

Tactile Switches

Product Selection Guide



B

Tactile Switches

Surface Mount								
Series	KMT2	KMT0	KMR2-4	KMS	PTS525	PTS530	PTS810	
Size on PCB L x W (mm)	3 X 2,6	3 X 2,6	4,2 x 2,8	4,2 x 3,55	5,2 x 5,2	4,5 x 4,5	4,2 x 3,2	
Total Height (mm)	0,65	0,65	1,9 2,5	1,42	0,8 and 1,5	0,55 and 0,65	2,5	
Travel (mm)	0,15	0,15	0,2 to 0,35	0,25 to 0,3	0,3	0,2	0,15/0,2	
Actuation Force (N)	1.0 1.6	1.0 1.6 2.3 3.4	1.2 2.0 3.0 4.0	2.0 3.0	1.6 2.6	1.0; 1.6; 2.0; 2.6; 4.0; 6.0	1.6 2.6 4.0 6.0	
Contact Type	Silver	Silver	Silver Gold	Silver Gold	Silver	Silver	Silver	
Max. Voltage (V)	32	32	32 32	32 32	32	12	16	
Max. Switching Power (VA)	0,5	0,5	1 0,2	1 0,2	1	–	–	
Life Cycles	150,000	300,000 600,000 1,000,000	100,000 300,000	100,000	100,000	150,000 to 1,000,000	50,000 to 150,000	
IP Rating	IP54	IP68	IP40	IP40	IP40	-	-	
Page Number	B-5	B-7	B-9/B-11	B-13	B-15	B-17	B-19	
Surface Mount					   			
Series	PTS820	PTS840	KSR	KSS	KSC 1 2 3 4 6 7 8			KSC4V2
Size on PCB L x W (mm)	3,9 x 2,9	3,5 x 3,55	7,15x3,8 7,3x3,8	5,5 x 4,4	J 6,8x6,2 G 10x6,2			2 holes ø 1,1 2 pads 1,5 x 0,8
Total Height (mm)	1,5/2,0/2,5	1,35	2,5	1,7	2,6 3,5 3,5 5,0 5,2 7,7 4,3			5,0*
Travel (mm)	0,2	0,2	0,3 to 0,5	0,3	0,20 to 0,75 *			0,7*
Actuation Force (N)	1.6 2.5	1.6 2.2	1.2; 2.0; 3.0; 4.5	2 2.5 4	1,1 to 5,5 *			3.5*
Contact Type	Silver	Silver	Silver Gold	Silver Gold	Silver Gold		Silver Gold	
Max. Voltage (V)	12	12	32 32	32 32	32 32		32 32	
Max. Switching Power (VA)	-	-	1 0,2	1 0,2	1 0.2		1 / 0,2	
Life Cycles	100,000 200,000	100,000	100,000 200,000	100,000	100,000 to 1,000,000			300,000
IP Rating	-	-	IP50	IP40	IP67			IP67
Page Number	B-21	B-24	B-27	B-31	B-33			B-44

* Other options available by request



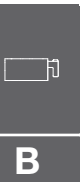
14 mar 13

Dimensions are shown: mm
Specifications and dimensions subject to change

Tactile Switches

Product Selection Guide

SMT, Thru-hole Sealed High Performance					
Series	KSC5	KSC9	KSC-ST	KSE	KST
Footprint	J G 6,8x6,2 10x6,2	J G 6,8x6,2 10x6,2	J G 6,8x6,2 10x6,2	6,8 x6,2	J G 6,8x6,2 10x6,2
Total Height (mm)	5,6	7,7*	5,2	3,1 / 4,3	5
Travel (mm)	axial: 0,25 lateral: 0,5	0,4	0,3 to 1,0	0,3	1,33
Actuation Force (N)	2.0 3.0	1.7 2.55 3.4	3.4 4.5/8.0	1.5 / 2.25	2.0 3.5
Contact Type	Silver Gold	Silver Gold	Silver Gold	Silver	Silver Gold
Max. Voltage (V)	32 32	32 32	32 32	32	30 30
Max. Switching Power (VA)	1 0,2	1 0,2	1 0,2	1	0,50 0,2
Life Cycles	10,000 100,000	300,000	100,000 300,000	300,000	100,000
IP Rating	IP50	IP67	IP67	IP67	IP40
Page Number	B-39	B46	B-41	B-49	B-56



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Tactile Switches

Thru-hole Sealed High Performance							
Series	KT	K5AT	K8	K5V	KSF/KSFI	KSA	KSA MKII
Footprint	SA SA2 7,5x5 7,5x7	G 8,4x10,8	G 8,4x10,8	8 x 9 x 17 / 9 x 13	7,62 x 5,08	7,62 x 5,08	7,62 x 5,08
Total Height (mm)	6,6 7,11 with tab	6,1	6	9 / 13	2,6	4,7 button option	4,7
Travel (mm)	0,3 to 0,5	0,5	0,45	1,2	0,3 to 0,5	0,3 to 0,5	0,3 to 0,5
Actuation Force (N)	3	4	2.5 4.0	4.0	1.3 1.6 3.0 5.0	1.3 3.0 5.0	1.3 3.0 5.0
Contact Type	Silver Gold	Gold	Silver Gold	Gold	Silver Gold	Silver Gold	Silver Gold
Max. Voltage (V)	50 50	32	32 32	32	32 32	32 32	32 32
Max. Switching Power (VA)	1 0.2	1	1 0.2	1	1 0.2	1 0.2	1 0.2
Life Cycles	100,000	25,000	300,000	25,000	100,000	100,000	100,000 1,000,000
IP Rating	IP57	IP40	IP40	IP40	IP60	IP60	IP67
Page Number	B-52	B-58	B-60	B-63	B-67	B-69	B-74

* Other options available by request



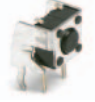
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Dimensions are shown: mm
Specifications and dimensions subject to change

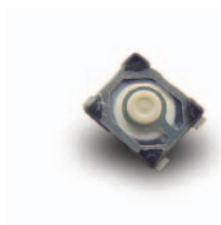
Tactile Switches

Product Selection Guide

Thru-hole						
Series	KSA-V	KSL	KSL-V	KSJ	KSJ-V	PTS635
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	6 x 3,5
Total Height (mm)	8	9,9	8	6,65	8	2,5 4,3 5,0
Travel (mm)	0,3 to 0,5	0,3 to 0,5	0,3 to 0,5	0,55 to 0,7	0,55 to 0,7	0,25
Actuation Force (N)	1,3 3,0 5,0	1,3 3,0	1,3 3,0	2,0 3,0	2,0 3,0	1,3 2,0 2,6
Contact Type	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver Gold	Silver
Max. Voltage (V)	32 32	32 32	32 32	32 32	32 32	12
Max. Switching Power (VA)	1 0,2	1 0,2	1 0,2	1 0,2	1 0,2	50
Life Cycles	100,000	100,000	100,000	100,000 30,000	100,000 30,000	20,000
IP Rating	IP60	IP60	IP60	IP60	IP60	IP40
Page Number	B-69	B-69	B-69	B-76	B-76	B-78

Thru-hole Sealed High Performance						
Series	PTS635-V	PTS645	PTS645-V	PTS125	ITS	
Footprint	7,0 x 2,5	6 x 6	7,0 x 2,5	12 x 12		
Total Height (mm)	4,3	4,3; 5,0; 7,0; 9,5;	7,1	4,3 7,3 Sq. 8,5 12,0		
Travel (mm)	0,25	0,25	0,25	0,30		
Actuation Force (N)	1,3 2,0	1,3; 1,6 2,0; 2,6	1,3; 1,6 2,0; 2,6	1,6 2,6		
Contact Type	Silver	Silver	Silver	Silver		
Max. Voltage (V)	12	12	12	12		
Life Cycles	20,000	100,000	100,000	200,000		
IP Rating	IP40	IP40	IP40	IP40		
Page Number	B-78	B-81	B-81	B-84	B-87	

KMT2 Series Nano-Miniature SMT Top Actuated



Features

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

Typical Applications

- **Mobile Phones**
- **Hearing Aids**
- **MP3 accessories**
- **Bluetooth Headset**



B

Tactile Switches

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) ± 0.25	150,000	≥ 10%	0.15 ± 0.1
KMT 221 HF LFS	1.6 (160) ± 0.40	150,000	≥ 30%	0.15 ± 0.1

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:	≤ 150 mΩ
INSULATION RESISTANCE:	≥ 50 MΩ
BOUNCE TIME:	≤ 6 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

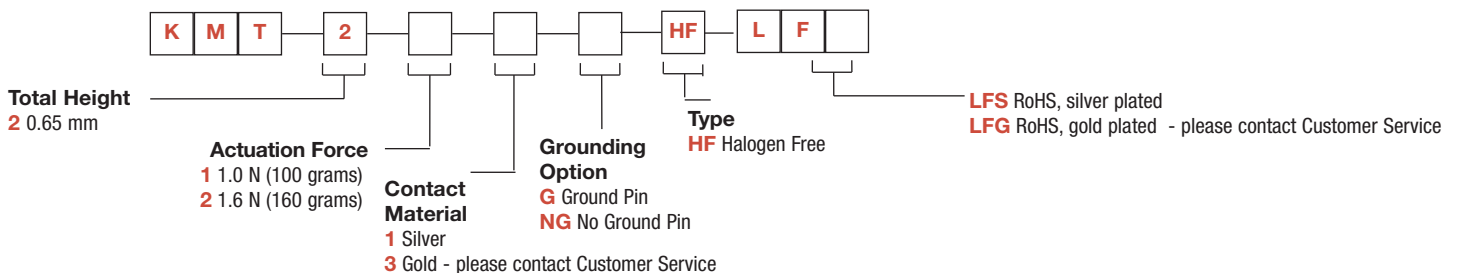
External diameter 180 mm

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

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

Part Number Description

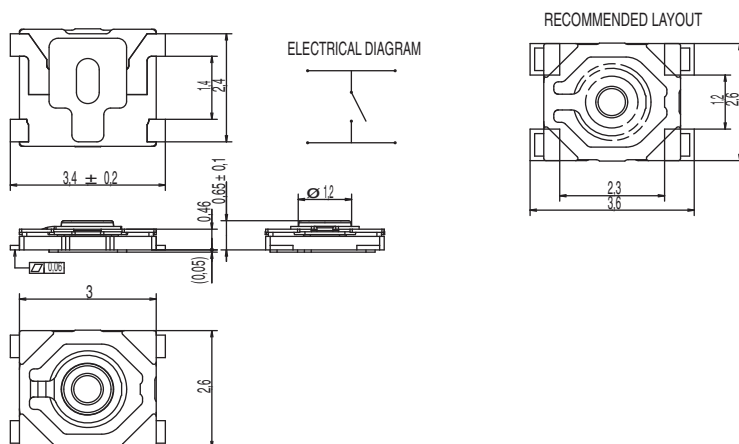
For any part number different from those listed above, please consult your local representative.



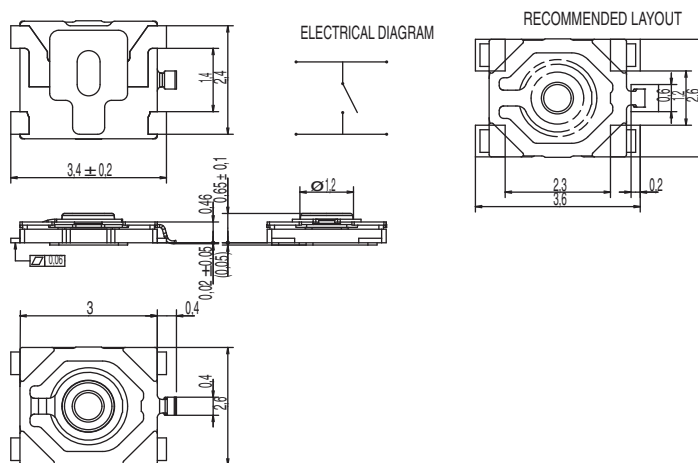
KMT Series – No Ground Pin



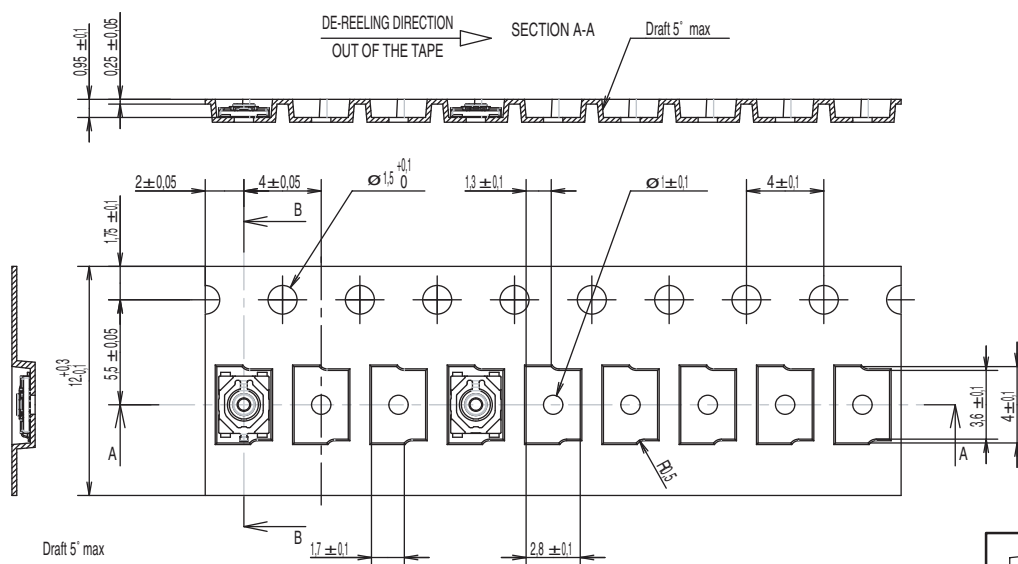
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KMT Series – With Ground Pin

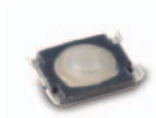


TAPE & REEL



Dimensions are shown: mm
Specifications and dimensions subject to change

KMT0 Series Nano-Miniature SMT Top Actuated



Features

- **Smallest footprint**
- **Smallest thickness with integrated actuator**
- **Extended life cycles**
- **IP68**
- **Ultra low current capabilities**

Typical Applications

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

Specification

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

Mechanical

TRAVEL (mm): 0.15 ± 0.1

	Operating force Newtons (grams)	Tactile Feeling	Operating Life
KMT011NGJLHS	1.0 (100) ± 25%	≥ 10%	300,000
KMT021NGJLHS	1.6 (160) ± 25%	≥ 30%	300,000
KMT071NGJLHS	2.3 (230) ± 25%	≥ 30%	300,000
KMT031NGJLHS	3.4 (340) ± 25%	≥ 30%	300,000

	Operating force Newtons (grams)	Tactile Feeling	Operating Life
KMT012NGJLHS	1.0 (100) ± 25%	≥ 10%	1,000,000
KMT022NGJLHS	1.6 (160) ± 25%	≥ 30%	600,000
KMT072NGJLHS	2.3 (230) ± 25%	≥ 30%	600,000

Electrical

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:	≤ 150 mΩ
INSULATION RESISTANCE:	≥ 50 MΩ
BOUNCE TIME:	≤ 6 ms

Environmental

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

Process

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

Packaging

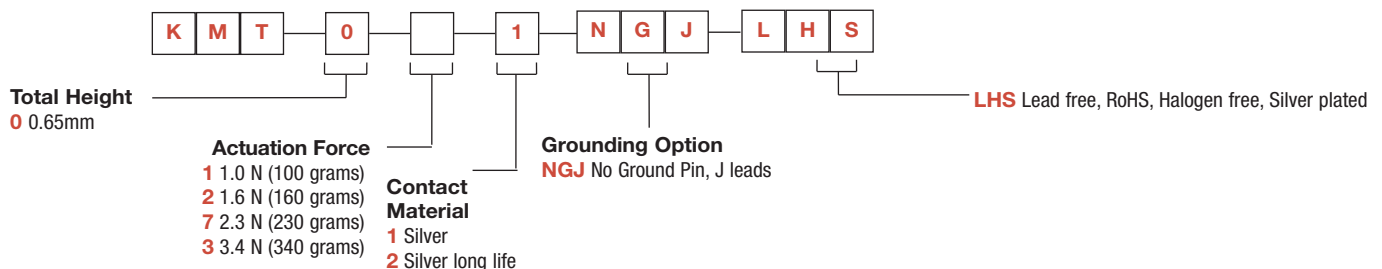
In reels of 5,000 pieces.
Dimensions of reels according to EIA 481B
External diameter 180 mm

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

Tactile Switches

Part Number Description

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



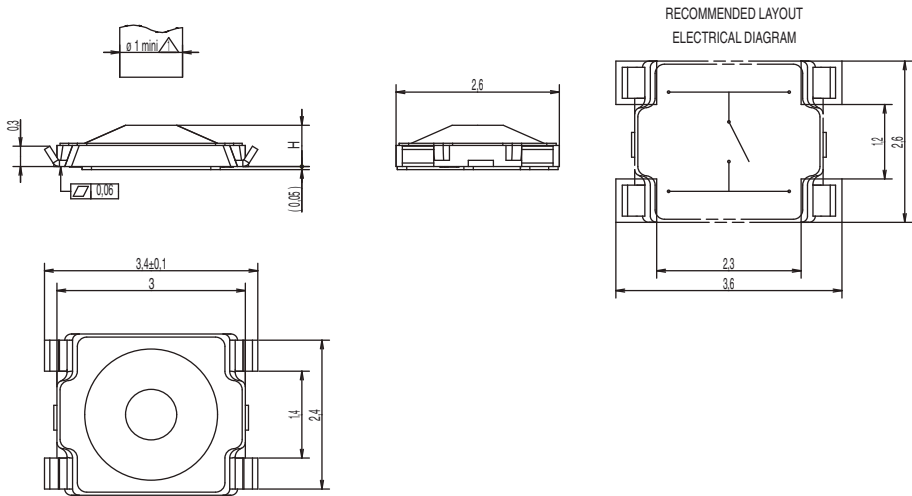
KMT0 Series

Nano-Miniature SMT Top Actuated

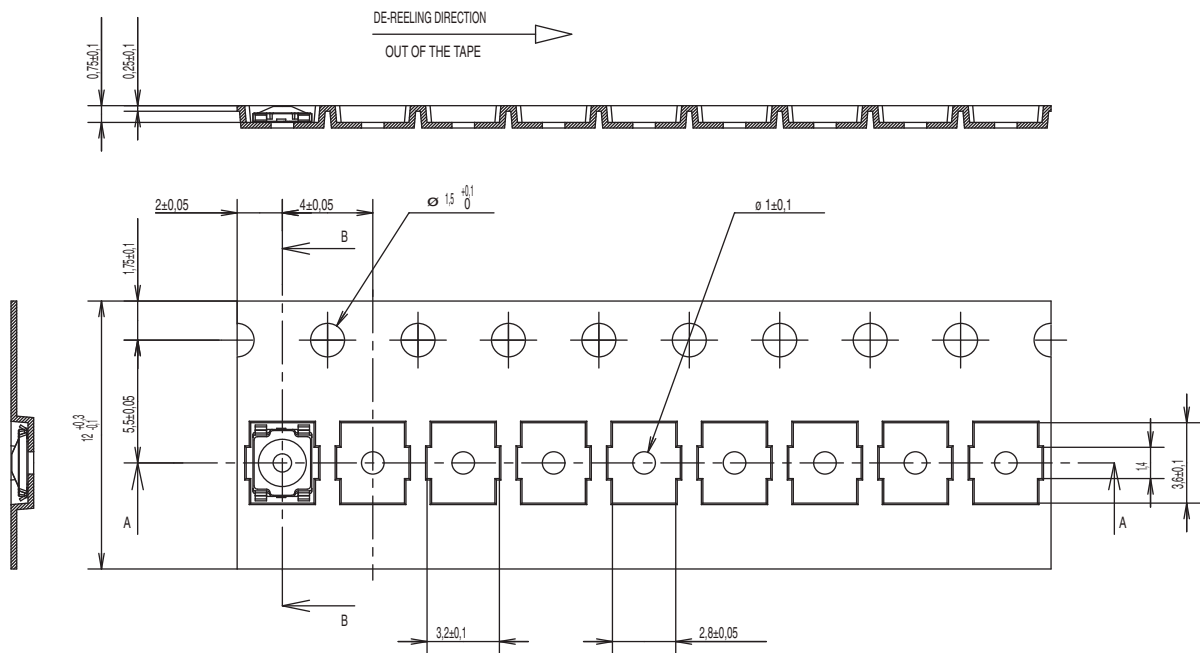
Minimum actuator diameter is 1.0 mm. It is recommended to enlarge this diameter to a full flat surface covering the switch.

Tactile Switches

B



TAPE & REEL



Dimensions are shown: mm
Specifications and dimensions subject to change



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KMR 2 Series Microminiature SMT Top Actuated



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) ± 0.30	200 000	0.20 mm ± 0.1
KMR213 LFG	1.2 (120) ± 0.30	200 000	0.20 mm ± 0.1
KMR221 LFS	2.0 (200) ± 0.50	200 000	0.25 mm ± 0.1
KMR223G LFG	2.0 (200) ± 0.50	200 000	0.25 mm ± 0.1
KMR231 LFS	3.0 (300) ± 0.75	150 000	0.25 mm ± 0.1
KMR233G LFG	3.0 (300) ± 0.75	150 000	0.25 mm ± 0.1
KMR231 ULC LFS	3.0 (300) ± 0.75	150 000	0.25 mm ± 0.1
KMR232 LFS	3.0 (300) ± 0.75	300 000	0.25 mm ± 0.1
KMR232 ULC LFS	3.0 (300) ± 0.75	300 000	0.25 mm ± 0.1
KMR241 LFS	4.0 (400) ± 1.00	100 000	0.30 mm ± 0.1
KMR243G LFG	4.0 (400) ± 1.00	100 000	0.30 mm ± 0.1
KMR241 ULC LFS	4.0 (400) ± 1.00	100 000	0.30 mm ± 0.1
KMR242 LFS	4.0 (400) ± 1.00	200 000	0.30 mm ± 0.1
KMR242 ULC LFS	4.0 (400) ± 1.00	200 000	0.30 mm ± 0.1

TACTILE FEELING: for KMR 2 series: ≥ 30% (1.2N at 20%)

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:	≥ 1 GΩ	
BOUNCE TIME:	≤ 3 ms	

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

Environmental

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

Process

Infrared Reflow Soldering in accordance with IEC61760-1

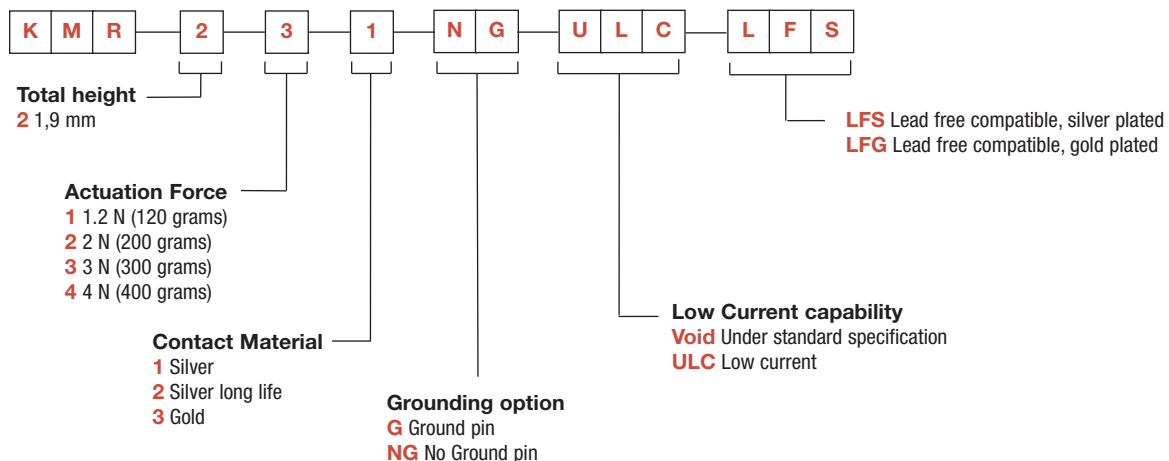
Packaging

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

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

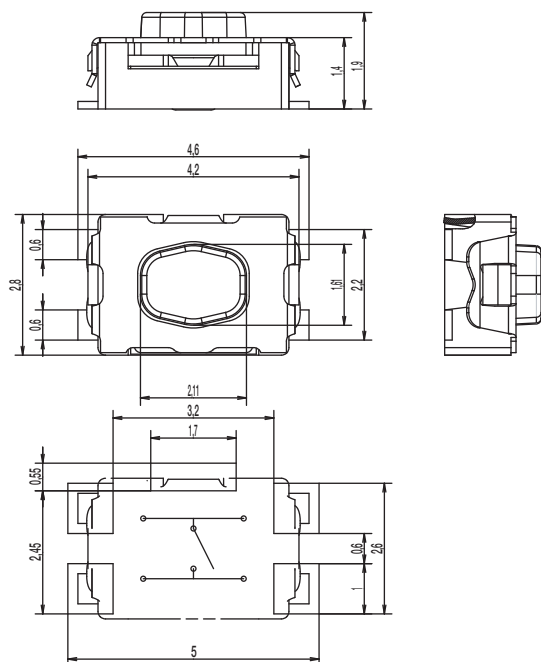
Part Number Description

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



Tactile Switches

PCB layout shown with ground pin option



DE-REELING DIRECTION

OUT OF THE TAPE

SECTION A-A

7° max

4 ± 0,1

2 ± 0,05

∅ 1,5 ± 0,1

1,75

5,5 ± 0,05

A

B

4,95 ± 0,1

A

B

3,03 ± 0,1

∅ 1,5 $\begin{smallmatrix} +0,25 \\ 0 \end{smallmatrix}$

DIRECTION OF FEED



Dimensions are shown: mm
Specifications and dimensions subject to change

KMR 4 Series

Microminiature SMT Top Actuated



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) ± 0.50	200 000	0.25 mm ± 0.1
KMR431 LFS	3.0 (300) ± 0.75	150 000	0.30 mm ± 0.1
KMR431 ULC LFS	3.0 (300) ± 0.75	150 000	0.30 mm ± 0.1
KMR432 LFS	3.0 (300) ± 0.75	300 000	0.30 mm ± 0.1
KMR432 ULC LFS	3.0 (300) ± 0.75	300 000	0.30 mm ± 0.1
KMR441 LFS	4.0 (400) ± 1.00	100 000	0.35 mm ± 0.1
KMR441 ULC LFS	4.0 (400) ± 1.00	100 000	0.35 mm ± 0.1
KMR442 LFS	4.0 (400) ± 1.00	200 000	0.35 mm ± 0.1
KMR442 ULC LFS	4.0 (400) ± 1.00	200 000	0.35 mm ± 0.1

TACTILE FEELING: for KMR 4 series: ≥ 25%

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:	≥ 1 GΩ	
BOUNCE TIME:	≤ 3 ms	

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

Environmental

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

Process

Infrared Reflow Soldering in accordance with IEC61760-1

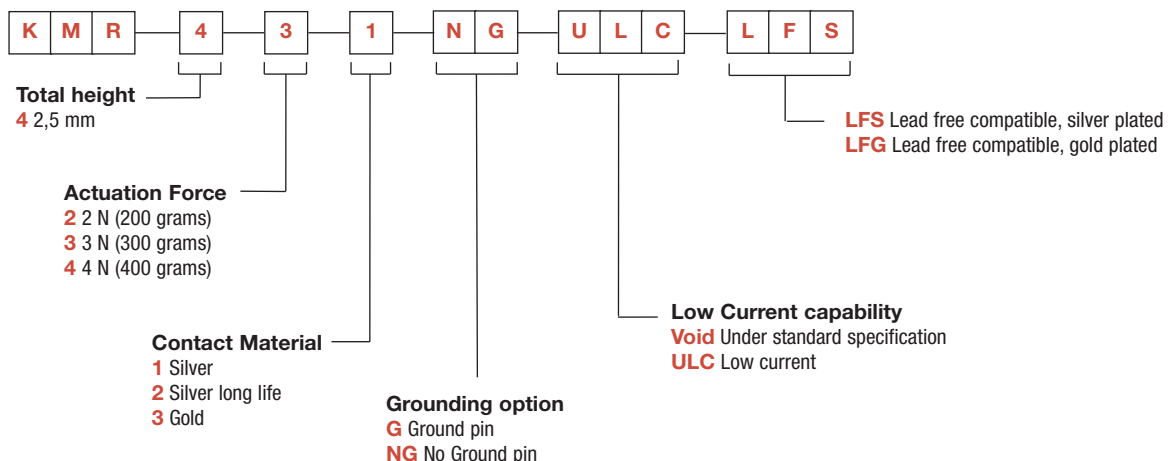
Packaging

In reels of 6,000 pieces for KMR 4
External diameter 330 mm ± 2 mm

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

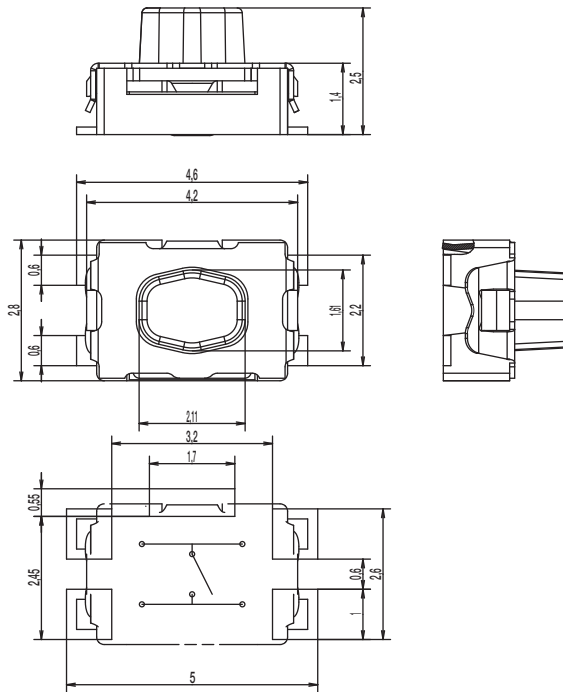
Part Number Description

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

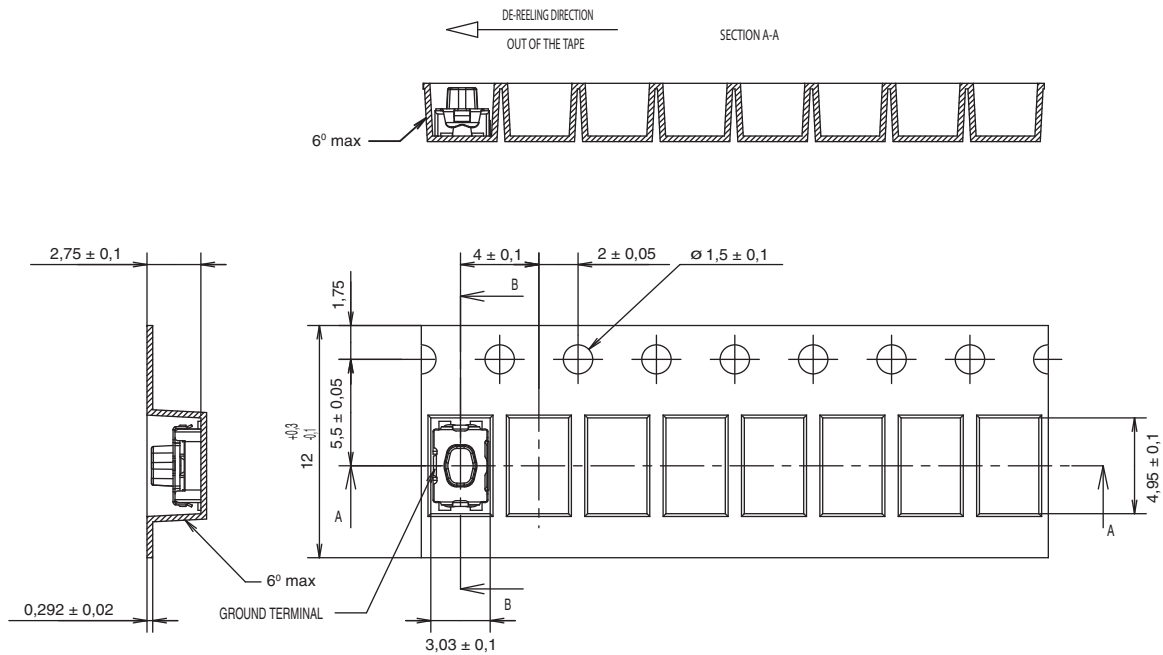


PCB layout shown with ground pin option

B



TAPE & REEL



Dimensions are shown: mm
Specifications and dimensions subject to change

KMS Series Microminiature SMT Side Actuated



Features/Benefits

- Compact size
- Excellent tactile feel
- ESD protection
- Positioning pegs for stability
- RoHS compliant and compatible

Typical Applications

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



B

Tactile Switches

Specification

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

Mechanical

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

Type	Operating force Newtons (grams)	Operating life (operations)	Travel
KMS221G/GP	2N (200) ± 0.5	100 K cycles	0,25 ± 0,15
KMS223G/GP	2N (200) ± 0.5	100 K cycles	0,25 ± 0,15
KMS231G/GP	3N (300) ± 0.6	100 K cycles	0,3 ± 0,15
KMS233G/GP	3N (300) ± 0.6	100 K cycles	0,3 ± 0,15

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

Packaging

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MAXIMUM CURRENT DC:	50 mA	10 mA
MINIMUM CURRENT DC:	1 mA	1 mA
DIELECTRIC STRENGTH: 250 VDC		
CONTACT RESISTANCE: ≤100 mΩ		
INSULATION RESISTANCE: 10 ⁹ Ω		
BOUNCE TIME: ≤ 3 ms		

