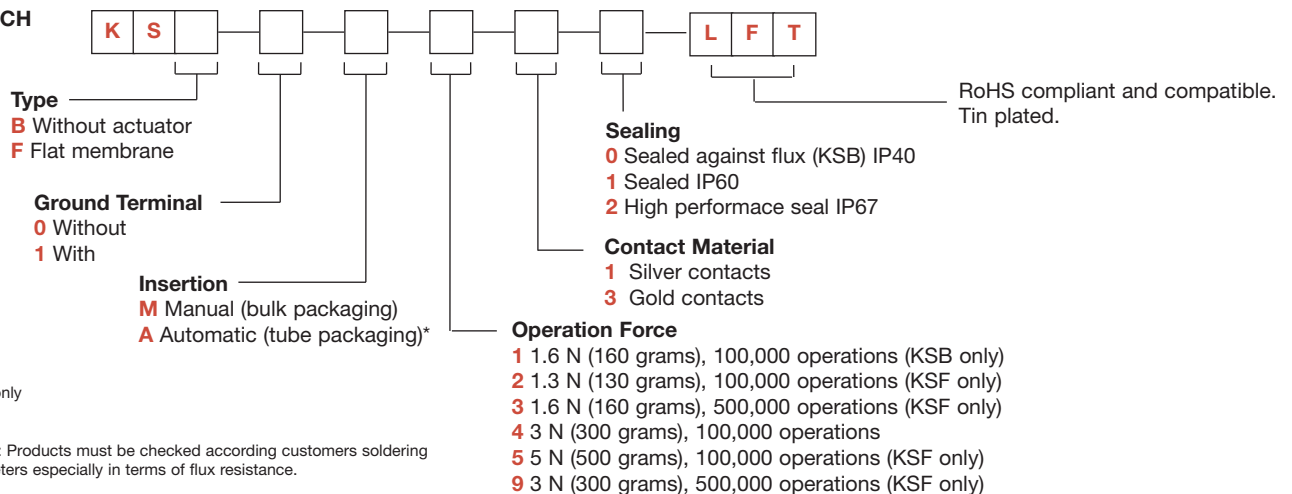
How To Order

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.

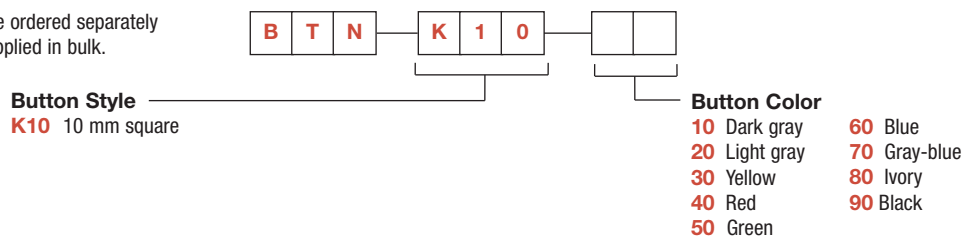
However, please note that all the combinations of these options are not feasible.

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

SWITCH



BUTTON for KSF Button must be ordered separately and will be supplied in bulk.



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

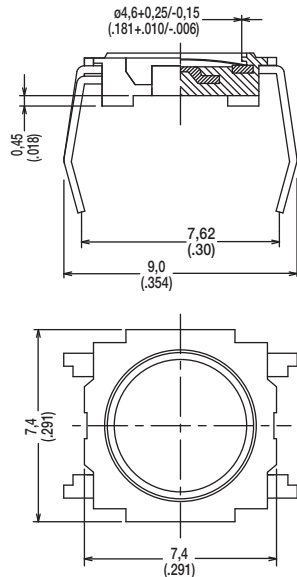
www.ck-components.com

KSB & KSF Series Low-profile Tact Switch

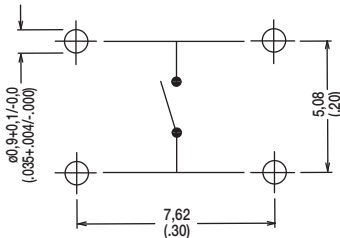
KSB



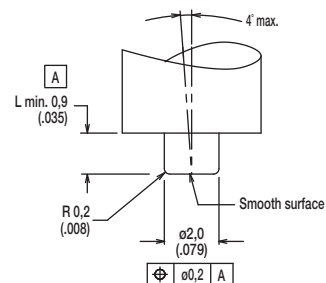
KSB0M110



PCB LAYOUT



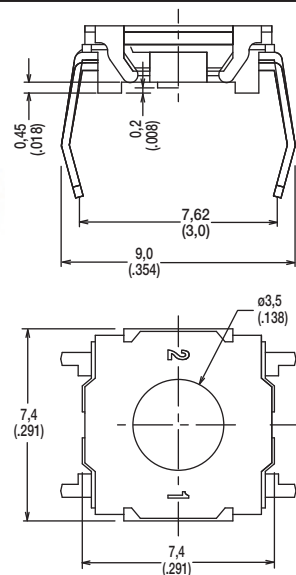
RECOMMENDED SHAPE OF ACTUATOR



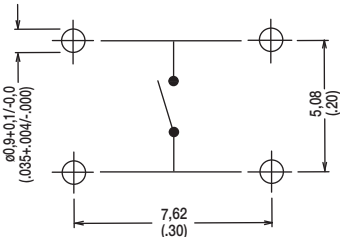
KSF



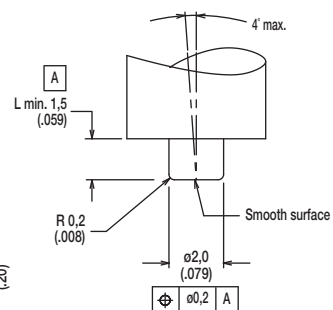
KSF0M111



PCB LAYOUT

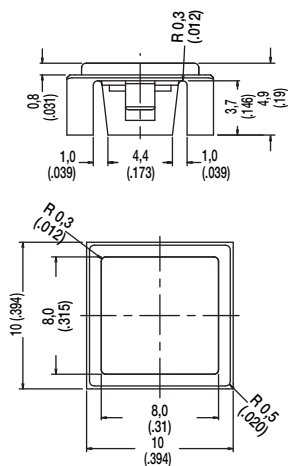
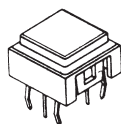


RECOMMENDED SHAPE OF ACTUATOR



BUTTON

K10 BUTTON FOR KSF ONLY Button must be ordered separately and will be supplied in bulk.



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

B Tactile Switches

- **Automotive**
- **Industrial**
- **Telecommunication networks**

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).

Type	Actuation force N (grams)	Operating life (operations)	Travel to make
KSA0M211	1 - 1,8	100,000	0,5 ± 0,2
KSA0M311	1 - 1,8	1,000,000	0,5 ± 0,2
KSA0M411	2,25 - 3,75	100,000	0,6 ± 0,2
KSA0M511	4,2 - 7,0	100,000	0,7 ± 0,2
KSA0M911	2,25 - 3,75	500,000	0,6 ± 0,2
KSL0M211	1 - 1,8	100,000	0,5 ± 0,2
KSL0M311	1 - 1,8	1,000,000	0,5 ± 0,2
KSL0M411	2,25 - 3,75	100,000	0,6 ± 0,2
KSL0M511	4,2 - 7	100,000	0,7 ± 0,2
KSL0M911	2,25 - 3,75	500,000	0,6 ± 0,2

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)*

Sealing
1 Sealed

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.

Ground terminal not compatible with "V" insertion

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

```

graph LR
    Node1["B | T | N"] --> Node2["K | 0 | "]
    Node2 --> Node3[" | | "]
    subgraph Brackets
        direction TB
        B1[" "]
        B2[" "]
        B3[" "]
        B1 --- Node2
        B2 --- Node2
        B3 --- Node2
        B4[" "]
        B5[" "]
        B4 --- Node3
        B5 --- Node3
    end

```

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

***NOTE:** Please note that all buttons are not RoHS compliant. Please check the compliance with your C&K sales representative.



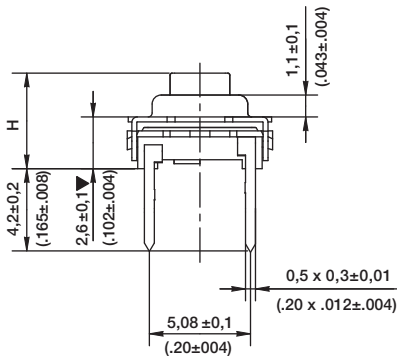
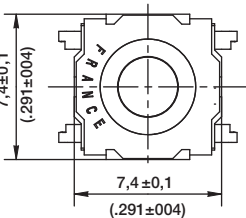
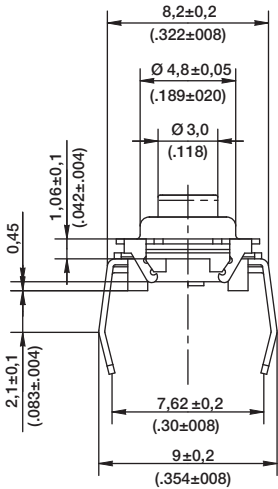
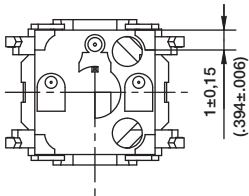
Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

KSA & KSL Series
Sealed Tact Switch

ACTUATOR TYPE

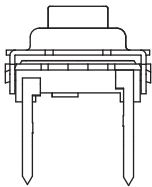
KSA & KSL



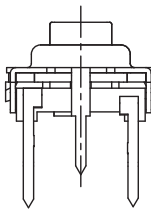
Type	H mm	inch
KSA	4,7±0,2	(.185)
KSL	9,9±0,2	(.390)