Environmental

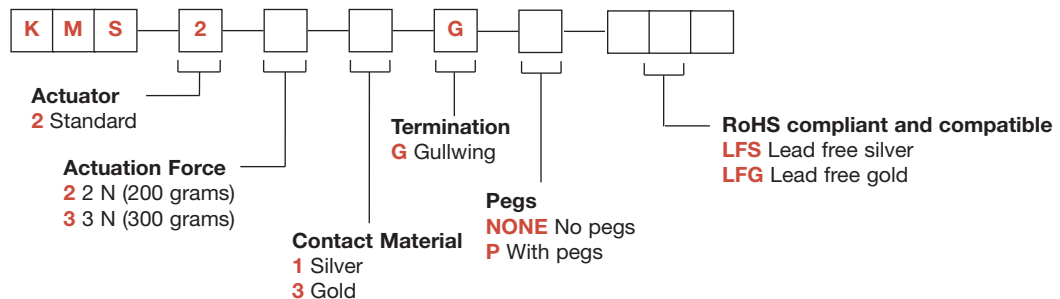
	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 85°C	-40°C to 125°C
STORAGE TEMPERATURE:	-55°C to 85°C	-55°C to 125°C

Process

Infrared reflow soldering in accordance with IEC 61760-1

How To Order

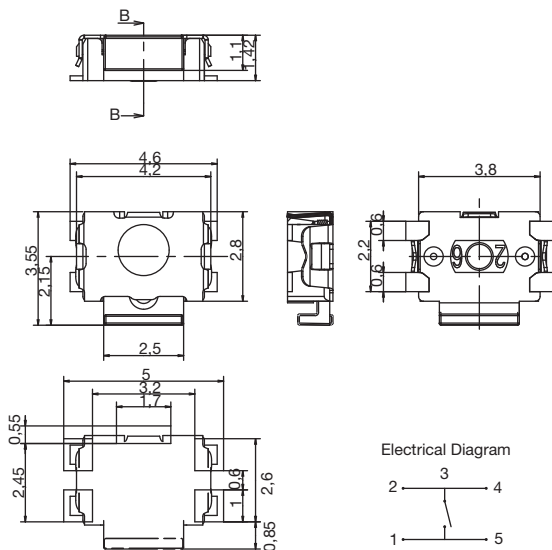
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



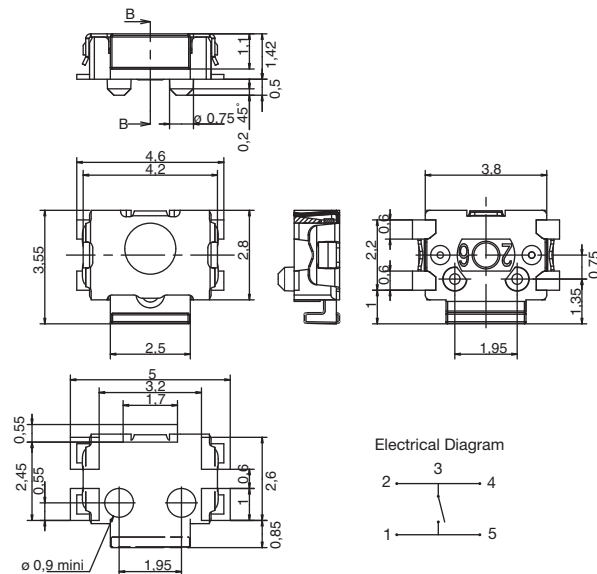
KMS Series

Microminiature SMT Side Actuated

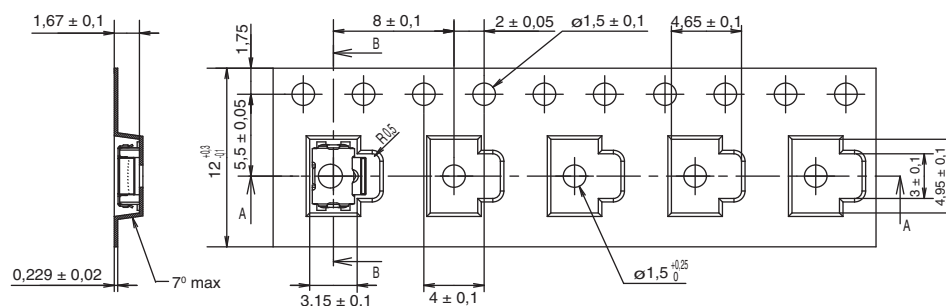
KMS



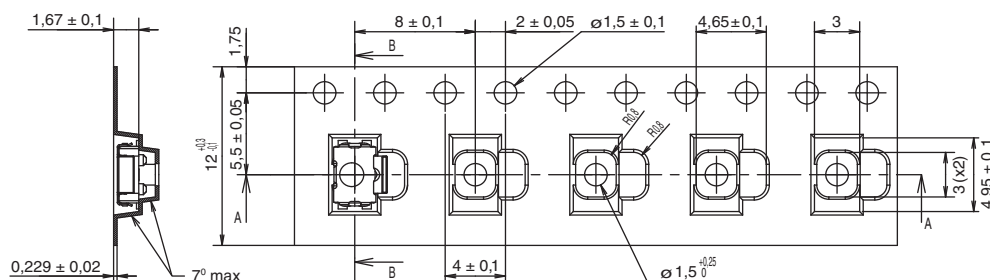
KMS WITH PEGS



TAPE & REEL



WITH PEGS



DIRECTION OF FEED



Dimensions are shown: mm
Specifications and dimensions subject to change

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: 10¹¹ Ω min.
ELECTRICAL TRAVEL: 0,30 ± 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

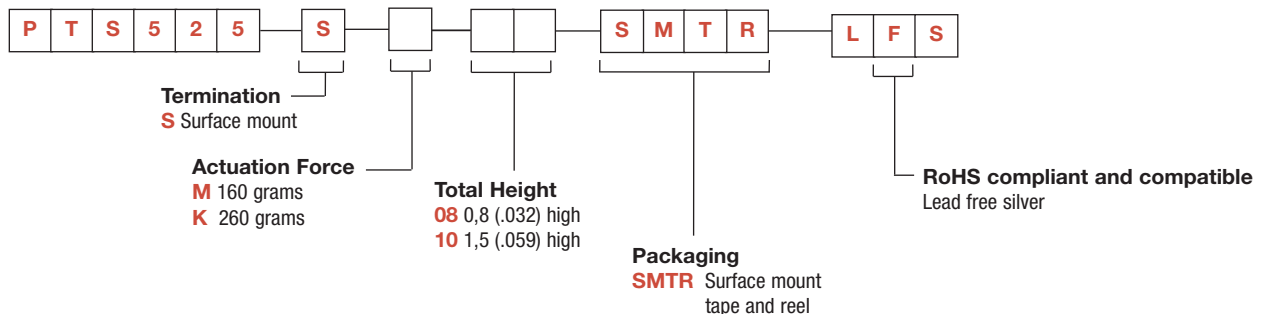
3000 pieces per Tape and Reel

B

Tactile Switches

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.



18 july 12



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

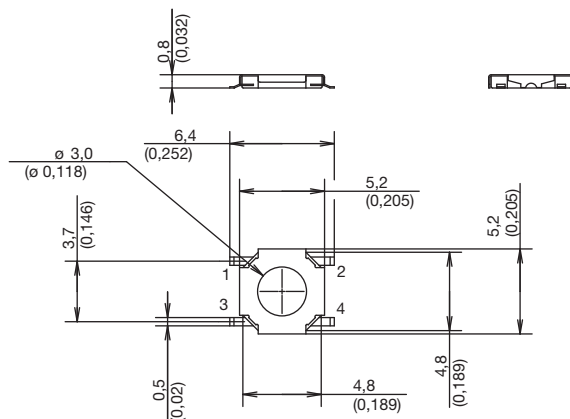
PTS 525 Series Microminiature Tact Switch for SMT

SM08 0,8 MM HIGH

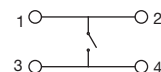


B

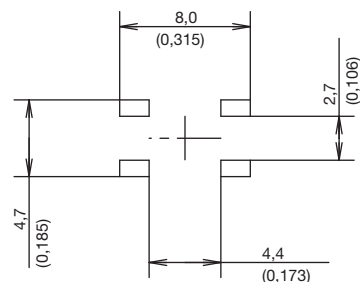
Tactile Switches



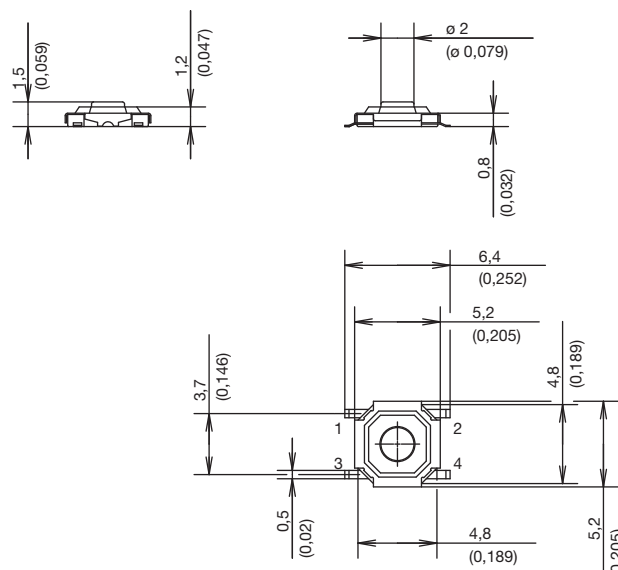
CIRCUIT DIAGRAM



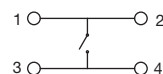
PCB LAYOUT



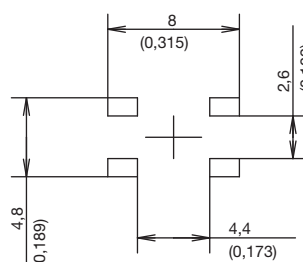
SM10 1,5 MM HIGH



CIRCUIT DIAGRAM

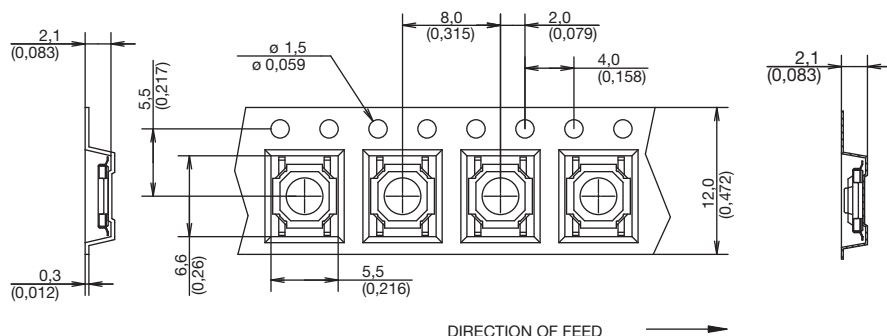


PCB LAYOUT

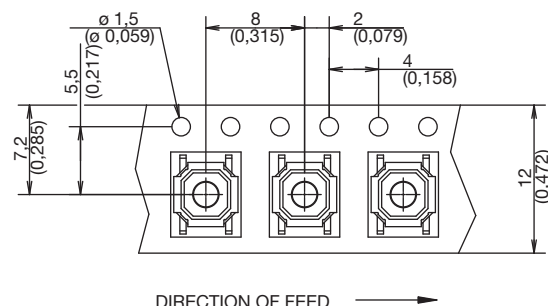


TAPE & REEL

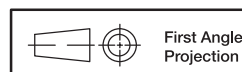
SM08



SM10



DIRECTION OF FEED →



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change



18 july 12

B-16

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NEW!

PTS 530 Series

Ultra Low Profile SMT Top Actuated

Features/Benefits

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

Typical Applications

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

**B****Tactile Switches**

Specifications

FUNCTION: momentary action
 CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
 TERMINALS: Gullwing for SMT
 TRAVEL: 0.2mm - 0.1 /+ 0.15mm

Part Number	Operating Force (gf)	Operating Life (operations)
PTS530 GN055 SMTR LFS	100 ± 30	1,000,000
PTS530 GM055 SMTR LFS	160 ± 30	1,000,000
PTS530 GH055 SMTR LFS	200 ± 30	200,000
PTS530 GK055 SMTR LFS	260 ± 30	200,000
PTS530 GG065 SMTR LFS	400 ± 70	300,000
PTS530 GS065 SMTR LFS	600 + 50/+100	150,000

Electrical

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

Environmental

OPERATING TEMPERATURE: -40°C to 85°C

Process

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

Packaging

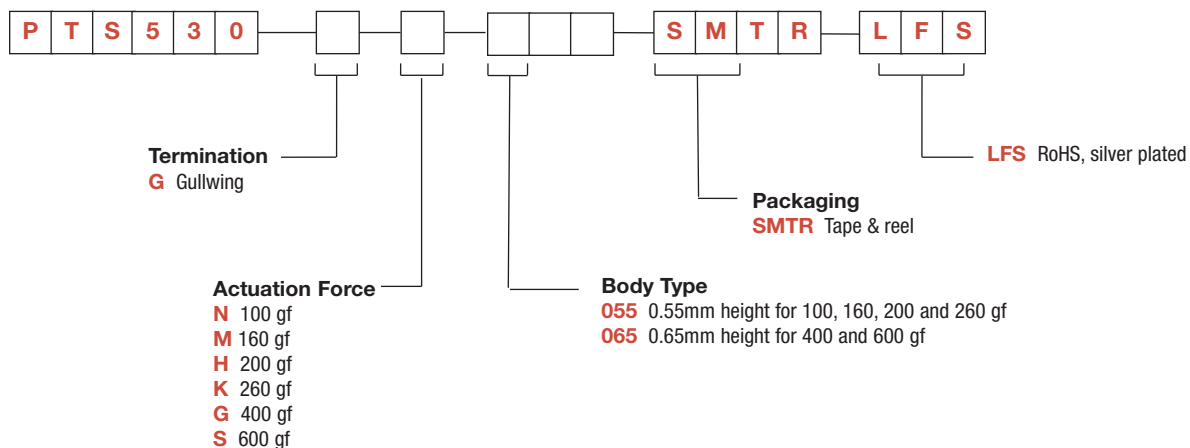
Switches in reels of 7,000 pieces.
 Dimensions of reels according to EIA 481B
 External diameter 330 mm

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

How To Order

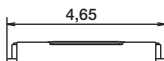
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

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



NEW!

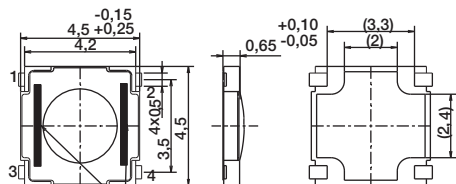
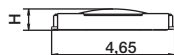
G GULLWING



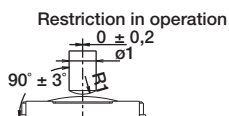
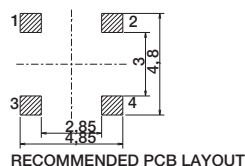
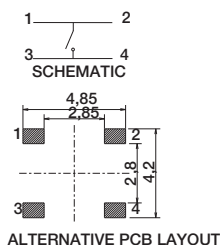
B

Tactile Switches

PART NUMBER	HEIGHT	+0.1 -0.05
PTS 530 GS 065 SMTR LFS	0.72	
PTS 530 GG 065 SMTR LFS	0.68	



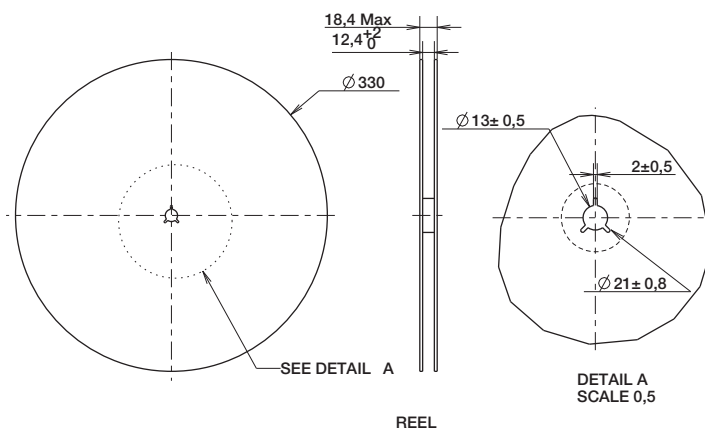
- Force symbol lines for 600 gf
- No symbol line for 400 gf



N: 100 gf	
M: 160 gf	No Lines
H: 200 gf	
K: 260 gf	

G: 400 gf	No Lines
S: 600 gf	

Technical drawing of a carrier tape for a 12-pin package. The drawing shows a side view of the tape with dimensions. The total width is 12 ± 0.3 mm. The height of the carrier tape is 9.3 mm. The distance between the center of the first and second pins is 4 mm. The distance between the center of the second and third pins is 2 mm. The diameter of the pins is Ø 1.5 mm. The distance from the center of the third pin to the right edge of the tape is 1.75 mm. The distance from the center of the third pin to the right edge of the carrier tape is 5.5 mm. The distance between the center of the third and fourth pins is 8 mm. The drawing also shows a top view of the carrier tape with a cover tape and a carrier tape.



NEW!

PTS 810 Series Microminiature SMT Top Actuated

Features/Benefits

- 4.2 x 3.2 mm footprint
- 2.5 mm thickness
- High number of cycles
- Color coded actuators

Typical Applications

- Control panels
- Nomad devices
- Remote controls
- Keyless entry system



Specifications

FUNCTION: momentary action

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

TERMINALS: J type for SMT

TRAVEL: For 160 & 260 gf: 0.15mm ± 0.1mm

For 400 & 600 gf: 0.20mm ± 0.1mm

	Operating Force (gf)	Operating Life (operations)
PTS810 SJM 250 SMTR LFS	160 ± 50	150,000
PTS810 SJK 250 SMTR LFS	260 ± 70	50,000
PTS810 SJG 250 SMTR LFS	400 ± 100	100,000
PTS810 SJS 250 SMTR LFS	600 ± 150	150,000

Packaging

Switches in reels of 2,900 pieces.

Dimensions of reels according to EIA 481B

External diameter 330 mm

Electrical

MAXIMUM VOLTAGE: 16 VDC

MAXIMUM CURRENT DC: 50 mA

DIELECTRIC STRENGTH: 250 VA C (1mn)

CONTACT RESISTANCE: ≤ 500 mΩ

INSULATION RESISTANCE: ≥ 100 MΩ

BOUNCE TIME: ≤ 10 ms

Environmental

OPERATING TEMPERATURE: -40°C to 85°C

Process

SOLDERING: This component is suited to the following methods:

Infrared Reflow Soldering in accordance with IEC61760-1

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

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

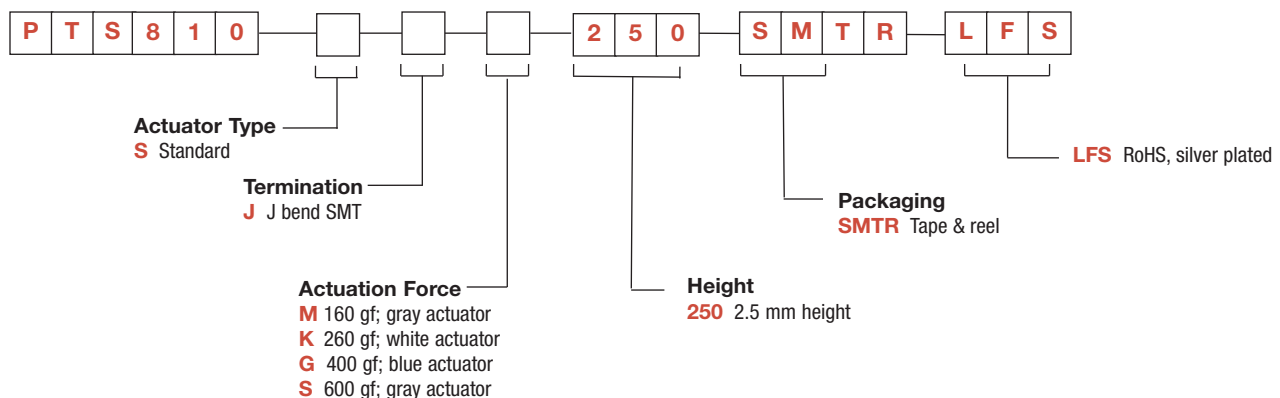
B

Tactile Switches

How To Order

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

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



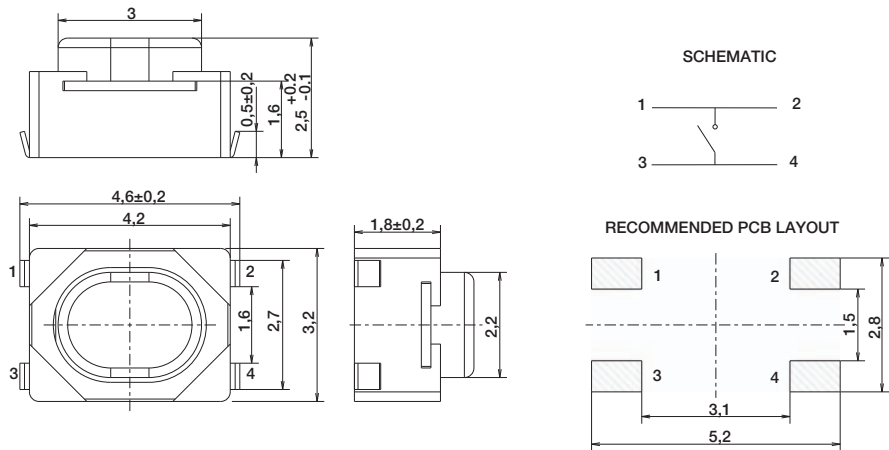
PTS 810 Series Microminiature SMT Top Actuated

NEW!

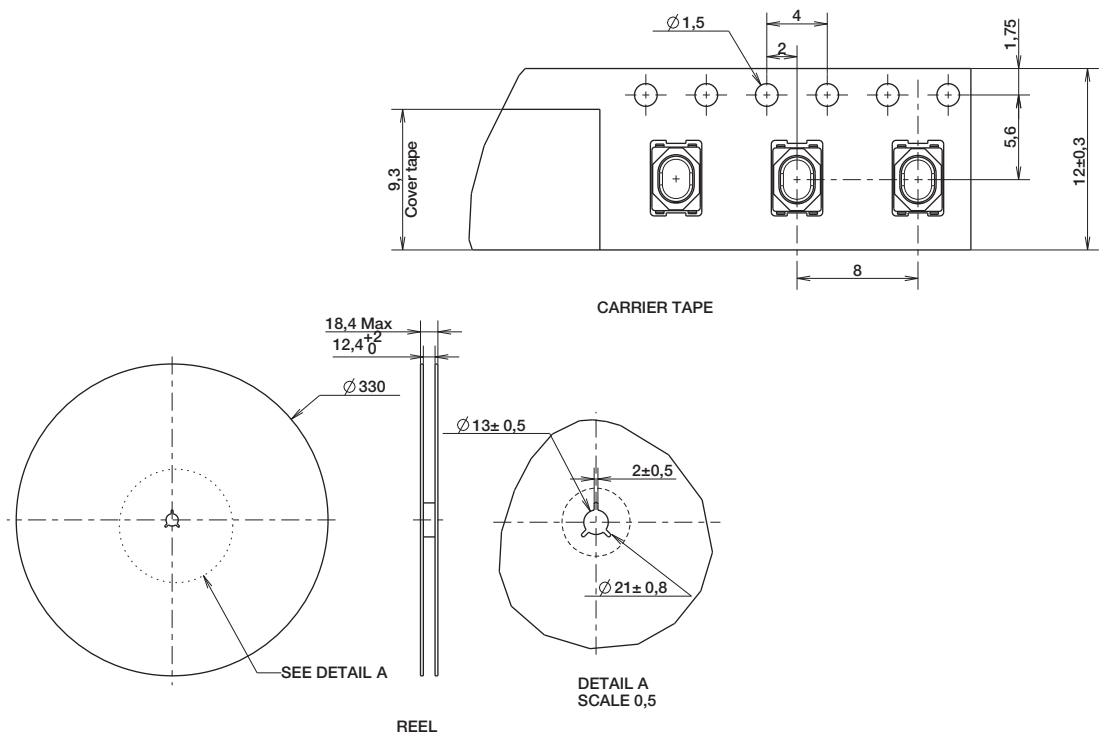
PTS810

Tactile Switches

B



TAPE & REEL



NEW!

PTS 820 Series Microminiature SMT Top Actuated

Features/Benefits

- 3.9 x 2.9 mm footprint
- Three different heights
- High number of cycles
- Reduced footprint

Typical Applications

- Control panels
- Nomad devices
- Remote controls
- Keyless entry system



Specifications

FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST N.O.
TERMINALS: J type for SMT
TRAVEL: 0.2mm + 0.1mm / -0.05 mm

	Operating Force (gf)	Life Cycles	Height mm	Pegs
PTS820 J25M SMTR LFS	160 ± 50	200,000	2.5	No
PTS820 J25K SMTR LFS	250 ± 50	100,000	2.5	No
PTS820 J25MP SMTR LFS	160 ± 50	200,000	2.5	Yes
PTS820 J25KP SMTR LFS	250 ± 50	100,000	2.5	Yes
PTS820 J20M SMTR LFS	160 ± 50	200,000	2.0	No
PTS820 J20K SMTR LFS	250 ± 50	100,000	2.0	No
PTS820 J20MP SMTR LFS	160 ± 50	200,000	2.0	Yes
PTS820 J20KP SMTR LFS	250 ± 50	100,000	2.0	Yes
PTS820 J15M SMTR LFS	160 ± 50	200,000	1.5	No
PTS820 J15K SMTR LFS	250 ± 50	100,000	1.5	No
PTS820 J15MP SMTR LFS	160 ± 50	200,000	1.5	Yes
PTS820 J15KP SMTR LFS	250 ± 50	100,000	1.5	Yes

Electrical

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

Environmental

OPERATING TEMPERATURE: -40°C to 85°C

Process

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

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

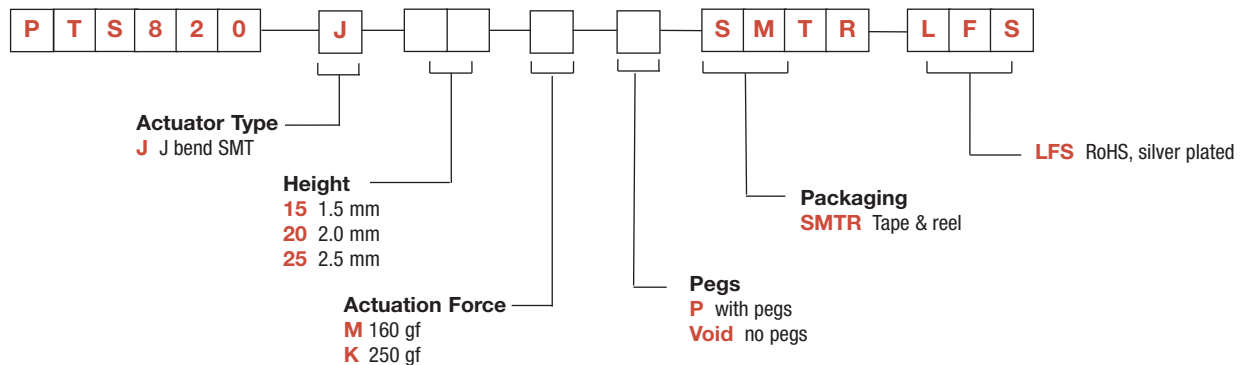
Packaging

Switches in reels of 2,500 pieces for 1.5 and 2.0 mm height
Switches in reels of 2,300 pieces for 2.5 mm height
Dimensions of reels according to EIA 481B
External diameter 330 mm

How To Order

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



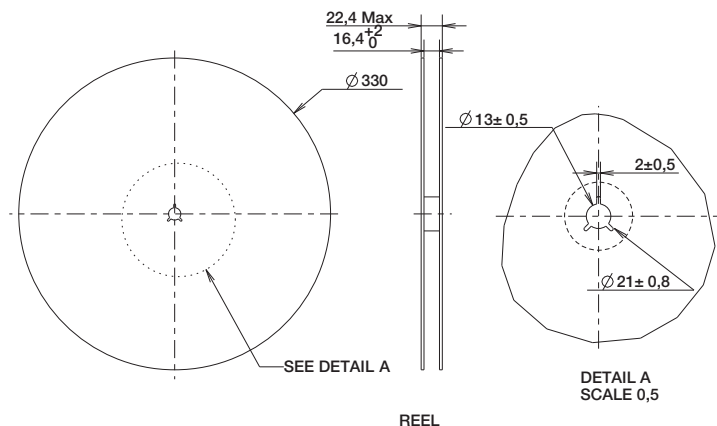
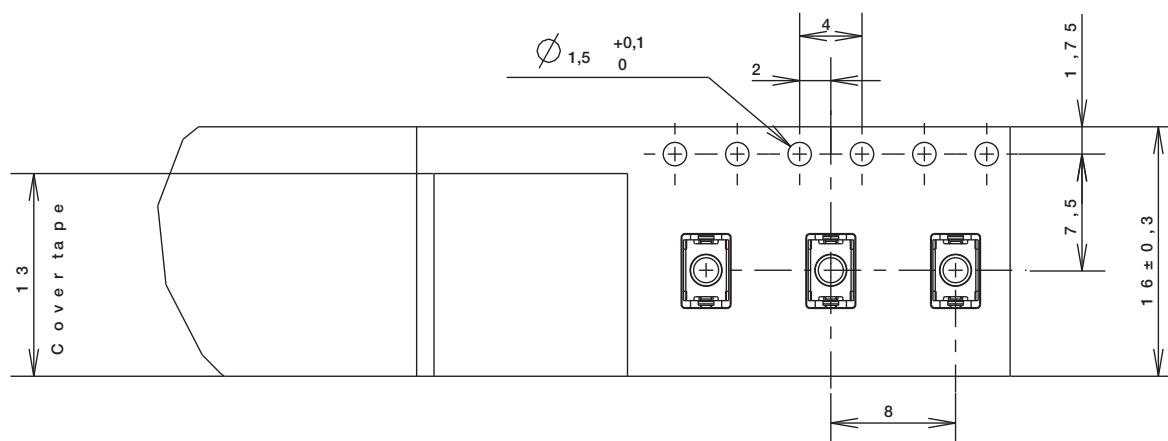
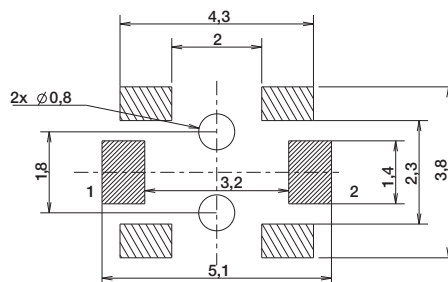
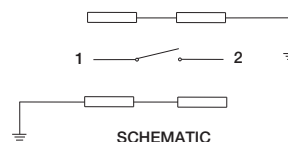
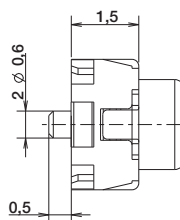
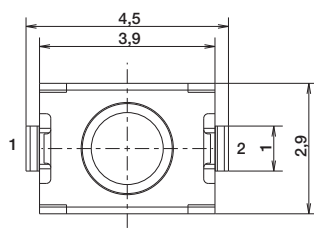
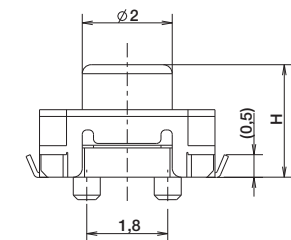
PTS 820 Series Microminiature SMT Top Actuated

NEW!

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

Tactile Switches

B



4 mar 13

B-22

Dimensions are shown: mm
Specifications and dimensions subject to change

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NEW!

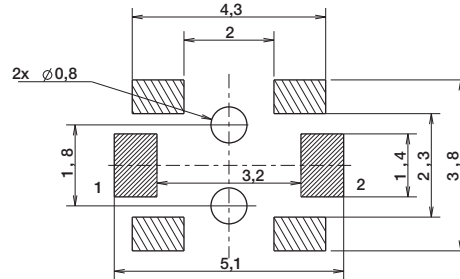
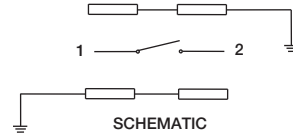
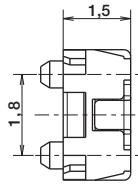
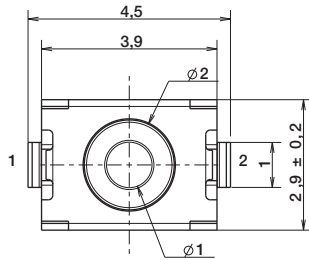
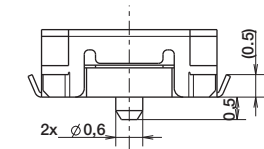
PTS 820 Series Microminiature SMT Top Actuated

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

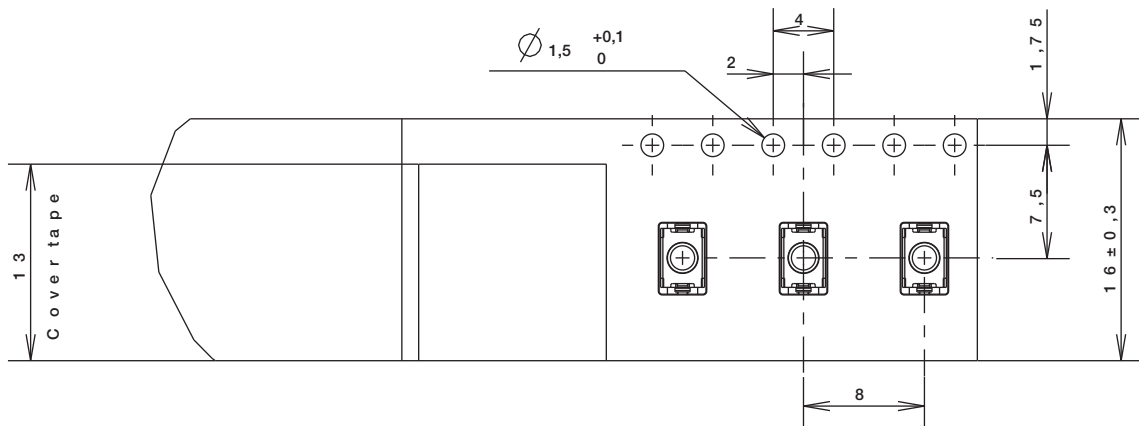


B

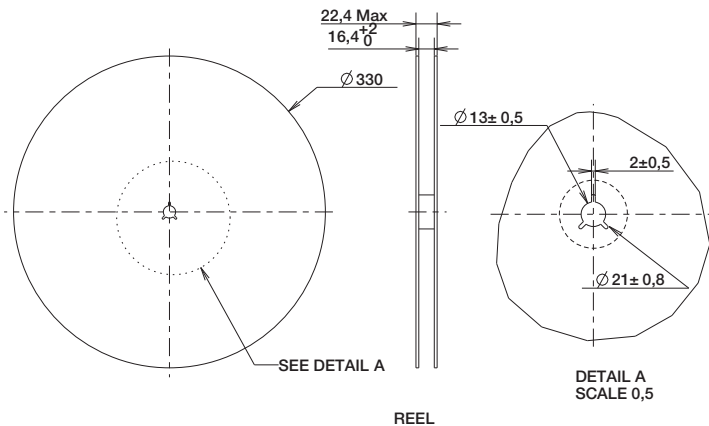
Tactile Switches



RECOMMENDED PCB LAYOUT



CARRIER TAPE



REEL

PTS 840 Series Microminiature SMT Side Actuated

NEW!