GROUND TERMINAL

0 WITHOUT



1* WITH



*Not compatible with "V" insertion



First Angle
Projection



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

KSA & KSL Series
Sealed Tact Switch

CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL
1	Silver contacts
3	Gold contacts

SEALING

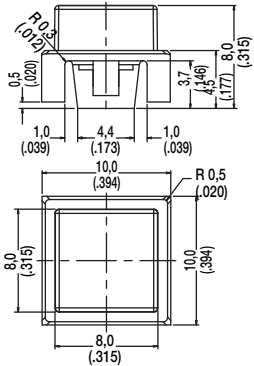
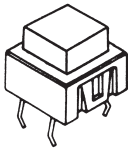
OPTION CODE	SEALING
1	Totally sealed - sealed IP64

BUTTONS

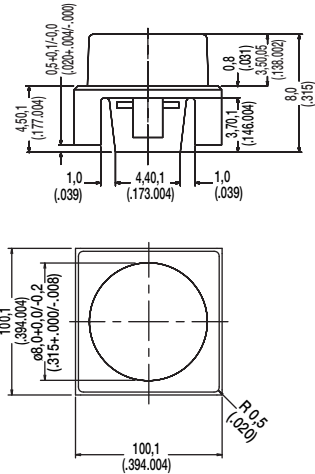
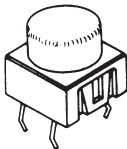
Buttons must be ordered separately and will be supplied in bulk.

BUTTON TYPE	KSA	KSL	KSAV	KSLV
K01	X			
K02	X			
K03	X	X	X	X
K04	X	X	X	X
K05		X		X
K06	X			
K07		X		X
K08		X		X
K09		X		X

K01



K02



First Angle
Projection

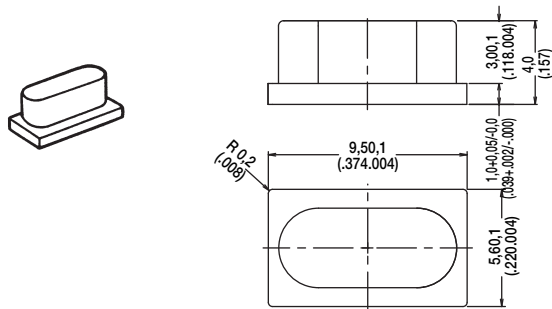


Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

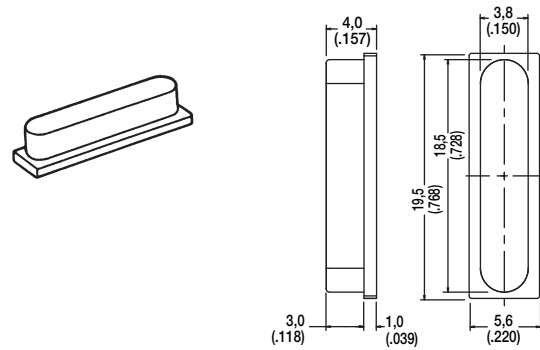
www.ck-components.com

KSA & KSL Series Sealed Tact Switch

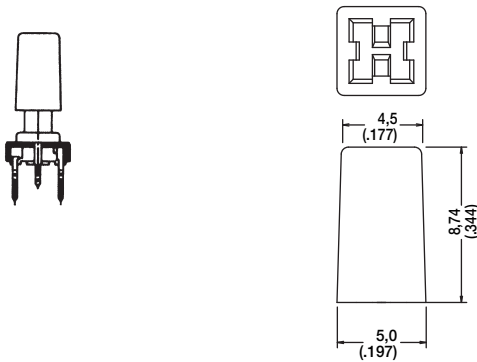
K03



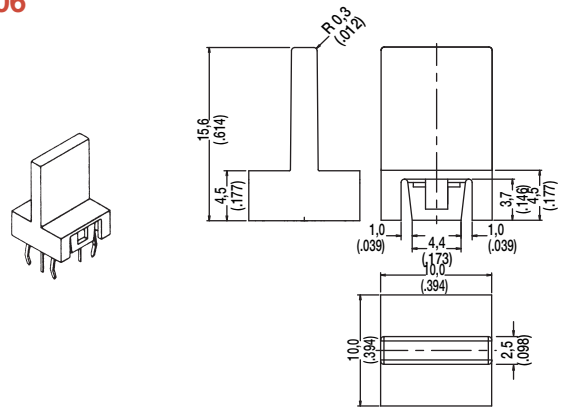
K04



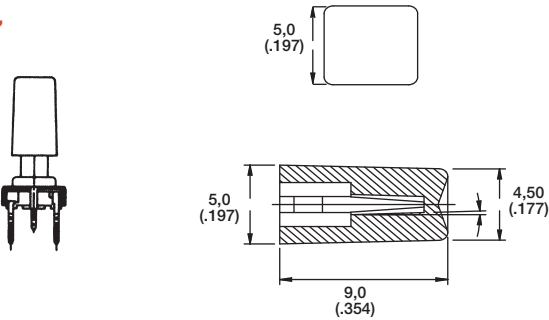
K05



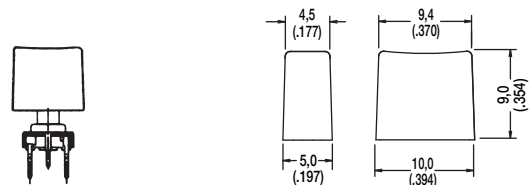
K06



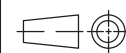
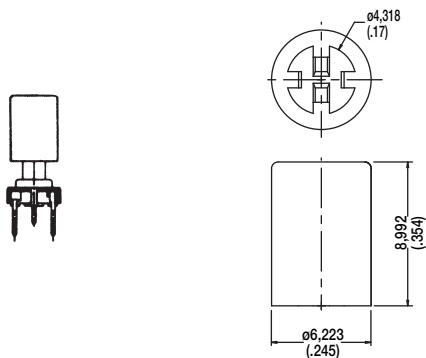
K07



K08



K09



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

KSA & KSL MKII Series

High Performance Sealed Tact Switch

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

Typical Applications

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



Specification

CONTACT ARRANGEMENT: SPST, N.O.
TERMINALS: PC pins
Double overmold on terminals

Mechanical

Type	Actuation force N (grams)	Operating life (operations)	Travel to make
KSA0M212	1,0 - 1,65	100,000	0,5 ± 0,15
KSA0M312	1,0 - 1,65	1,000,000	0,5 ± 0,15
KSA0M412	2,75 - 3,75	100,000	0,6 ± 0,25
KSA0M512	3,75 - 6,25	100,000	0,7 ± 0,25
KSA0M912	2,25 - 3,75	500,000	0,6 ± 0,25

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)

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: 300 Vrms		
CONTACT RESISTANCE: < 100m Ω		
INSULATION RESISTANCE (100 V): > 10 ⁹ Ω		
BOUNCE TIME: 1 ms		

Environmental

	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 90°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 90°C	-55°C to 125°C

Process

Wave soldering compatible with lead free soldering profile.

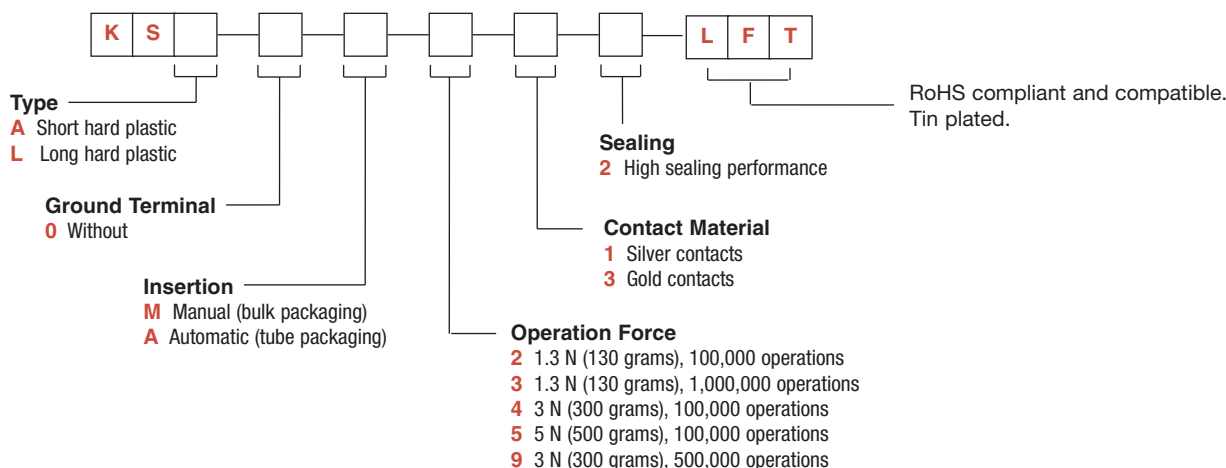
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

KSA & KSL MKII Series

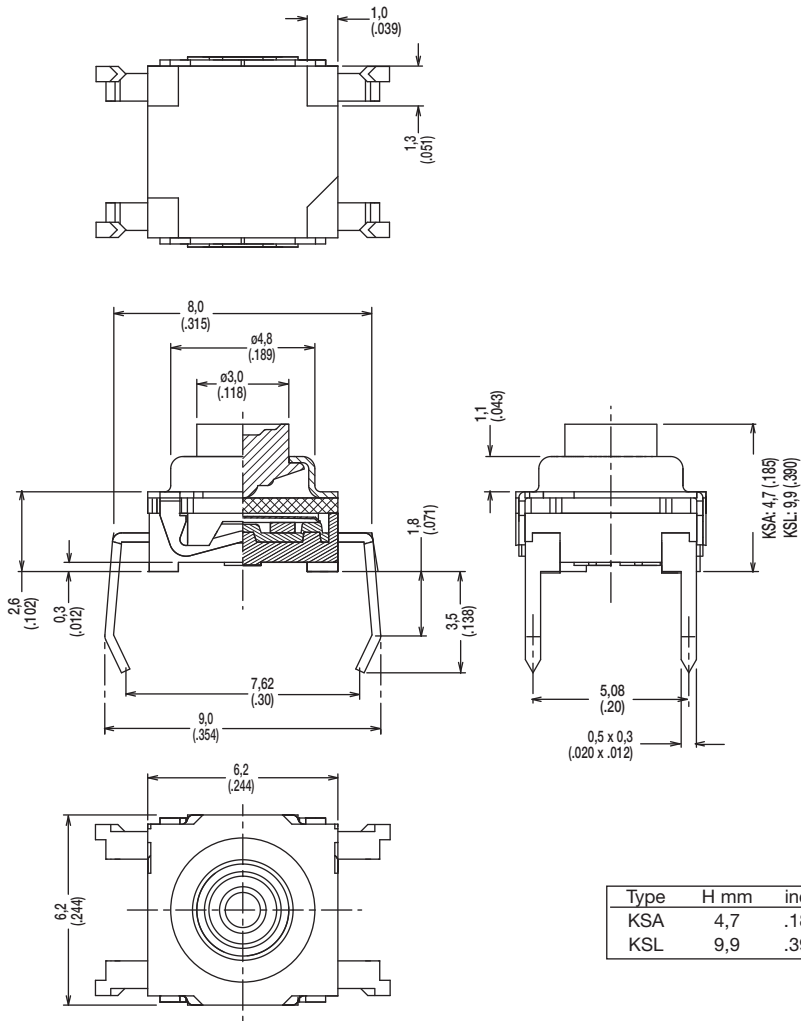
High Performance Sealed Tact Switch

TYPE

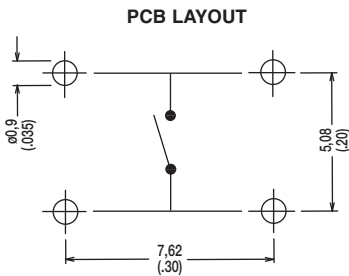
KSA & KSL MANUAL (BULK PACKAGING) DRAWING SHOWN



Tactile Switches



KSA0M112



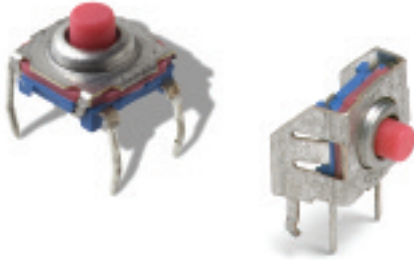
Type	H mm	inch
KSA	4,7	.185
KSL	9,9	.390



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

KSI Series Sealed Tact Switches



Features/Benefits

- Long and soft actuator
- Distinctive tactile feel
- 1.1 & 3 N actuation force
- Ground terminal optional
- RoHS compliant and compatible

Typical Applications

- Automotive
- Automation
- Door entry systems
- Remote controls

Specification

FUNCTION: Momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
DISTANCE BETWEEN BUTTON CENTERS (min.): 7.62 (0.300)
TERMINALS: PC pins

Mechanical

Type	Actuation force N (grams)	Operating life (operations)	Travel to make
KSI0M011	1.1 (110)	500,000	0,4 ± 0,15
KSI0M411	3.0 (300)	100,000	1,1 ± 0,2
KSI0V211	2.0 (200)	300,000	0,8 ± 0,2
KSI0V411	3.0 (400)	100,000	1,1 ± 0,2

Durometer for silicone actuator is 50 shore

Packaging

Delivered in boxes of 500 pieces (M version) or 250 pieces (V version).

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

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 (50 Hz, 1 min.):	300 Vrms	
CONTACT RESISTANCE:	< 50 mΩ	
INSULATION RESISTANCE (100V):	> 10 ¹¹ Ω	
BOUNCE TIME:	< 1 ms	

Environmental

	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 90°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 90°C	-55°C to 125°C

Process

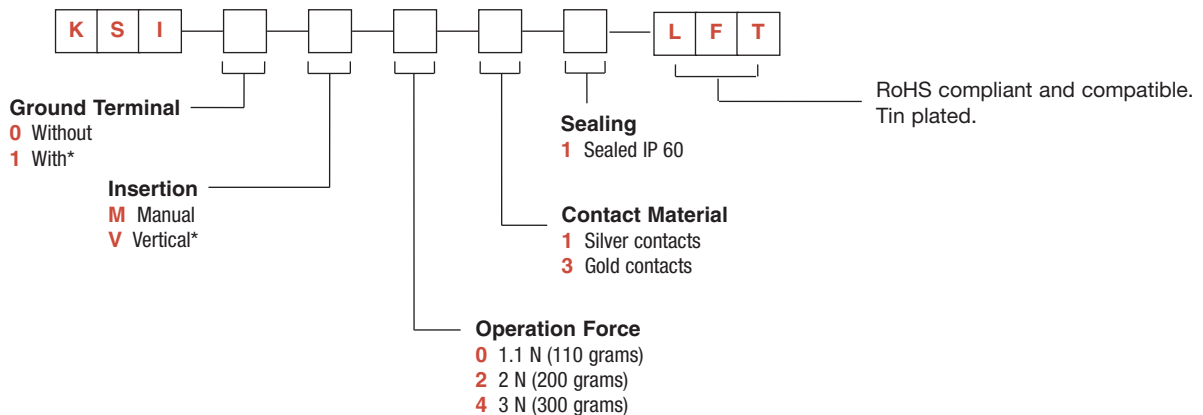
Wave soldering, compatible with lead free soldering profile.

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 in the table above, please consult your local representative.



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

KSJ Series Spherical Actuator Tact Switches

Features/Benefits

- Spherical actuator allows actuation force off center $\pm 30^\circ$ with regard to vertical
- Total travel 1.2 mm
- Sealed against flux
- RoHS compliant and compatible

Typical Applications

- Automotive
- Cranes, off road, railway
- Factory automation
- Security systems



Specification

FUNCTION: Momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
DISTANCE BETWEEN BUTTON CENTERS (min.): 7.62 (0.300)
TERMINALS: PC pins

Environmental

	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 90°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 90°C	-55°C to 125°C

Packaging

Delivered in boxes of 500 pieces.

Mechanical

Type	Actuation force N (grams)	Operating life (operations) axial	Operating life (operations) radial	Travel to make
KSJ0M21160SH	1,5 - 2,5	100,000	30,000	0,7 $\pm$ 0,25
KSJ0M41180SH	2,25 - 3,75	100,000	30,000	0,55 $\pm$ 0,25

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	50 mA
MINIMUM CURRENT:	1 mA	1 mA

DIELECTRIC STRENGTH (50 Hz, 1 min.): ≥ 300 Vrms
CONTACT RESISTANCE: ≤ 100 mOhms
INSULATION RESISTANCE (100V): $> 10^9$ ohms
BOUNCE TIME: < 1 ms

Process

Wave soldering, compatible with lead free soldering profile.

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

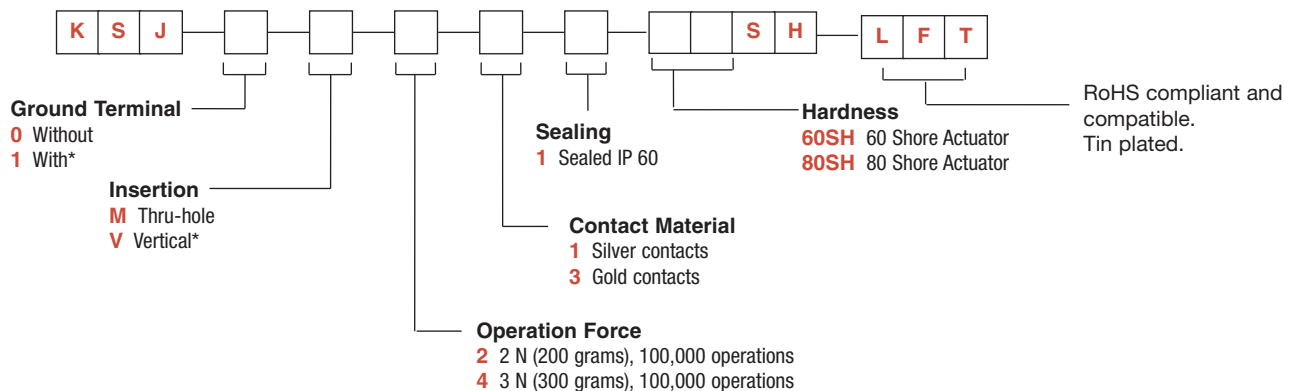
* Please contact your C&K representative for any question regarding the product integration.

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.