Features/Benefits

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

Typical Applications

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



Specifications

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

Type	Operating Force (gf)	SMT Leads	Pegs
without ground pin			
PTS840 GM SMTR LFS	160 -40/+70	G leads	No
PTS840 GK SMTR LFS	220 -70/+80	G leads	No
PTS840 PM SMTR LFS	160 -40/+70	P leads	No
PTS840 PK SMTR LFS	220 -70/+80	P leads	No
PTS840 GMP SMTR LFS	160 -40/+70	G leads	Yes
PTS840 GKP SMTR LFS	220 -70/+80	G leads	Yes
with ground pin			
PTS840 ESDGM SMTR LFS	160 -40/+70	G leads	No
PTS840 ESDGK SMTR LFS	220 -70/+80	G leads	No
PTS840 ESDPM SMTR LFS	160 -40/+70	P leads	No
PTS840 ESDPK SMTR LFS	220 -70/+80	P leads	No
PTS840 ESDGMP SMTR LFS	160 -40/+70	G leads	Yes
PTS840 ESDGKP SMTR LFS	220 -70/+80	G leads	Yes

Electrical

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

Environmental

OPERATING TEMPERATURE: -40°C to 85°C

Process

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

Packaging

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

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

How To Order

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

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

P	T	S	8	4	0							S	M	T	R		L	F	S
ESD Pin VOID No ESD Yes						SMT Style G Gullwing P Front PIP		Actuation Force M 160 gf K 220 gf		Pegs* P with pegs Void no pegs		Packaging SMTR Tape & reel		LFS RoHS, silver plated					

* Peg option not valid for P SMT leads type

Design Recommendations

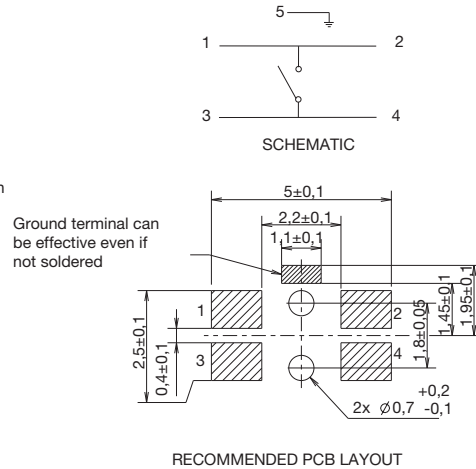
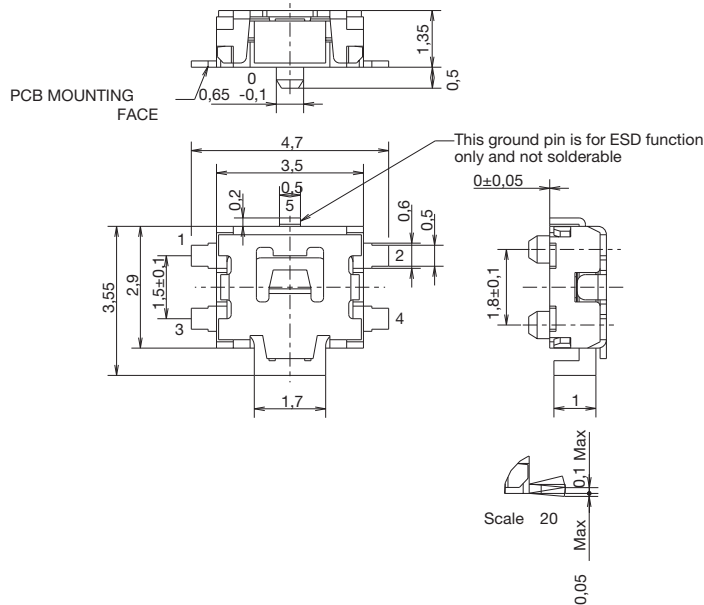
- "P" leads are recommended for applications where shear resistance is of importance
- When a precise alignment between application button and the switch is requested, version with pegs are the right choice to limit the possible floating of the switch during solderability.



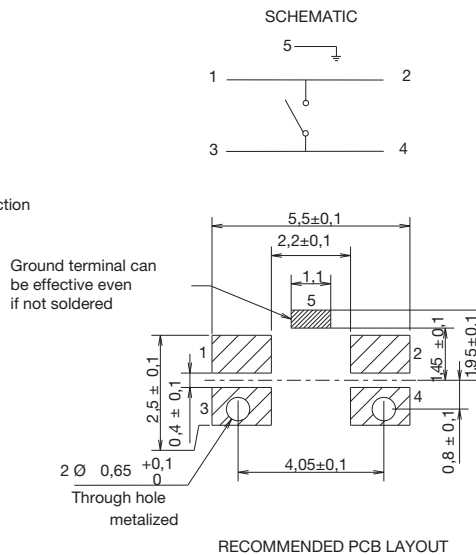
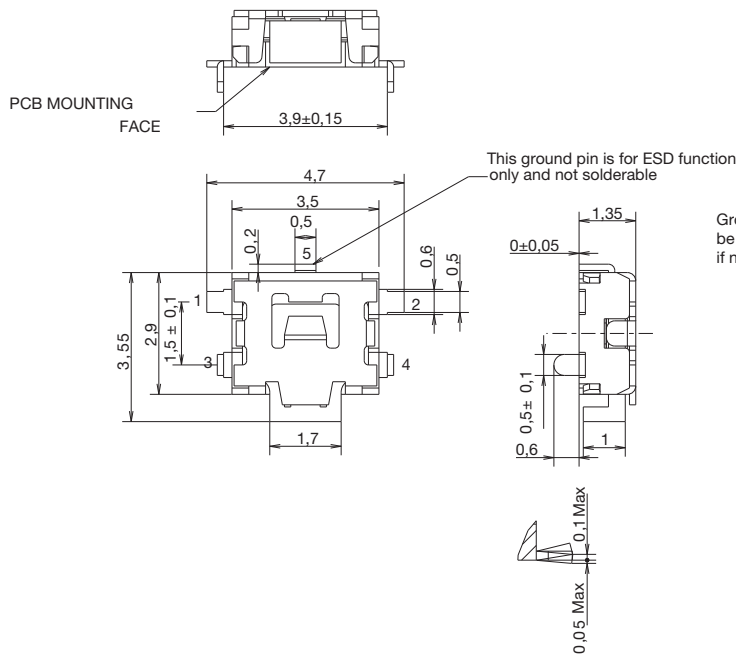
NEW!

PTS 840 Series Microminiature SMT Side Actuated

Standard G SMT Leads with ESD and Peg options



P SMT Leads with ESD option



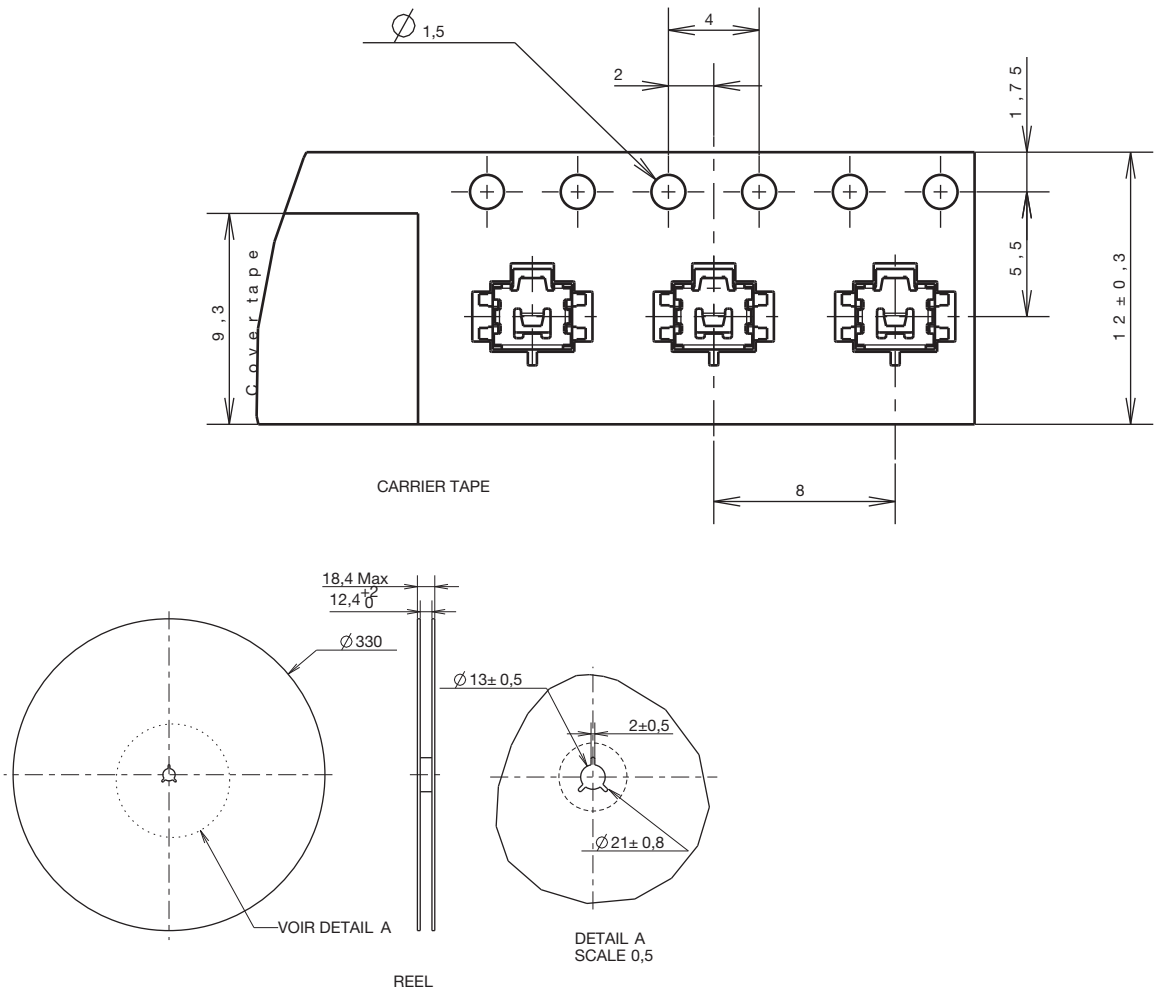
PTS 840 Series
Microminiature SMT Side Actuated

NEW!

TAPE & REEL

Tactile Switches

B



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



B

Tactile Switches

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	1,5 <Fa< 2,2	100,000	0,25 ± 0,15
KSR221/223	1,9 <Fa< 2,6	100,000	0,3 ± 0,15
KSR231/233	2,25 <Fa< 3,75	100,000	0,35 ± 0,15
KSR251/253	3,37 <Fa< 5,6	100,000	0,5 ± 0,15
KSR223GNC	1,5 <Fa< 2,5	30,000	0,3 ± 0,15

Overload: 20 Newtons

Detect switch versions are available. Please see Detect chapter KSR2D/M series.

Packaging

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

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	10 mA
MINIMUM CURRENT DC:	1 mA	1 mA

CONTACT RESISTANCE: ≤ 100 mΩ

INSULATION RESISTANCE: (100 V): 1G Ω (between terminals)

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 lead free reflow soldering process.

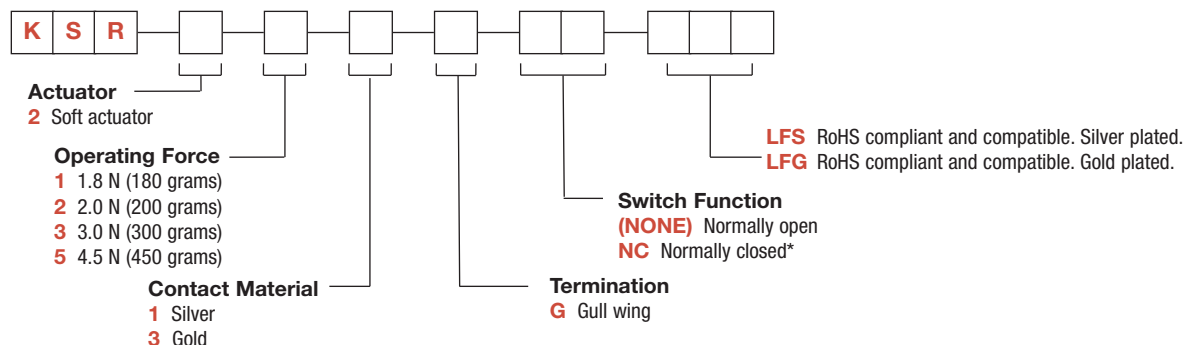
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

How To Order

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

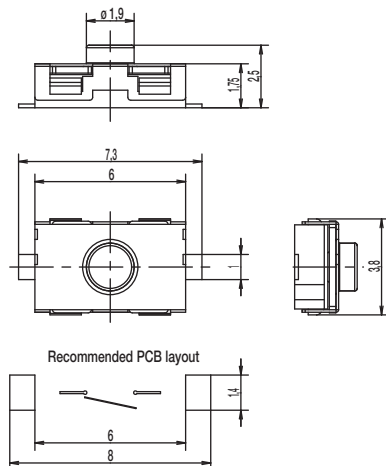
However, please note that all the combinations of these options are not feasible.

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

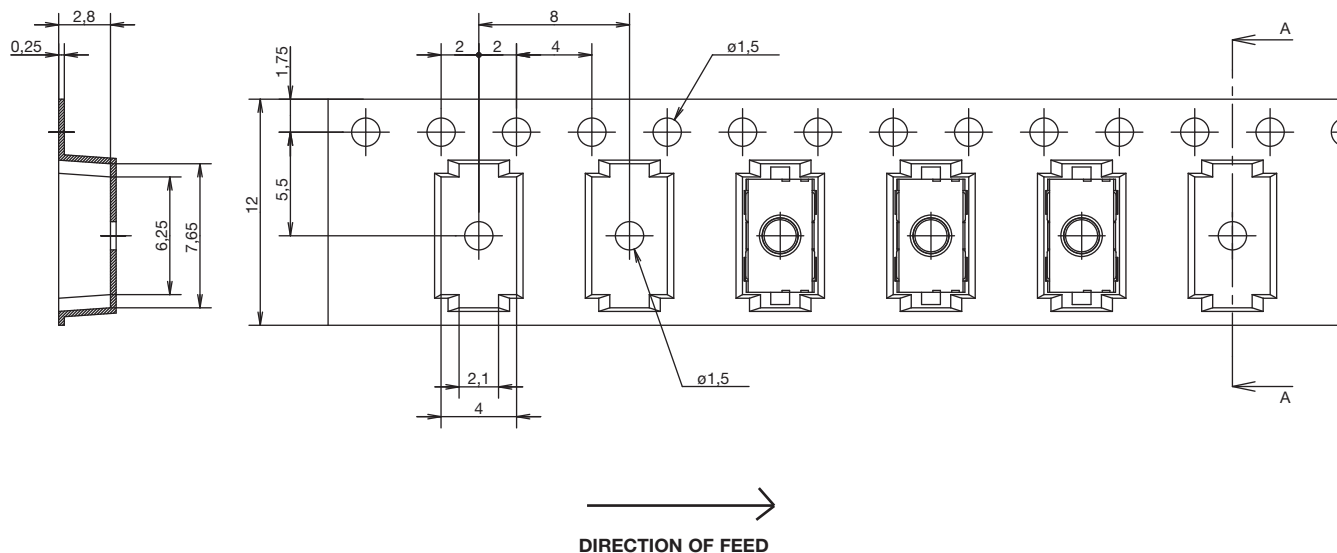


*Available on KSR223G only.

B



TAPE & REEL



Dimensions are shown: mm
Specifications and dimensions subject to change

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



B

Tactile Switches

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

OVERLOAD: 20 Newtons

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	10 mA
MINIMUM CURRENT DC:	1 mA	1 mA

CONTACT RESISTANCE: ≤ 100 m Ω
INSULATION RESISTANCE (100 V): 1 G Ω (between terminals)
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 lead free reflow soldering process.

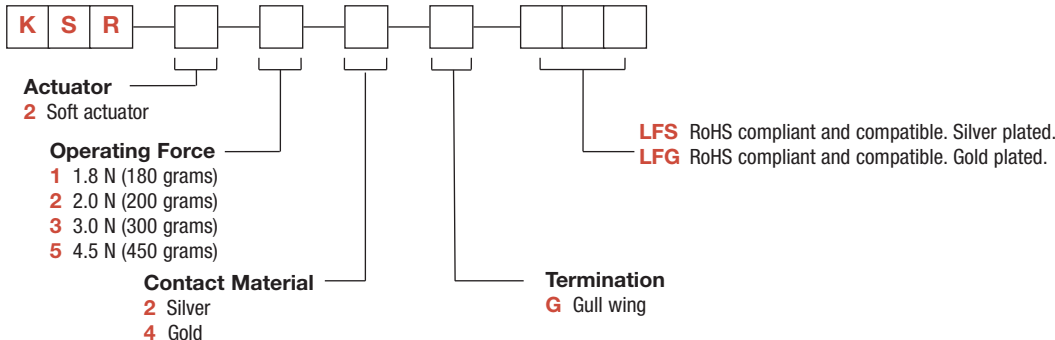
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

How To Order

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

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

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



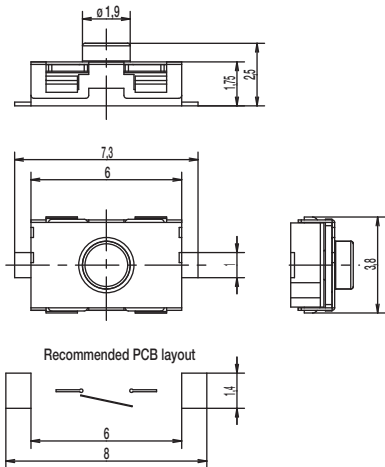
9 aug 12

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

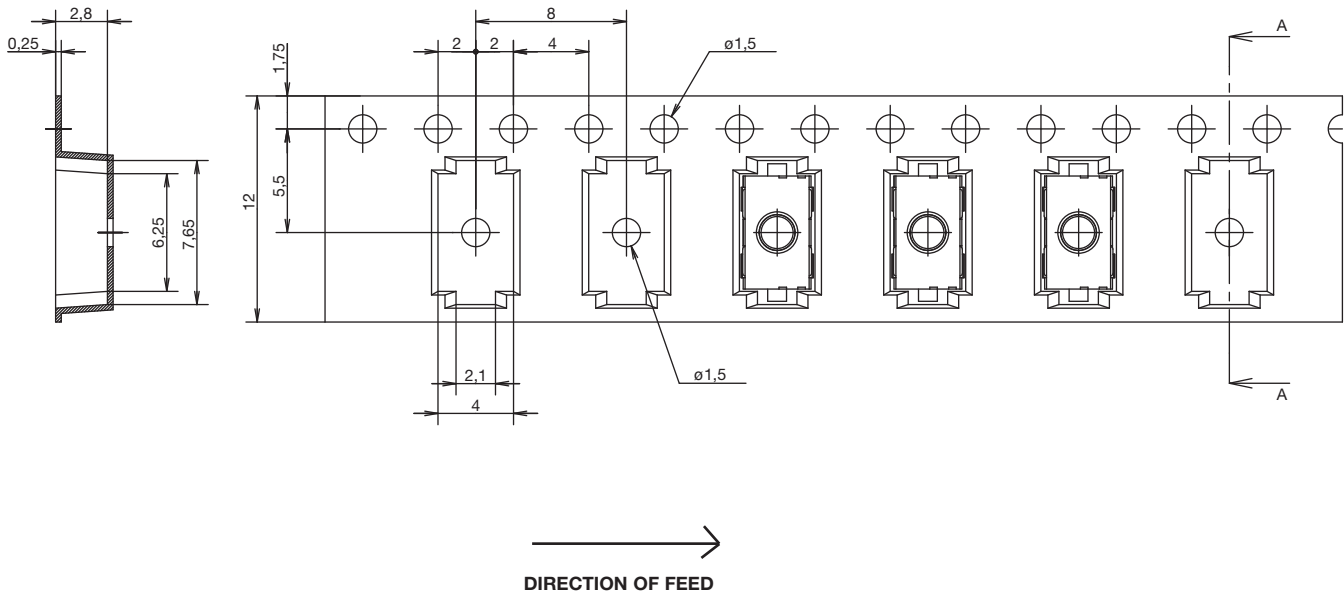
KSR

B

Tactile Switches



TAPE & REEL



KSS Series Subminiature SMT Side Actuated



Features/Benefits

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

Typical Applications

- Cellular phone
- Industrial electronics
- Health diagnostic electronics



B

Tactile Switches

Specification

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

Mechanical

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

Type	Operating force Newtons (grams)	Operating life (operations)	Travel (mm)
KSS221G	2.0 (200) ± 0.5	100,000	0,3 ± 0,15
KSS231G	2.5 (250) ± 0.5	100,000	0,3 ± 0,10
KSS241G	4.0 (400) ± 1.0	100,000	0,3 ± 0,15

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
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA	1 mA
DIELECTRIC STRENGTH:	≥ 250 VDC	
CONTACT RESISTANCE:	< 100 mΩ	
INSULATION RESISTANCE (100 VDC):	≥ 10 ⁹ Ω	
BOUNCE TIME:	< 3 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

Infrared reflow soldering in accordance with IEC 61760-1

Packaging

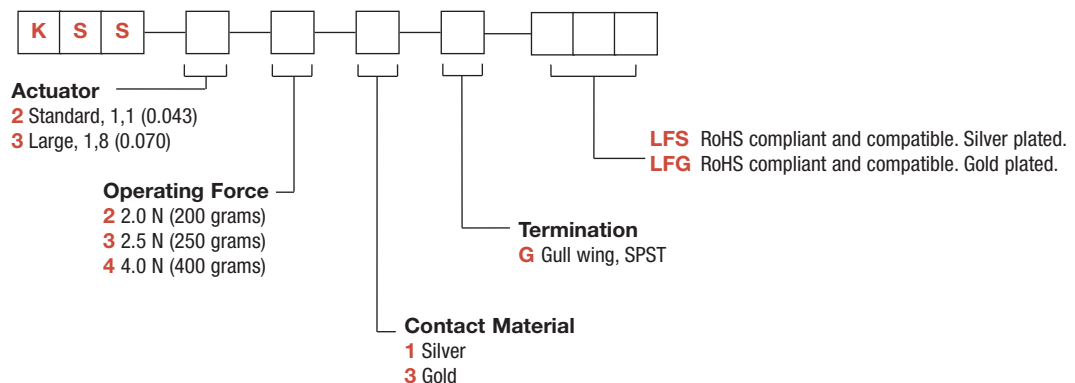
Tape and reels in reels of 3,000 pieces.
External diameter 330mm ± 2mm.

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.



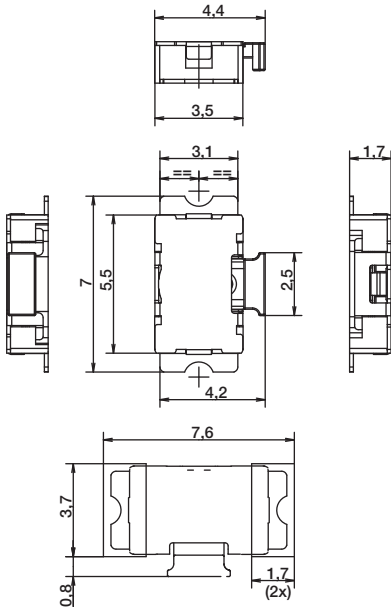
KSS Series

Subminiature SMT Side Actuated

KSS

B

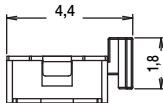
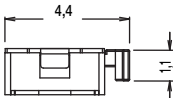
Tactile Switches



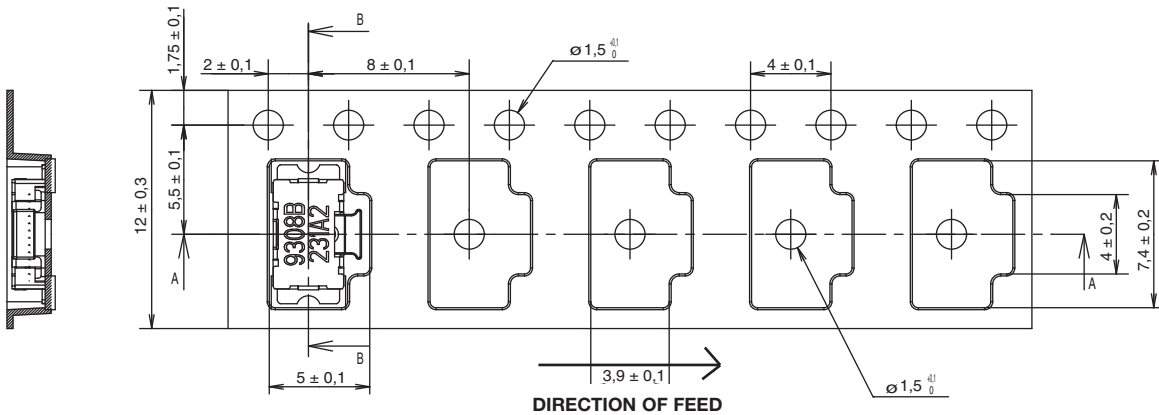
ACTUATOR

2 STANDARD, 1,1 (0.043)

3 LARGE, 1,8 (0.070)



TAPE & REEL



9 aug 12

B-32



Dimensions are shown: mm
Specifications and dimensions subject to change

www.ck-components.com

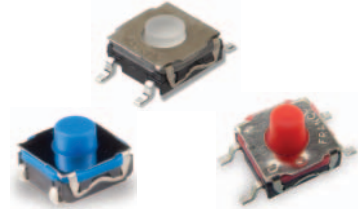
KSC Series Sealed Tact Switch for SMT

Features/Benefits

- Positive tactile feeling
- 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	4.1 / 6.9	100,000	0.35 ± 0.15
KSC201J	0.9 / 2.0	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	4.0 / 6.0	100,000	0.25 +0.3 / 0
KSC401J 50SH	0.82 / 1.38	5,000,000	0.3 ± 0.15
KSC411J 70SH	1.05 / 1.75	1,000,000	0.35 ± 0.20
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
KSC721 J	1.7 / 2.8	300,000	0.3 ± 0.15
KSC741J	2.9 / 4.9	300,000	0.4 ± 0.20
KSC821JLFS	2.4 / 3.9	300,000	0.65 ± 0.2

A detect switch version is available KSC4D1J and KSC4D1G. Please see Detect chapter.

For other versions, please refer to KSC5, KSC9, KSC4V and KSC-ST datasheets.

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

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

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. Dimensions of reels according to EIA RS481 or IEC 60286-3. External diameter 330 mm ± 2 mm.

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

Other versions in terms of force, termination length and corrosion protection available. Please contact your sales representative.

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

How To Order

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

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

Actuator 1 Without, H=2,5 mm 2 Soft, H=3,5 mm 3 Hard, H=3,5 mm 4 Soft, H=5,2 mm 6 Hard, H=7,7 mm 7 Soft, H=4,3 mm**** 8 Hard, H=4,9 mm	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 / 4 N * (300/400 grams) 5 5.5 N (550 grams) 6 4.5 N / 8.0 (450/800 grams)	Contact Material Operating life 1 Silver 2 Silver long life 3 Gold 4 Gold long life	Termination J J bend G Gull wing	Rubber Hardness Indication**** 50 Shore** 70 Shore***	LFS Lead free compatible, silver plated. LFG Lead free compatible, gold plated.
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* See Mechanical chart above to confirm specifications
 ** Applies to KSC401J50SH only
 *** Applies to KSC 411J70SH, KSC421J70SH, KSC441J70SH
 **** KSC7 offered with blue actuator as standard
 ***** Other actuator materials are available, please refer to KSC-ST datasheet

KSC Series

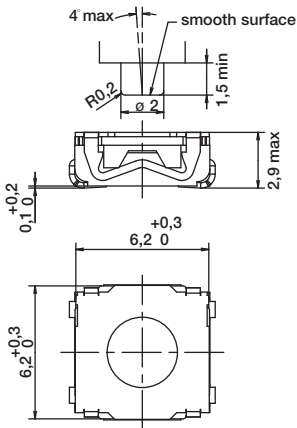
Sealed Tact Switch for SMT

Tactile Switches

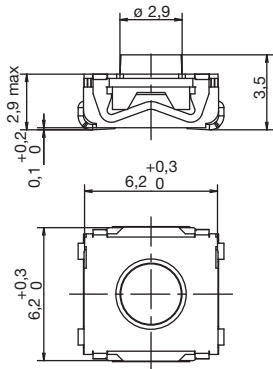
B

ACTUATOR

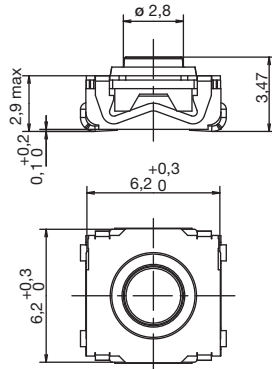
KSC1 WITHOUT, 2,5 mm HIGH



KSC2 SOFT, 3,5 mm HIGH

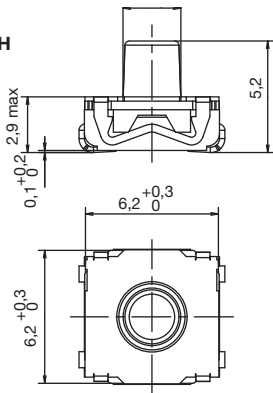


KSC3 HARD, 3,5 mm HIGH

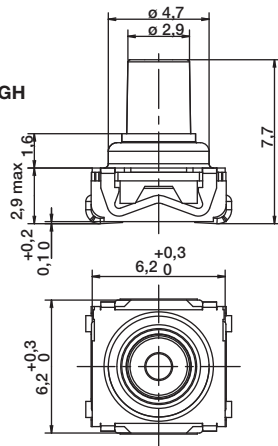


KSC4 SOFT, 5,2 mm HIGH

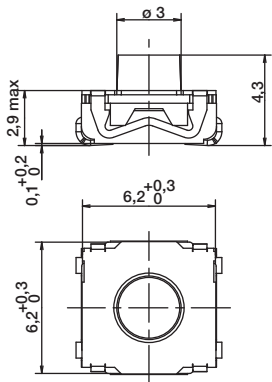
NOTE: Soft material available are silicon 50 SH / 70 SH and EPDM, please refer to KSC-ST datasheet.