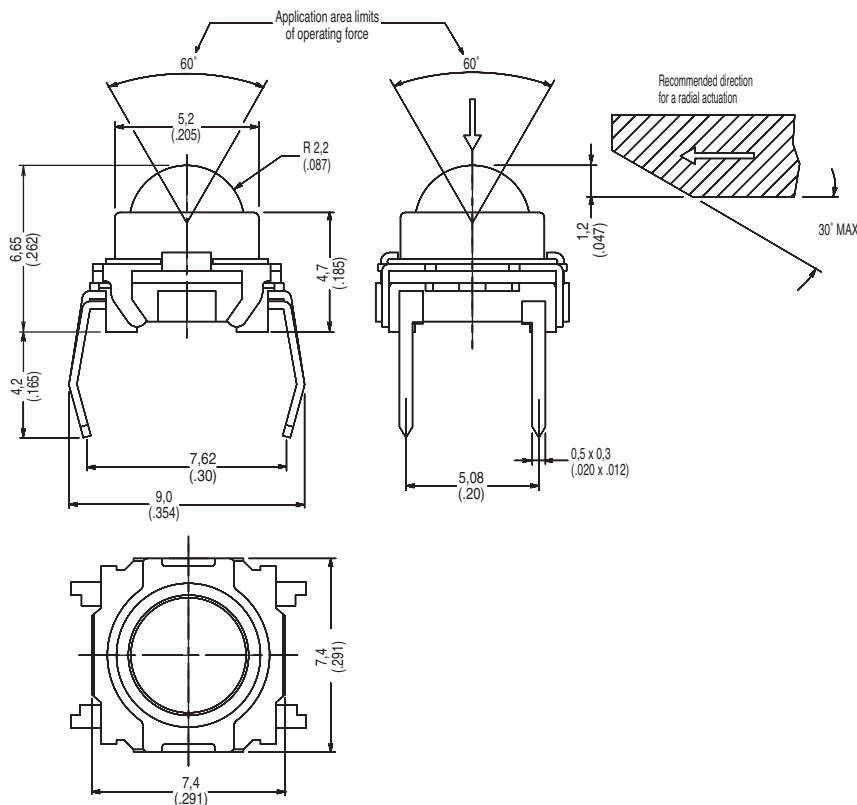
For any part number different from those listed in the table above, please consult your local representative.



*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

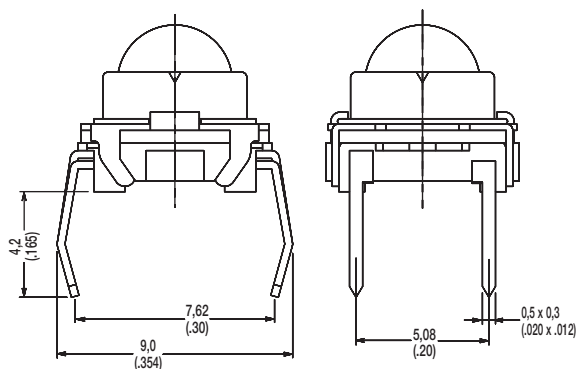
KSJ



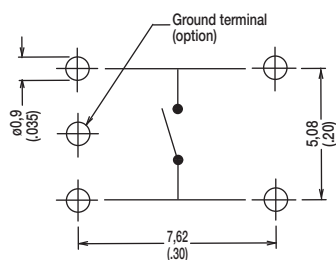
KSJ0M211

INSERTION

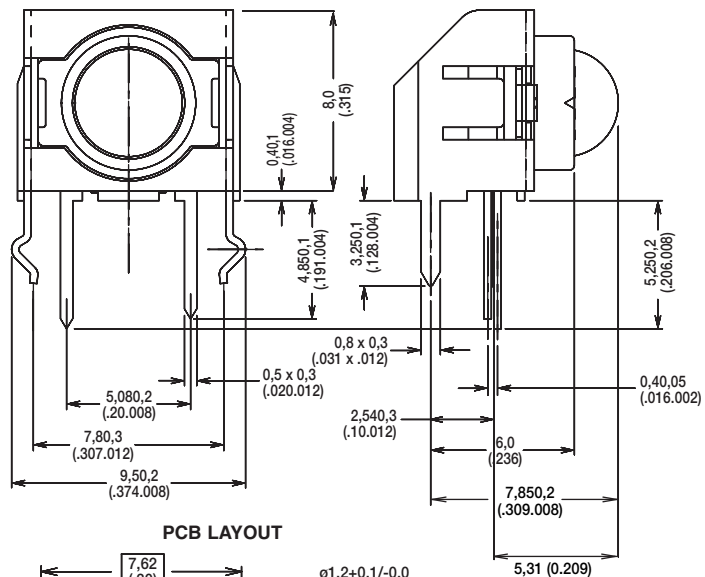
M THRU-HOLE



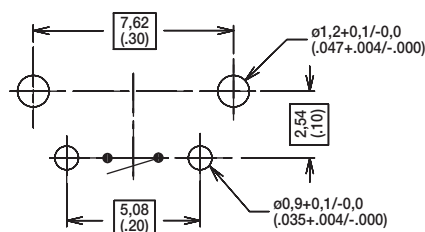
PCB LAYOUT



V VERTICAL



PCB LAYOUT



First Angle
Projection

C&K

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

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

B

Tactile Switches

Specification

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

Mechanical

ACTUATION FORCE: PTS635L models: 130 grams.
PTS635H 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: PTS635S and PTS635V models: Tin plated stainless steel
DOME CONTACTS: Phosphor bronze, silver clad.
STATIONARY CONTACTS: Brass, silver plated.
TERMINALS: Brass, silver plated. Insert molded.

Packaging

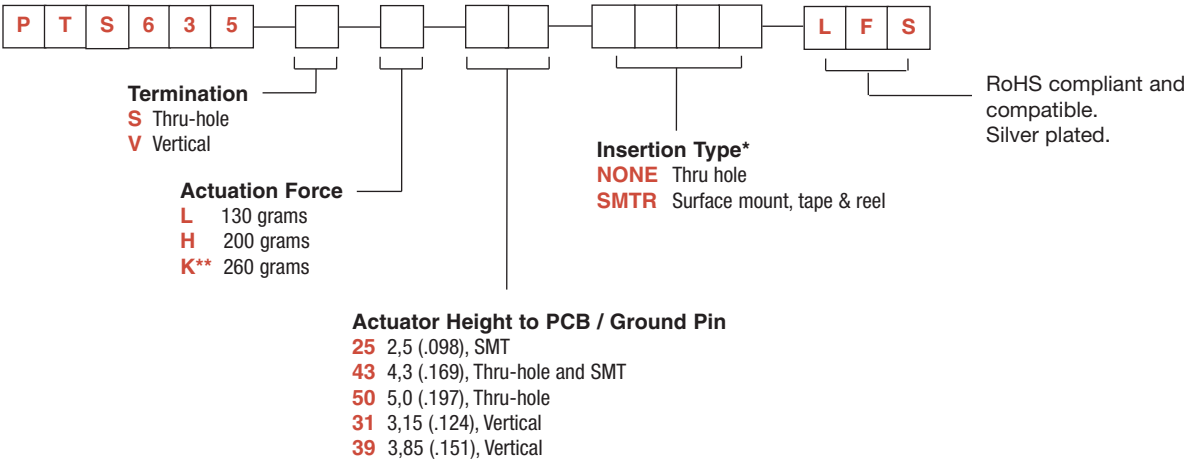
Bulk packaging.

Tape & reel for:

PTS635Sx43SMTR, 1700 pcs per reel
PTS635Sx25SMTR, 3000 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.



* SM and SMTR only available with PTS635 43 and 25 actuator options.

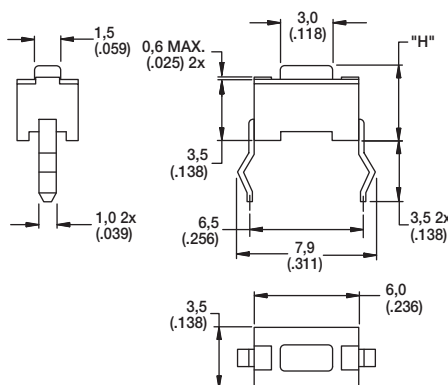
** Only for the PTS635Sx25SMTR.

PTS635 Series

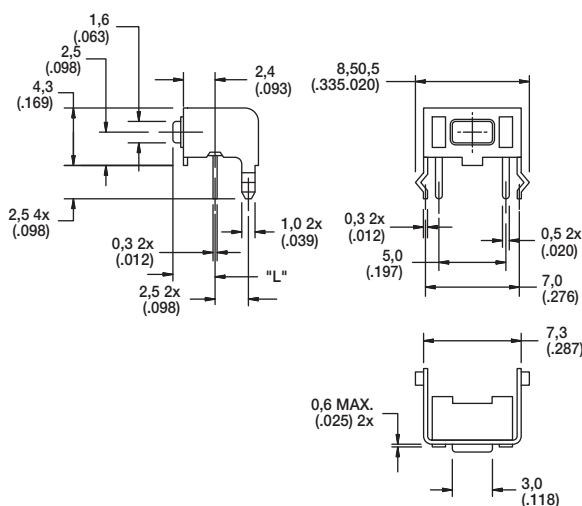
3,5 mm Tact Switches

SERIES

PTS635

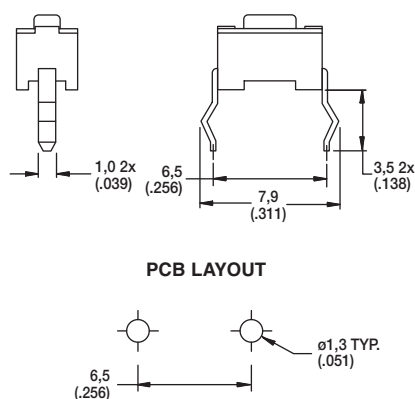


PTS635S Model

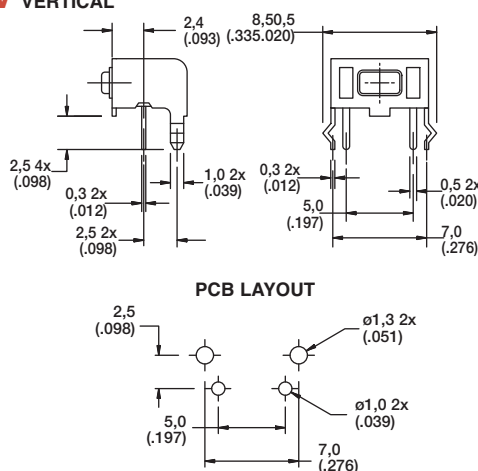


TERMINATION

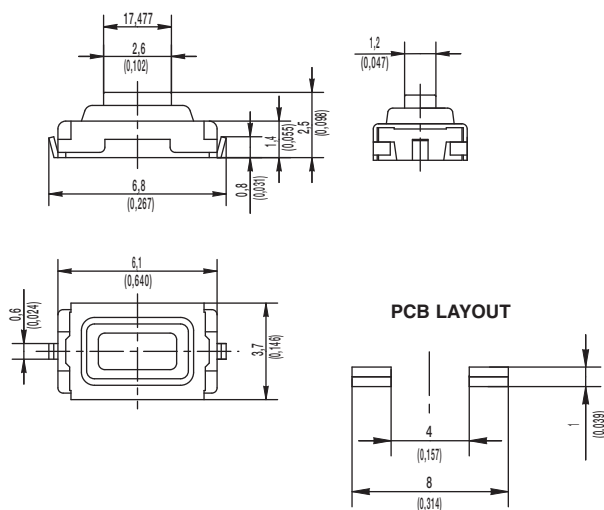
S THRU-HOLE



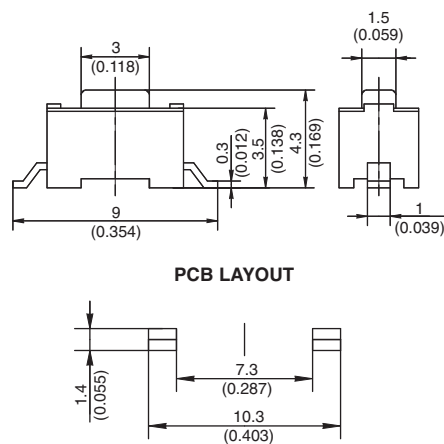
V VERTICAL



SMT 25



SMT 43



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com



ACTUATION FORCE



OPTION CODE	FORCE
L	130 grams
H	200 grams

ACTUATOR HEIGHT

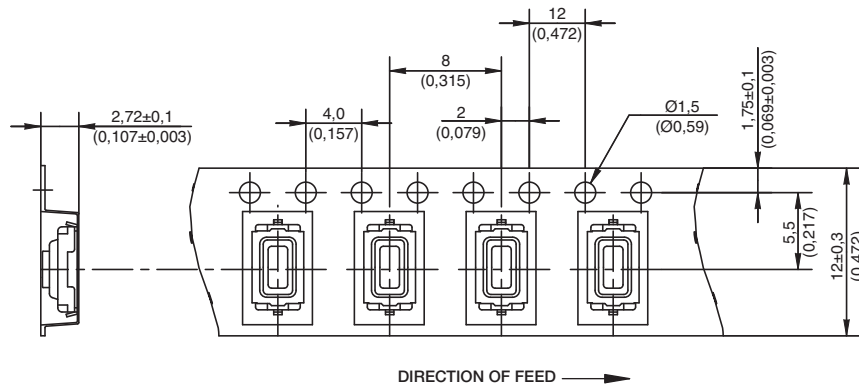


OPTION CODE	HEIGHT "H" or LENGTH "L"	TERMINATION	SCHEMATIC
43	4,3 (.169)	Thru-hole	1 — 2
50	5,0 (.197)	Thru-hole	1 — 2
31	3,15 (.124)	Vertical	1 — 2
39	3,85 (.151)	Vertical	3 — 4

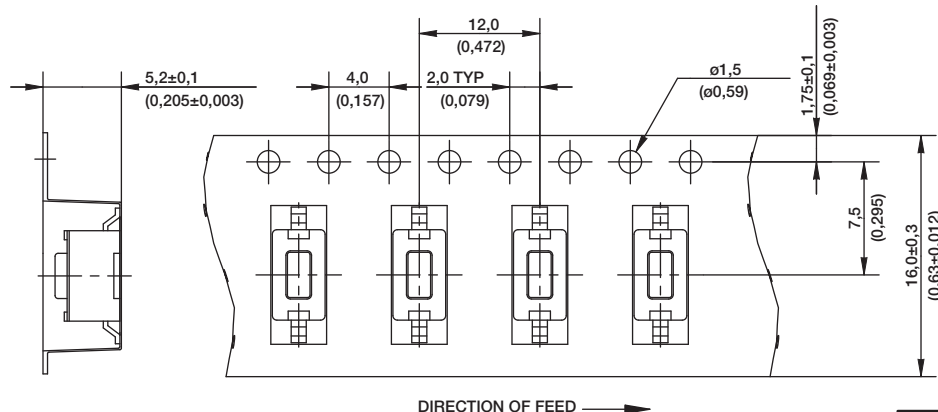
INSERTION TYPE



SMT 25



SMT 43



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

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: PTS645 models: 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: 10¹¹ Ω min.

Environmental

OPERATING TEMPERATURE: -20°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: PTS645S: Polyester or stainless steel.
PTS645T and PTS645V: Tin alloy or stainless steel.
DOME CONTACTS: Phosphor bronze, silver clad.
STATIONARY CONTACTS: Brass, silver plated.
TERMINALS: Brass, silver plated. Insert molded.

Packaging

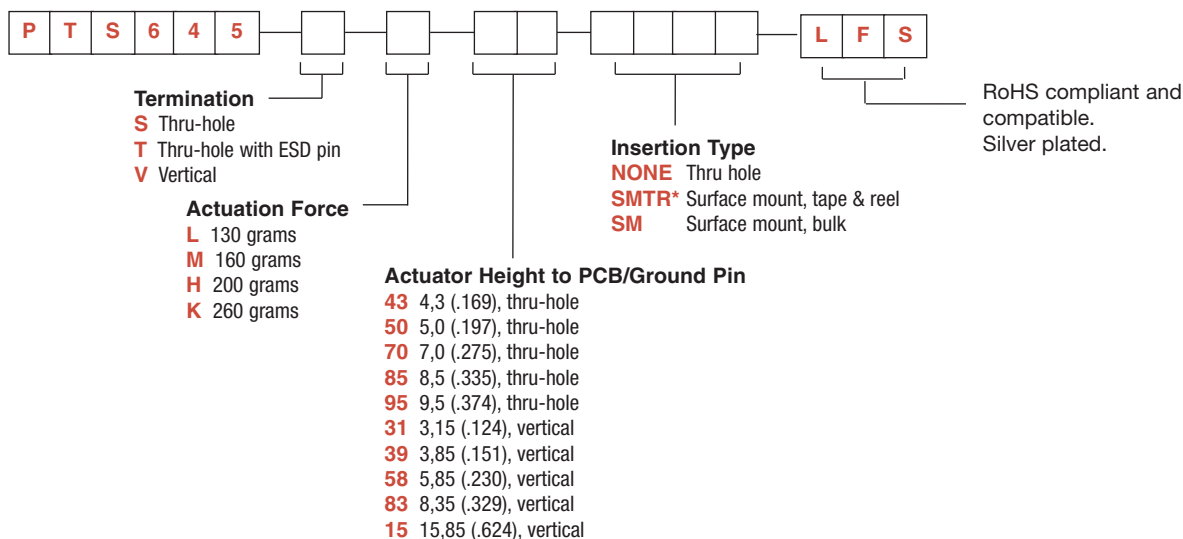
Bulk packaging.

Tape & reel for the SMT type:

Reel of 1000 pcs for the PST645sx43 &50
Reel of 750pcs for the PTS645Sx70
Reel of 500 pcs for the PTS645Sx95

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.



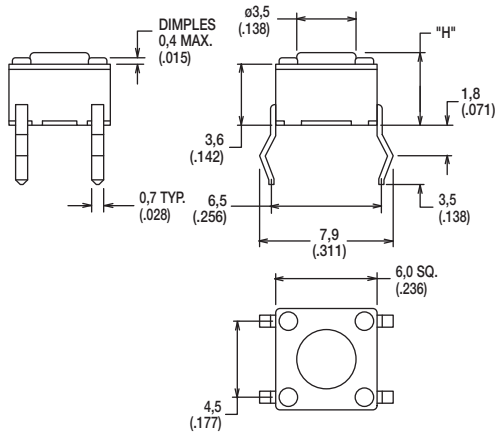
*Only the PTS645 in horizontal type without ESD pin is available in SMT type.