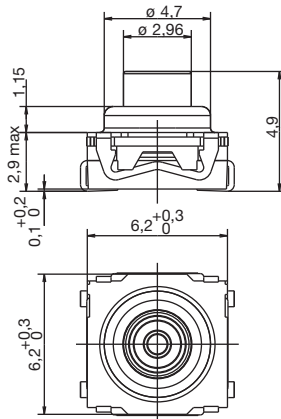
KSC6 HARD, 7,7 mm HIGH



KSC7 SOFT, 4,3 mm HIGH, BLUE ACTUATOR



KSC8 HARD, 4,9 mm HIGH



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

KSC Series Sealed Tact Switch for SMT

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 / 4 N (300/400 grams)
5	5.5 N (550 grams)
6	4.5 N / 8 N (450/800 grams)

CONTACT MATERIAL



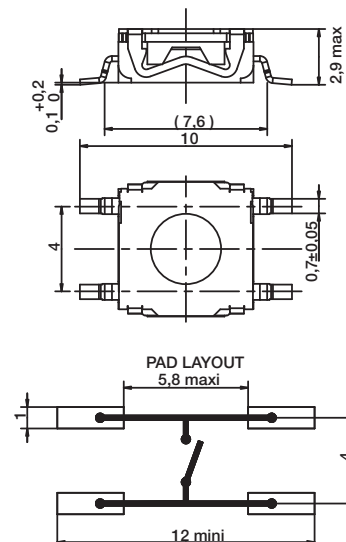
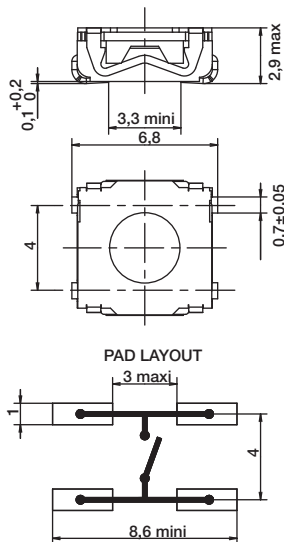
OPTION CODE	MATERIAL
1	SILVER
2	SILVER LONG LIFE
3	GOLD
4	GOLD LONG LIFE

TERMINATION



J J BEND

G GULLWING

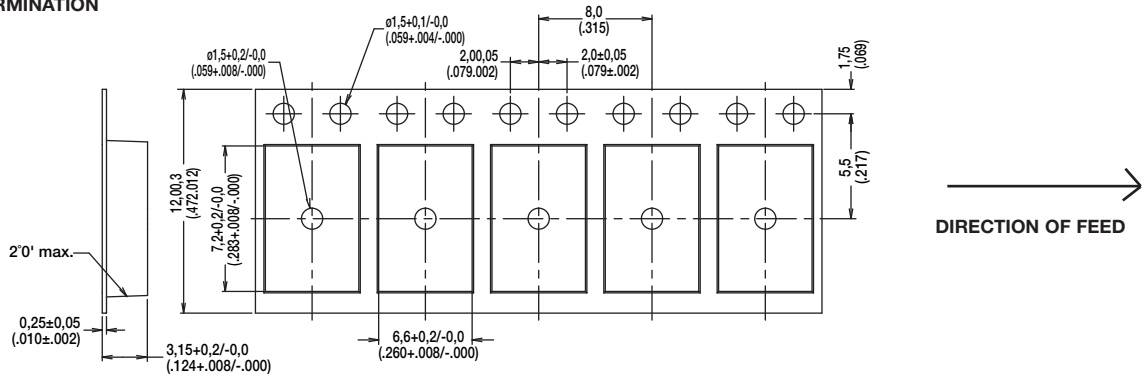


KSC Series

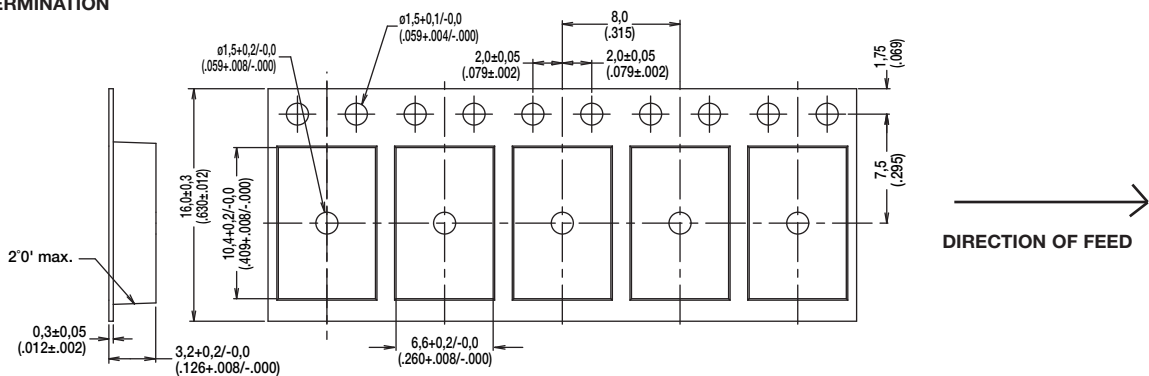
Sealed Tact Switch for SMT

TAPE & REEL

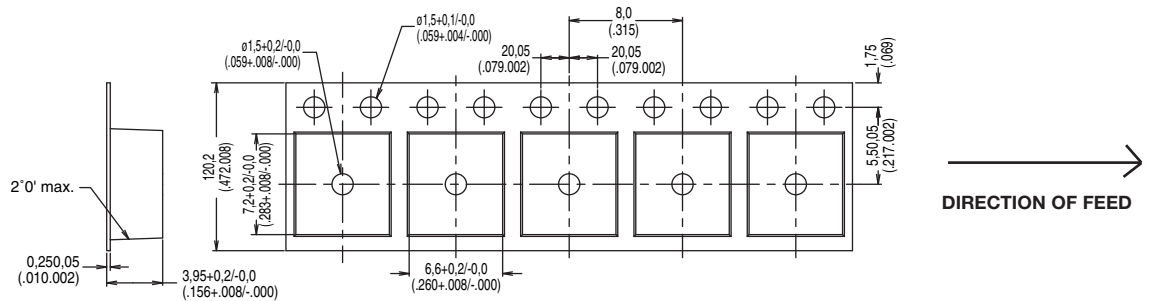
FOR KSC1 J TERMINATION



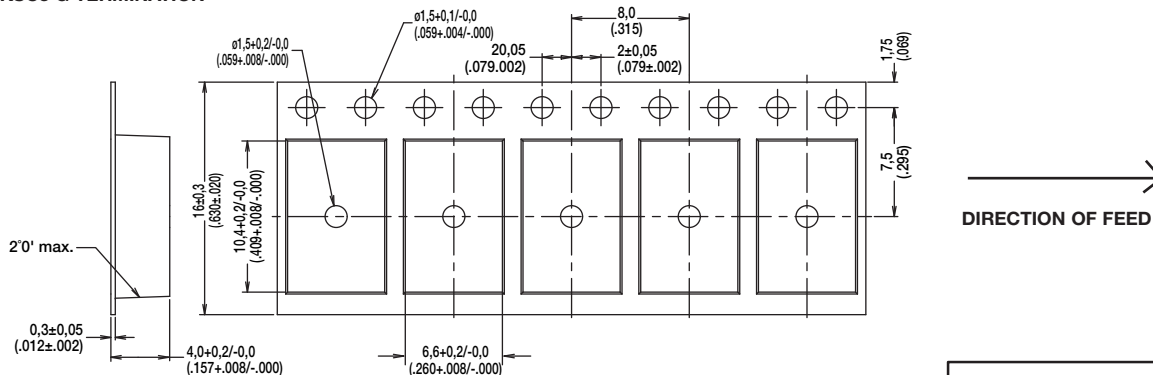
FOR KSC1 G TERMINATION



FOR KSC2 & KSC3 J TERMINATION



FOR KSC2 & KSC3 G TERMINATION



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

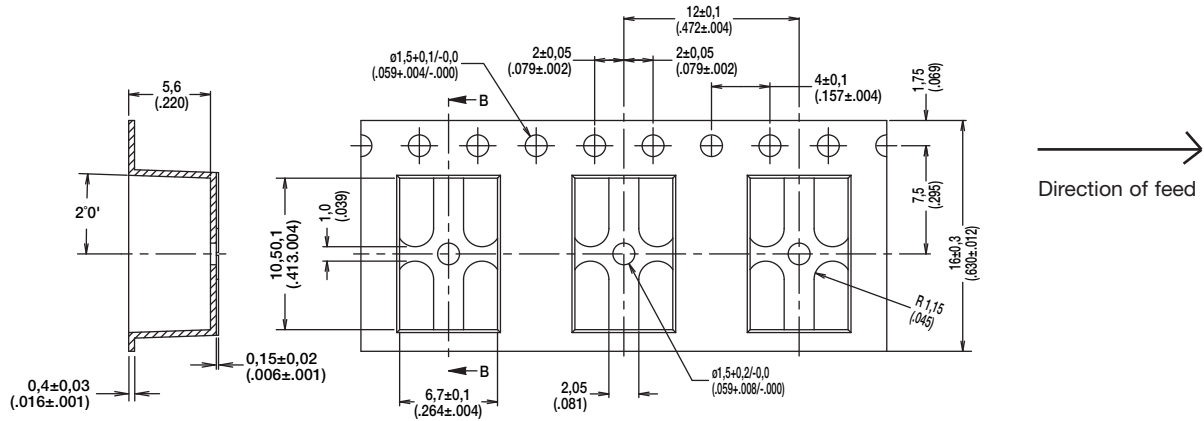


23 july 12

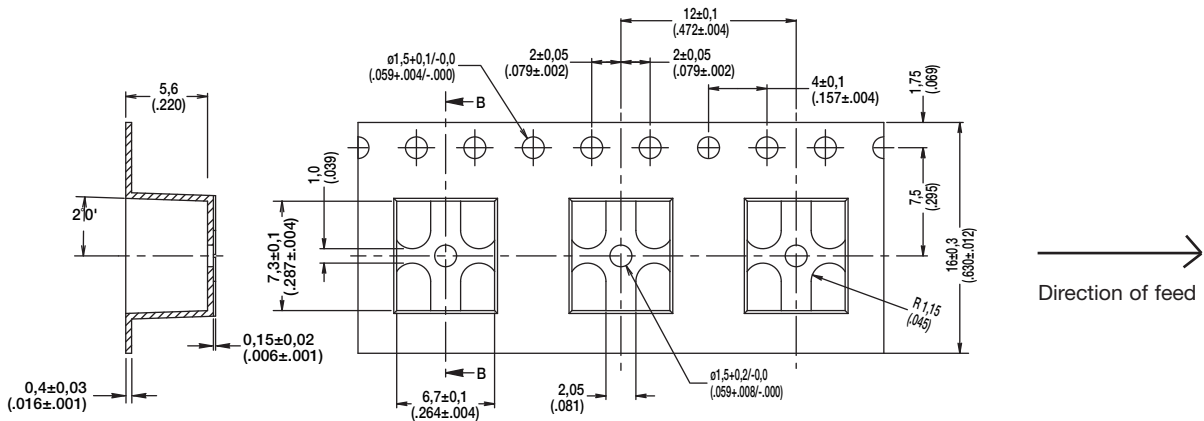
KSC Series Sealed Tact Switch for SMT

TAPE & REEL

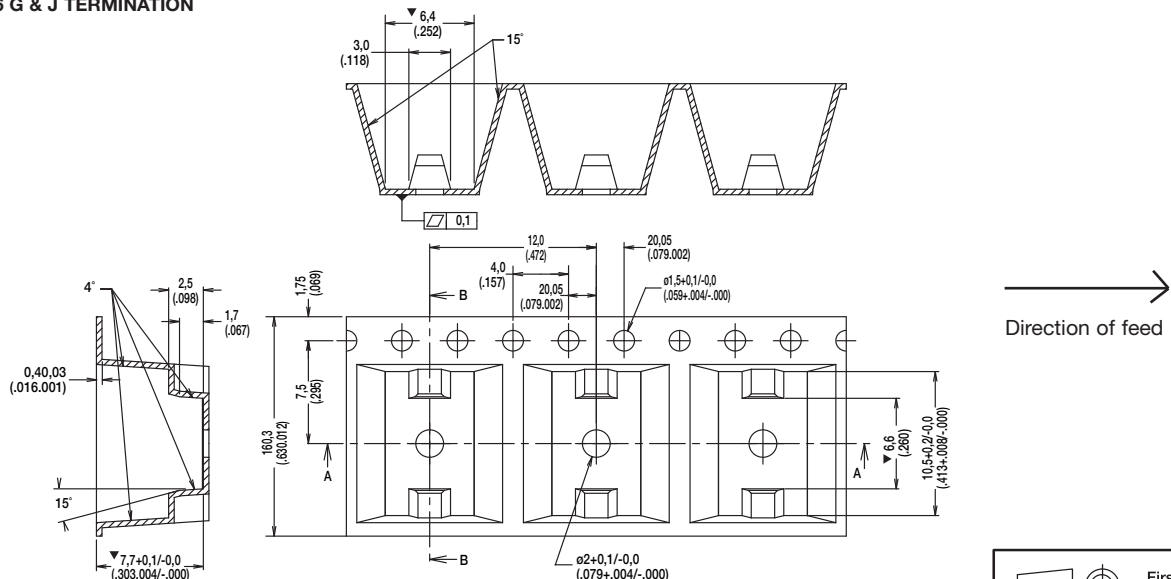
FOR KSC4 FOR G TERMINATION



FOR KSC4 FOR J TERMINATION



FOR KSC6 G & J TERMINATION



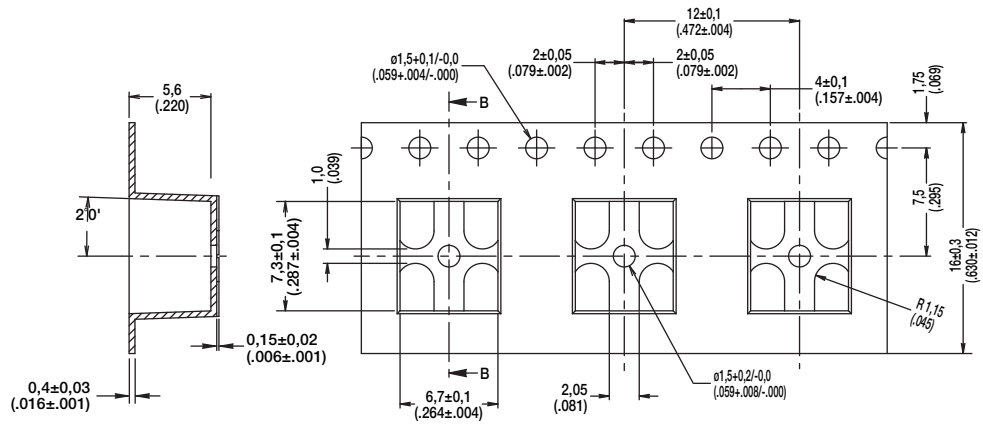
First Angle Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

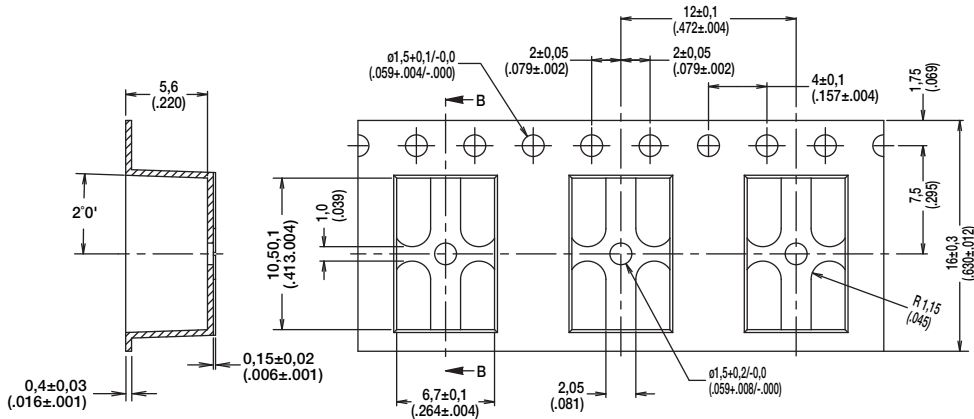
KSC Series
Sealed Tact Switch for SMT

TAPE & REEL

FOR KSC7 FOR J TERMINATION

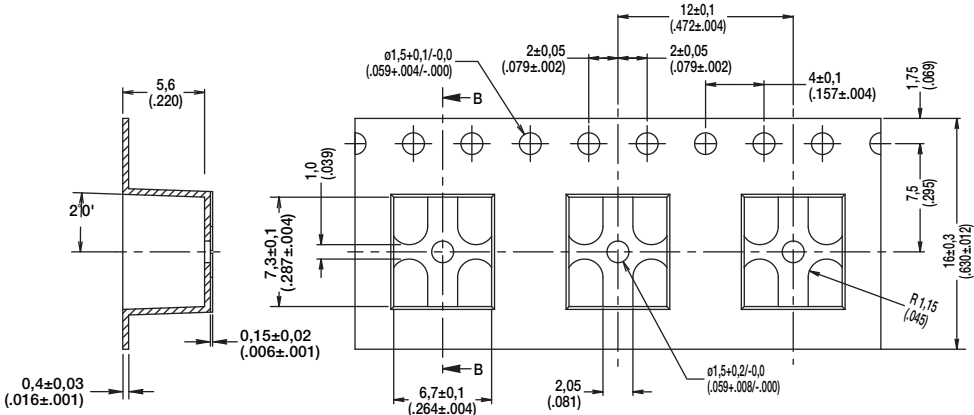


FOR KSC8 FOR G TERMINATION



Direction of feed

FOR KSC8 FOR J TERMINATION



Direction of feed



23 july 12



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

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/ IEC 60286-3 standard.

NOTE:

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

Other versions in terms of force, termination length and corrosion protection available.
Please contact your sales representative.

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

Mechanical

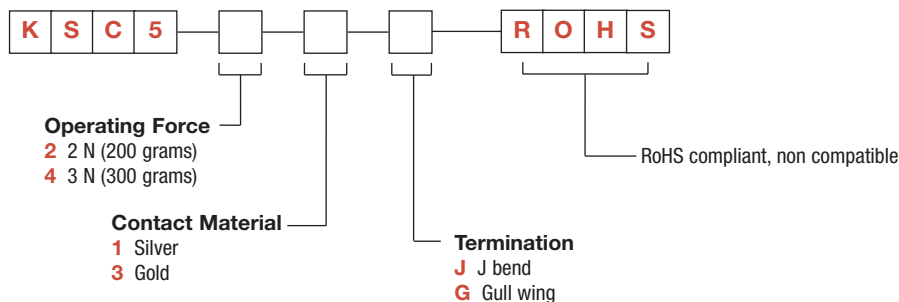
Type	Operating force axial FA N (grams) ±25%	Operating force lateral FL N (grams) ±30%	Travel to make axial (mm)	Travel to make lateral (mm)	Life expectancy cycles, axial	Life expectancy cycles, lateral
KSC521G	1,5 - 2,5	1,2 - 2,6	0,25 ± 0,15	0,5 ± 0,25	100,000	10,000
KSC541G	2,25 - 3,75	1,8 - 3,8	0,25 ± 0,15	0,5 ± 0,25	100,000	10,000

How To Order

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

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KSC5 Series

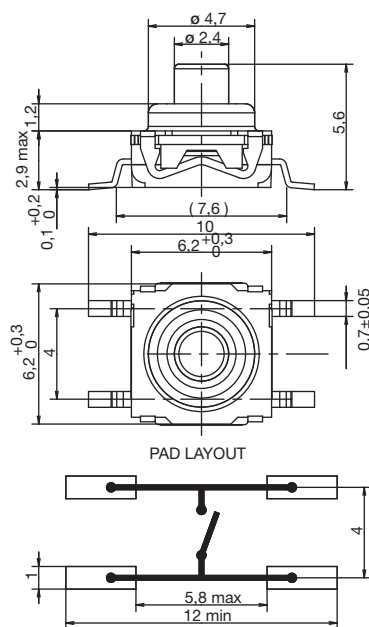
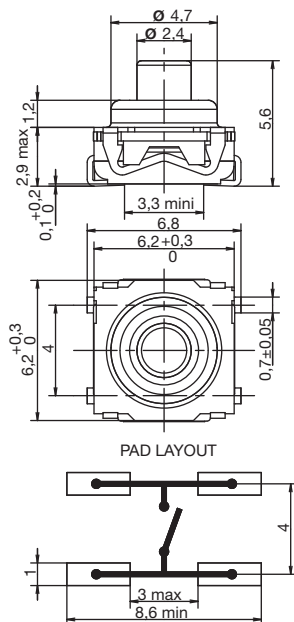
Tact Switch with Rocker Option for SMT

Tactile Switches

B

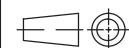
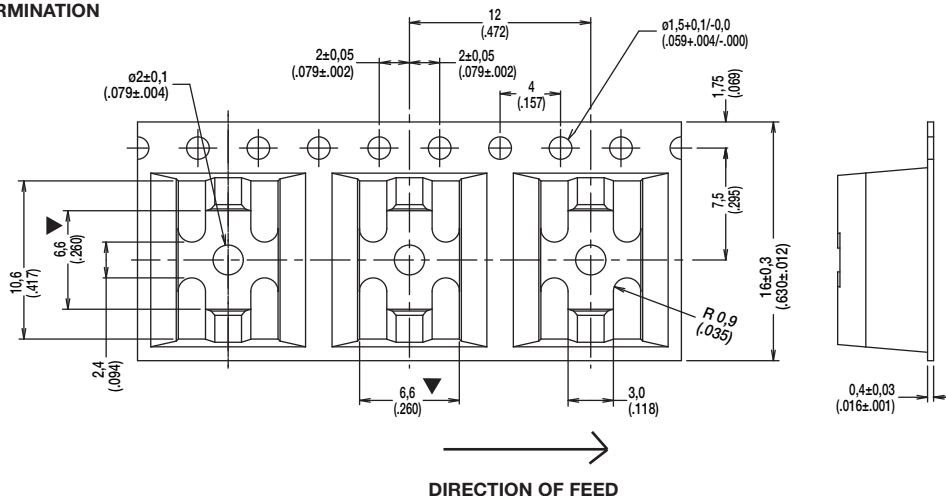
J J BEND

G GULLWING



TAPE & REEL

FOR KSC5 G & J TERMINATION



First Angle
Projection

Dimensions are shown: mm (inches)

Specifications and dimensions subject to change



17 july 12

B-40

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KSC-ST Series Sound Tunable Tact Switch

Features/Benefits

- Various haptic responses
- Range of 2 sound intensity
- J or G terminations
- Tape & reel
- IP 67

Typical Applications

- Automotive
- Industrial electronics
- Keyboards
- Medical equipment



B

Tactile Switches

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.

Note for ST2 versions: This actuator contains carbon particles and therefore is electrically conductive. Please consult factory for list of compatible materials to be used while designing button on top of the switch.

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA*	1 mA

DIELECTRIC STRENGTH (50 Hz, 1 min.): 250 V
CONTACT RESISTANCE: < 100 mΩ
INSULATION RESISTANCE (100 V): > 10⁹ Ω
BOUNCE TIME: < 1 ms

*Ultra low current available at 1μA upon request

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

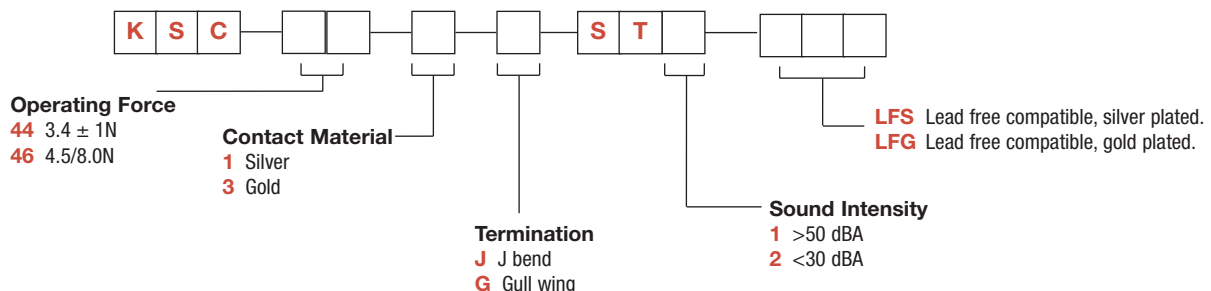
In reels of 1,000 pieces.
Dimensions of reels according to EIA RS481 or IEC 60286-3.
External diameter 330 mm ± 2 mm.

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.

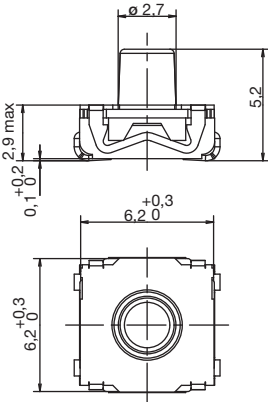
For any part number different from those listed above, please consult your local representative.



KSC-ST Series

Sound Tunable Tact Switch

ACTUATOR 

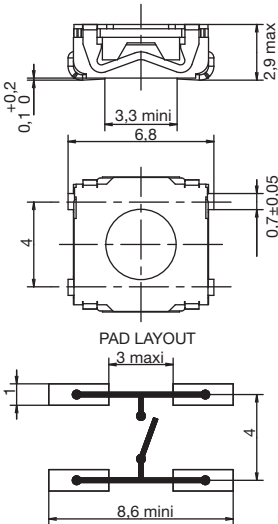


CONTACT MATERIAL 

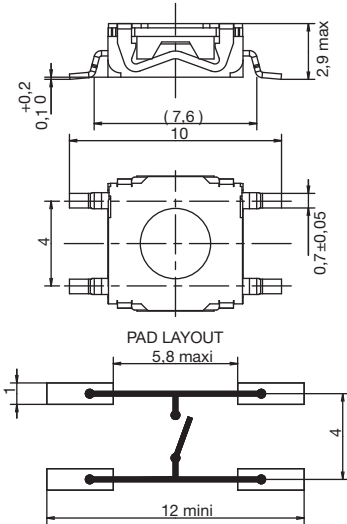
OPTION CODE	MATERIAL
1	SILVER
3	GOLD

TERMINATION 

J J BEND



G GULLWING



17 july 12

KSC-ST Series Sound Tunable Tact Switch

SOUND INTENSITY



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

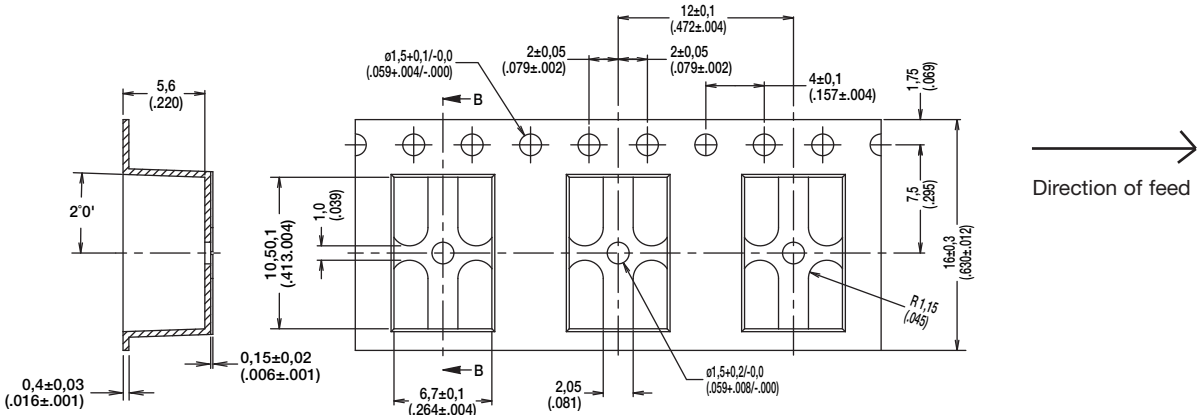


B

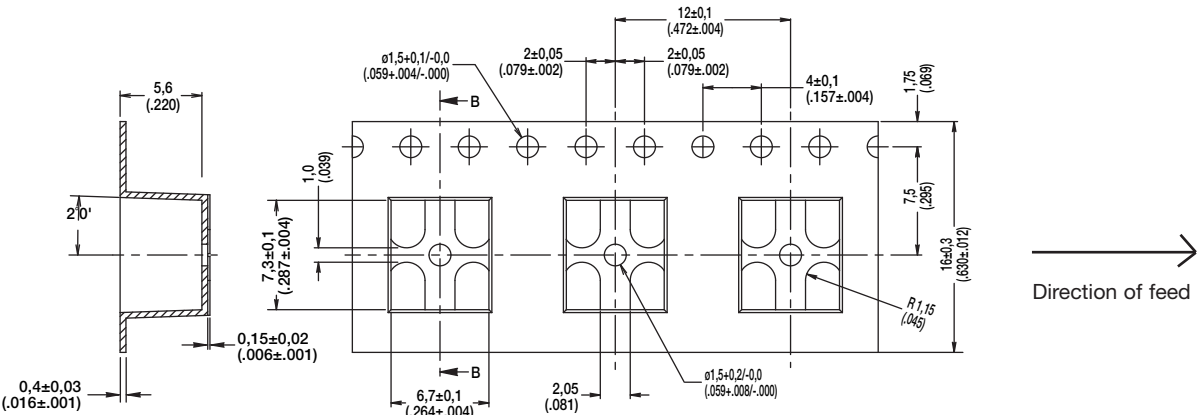
Tactile Switches

TAPE & REEL

FOR KSC4 FOR G TERMINATION



FOR KSC4 FOR J TERMINATION



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

KSC4V2 Series

Side Actuated Sealed Tact Switch

Features/Benefits

- Full SMD side actuated
- Haptic adaptability
- Pin in paste terminations
- Tape & reel
- IP 67

Typical Applications

- Automotive
- Industrial electronics
- Network equipment
- Telecommunications



B

Tactile Switches

Specification

FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS:
2 pin in paste signal terminals
3 SMD ground terminals

Mechanical

Type	Force (N)	Operating Life (operations)	Travel (mm)
KSC441V2SPDLFS	3.5 ± 1.0	300,000	0.7 ± 0.2

NOTE: Basic version is based on KSC441V2 SPDELTA LFS.
Other configurations of haptics are available upon demand.

MISUSE OVERLOAD: 40N with back support
SHEAR FORCE: 10N without back support

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA	1 mA

DIELECTRIC STRENGTH (50 Hz, 1 min.): > 250 Vrms
CONTACT RESISTANCE: < 100 mΩ
INSULATION RESISTANCE (100 V, initial stage): > 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.

TERMINALS: pin in paste, silver or gold plated

TOP PLATE: tin plated

MSL level: 1

Vacuum pick head mandatory

Packaging

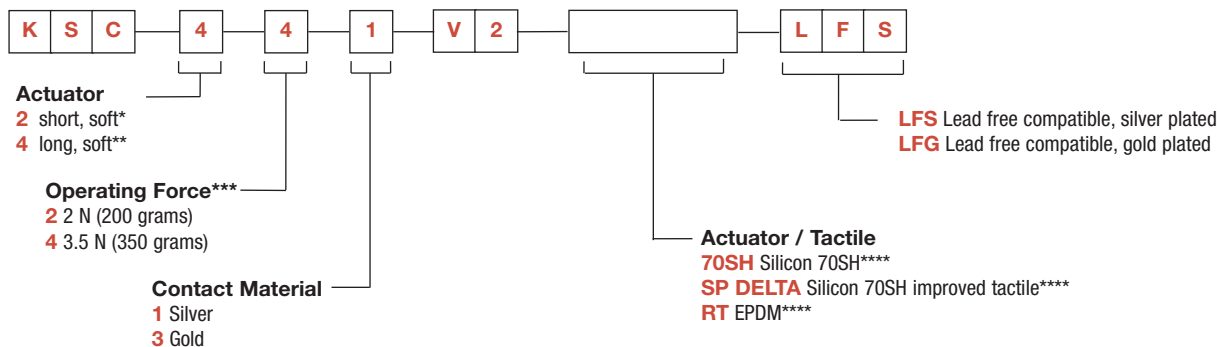
In reels of 800 pieces.
Dimensions of reels according to EIA RS481 or IEC 2863.
External diameter 330 mm ± 2 mm.

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

How To Order

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

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



* KSC2 version available upon demand
** KSC4 available as KSC441V2 SP DELTA LFS for product launch
*** Force available upon demand (variant version)
**** Available for KSC4 only



24 jan 13

B-44

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

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B Tactile Switches



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KSC9 Series

SMD Sealed Tact Switch for Adjustable Height

Features/Benefits

- SMD switch
- Adjustable height with buttons
- Overload resistance
- Tape & reel
- IP 67

Typical Applications

- Industrial electronics
- Network equipment
- Telecommunications



B

Tactile Switches

Specification

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

Mechanical

Type	Force (N)	Operating Life (operations)	Travel (mm)
KSC921J LFS	1.7 ± 0.5	300,000	0.4 ± 0.2
KSC931J LFS	2.55 ± 0.65	300,000	0.4 ± 0.2
KSC941J LFS	3.4 ± 0.85	300,000	0.4 ± 0.2

BUTTON INSETION OVERLOAD: 40N

BUTTON RETENTION FORCE: 7N min between -40°C/+85°C

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 Vrms

CONTACT RESISTANCE: < 100 mΩ

INSULATION RESISTANCE (100 V initial stage): > 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.
- MSL level: 1

Packaging

In reels of 750 pieces.

Dimensions of reels according to EIA RS481 or IEC 2863.

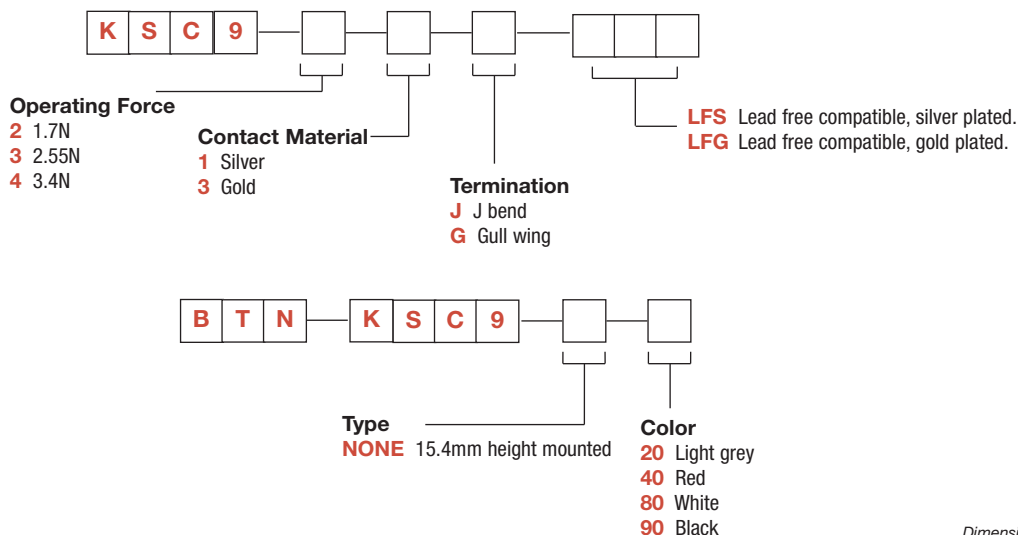
External diameter 330 mm ± 2 mm.