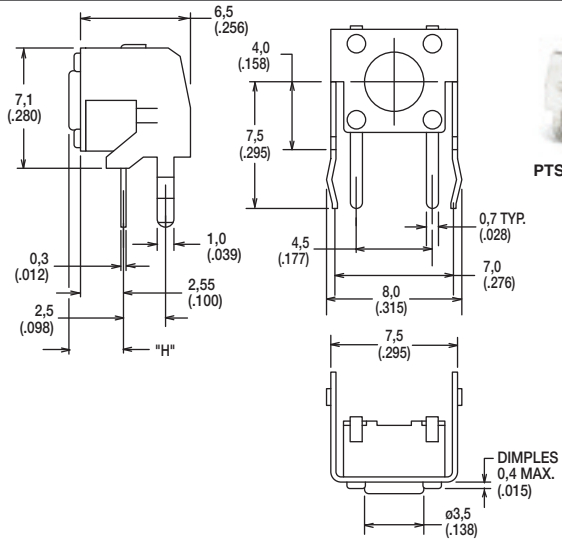
Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

SERIES 

PTS645

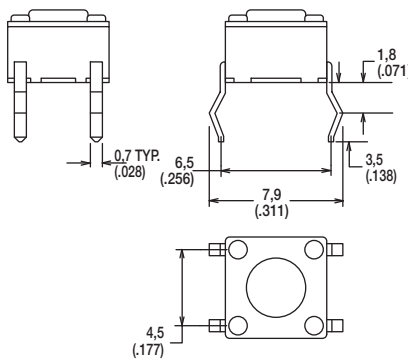
PTS645S Model



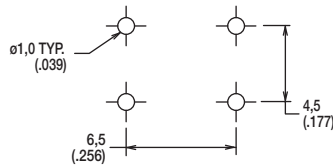
PTS645V Model

TERMINATION

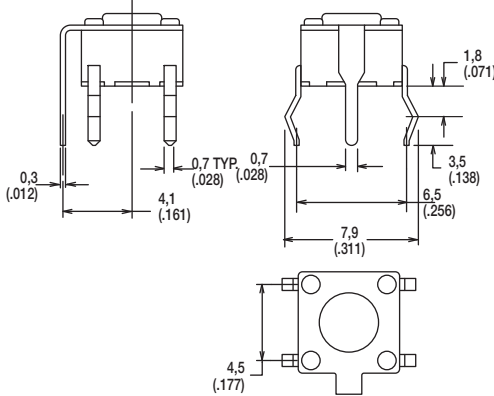
S STRAIGHT



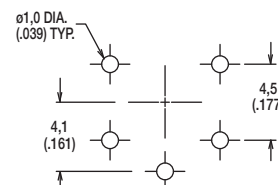
PCB LAYOUT



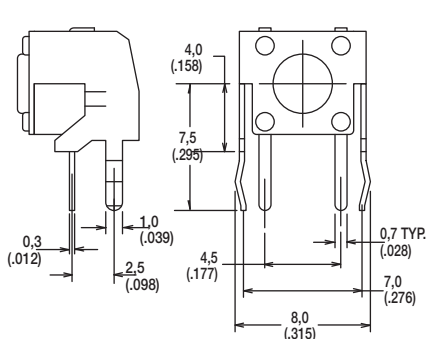
T STRAIGHT WITH EMC PIN



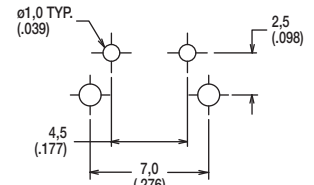
PCB LAYOUT



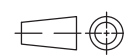
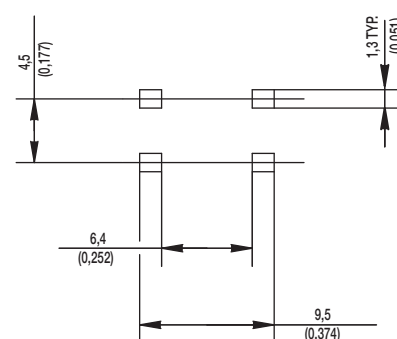
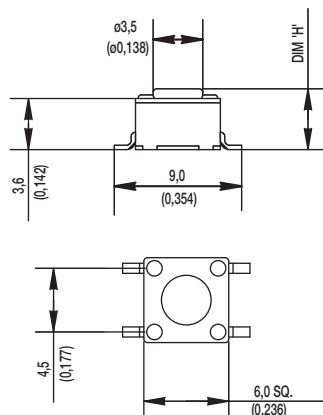
V VERTICAL



PCB LAYOUT



SMT



First Angle Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

PTS645 Series 6 mm Tact Switches

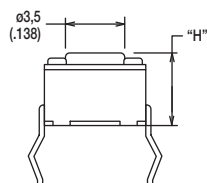
ACTUATION FORCE

OPTION CODE	FORCE
L	130 grams
M	160 grams
H	200 grams
K	260 grams

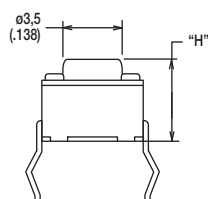
ACTUATOR HEIGHT

OPTION CODE	HEIGHT "H" or LENGTH "L"	TERMINATION	SCHEMATIC	
			Without EMC pin	With EMC pin
43	4,3 (.169)	Thru-hole		
50	5,0 (.197)	Thru-hole		
70	7,0 (.275)	Thru-hole		
95	9,5 (.374)	Thru-hole		
31	3,15 (.124)	Vertical		
39	3,85 (.151)	Vertical		
58	5,85 (.230)	Vertical		
83	8,35 (.329)	Vertical		
15	15,85 (.624)	Vertical		

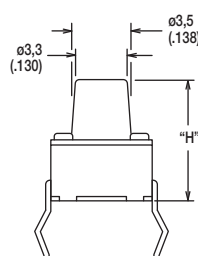
43



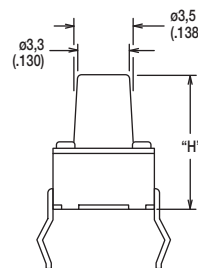
50



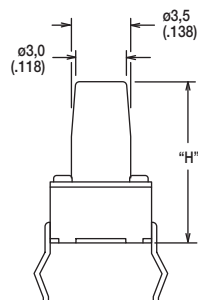
70



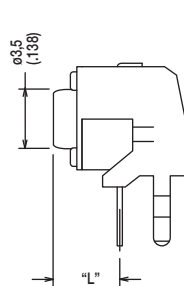
85



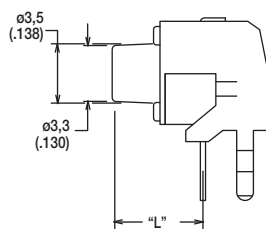
95



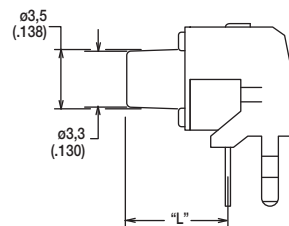
31



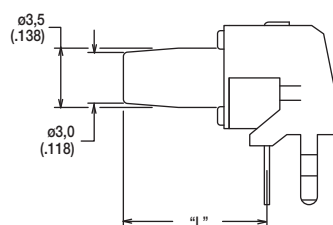
39



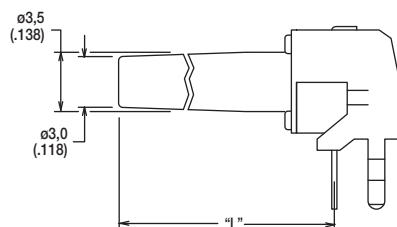
58



83



15



First Angle
Projection

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

C&K

PTS125 Series 12 mm Tact Switches



Features/Benefits

- Stable control feeling
- Thru-hole or vertical actuation
- 160 or 260 grams 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: PTS125M models: 160 grams.
PTS125 K models: 260 grams.
LIFE EXPECTANCY: 200,000 operations, M option;
100,000 operations, K option.

Electrical

CONTACT RATING: 50 mA @ 12 V DC.0
DIELECTRIC STRENGTH: 250 V AC min.
CONTACT RESISTANCE: 100 mΩ max. initial.
INSULATION RESISTANCE: 10¹¹ Ω min.

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

Environmental

OPERATING TEMPERATURE: -40°C to 60°C

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

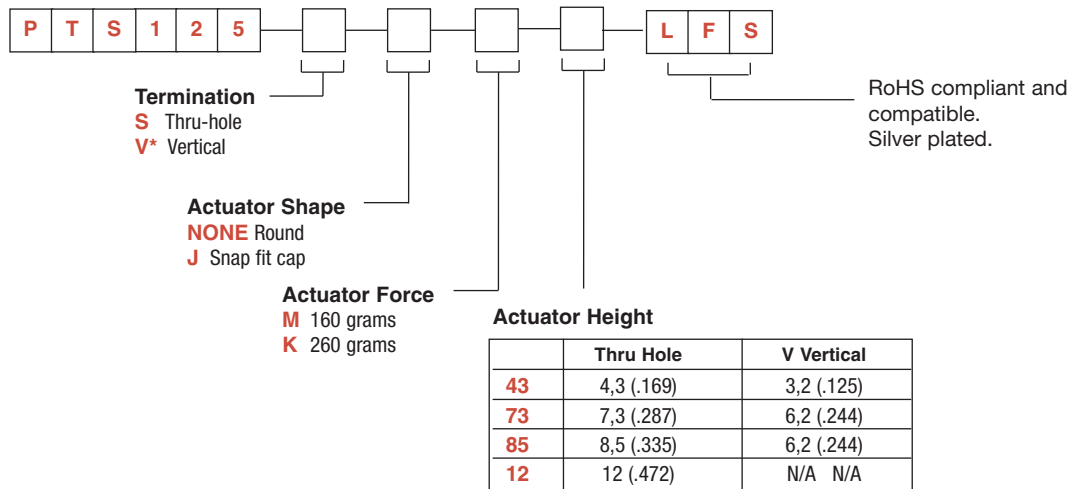
BASE: 6/6 nylon or glass filled polyester (PBT) (UL 94V-0).
ACTUATOR: PBT (UL94V0) or polyacetal (UL 94HB).
COVER PLATE: Tin alloy.
DOME CONTACTS: Phosphor bronze, silver clad.
STATIONARY CONTACTS: Brass, silver plated.
TERMINALS: Brass, silver plated. Insert molded.