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

How To Order

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

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



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B-46

Dimensions are shown: mm
Specifications and dimensions subject to change

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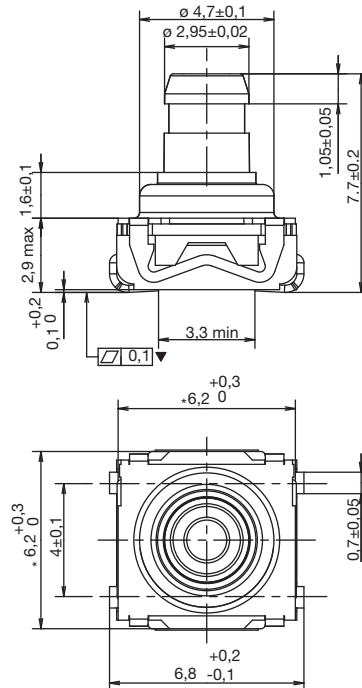
KSC9 Series

SMD Sealed Tact Switch for Adjustable Height



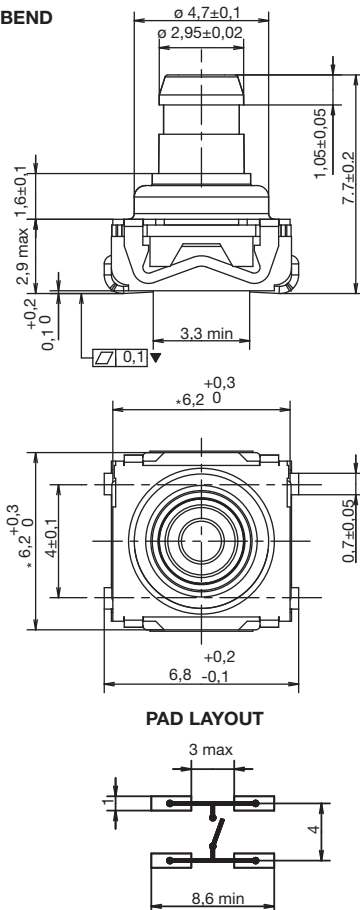
B

Tactile Switches

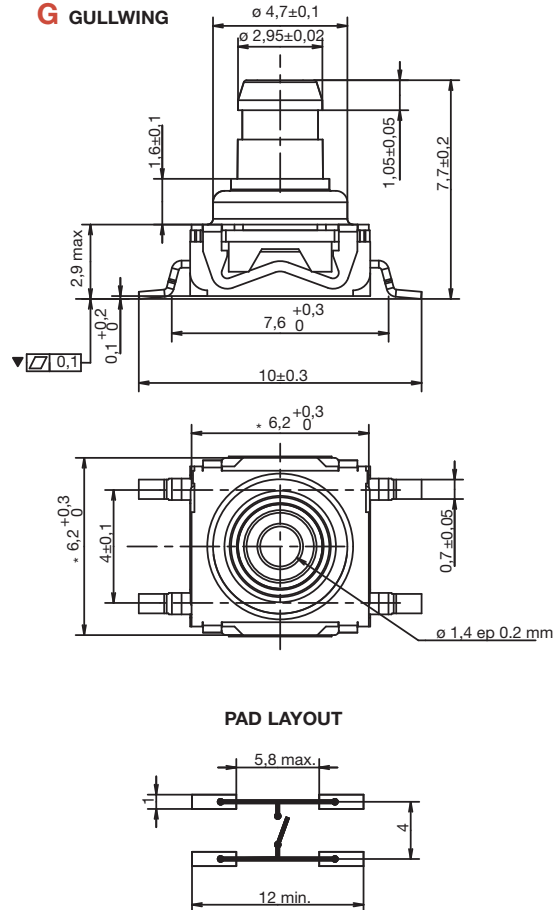


TERMINATION

J J BEND



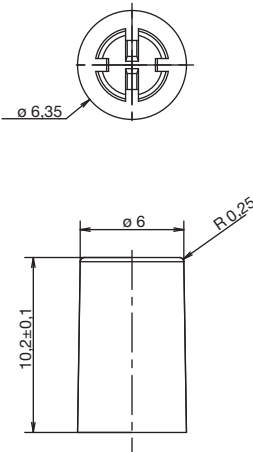
G GULLWING



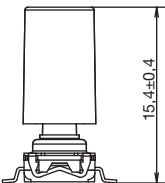
24 jan 13

KSC9 Series
SMD Sealed Tact Switch for Adjustable Height

KSC9 BUTTON

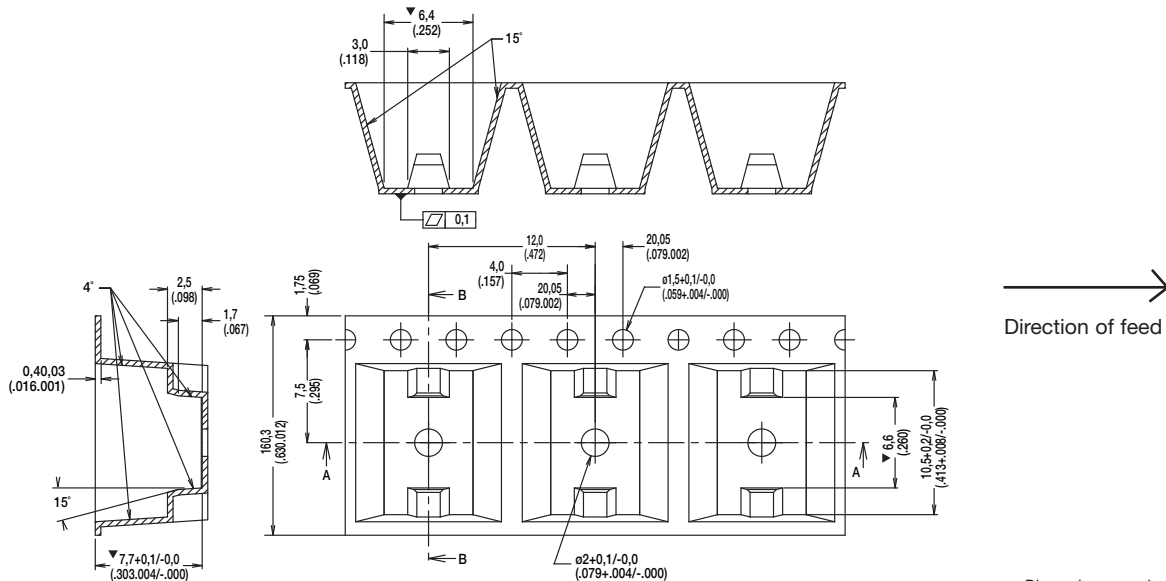


INTEGRATION



SWITCH WITH CAP

TAPE AND REEL



24 jan 13

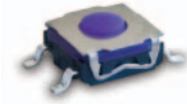
KSE Series Low Profile Tact Switch

Features/Benefits

- Low profile
- Cost efficient
- J or G terminations
- Tape and reel
- IP 67

Typical Applications

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



B

Tactile Switches

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)
KSEM31JLFS	1.5 ± 0.5	300,000	0.3 + 0.1/-0.2
KSEM31GLFS	1.5 ± 0.5	300,000	0.3 + 0.1/-0.2
KSEK43JLFS	2.25 ± 0.75	300,000	0.3 ± 0.2
KSEK43GLFS	2.25 ± 0.75	300,000	0.3 ± 0.2

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

Packaging

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

Electrical

MAXIMUM POWER: 1 VA
MINIMUM/MAXIMUM VOLTAGE: 20 mV / 32 VDC
MINIMUM/MAXIMUM CURRENT: 1 mA / 50 mA
DIELECTRIC STRENGTH: (50 Hz, 1 min.): 250 V
CONTACT RESISTANCE: < 100 mΩ
INSULATION RESISTANCE: (100 V): > 10⁹ Ω
BOUNCE TIME: < 1 ms

Environmental

OPERATING TEMPERATURE: -40°C to 85°C
STORAGE TEMPERATURE: -50°C to 85°C

Process

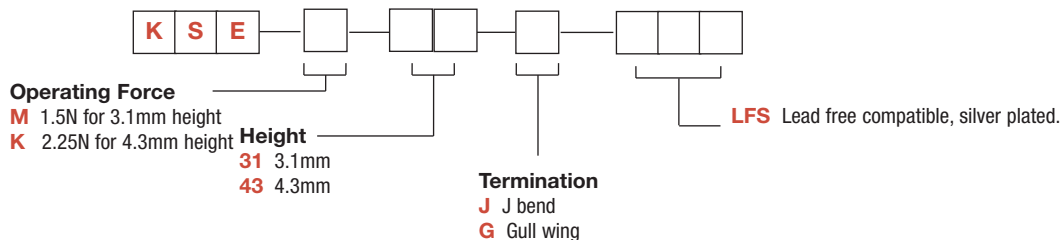
SOLDERING: Depending on the application, this component is suited to the following methods:
– Cleaning according to typical washing processes.
– Infrared Reflow Soldering in accordance with IEC 61760-1.

NOTE:

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

How To Order

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

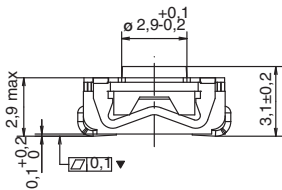


KSE Series

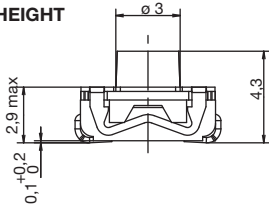
Low Profile Tact Switch

HEIGHT

31 3.1 MM HEIGHT

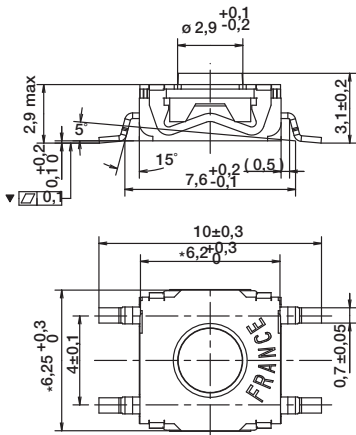


43 4.3 MM HEIGHT

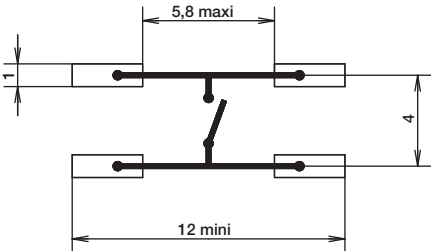


TERMINATION

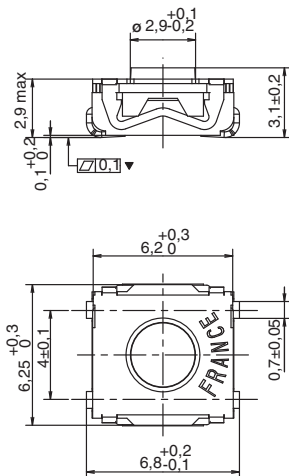
G GULLWING



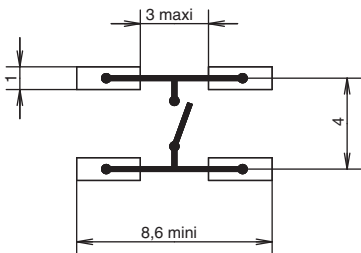
PAD LAYOUT



J J BEND



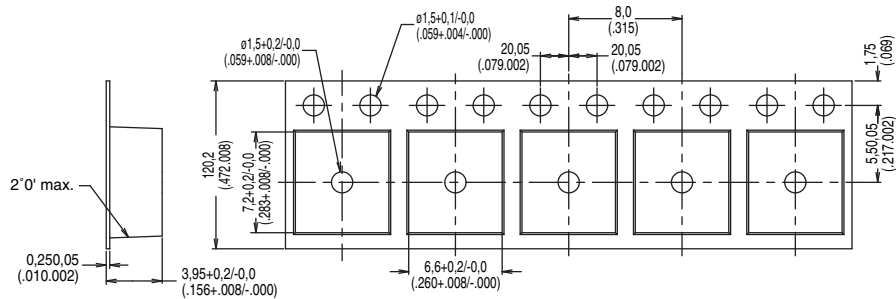
PAD LAYOUT



KSE Series Low Profile Tact Switch

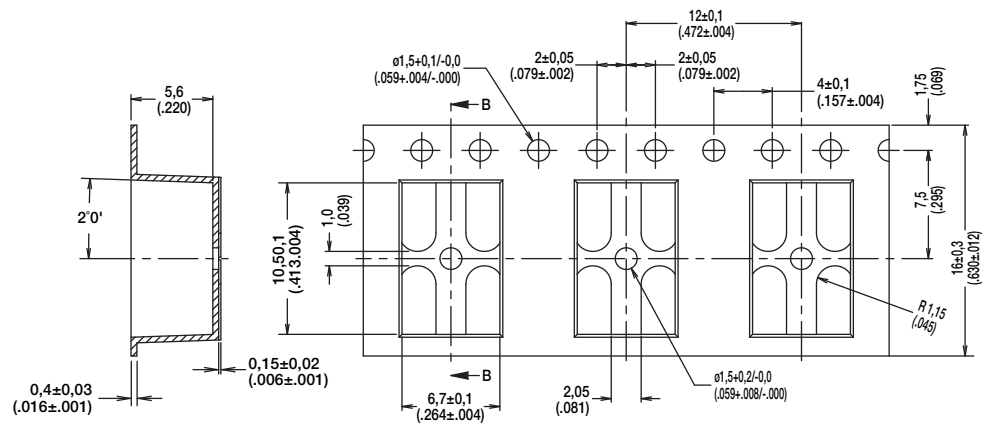
TAPE & REEL

3.1 mm height

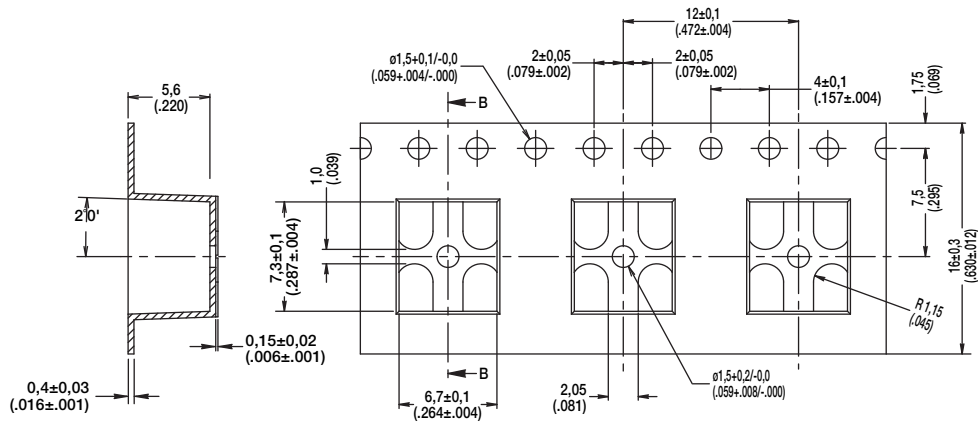


4.3 mm height

G TERMINATION



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

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.

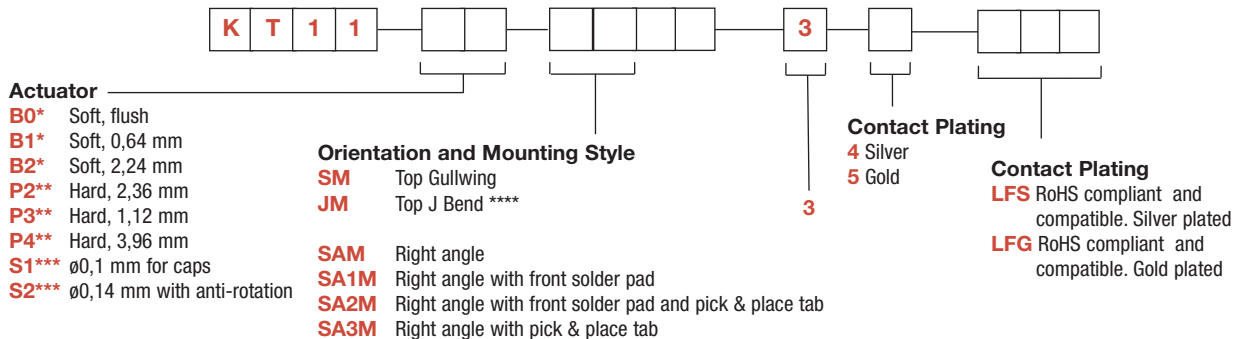
How To Order

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 & A3 mounting bracket only.

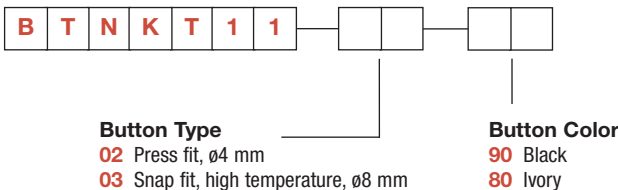
** P2, P3, P4 actuators suitable with A1 & A2 mounting bracket only.

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

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

BUTTON

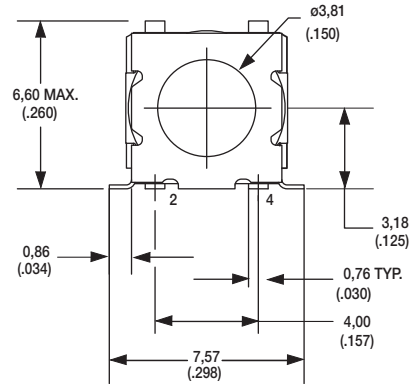
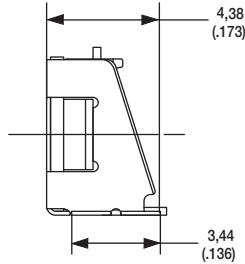
To order buttons in bulk



KT Series Right Angle Sealed Tact Switch for SMT

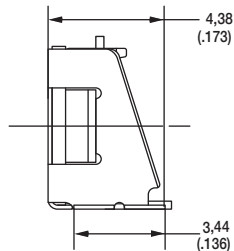
SERIES 

KT11

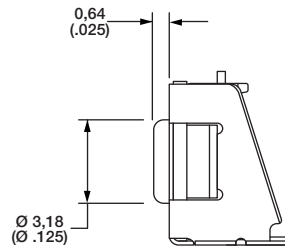


ACTUATOR 

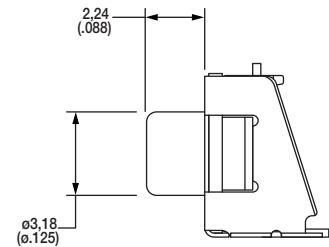
B0 SOFT, FLUSH*



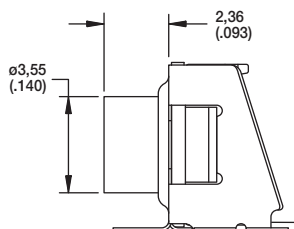
B1 SOFT, 0,64 mm*



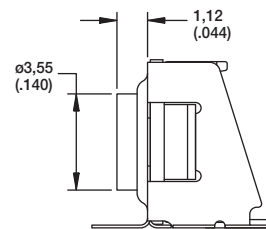
B2 SOFT, 2,24 mm*



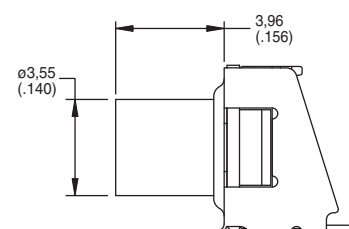
P2 HARD, 2,36 mm



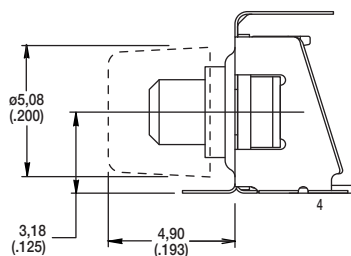
P3 HARD, 1,12 mm



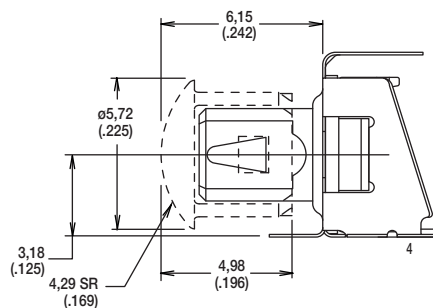
P4 HARD, 3,96 mm**



S1 Ø0,1 mm FOR PRESS FIT CAPS***



S2 Ø0,14 mm FOR SNAP FIT CAPS***



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

KT Series Right Angle Sealed Tact Switch

ORIENTATION & MOUNTING STYLE



SM TOP GULLWING

JM TOP J BEND

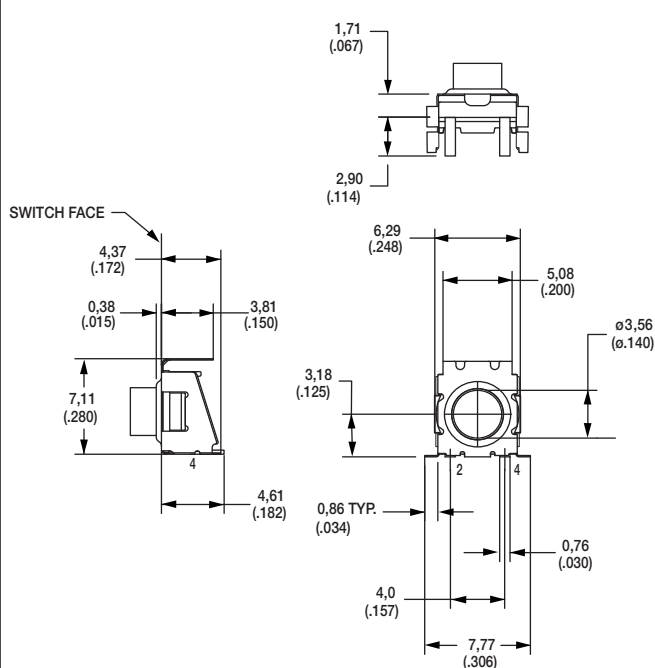
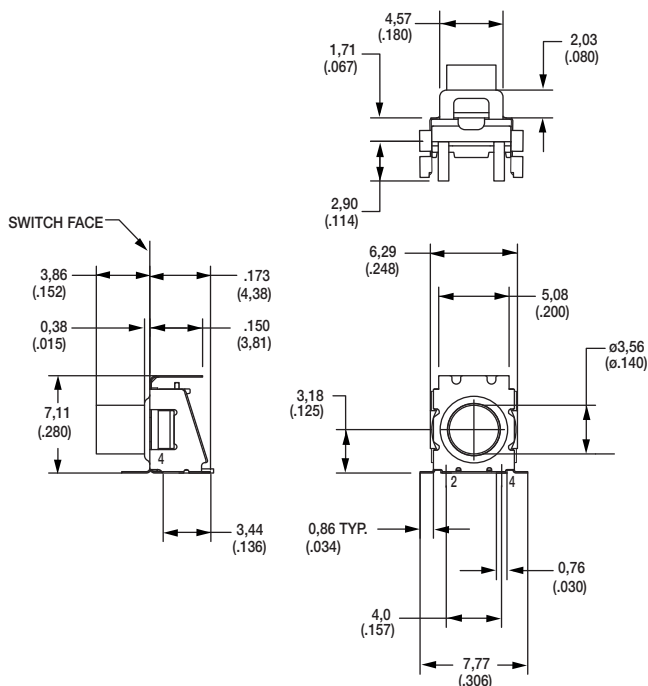
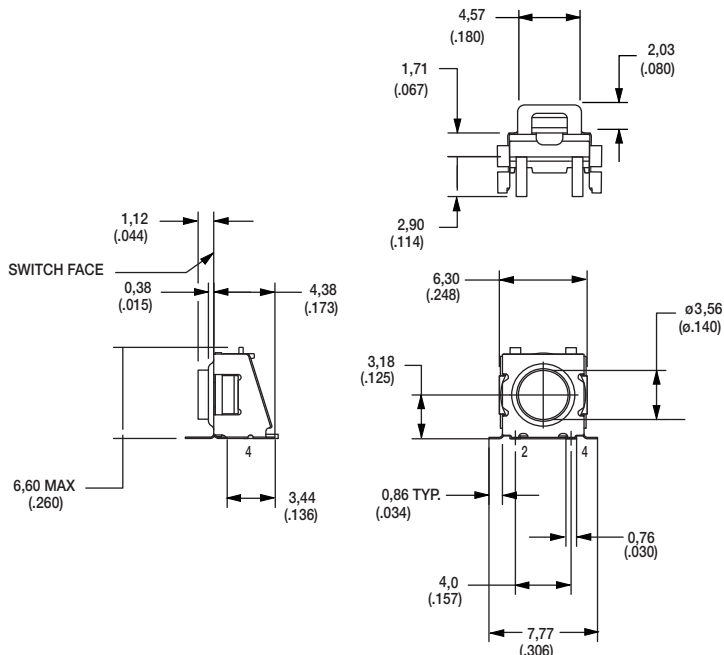
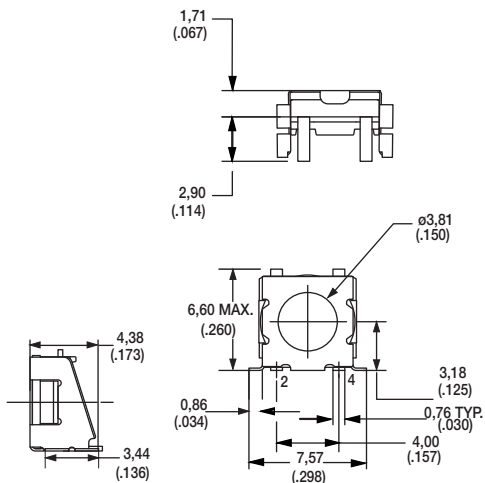
SAM RIGHT ANGLE

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

Tactile Switches



First Angle
Projection

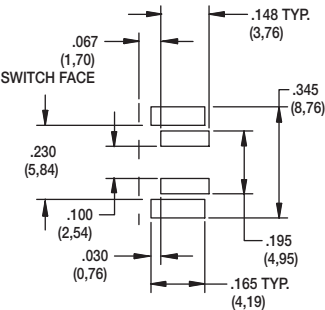
Dimensions are shown: mm (inches)
Specifications and dimensions subject to change



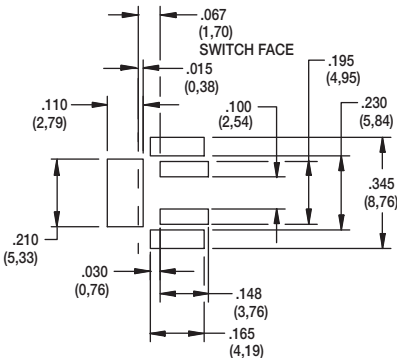
KT Series Right Angle Sealed Tact Switch

MOUNTING BRACKET

PAD LAYOUT
SAM & SA3M MOUNTING BRACKET



PAD LAYOUT
SA1M & SA2M MOUNTING BRACKET



CONTACT PLATING

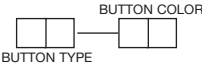
OPTION CODE	MATERIAL
4	SILVER
5	GOLD

BUTTON

BUTTON

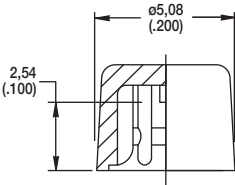
To order buttons in bulk

B	T	N	K	T	1	1
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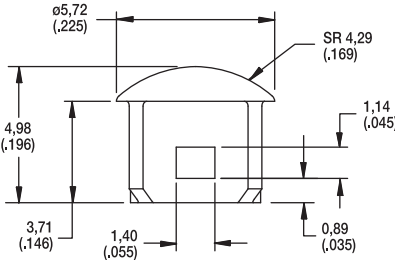


Button Type

02 PRESS FIT, Ø4 mm



03 SNAP FIT, HIGH TEMPERATURE, Ø8 mm



Button Color

OPTION CODE	BUTTON COLOR
90	BLACK
80	IVORY



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

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)*
* Valid one time. Maximum allowed travel to avoid overload issues is 1.75mm

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 IEC 60286-3.

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

Electrical

	Silver	Gold
SWITCHING POWER MAX.:	1.0 VA	0.50 VA
MAXIMUM POWER:	1.0 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA	1 mA
DIELECTRIC STRENGTH: ≥ 250 Vrms		
CONTACT RESISTANCE: $< 100\text{m}\Omega$		
INSULATION RESISTANCE: Initial measurement: $\geq 1\text{G}\Omega$		
After damp heat: $\geq 10\text{M}\Omega$		
BOUNCE TIME: < 5 ms		

Environmental

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

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

Process

Compatible with the lead free reflow soldering process.

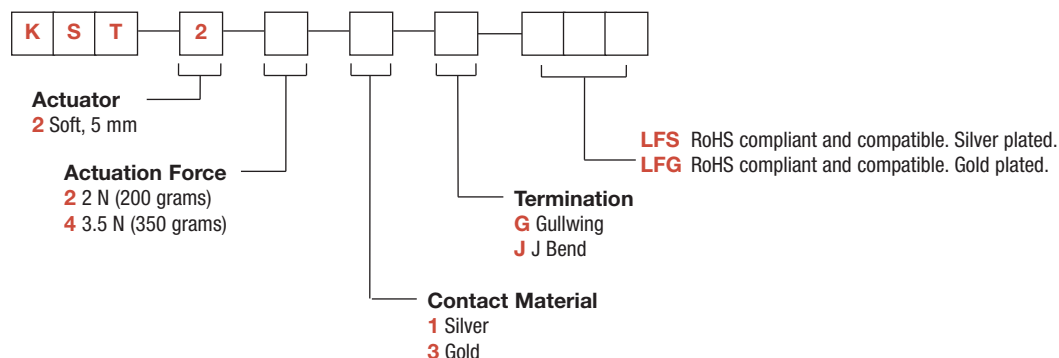
NOTE: Specifications listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

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.

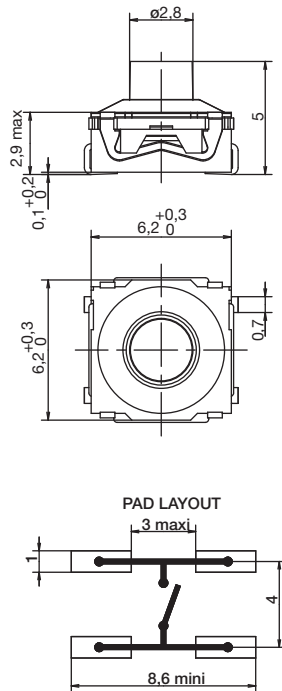
However, please note that all the combinations of these options are not feasible.

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

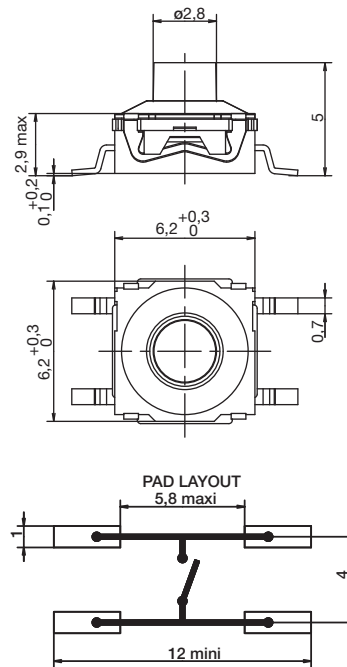


KST Series Long Travel Tact Switch for SMT

J J BEND



G GULLWING

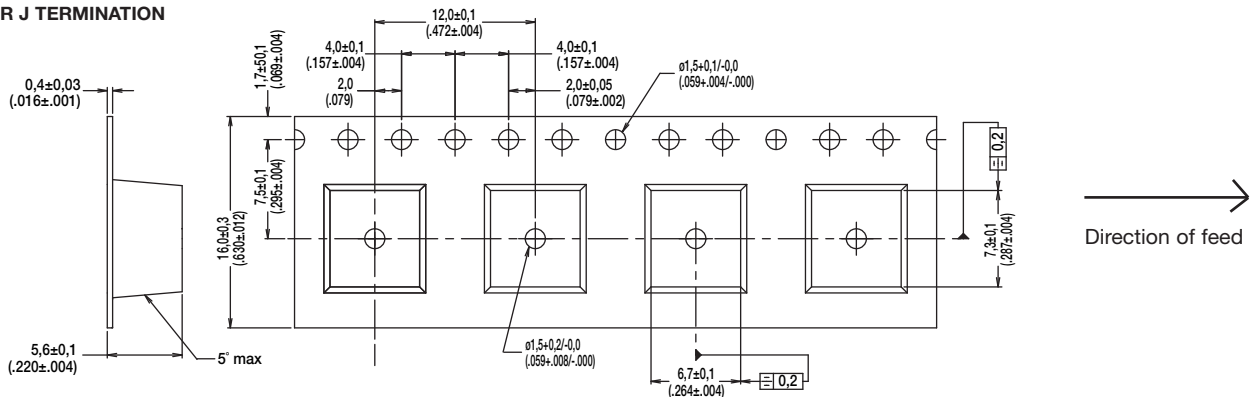


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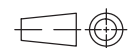
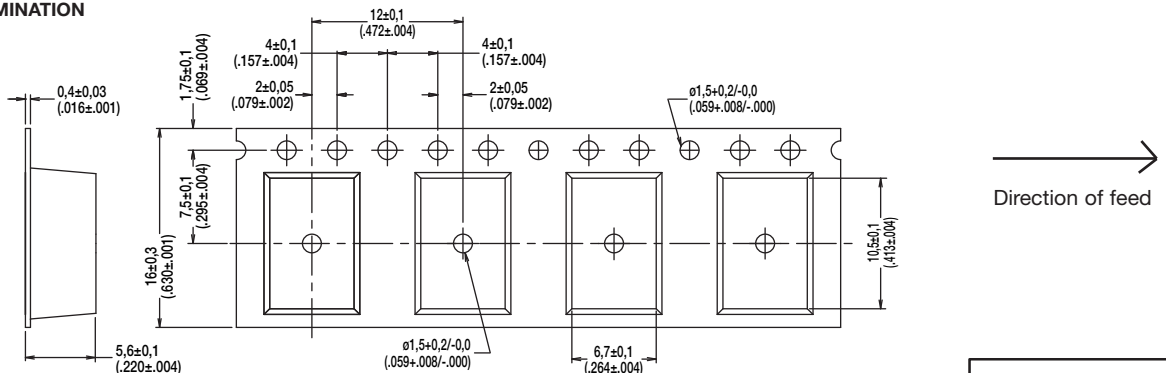
Tactile Switches

TAPE & REEL

FOR J TERMINATION



FOR G TERMINATION



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change



23 July 12

B-57

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K5AT

Lighted SMT Tact Switch

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



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

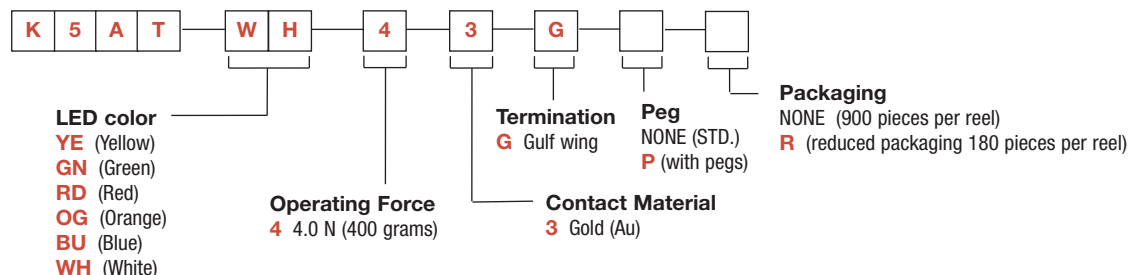
SOLDERING: Au over Ni

HOUSING: Thermoplastic UL94 VO

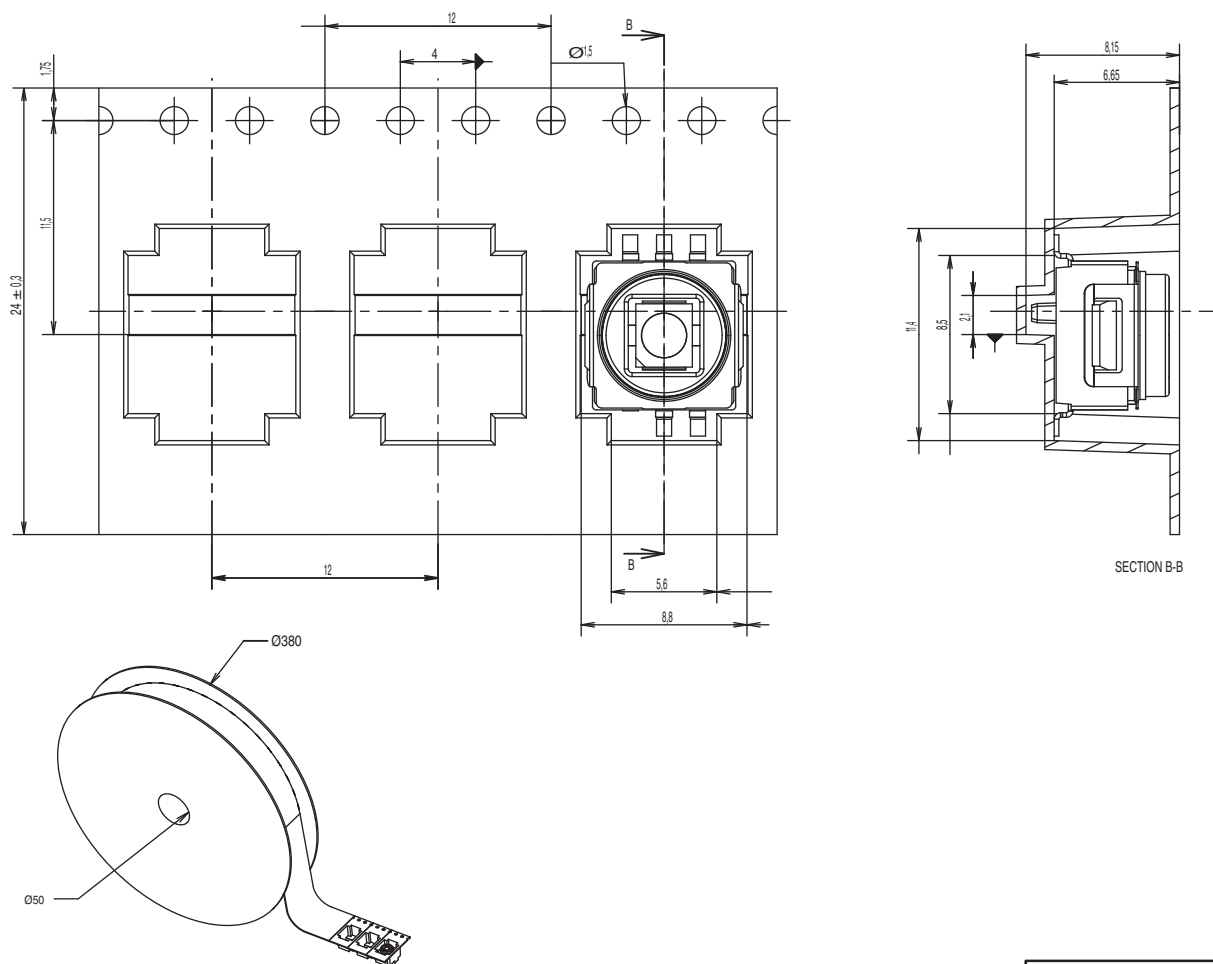
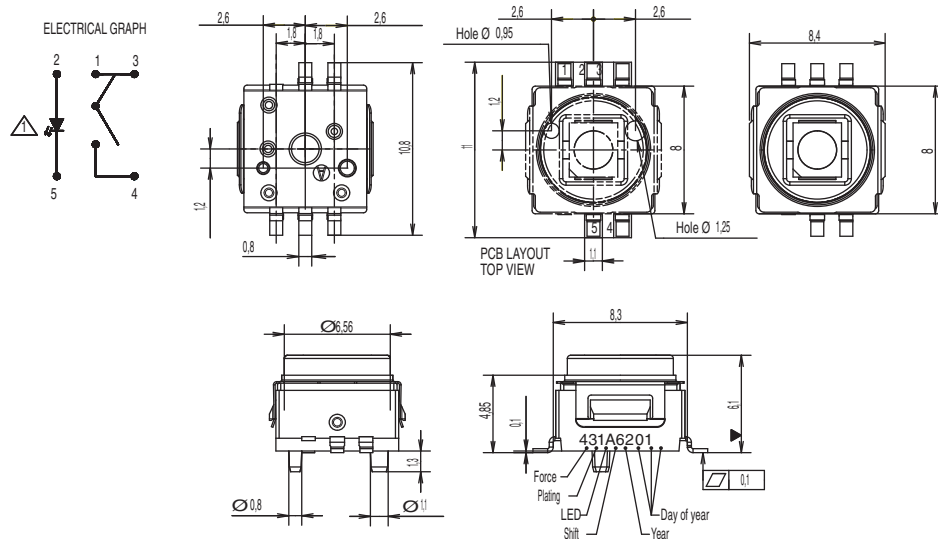
LED: type P-LCC-2

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.



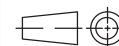
K5AT



B

Tactile Switches

SECTION B-B



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

K8

Lighted SMT Tact Switch with Rugged LED Mounting Process

NEW!

Features

- LED assembly without soldering
- Various LED options
- No light perturbation
- Sound haptic
- Various climatic classes

Typical Applications

- Automotive
- Network equipment
- Telecommunications
- Medical equipment
- Industrial controls



Specification

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

Mechanical

Type	Actuation Force (N)	Operating Life (operations)	Total Travel (mm)
K8xx41G LFS	4.0	300,000	0.45±0.15

Tolerances on actuation force is ± 0.25%.
SEALING LEVEL: IP40

Illumination Colors

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

Packaging

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1.0 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA	0.1 mA
DIELECTRIC STRENGTH: (50 Hz, 1 min.)	≥ 250 Vrms	
CONTACT RESISTANCE:	< 100mΩ	
INSULATION RESISTANCE: (100 V, initial stage)	> 10 ⁹ Ω	
BOUNCE TIME:	< 10 ms	

Environmental

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

STORAGE TEMPERATURE: -55°C to +85°C (Silver)
-40°C to +125°C (Gold)

Process

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

- Cleaning according to typical washing processes
 - Infrared reflow soldering in accordance with IEC61760-1
- MSL level: 1

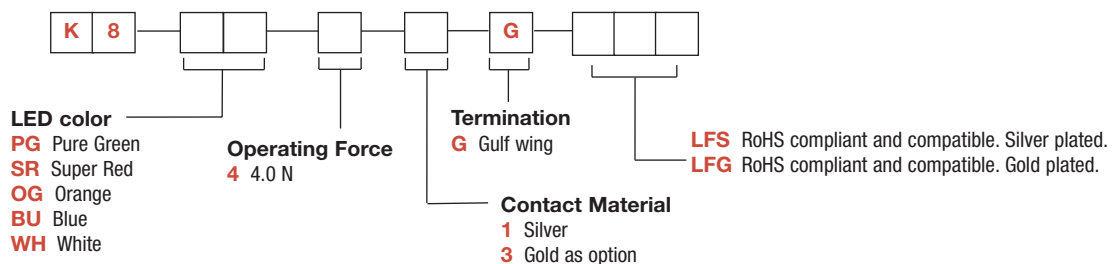
NOTE:

The specifications show in the datasheet are for reference only and are not valid for design-in work. Please contact your sales representative to request drawings and product specifications.

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

How To Order

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



NEW!

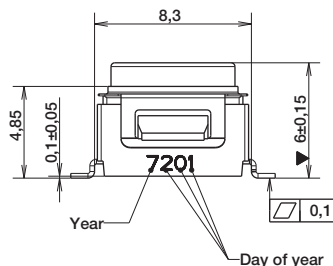
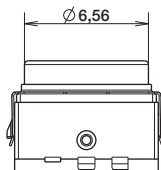
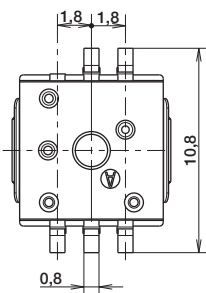
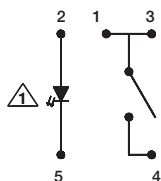
K8 Lighted SMT Tact Switch with Rugged LED Mounting Process

PART NUMBER	REF LED	EMITTED COLOR	LUMINOUS INTENSITY (mcd) If = 20 mA		CHROMATICITY COORDINATES OR PEAK WAVE LENGTH (typ) If = 20 mA		FORWARD VOLTAGE V If = 20 MA	
			min	typ	X	Y	min	max
K8WH41G	LW T67C-S2U1-5K8L	WHITE	224	560	0,33	0,33	3	4.1
K8BU41G	LB T67C-P2R1-35	BLUE	56	140	465 nm		3	4.1
K8PG41G	LP T676-L1M2-25	PURE GREEN	11.2	28	562 nm		1.8	2.4
K8SR41G	LP T676-Q1R2-1	SUPER RED	71	180	645 nm		1.8	2.3
K8OG41G	LO T676-R1S2-24	ORANGE	112	280	610 nm		1.85	2.35

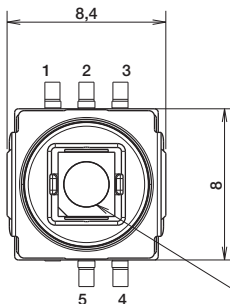
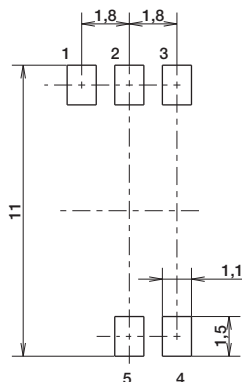


Tactile Switches

ELECTRICAL GRAPH



PCB LAYOUT TOP VIEW



pick and place area :
top of LED $\varnothing 2.5$ max



First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change



11 april 13

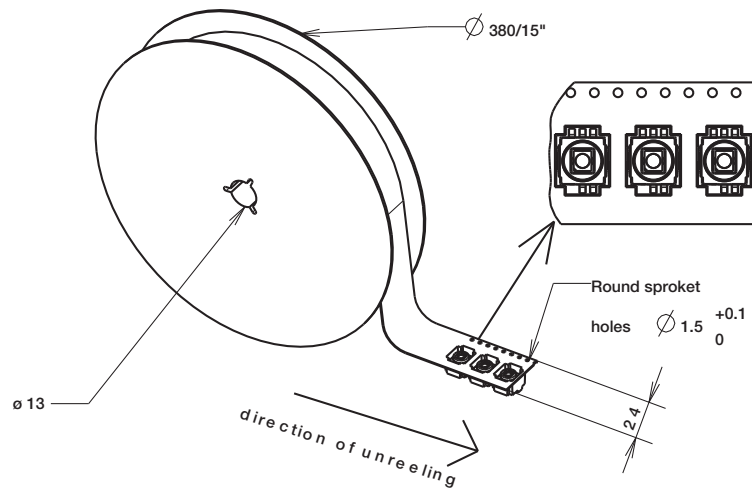
K8 Lighted SMT Tact Switch with Rugged LED Mounting Process

NEW!

TAPE & REEL

Tactile Switches

B



K5V Illuminated Tact Switch

Features

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

Typical Applications

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



Specification

FUNCTION: momentary action

CONTACT ARRANGEMENT: Normally Open + Normally Closed

TERMINALS: SMT with positioning pegs

Mechanical

Version	Operating force FA ¹ Newtons (grams)	Operating life (operations)	Travel (total travel) mm(mm)
THT, SMT, PM	4.0 (400)	25,000	1.2 (2.4)

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

Packaging

THT:

60 pieces per tray; 300 pieces per box

SMT:

330 pieces per reel (reel ϕ 360mm)

PM:

60 pieces per tray; 300 pieces per box

LED Characteristics

LED COLOR: White

TEST CONDITIONS: 20 mA

LUMINOUS INTENSITY $I_F = 20$ mA

MIN. 110 mcd
TYP. 220 mcd
MAX. 320 mcd

MAX VOLTAGE: 4 V

Electrical

POWER MIN/MAX: 0.02VA / 1.0VA

VOLTAGE MIN/MAX: 20mVdc – 32 Vdc

CURRENT MIN/MAX: 0.1mA – 100mA

CONTACT RESISTANCE: <150m Ω

INSULATION RESISTANCE: >1G Ω initial, >10M Ω after damp heat

BOUNCE TIME: <5ms

Environmental

OPERATING TEMPERATURE: -40°C to 85°C

STORAGE TEMPERATURE: -50°C to 85°C

RELATIVE HUMIDITY: 90 to 96% according to NF EN 60068-2-30

PROTECTION: dust protection and flux tight

OVERLOAD: 40N min

Process

SMT

Soldering: Compatible with the lead free soldering profile
No washing

THT

Soldering: Compatible with the lead free soldering profile
No washing

PM

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

Materials

LEAD FREE

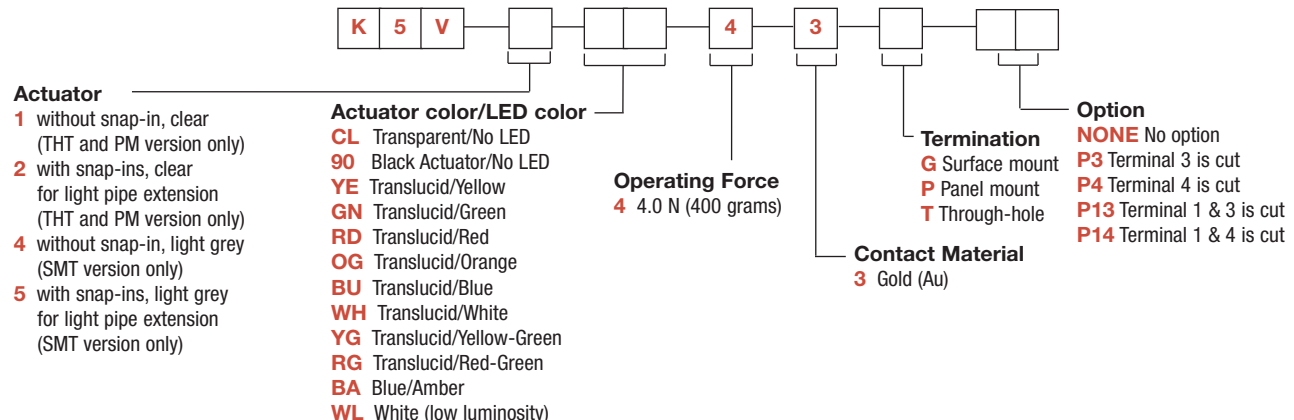
CONTACTS: Au over Ni

SOLDERING: Au over Ni

HOUSING: Thermoplastic UL94 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

Illuminated Tact Switch

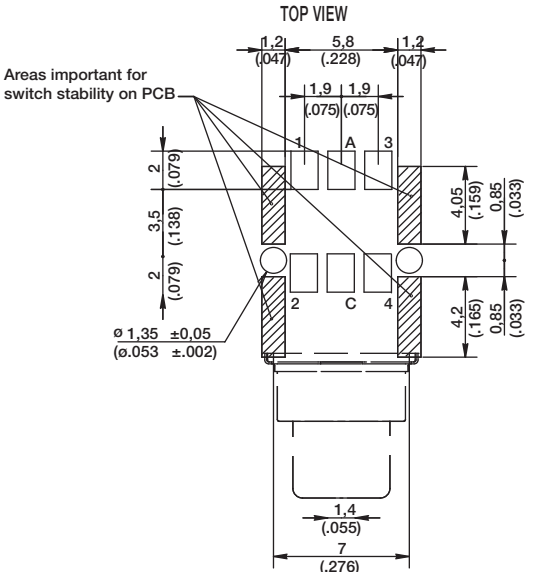
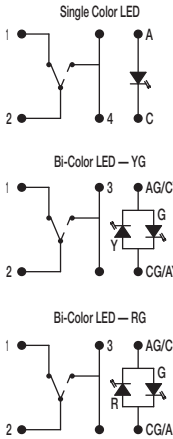
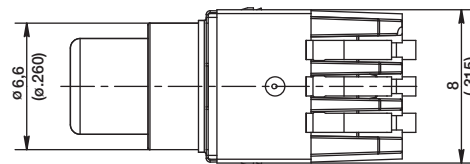
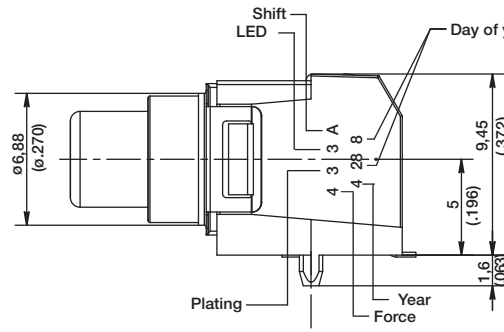
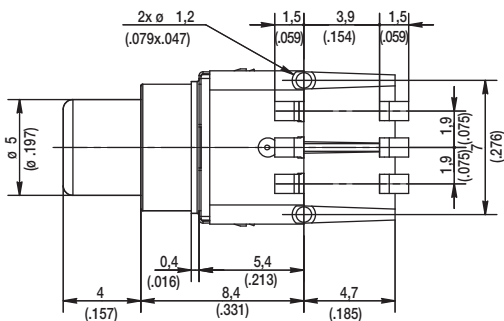
K5V SMT

ELECTRICAL DIAGRAM

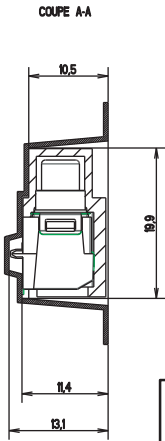
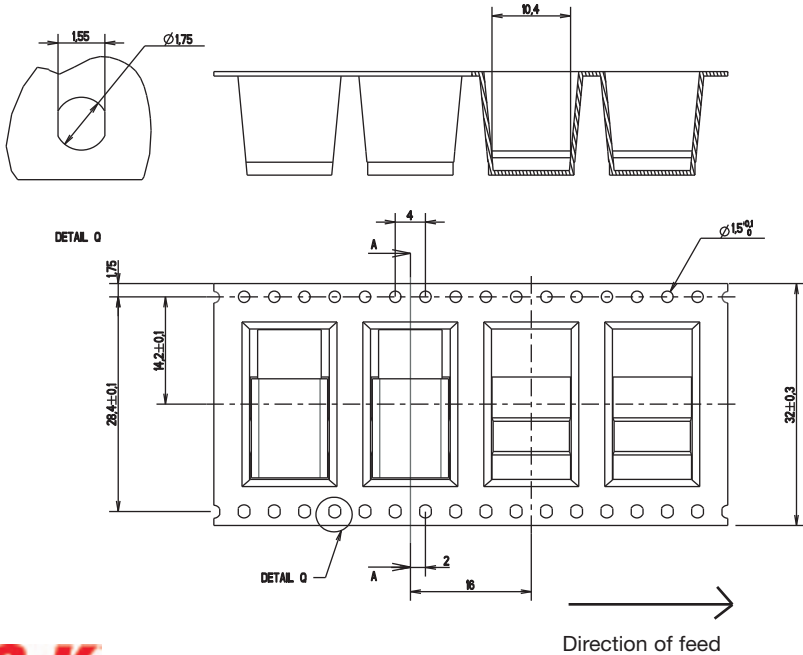
RECOMMENDED PCB LAYOUT (WITH HOLES)

Tactile Switches

B



TAPE & REEL



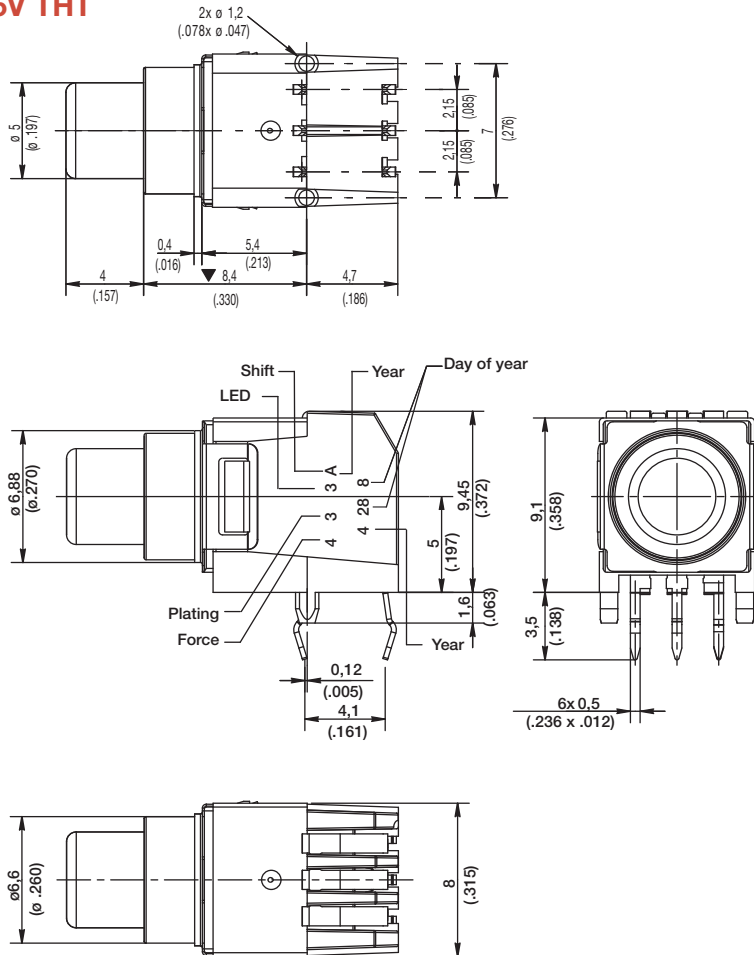
Dimensions are shown: mm (inches)
Specifications and dimensions subject to change



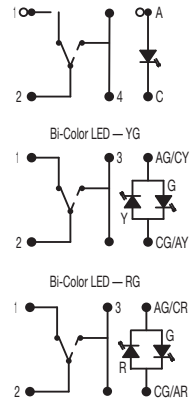
16 july 12

K5V Illuminated Tact Switch

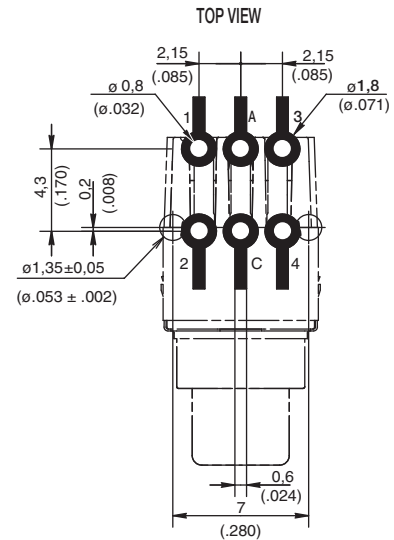
K5V THT



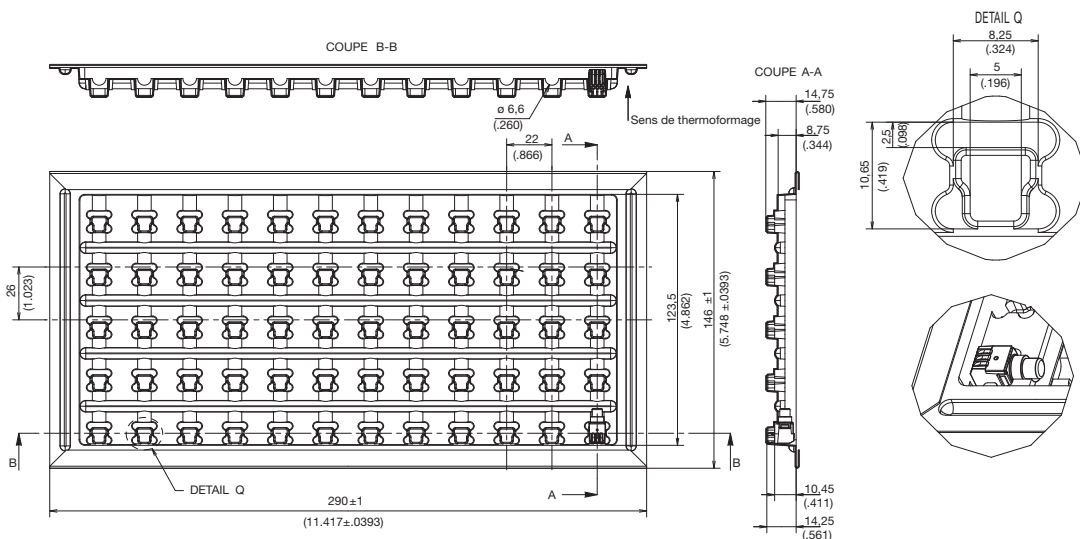
ELECTRICAL DIAGRAM



RECOMMENDED PCB LAYOUT (WITH HOLES)



TRAY



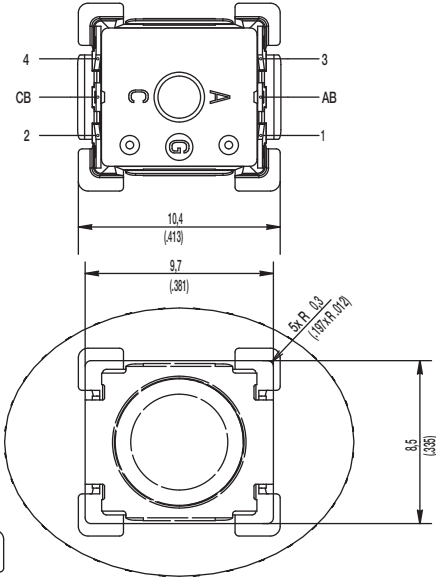
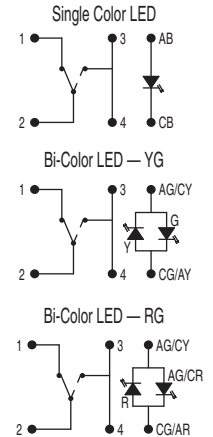
K5V

Illuminated Tact Switch

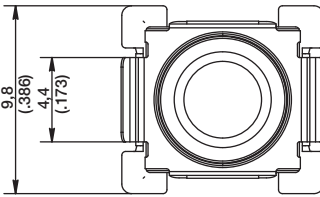
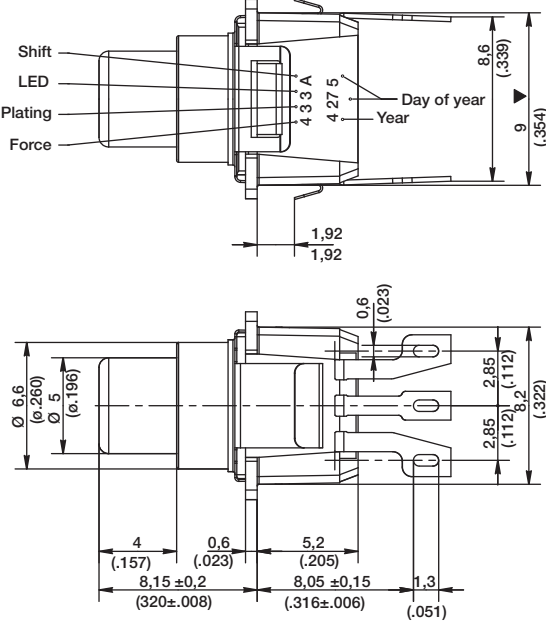
K5V PM

ELECTRICAL DIAGRAM

TERMINAL REFERENCES

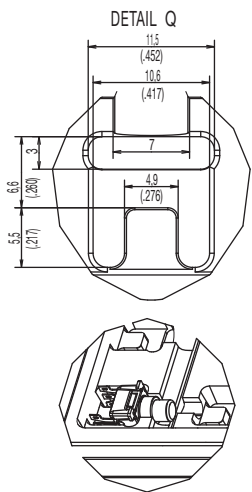
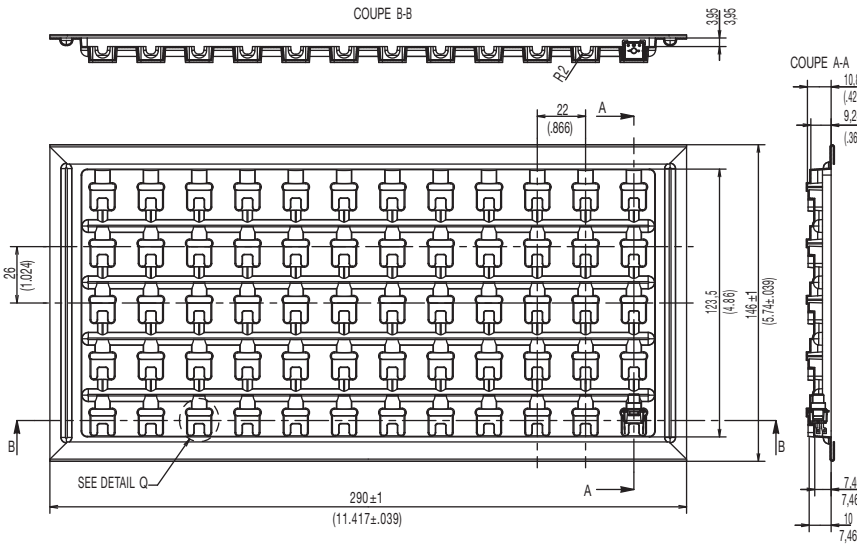


PRODUCT IDENTIFICATION AND DATE CODES



TRAY

SUITABLE FOR PANEL THICKNESS OF 1.8MM MAX



16 july 12

B-66

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

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Tactile Switches

B



KSF & KSFI Series Soft Actuated Tact Switch



Features/Benefits

- Soft actuated switch
- Sealed front end
- Top and side actuated

Typical Applications

- Low profile keyboards
- Automotive interfaces
- Industrial control

Specification

FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: THT pins

Mechanical

Type	Force (N)	Operating life (operations)	Travel (mm)
KSF0M211LFT	1.5 ± 0.5	100,000	0.25 ± 0.1
KSF0M311LFT	1.9 ± 0.5	100,000	0.25 ± 0.1
KSF0M411LFT	3.0 ± 0.75	100,000	0.25 ± 0.1
KSF0M511LFT	5.2 ± 1.0	100,000	0.25 ± 0.1
KSF0M91170SH LFT	3.4 ± 1.5	100,000	0.65 ± 0.25
KSF0M212 LFT	1.6 ± 0.4	300,000	0.25 ± 0.1
KSF0M412 70SHLFT	3.2 ± 0.8	100,000	0.75 ± 0.25

Overload resistance: 40N, 1 time
Sealing: IP 60 or IP67

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

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

Electrical

	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 Vrms	
CONTACT RESISTANCE:	< 100 m Ω	
INSULATION RESISTANCE (100 V, initial stage):	≤ 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	-40°C to 125°C

Process

SOLDERING

Packaging

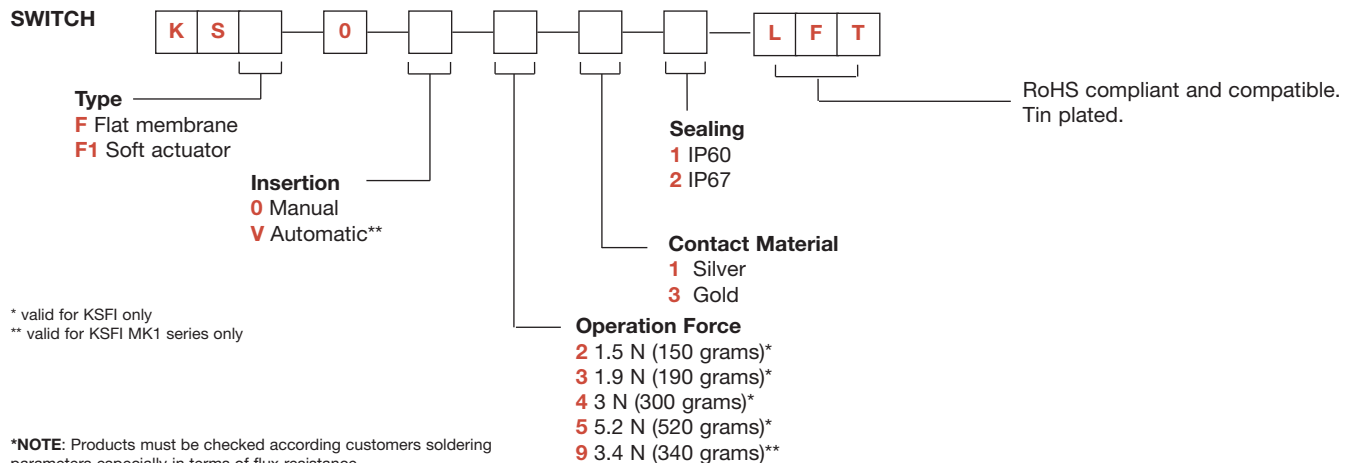
In boxes of 250 pieces (V type) or 500 pieces (M type).