Packaging

Tube packaging.

How To Order

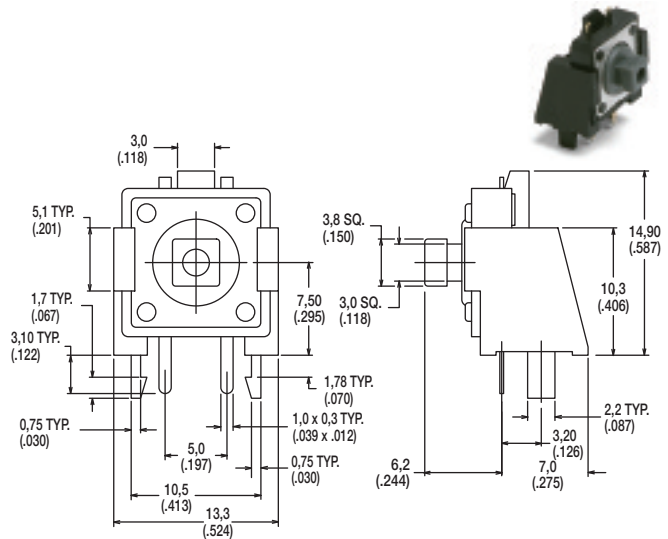
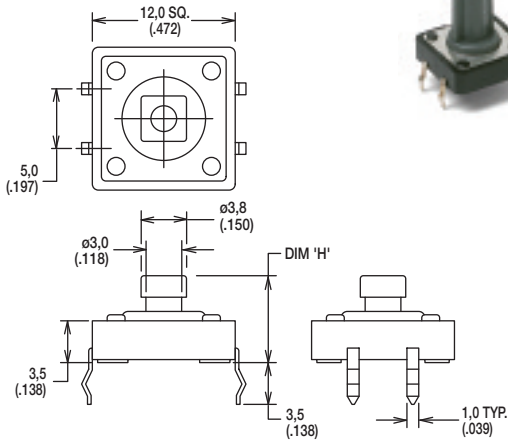
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and and place it in the appropriate box.



* V option available with J73 actuator only.

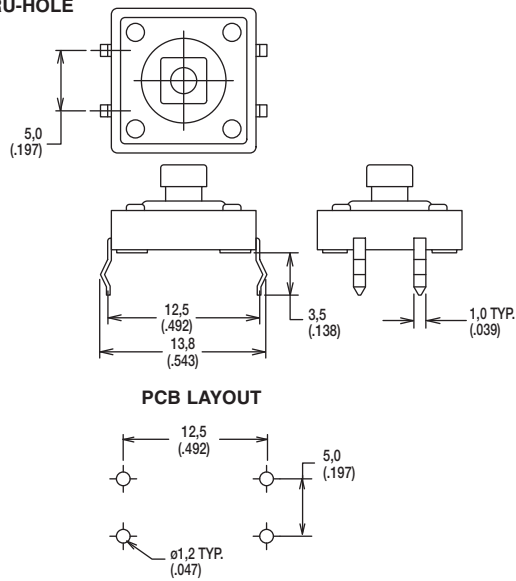
PTS125 Series 12 mm Tact Switches

SERIES

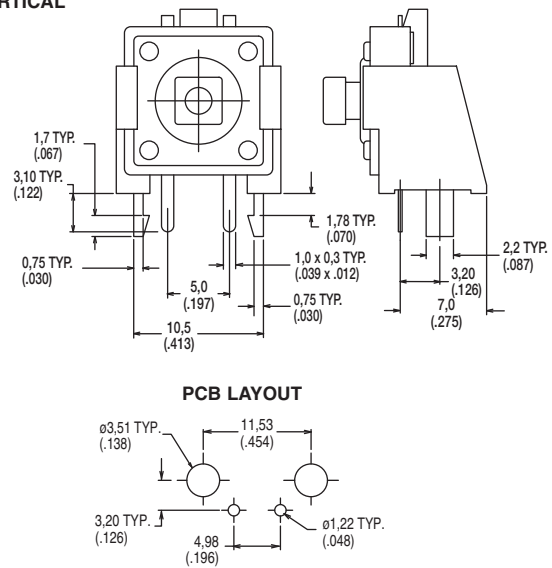


TERMINATION

S THRU-HOLE



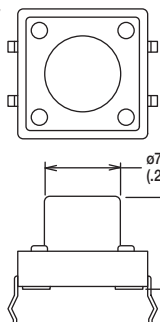
V VERTICAL



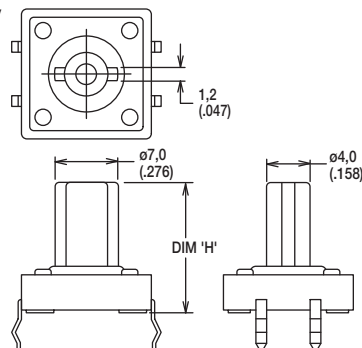
ACTUATOR SHAPE

NONE ROUND

43 and 85 heights only

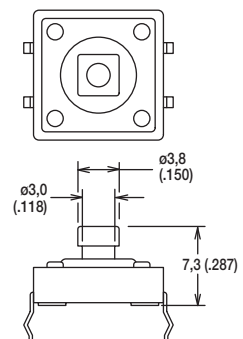


12 height only



J SNAP-FIT CAP

73 height only



C&K

Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

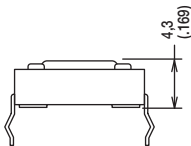
PTS125 Series
12 mm Tact Switches

ACTUATION FORCE

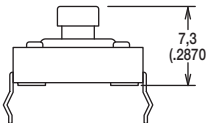
OPTION CODE	FORCE
M	160 grams
K	260 grams

ACTUATOR HEIGHT

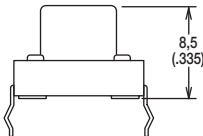
43 4,3 mm



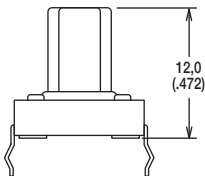
73 7,3 mm SNAP-FIT



85 8,5 mm



12 12 mm



Tactile Switches



Dimensions shown in: mm (inch)
Specifications and dimensions subject to change

www.ck-components.com

ED & EDM Dome Series

Features

- Short travel
- Good tactile feedback
- Self cleaning
- 3 actuation forces
- RoHS

Typical Applications

- Aircraft
- Instrument
- Panels
- Radio equipment

Specification

ED: Disc element
EDM: Disc element and double dome
FUNCTION: Momentary action
CONTACT TYPE: Normally open - SPST
TERMINALS: Through hole PCB terminations
LIFE EXPECTANCY: 1,000,000

Packaging

Trays 50 pieces.

Mechanical

Electrical

	Silver	Gold
MAXIMUM POWER:	1.0 VA	0.2 VA
MAXIMUM VOLTAGE:	100 VDC	100 VDC
MINIMUM VOLTAGE:	20m VDC	20m VDC
MIN/MAX CURRENT:	1.0 mA - 100 mA	50µA - 50 mA
DIELECTRIC STRENGTH:	≥ 250 Vrms	
CONTACT RESISTANCE:	≤ 100 mΩ	
INSULATION RESISTANCE:	Initial measurement: ≥ 1 GΩ	
(between terminals)	After damp heat: ≥ 10 MΩ	
BOUNCE TIME:	≤ 3 ms	

Environmental

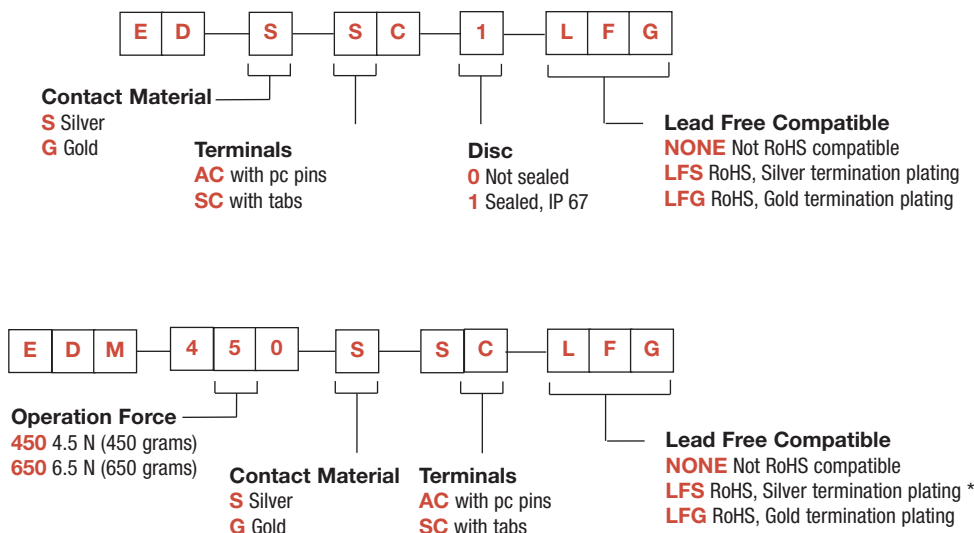
	Silver	Gold
OPERATING TEMPERATURE:	-25°C to 70°C	-55°C to 85°C