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.

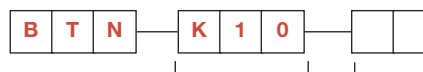
However, please note that all the combinations of these options are not feasible.

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



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

Button Style
K10 10 mm square



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

Dimensions are shown: mm (inches)
 Specifications and dimensions subject to change



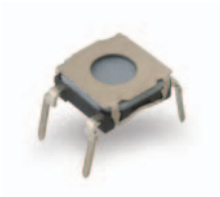
24 July 12

KSF & KSFI Series Soft Actuated Tact Switch

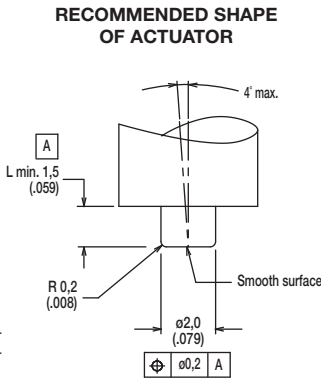
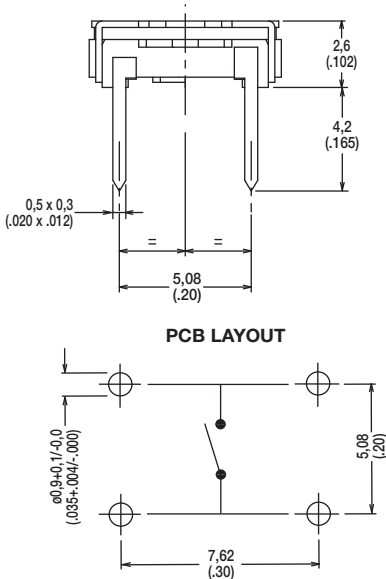
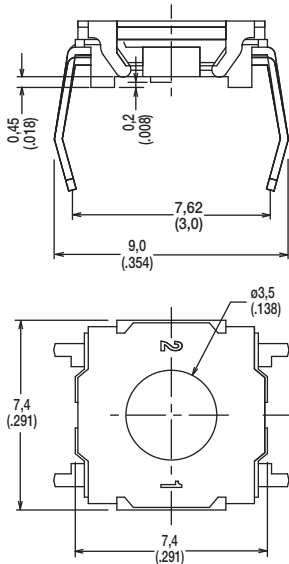
Tactile Switches

B

KSF

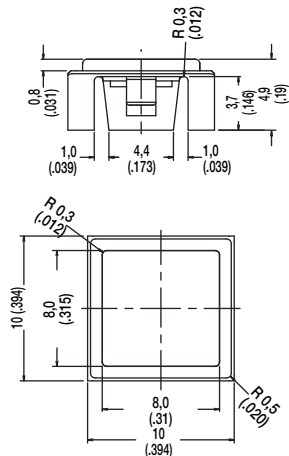
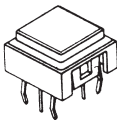


KSF0M111



BUTTON

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



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change



24 july 12

KSA & KSL Series Sealed Tact Switch

Features/Benefits

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

Typical Applications

- Automotive
- Industrial
- Telecommunication networks



Specification

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

Mechanical

Type	Actuation force N	Operating life (operations)	Travel to make
KSA0M211	1 - 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	3,5 - 6,5	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	3,5 - 6,5	100,000	0,7 ± 0,2
KSL0M911	2,25 - 3,75	500,000	0,6 ± 0,2

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA	1 mA
DIELECTRIC STRENGTH: 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 85°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 85°C	-55°C to 125°C

Process

Wave soldering compatible with lead free soldering profile.

Packaging

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

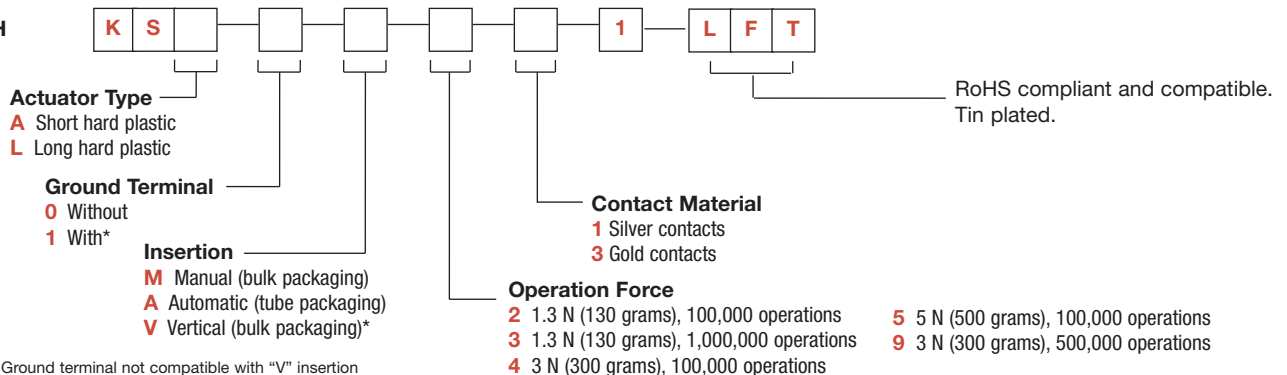
How To Order

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

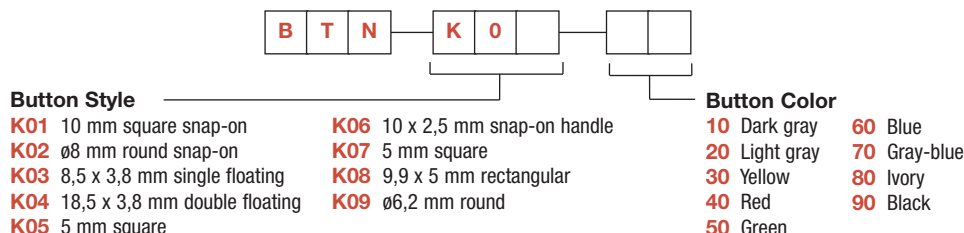
However, please note that all the combinations of these options are not feasible.

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

SWITCH



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



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



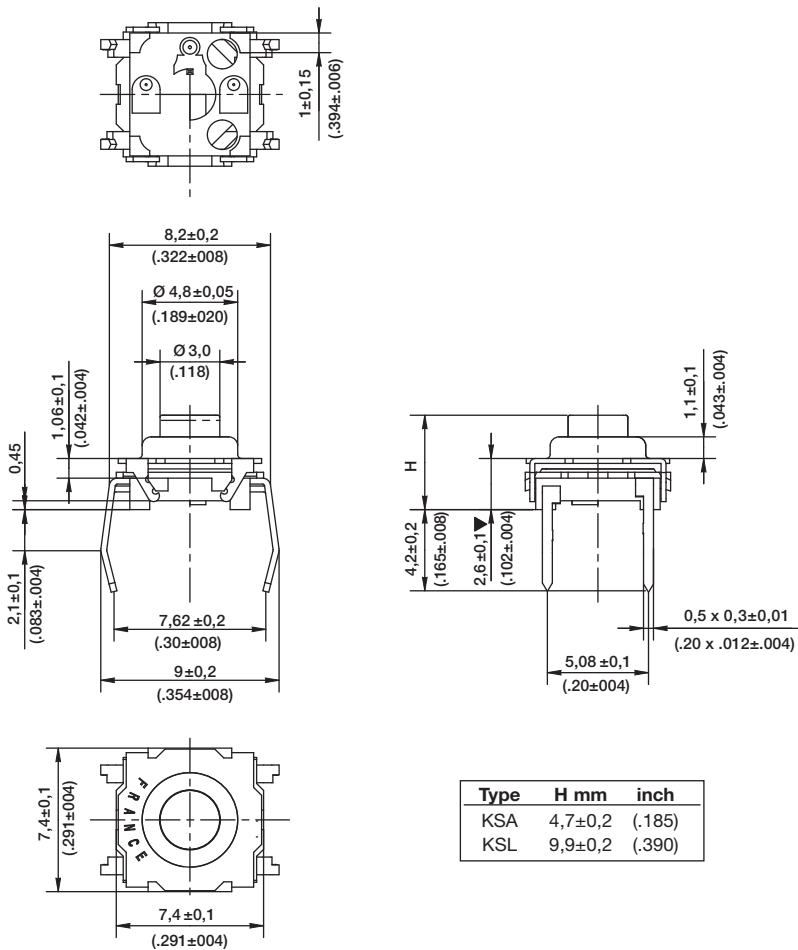
KSA & KSL Series
Sealed Tact Switch

ACTUATOR TYPE

KSA & KSL

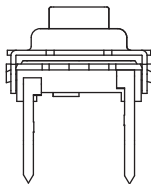
B

Tactile Switches

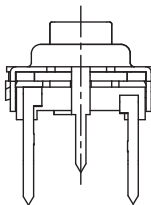


GROUND TERMINAL

0 WITHOUT



1* WITH



*Not compatible with "V" insertion



13 feb 14

B-70



First Angle
Projection

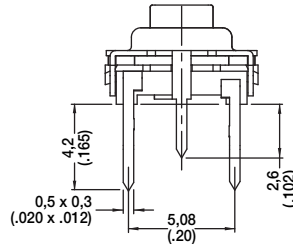
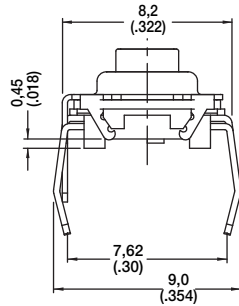
Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

www.ck-components.com

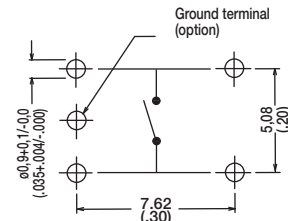
KSA & KSL Series Sealed Tact Switch

INSERTION

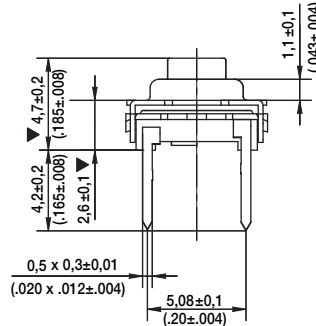
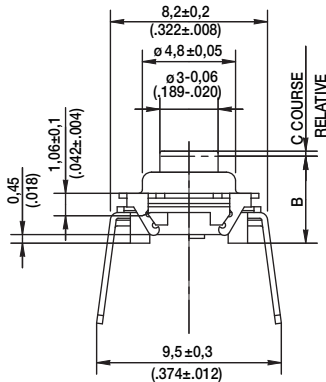
M MANUAL (BULK PACKAGING)



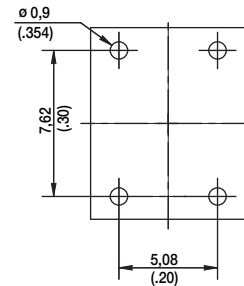
PCB LAYOUT



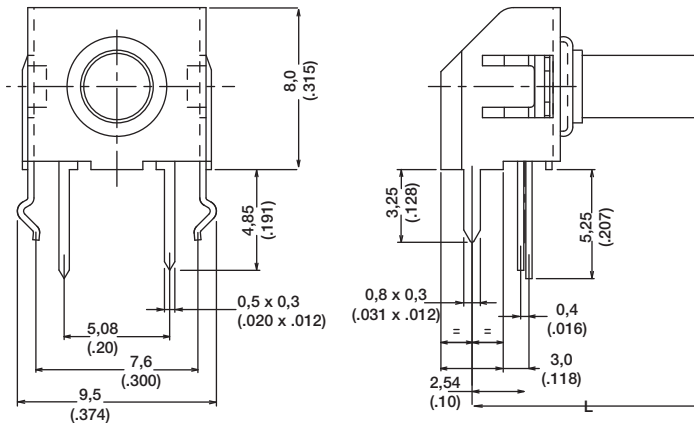
A AUTOMATIC (TUBE PACKAGING, 65 PIECES PER TUBE)



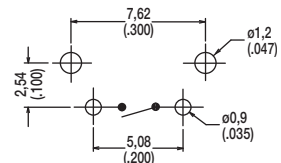
PCB LAYOUT



V VERTICAL



PCB LAYOUT



DIMENSION L

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

OPERATING FORCE

OPTION CODE	OPERATING FORCE
2	1.3 N (130 grams) 100,000 operations
3	1.3 N (130 grams) 1,000,000 operations
4	3.0 N (300 grams) 100,000 operations
5	5.0 N (500 grams) 100,000 operations
9	3.0 N (300 grams) 500,000 operations



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

KSA & KSL Series Sealed Tact Switch

CONTACT MATERIAL



OPTION CODE	CONTACT MATERIAL
1	Silver contacts
3	Gold contacts

SEALING



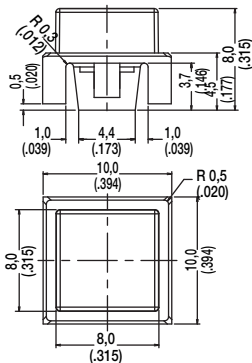
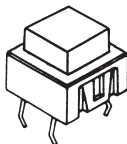
OPTION CODE	SEALING
1	Sealing level IP60

BUTTONS

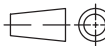
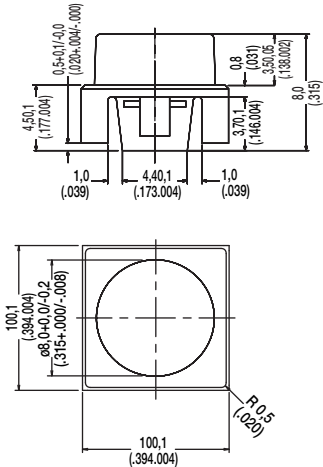
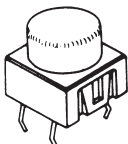
Buttons must be ordered separately and will be supplied in bulk.

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



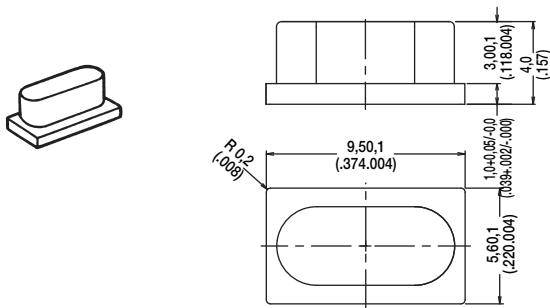
First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

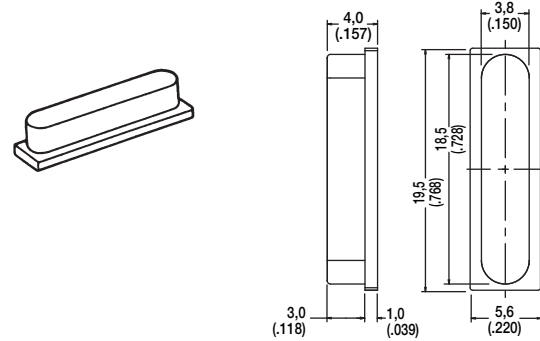


KSA & KSL Series Sealed Tact Switch

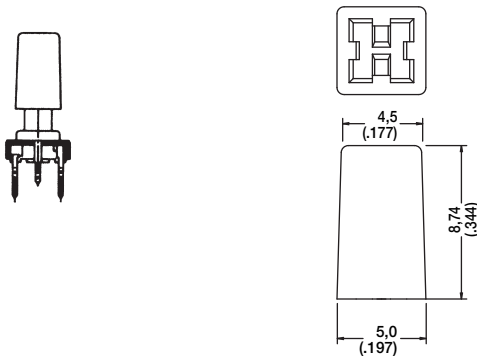
K03



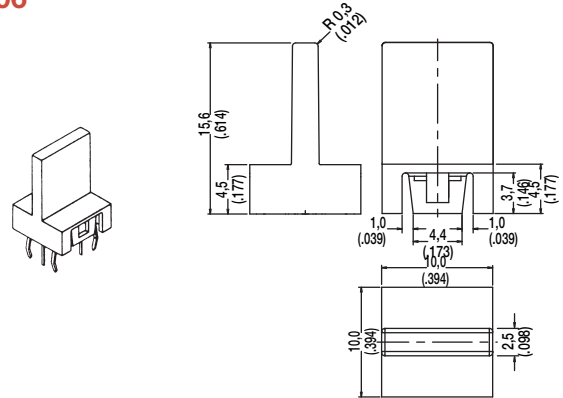
K04



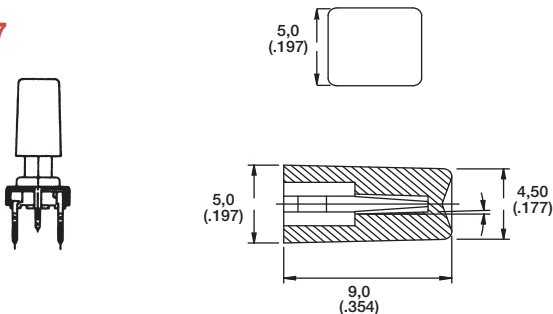
K05



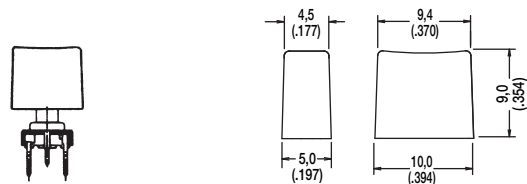
K06



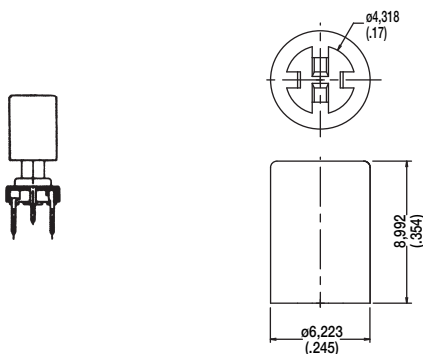
K07



K08



K09



Tactile Switches

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
 SEALING: IP67
 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

Packaging

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

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

Other versions in terms of force, termination length and corrosion protection available.
 Please contact your sales representative.

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

Electrical

	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM CURRENT:	50 mA	10 mA
MINIMUM CURRENT:	1 mA	1 mA
DIELECTRIC STRENGTH:	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 85°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 85°C	-55°C to 125°C

Process

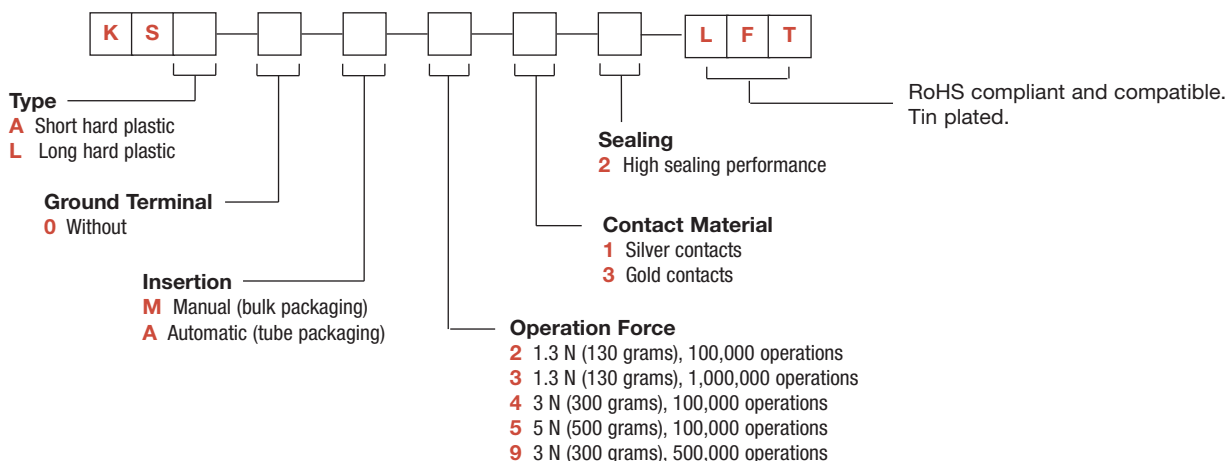
Wave soldering compatible with lead free soldering profile.

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.

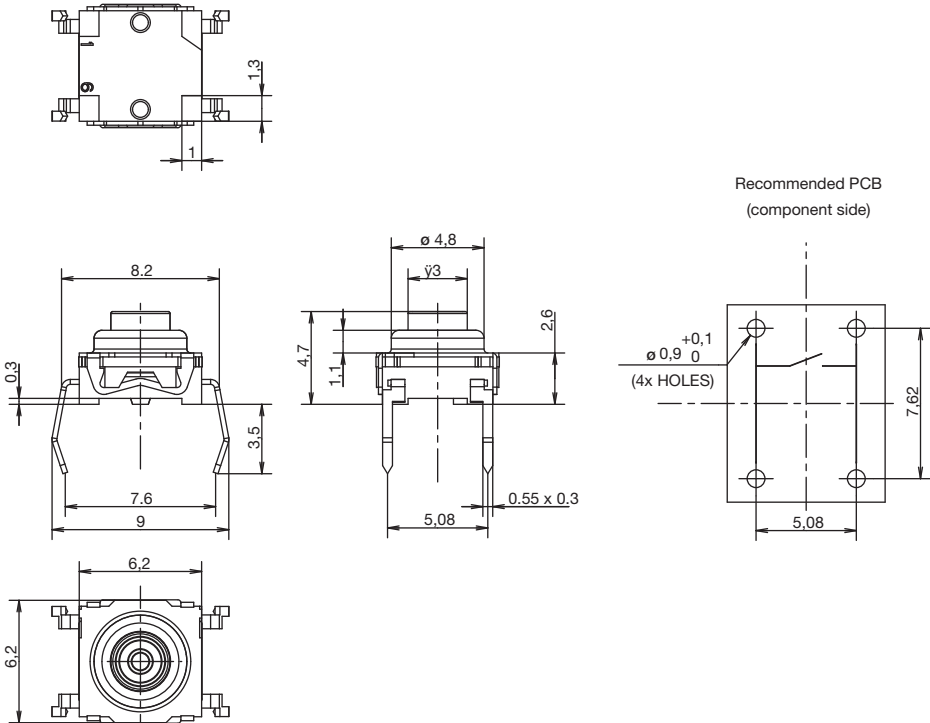


KSA & KSL MKII Series High Performance Sealed Tact Switch

TYPE

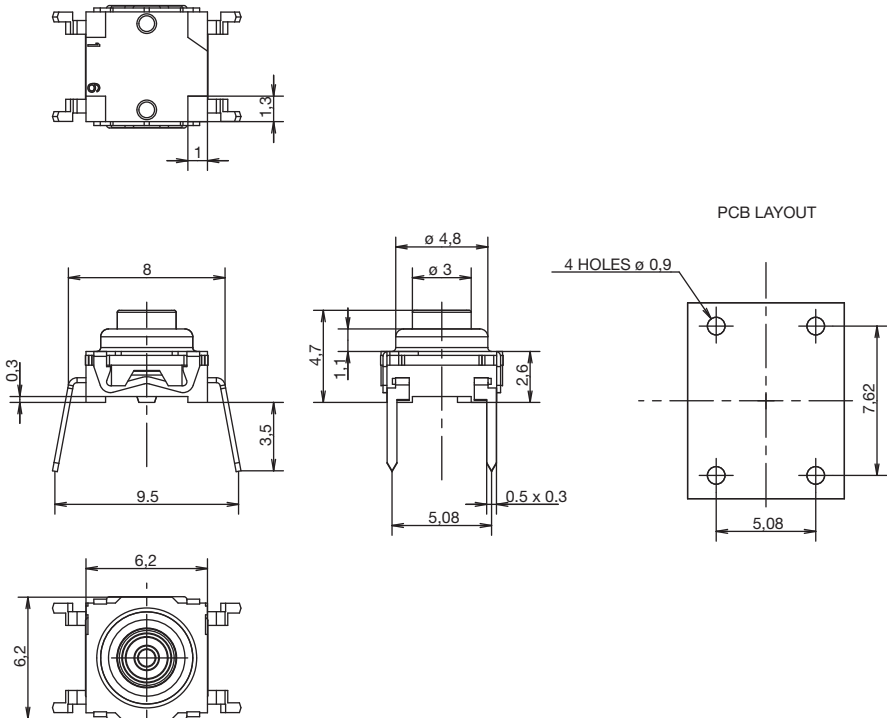
KSA & KSL

MANUAL INSERTION



KSA & KSL

AUTOMATIC INSERTION



KSJ Series

Spherical Actuator Tact Switches

Features/Benefits

- **Spherical actuator allows actuation force off center $\pm 30^\circ$ with regard to vertical**
- **RoHS compliant and compatible**
- **Designed for mechanisms**

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
SEALING: IP60

Mechanical

Type	Actuation force N (grams)	Operating life (operations) axial	Operating life (operations) radial	Travel to make (mm)
KSJ0M21160SH	1,5 - 2,5	100,000	30,000	0,6 $\pm$ 0,3
KSJ0M41180SH	2,47 - 4,12	100,000	30,000	0,55 $\pm$ 0,25
KSJ0M21180SH	1,5 - 2,5	100,000	30,000	0,35 $\pm$ 0,2
KSJ0M91180SH	3,1 - 4,7	100,000	30,000	0,7 $\pm$ 0,25

Environmental

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

Packaging

Delivered in boxes of 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:	50 mA	50 mA
MINIMUM CURRENT:	1 mA	1 mA
DIELECTRIC STRENGTH (50 Hz, 1 min.): ≥ 250 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.

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

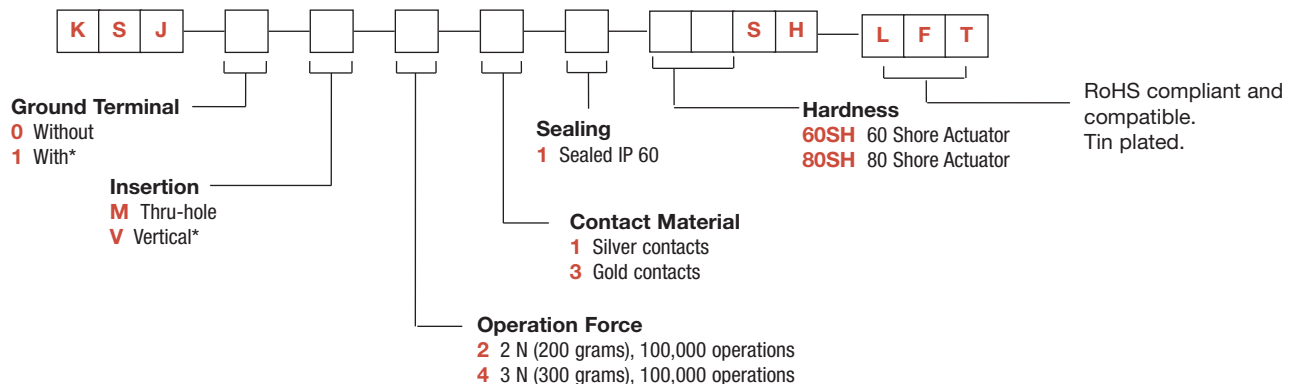
* Please contact your C&K representative for any question regarding the product integration.

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.

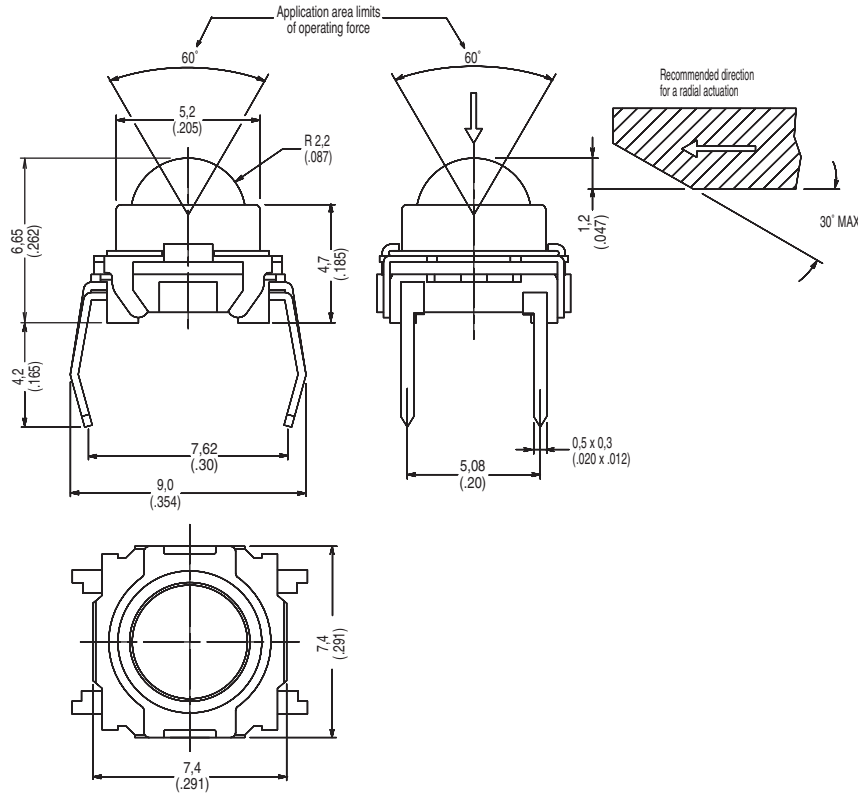
However, please note that all the combinations of these options are not feasible.

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



KSJ Series Spherical Actuator Tact Switches

KSJ



KSJ0M211

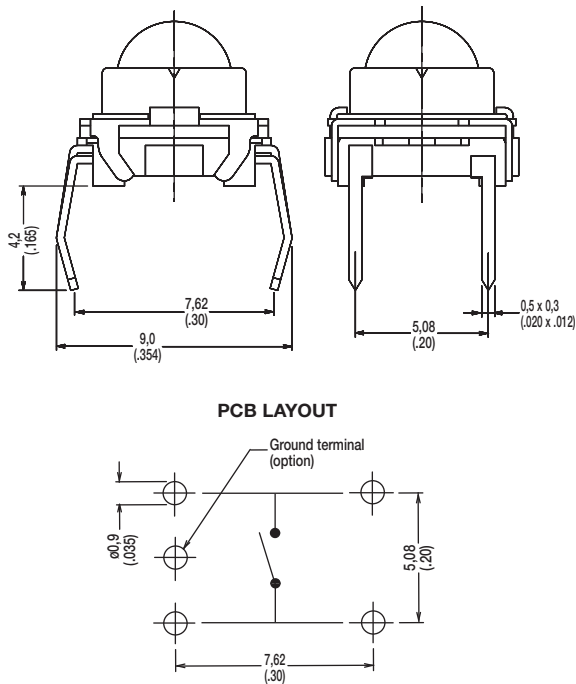


B

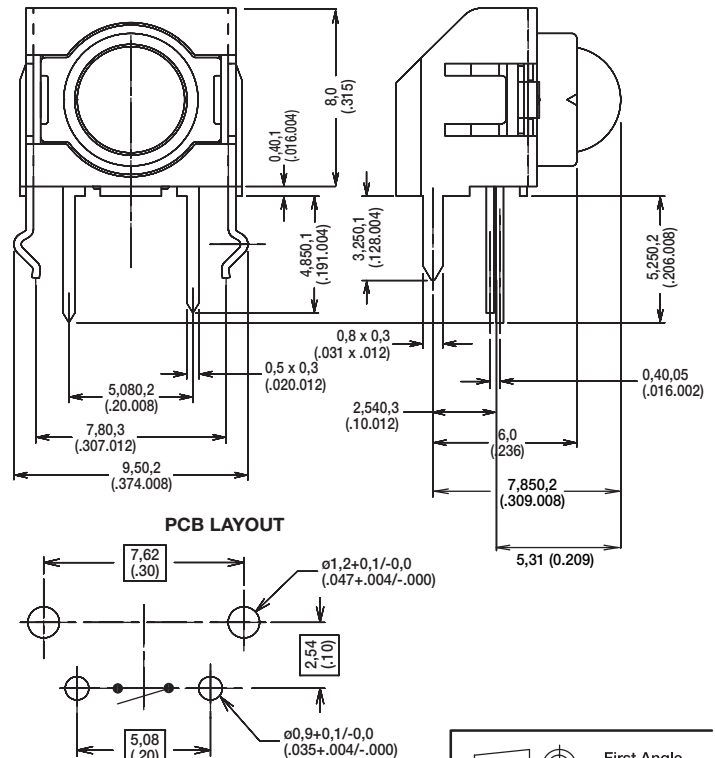
Tactile Switches

INSERTION

M THRU-HOLE



V VERTICAL



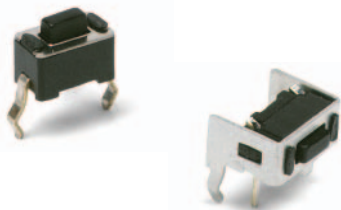
First Angle Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change



PTS635 Series

3,5 mm Tact Switches



Features/Benefits

- Compact size 6 x 3.5 mm
- Variety of switch heights
- Choice of actuation force
- RoHS compliant and compatible

Typical Applications

- Consumer products
- Instrumentation
- Computer products
- Industrial

Specification

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

Mechanical

ACTUATION FORCE: PTS635L models: 130 grams.
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: 10¹¹ Ω 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

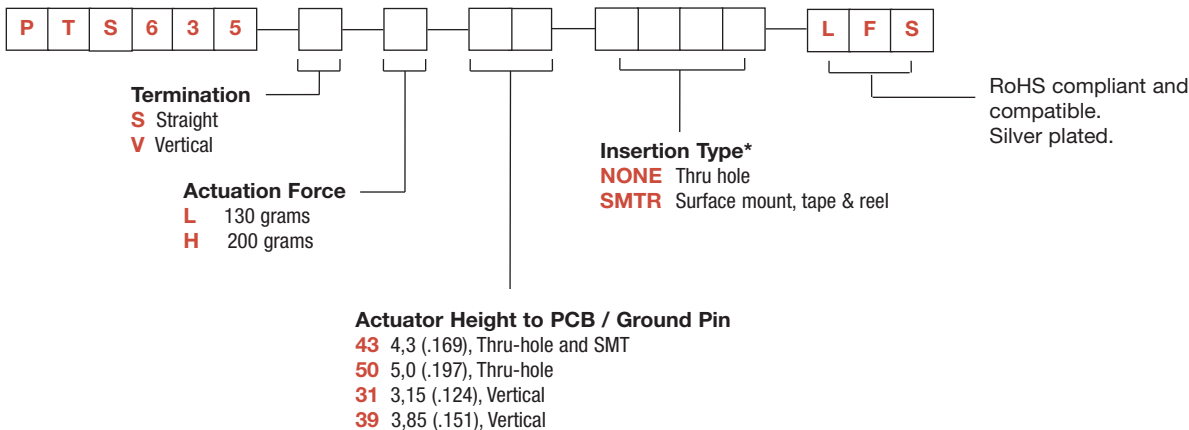
Bulk packaging.