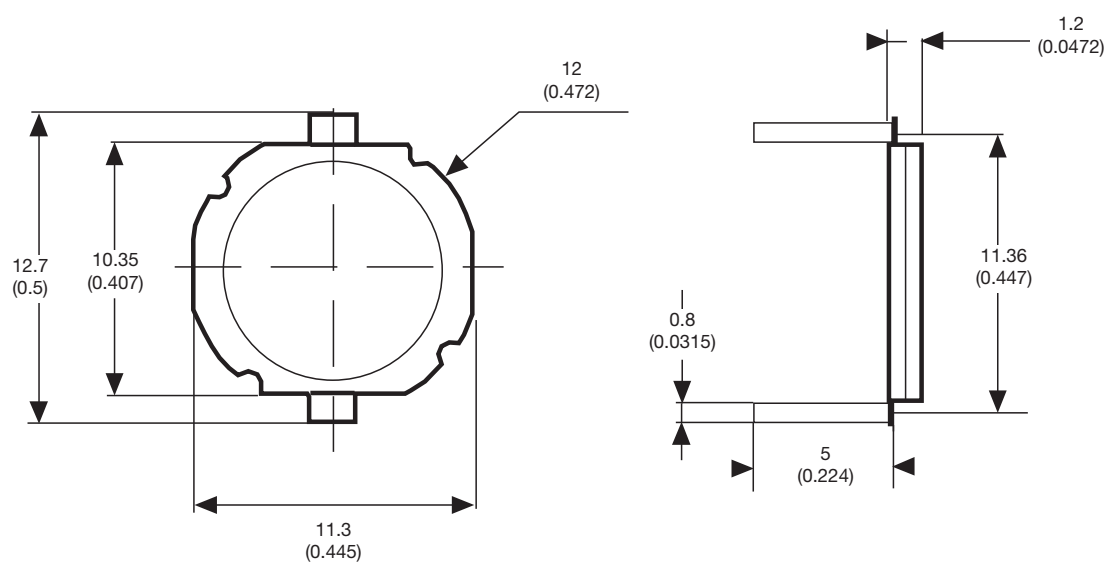
Type	Operating force Newtons (grams)	Tactile Feeling (Δ%)	Return Force N	Travel (mm)
EDSAC LFS	2.4 (240) ± 25%	≥ 25%	≥ 0.4 N	0.3mm ± 0.15
EDSSC LFS	2.4 (240) ± 25%	≥ 30%	≥ 0.4 N	0.3mm ± 0.15
EDM450SAC LFS	4.5 (450) ± 25%	≥ 25%	≥ 1.0 N	0.5mm ± 0.25
EDM650SSC LFS	6.5 (650) ± 25%	≥ 25%	≥ 1.6 N	0.6mm ± 0.25

SIMULTANEITY: ≤ 0.05 mm

How To Order

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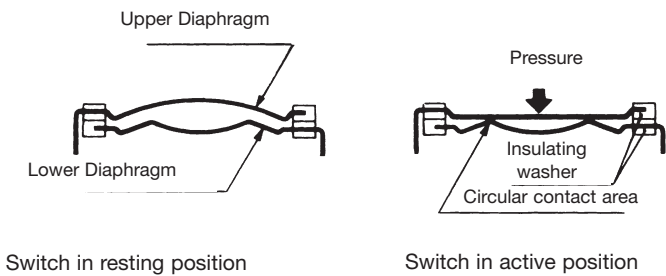




Switch Action Principal

The disc contact is essentially made of two separate conductive dome diaphragms separated by an insulated material.

The upper diaphragm is shaped so that under pressure it collapses suddenly and establishes contact with the lower diaphragm.



MD & MDP Series

Features

Typical Applications



- **Short travel**
- **Good tactile feedback**
- **Self cleaning**
- **2 actuator materials**
- **RoHS**

- **Aircraft**
- **Instrument**
- **Panels**
- **Radio equipment**

Specification

MD: Rubber actuator
MDP: Hard actuator for button option
FUNCTION: Momentary action
CONTACT TYPE: Normally open - SPST
TERMINALS: Through hole PCB terminations

Electrical

	Silver	Gold
MAXIMUM POWER:	1.0 VA	0.2 VA
MAXIMUM VOLTAGE:	100 VDC	100 VDC
MINIMUM VOLTAGE:	20m VDC	20m VDC
MIN/MAX CURRENT:	1.0 mA - 100 mA	50µA - 50 mA
DIELECTRIC STRENGTH:	≥ 250 Vrms	
CONTACT RESISTANCE:	≤ 100 mΩ	
INSULATION RESISTANCE:	Initial measurement: ≥ 1 GΩ	
(between terminals)	After damp heat: ≥ 10 MΩ	
BOUNCE TIME:	≤ 3 ms	

Mechanical

Environmental

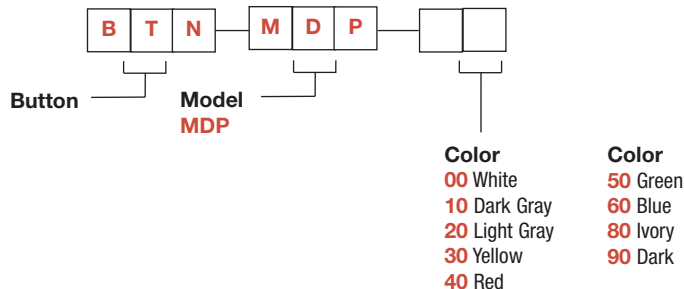
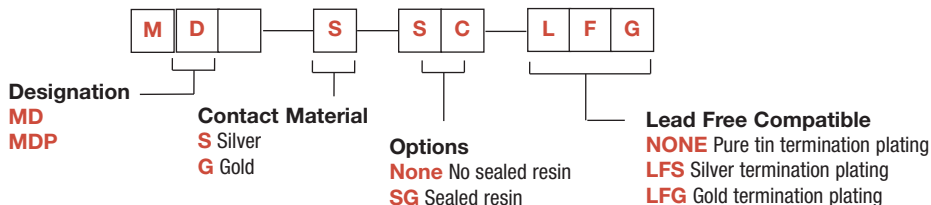
	Silver	Gold
OPERATING TEMPERATURE:	-25°C to 70°C	-55°C to 85°C

Type	Operating force Newtons (grams)	Tactile Feeling (Δ%)	Operating Life	Travel (mm)
MDS LFS	2.4 (240) ± 25%	≥ 20%	≥ 10 ⁶	0.95mm ± 0.35
MDS LFG	2.4 (240) ± 25%	≥ 20%	≥ 10 ⁶	0.95mm ± 0.35
MDPS LFS	2.6 (260) ± 25%	≥ 25%	≥ 2 x 10 ⁵	0.4mm ± 0.25
MDPG LFS	2.6 (260) ± 25%	≥ 25%	≥ 2 x 10 ⁵	0.4mm ± 0.25

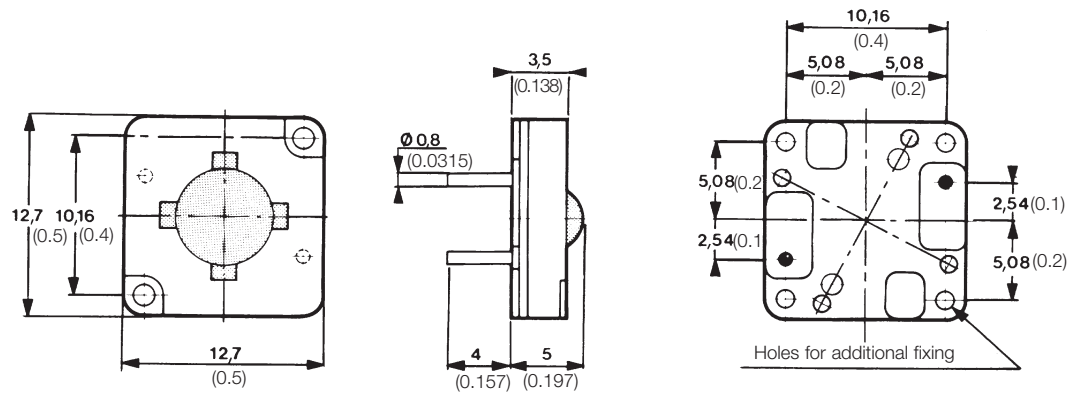
SIMULTANEITY: ≤ 0.05 mm

How To Order

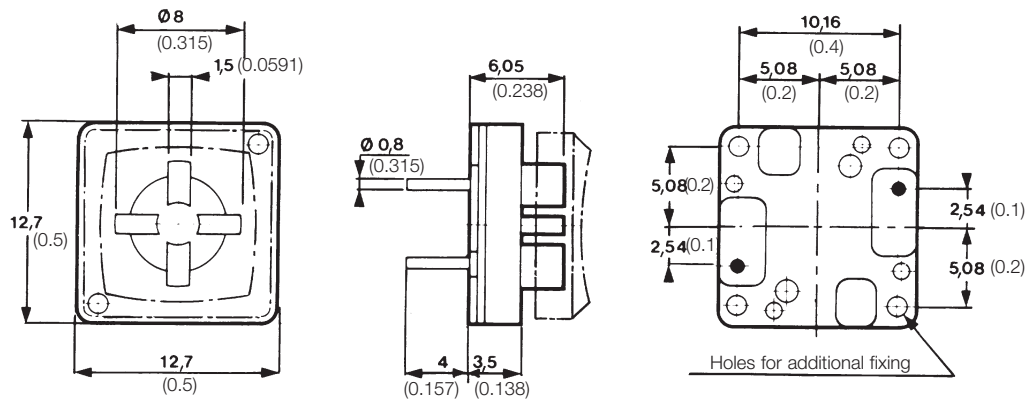
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MD



MDP



MDP Button