Tape & reel for:

PTS635Sx43SMTR, 1700 pcs per reel

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.

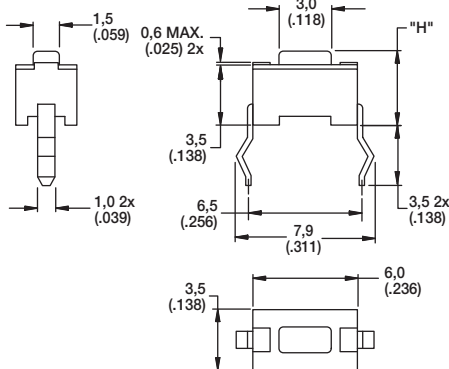


* SMTR only available with PTS635 43 Actuator Height options.

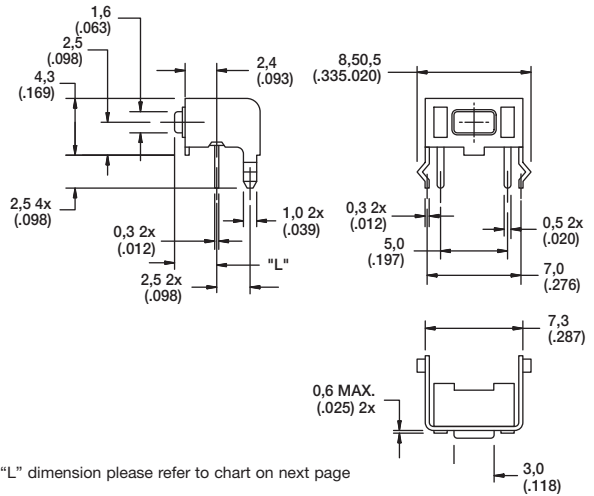
PTS635 Series 3,5 mm Tact Switches

SERIES

PTS635



For "H" dimension please refer to chart on next page

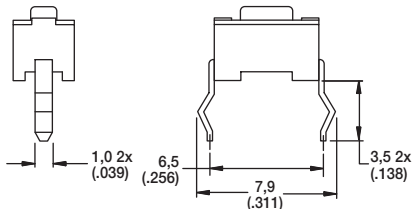


For "L" dimension please refer to chart on next page

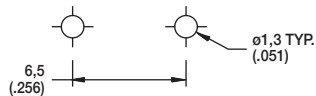
TERMINATION



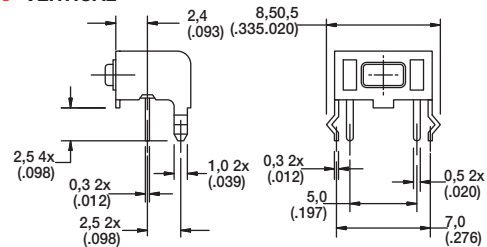
S STRAIGHT



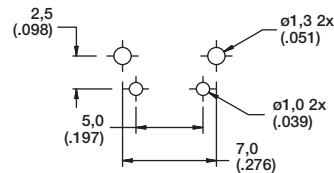
PCB LAYOUT



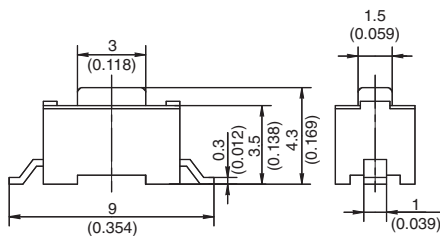
V VERTICAL



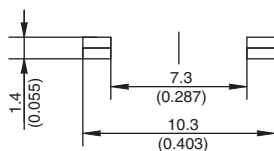
PCB LAYOUT



SMT 43



PCB LAYOUT



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

PTS635 Series

3,5 mm Tact Switches

ACTUATION FORCE

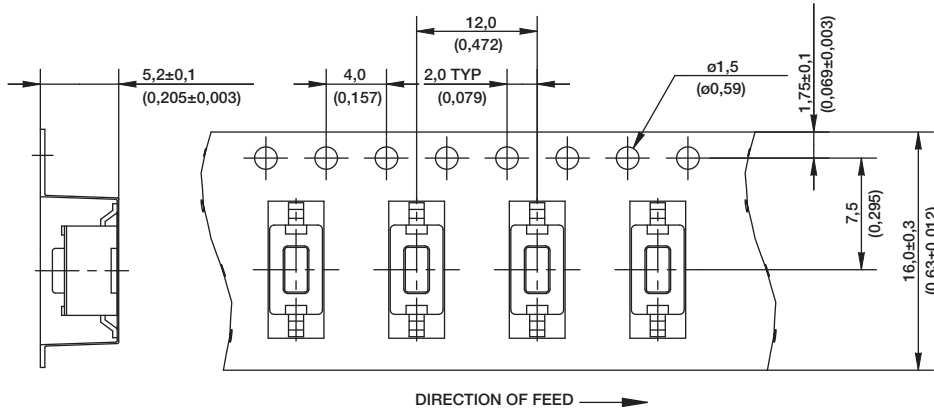
OPTION CODE	FORCE
L	130 grams
H	200 grams

ACTUATOR HEIGHT

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

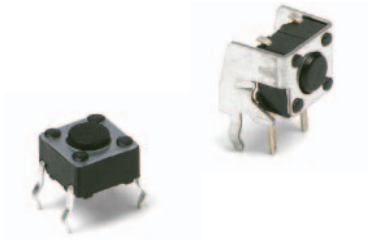
INSERTION TYPE

SMTR 43



11 nov 13

PTS645 Series 6 mm Tact Switches



Features/Benefits

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

Typical Applications

- Consumer products
- Instrumentation
- Computer products
- Industrial

Specification

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

Mechanical

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

Electrical

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

Environmental

OPERATING TEMPERATURE: -20°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.

Packaging

Bulk packaging.

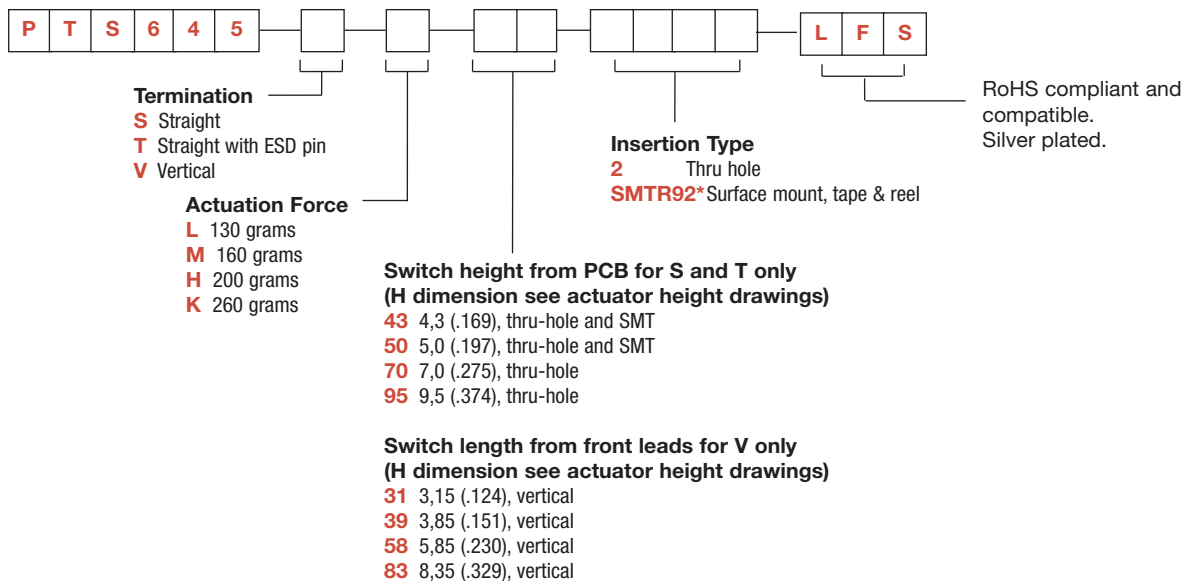
Tape & reel for the SMT type:

Reels of 1,000 pieces for 4,3 and 5,0 mm height
Reels of 700 pieces for 7,0 mm height
Reels of 500 pieces for 9,5 mm height

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

How To Order

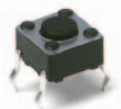
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



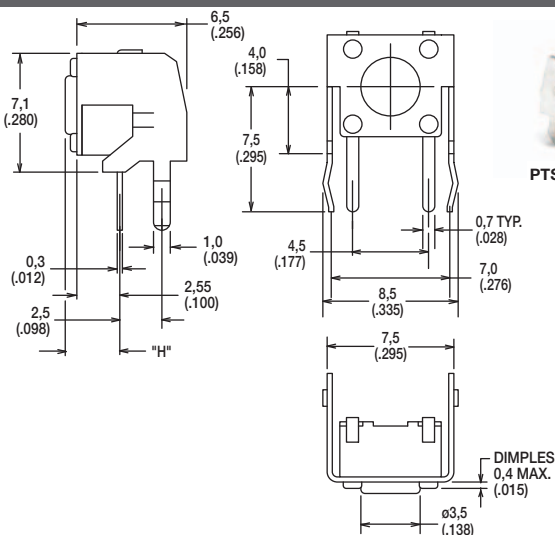
*Only the straight type termination without ESD pin is available in SMT type.

Tactile Switches

B



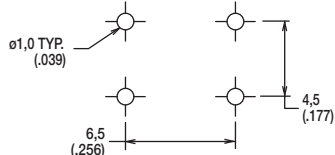
PTS645S Model

**PTS645V Model**

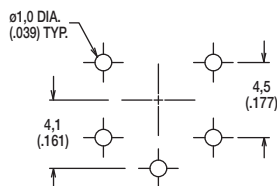
Technical drawing of the 1000 Series 1/2" tool, showing three views: side, front, and top. Dimensions are provided in inches and millimeters.

- Side View:**
 - Overall length: 7.9 (203)
 - Distance from front face to center of pin: 6.5 (165)
 - Pin diameter: 0.7 TYP. (.028)
 - Pin length: 3.5 (89)
 - Pin offset from centerline: 1.8 (.071)
- Front View:**
 - Overall width: 4.5 (117)
- Top View:**
 - Overall width: 4.5 (117)

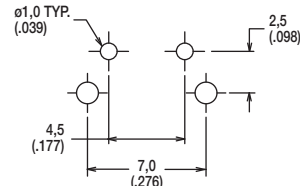
PCB LAYOUT



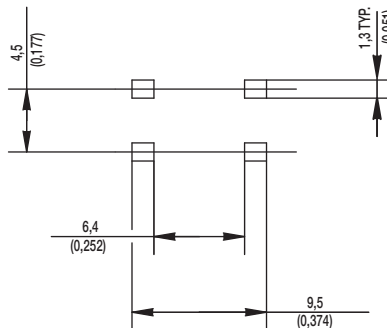
PCB LAYOUT



PCB LAYOUT



Technical drawing of the 1000 Series 1/2" (Figure 1000 Series 1/2"). The drawing shows a side view and a top view of the component. The side view dimensions are: overall height 3.6 (0.142), top flange diameter $\varnothing 3.5$ (0.138), and base width 9.0 (0.354). The top view dimensions are: overall width 6.0 S.Q. (0.236) and mounting hole spacing 4.5 (0.177).



Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

PTS645 Series 6 mm Tact Switches

ACTUATION FORCE



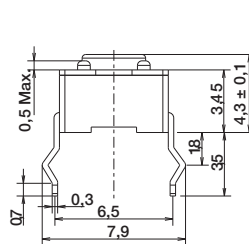
OPTION CODE	FORCE
L	130 grams
M	160 grams
H	200 grams
K	260 grams

ACTUATOR HEIGHT

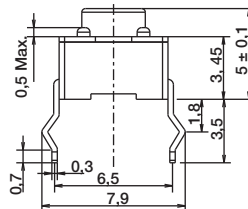


OPTION CODE	DIMENSION H	TERMINATION	SCHEMATIC	
			Without EMC pin	With EMC pin
43	4,3 (.169)	Thru-hole and SMT		
50	5,0 (.197)	Thru-hole and SMT		
70	7,0 (.275)	Thru-hole and SMT		
95	9,5 (.374)	Thru-hole and SMT		
31	3,15 (.124)	Vertical		
39	3,85 (.151)	Vertical		
58	5,85 (.230)	Vertical		
83	8,35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

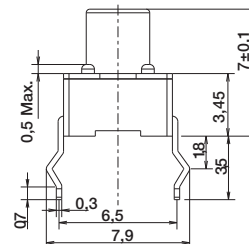
43



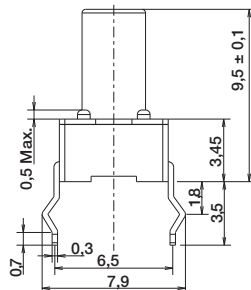
50



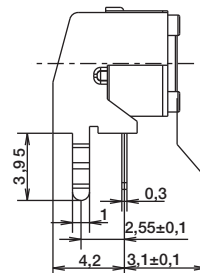
70



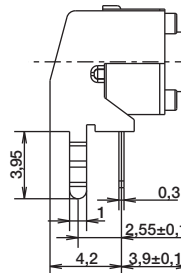
95



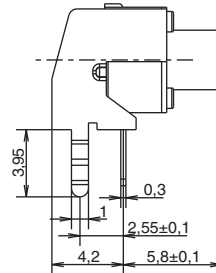
31



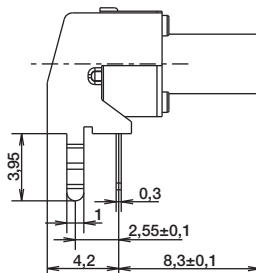
39



58



83



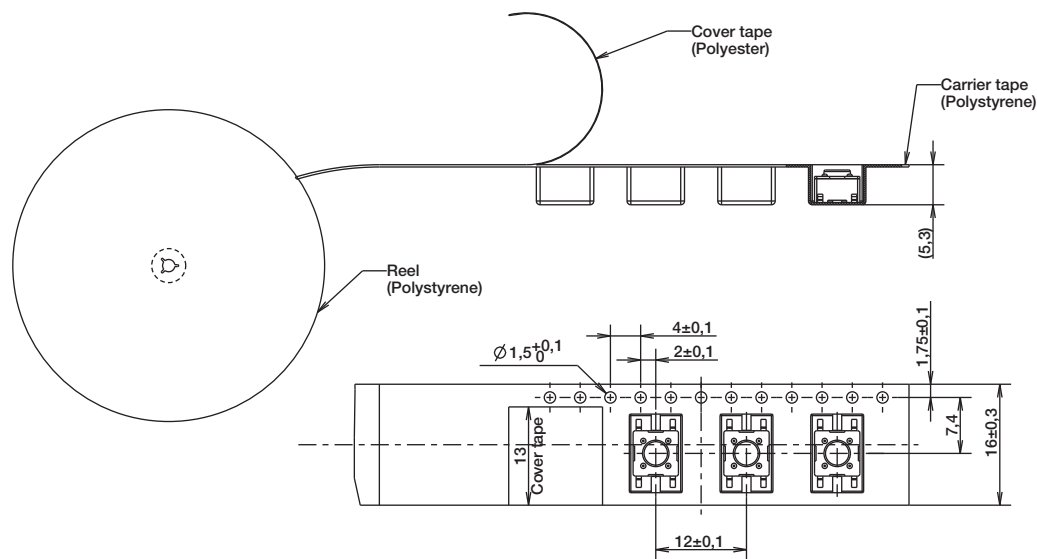
First Angle
Projection

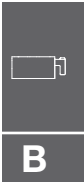
PTS645 Series
6 mm Tact Switches

TAPE & REEL

Tactile Switches

B





Tactile Switches

PTS125 Series

12 mm Tact Switches



Features/Benefits

- **Stable control feeling**
- **Thru-hole 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

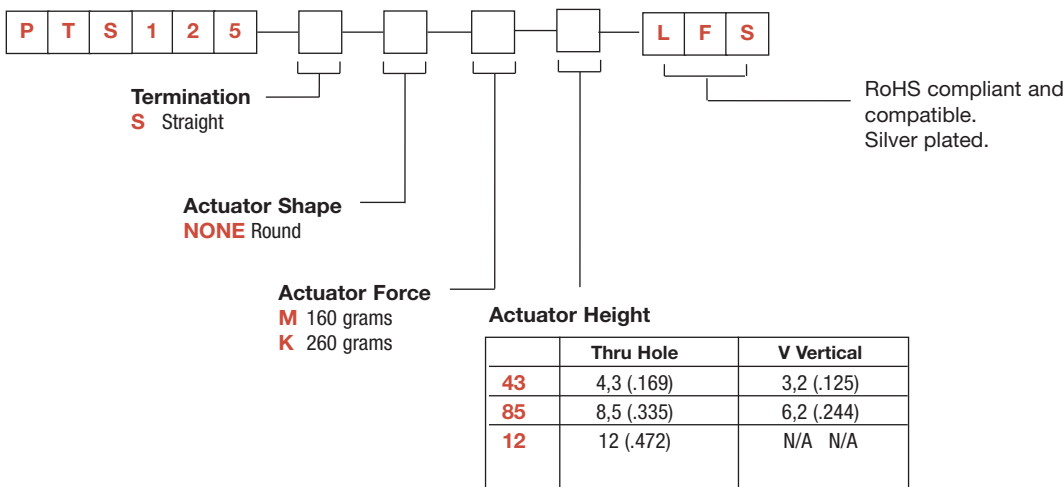
BASE: 6/6 nylon or glass filled polyester (PBT) (UL 94V-0).
ACTUATOR: PBT (UL94V0) or polyacetal (UL 94HB).
COVER PLATE: Tin alloy.
DOME CONTACTS: Phosphor bronze, silver clad.
STATIONARY CONTACTS: Brass, silver plated.
TERMINALS: Brass, silver plated. Insert molded.

Packaging

Tube packaging.

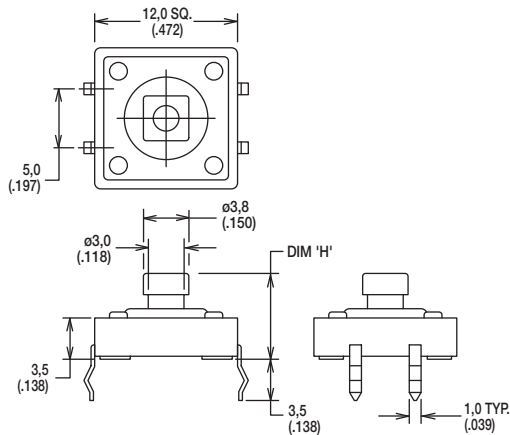
How To Order

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 place it in the appropriate box.



PTS125 Series
12 mm Tact Switches

SERIES

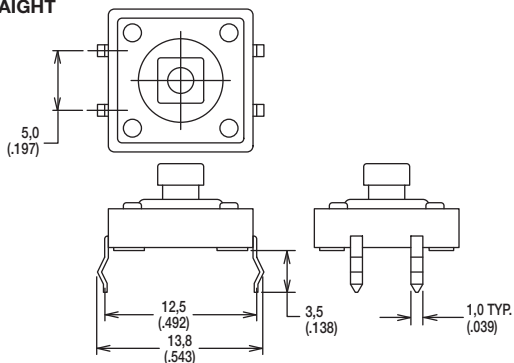


B

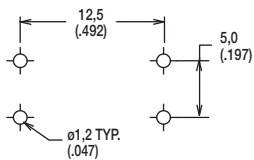
Tactile Switches

TERMINATION

S STRAIGHT



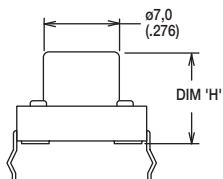
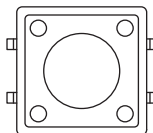
PCB LAYOUT



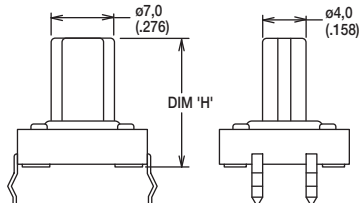
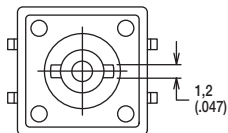
ACTUATOR SHAPE

NONE ROUND

43 and 85 heights only



12 height only



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

PTS125 Series
12 mm Tact Switches

ACTUATION FORCE 

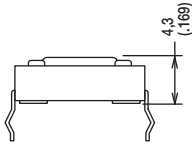
OPTION CODE	FORCE
M	160 grams
K	260 grams

B

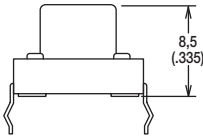
Tactile Switches

ACTUATOR HEIGHT 

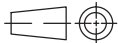
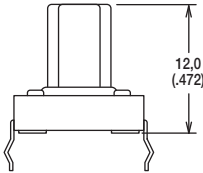
43 4,3 mm



85 8,5 mm



12 12 mm



First Angle
Projection

Dimensions are shown: mm (inches)
Specifications and dimensions subject to change

NEW!

ITS Series Illuminated Tact Switch

Features/Benefits

- Vertical and right angle
- Thru-hole and SMT models
- Multiple caps and legends
- Several LED colors and bi-color options
- RoHS compliant /compatible

Typical Applications

- Consumer electronics
- Server/storage
- Medical devices
- Test/Measurement/Instrumentation
- Audio/Video
- Computers/Peripherals
- Security



Specification

FUNCTION: N.O. momentary action
TERMINALS: SMT with positioning pegs, Thru-hole

Mechanical

OPERATING FORCE: 160gf $\pm$ 50gf
OPERATING LIFE: 50,000 cycles (250m Ω max)
RECOMMENDED OPERATING STROKE: 0.25mm $\pm$ 0.1mm

Electrical

RATING: 50mA @ 12VDC
CONTACT RESISTANCE: <100m Ω (initial)
DIELECTRIC WITHSTANDING VOLTAGE:
>250VAC (50-60 Hz) between terminals - 1 min. Ω
INSULATION RESISTANCE: >100M Ω
BOUNCE TIME: <10ms

Packaging

Thru-hole: 200 pieces per tray
SMT: tape & reel (see V2 or V3 mounting style drawings)

Environmental

OPERATING TEMPERATURE: -25°C to +70°C
STORAGE TEMPERATURE: -25°C to +80°C

Process

SOLDERABILITY: Thru-hole - wave compatible
SMT - convection or IR reflow compatible

Materials

CONTACTS/TERMINALS: Base metal; brass
Plating; Ag
DOME: Base metal: Phosphor bronze
Plating; Ag
BASE: PA
ACTUATOR: PA
COVER: PA

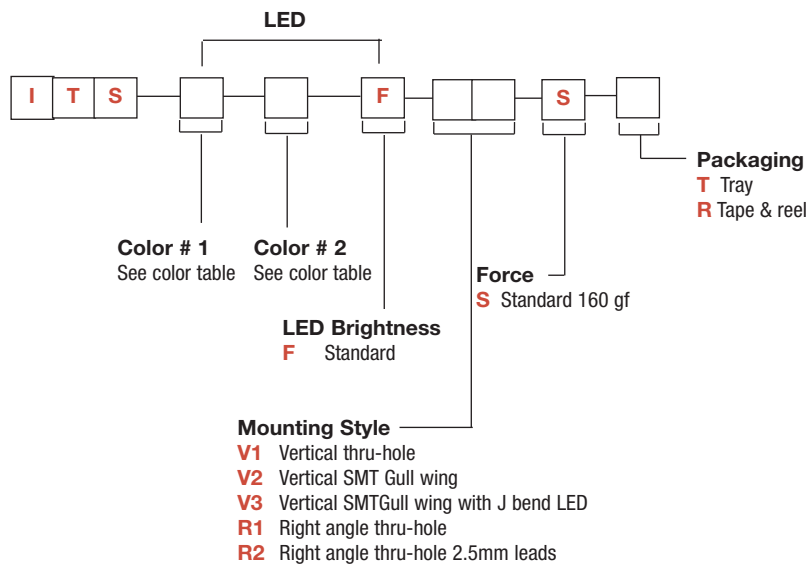
Caps

Caps are ordered separately and shipped bulk. Thru-hole versions available with caps assembled under custom part number. Contact customer service for details.

Tactile Switches

How To Order

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



LED Color	
00	No light
10	Red
12	Red/Yellow
13	Red/Green
14	Red/Blue
20	Yellow
21	Yellow/Red
23	Yellow/Green
30	Green
31	Green/Red
32	Green/Yellow
40	Blue
41	Blue/Red
50	White
60	True green

* Other colors available by request

ITS Series
Illuminated Tact Switch

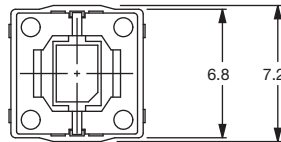
NEW!

LED COLOR / BRIGHTNESS

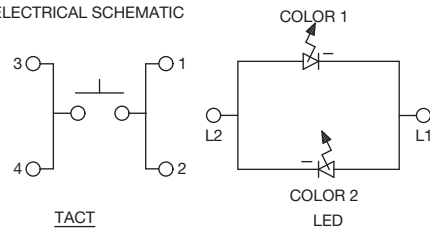
LED Characteristic	units	Standard LED Color Options					
		Red (1)	Yellow (2)	Green (3)	Blue (4)	White (5)	True Green (6)
Recommended Operating	mA @ 5VDC	20mA	20mA	20mA	20mA	20mA	20mA
Forward Current	mA	30 mA	30 mA	30 mA	30 mA	30 mA	30 mA
Peak Pulsing Current (1/8 duty @ 1kHz)	mA	125 mA	125 mA	125 mA	125 mA	125 mA	125 mA
Power Dissipation	mW	75 mW	75 mW	75 mW	108 mW	114 mW	108 mW
Forward Voltage @ 20mA	Volts	2.5 Volts Max.	2.5 Volts Max.	2.5 Volts Max.	3.6 Volts Max.	3.6 Volts Max.	3.6 Volts Max.
Dominant Wavelength @ 20mA	nm	637nm (Typical)	590nm (Typical)	570nm (Typical)	465nm (Typical)	CIE Coordinates X= 0.25 ~ 0.33 Y= 0.24 ~ 0.34	522nm (Typical)
Wavelength at Peak Emission @ 20mA	nm	645nm (Typical)	590nm (Typical)	573nm (Typical)	460nm (Typical)		515nm (Typical)
Spectral Half Bandwidth @ 20mA	nm	20nm (Typical)	20nm (Typical)	17nm (Typical)	25nm (Typical)		33nm (Typical)
Luminous Intensity @ 20mA	mcd	50mcd Minimum	125mcd Minimum	40mcd Minimum	100mcd Minimum	250mcd Minimum	500mcd Minimum
Viewing Angle at 50% LV (@10mA)	degrees	150° Typical	120° Typical	120° Typical	120° Typical	150° Typical	120° Typical

MOUNTING STYLES

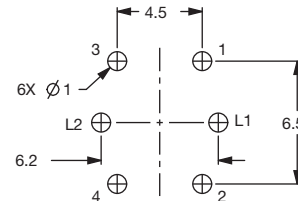
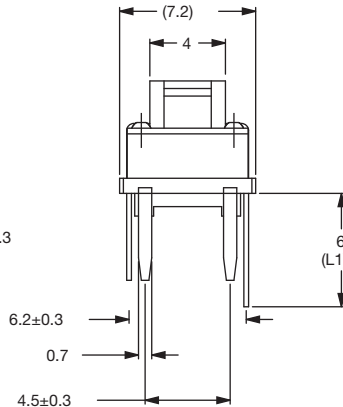
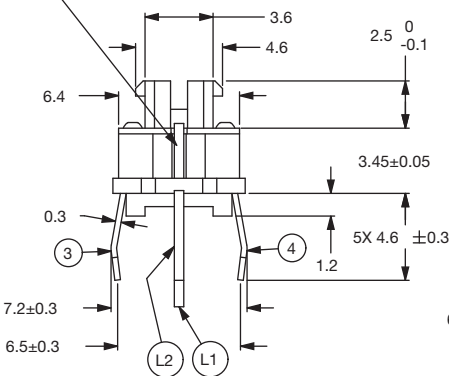
V1 - Vertical Thru-hole



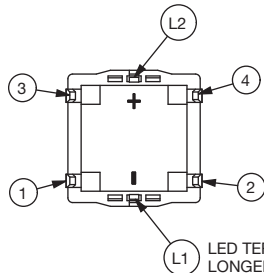
ELECTRICAL SCHEMATIC



DOT SHOWING LED COLOR IS
MARKED FOR MINUS POLE
SEE SCHEMATIC



P.C.B. LAYOUT



TRAY PACKAGING: 200 PIECES

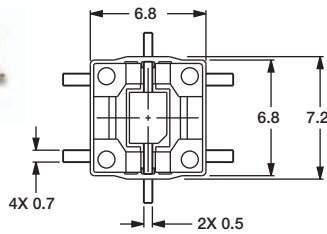


NEW!

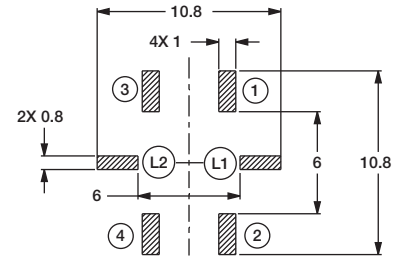
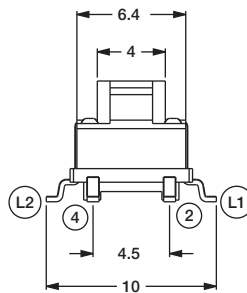
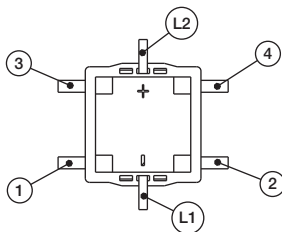
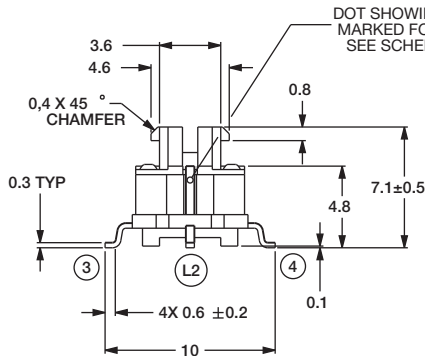
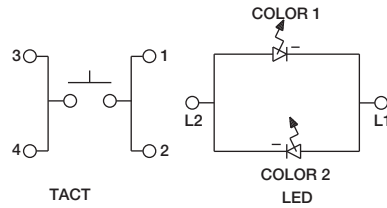
ITS Series Illuminated Tact Switch

MOUNTING STYLES

V2 - Vertical SMT; Gullwing



ELECTRICAL SCHEMATIC

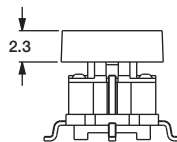
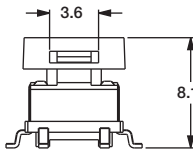
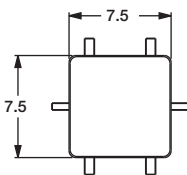


P.C.B. LAYOUT

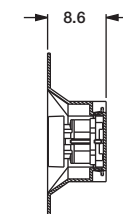
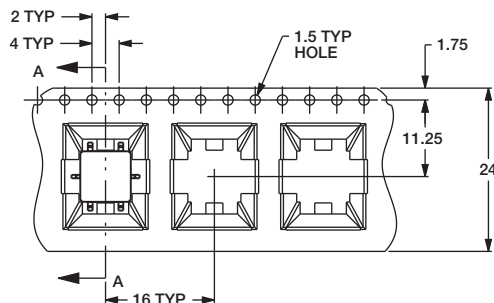


B

Tactile Switches

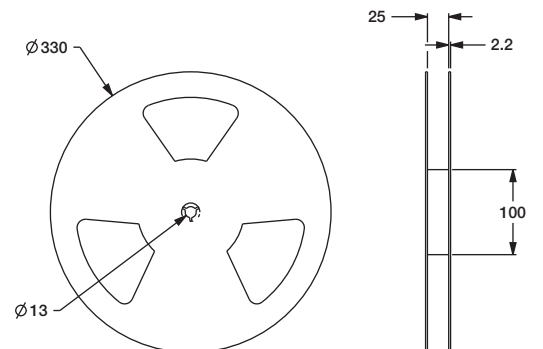


NOTES:
1. SWITCH WITH TEMPORARY PICK AND PLACE CAP.



SECTION A-A

TAPE & REEL: 500 PIECES



11 nov 13

B-91

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ck-components.com

ITS Series Illuminated Tact Switch

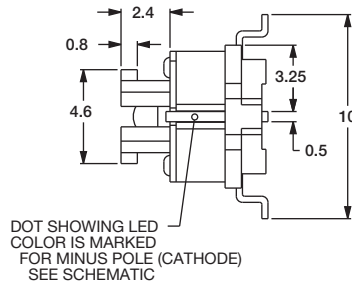
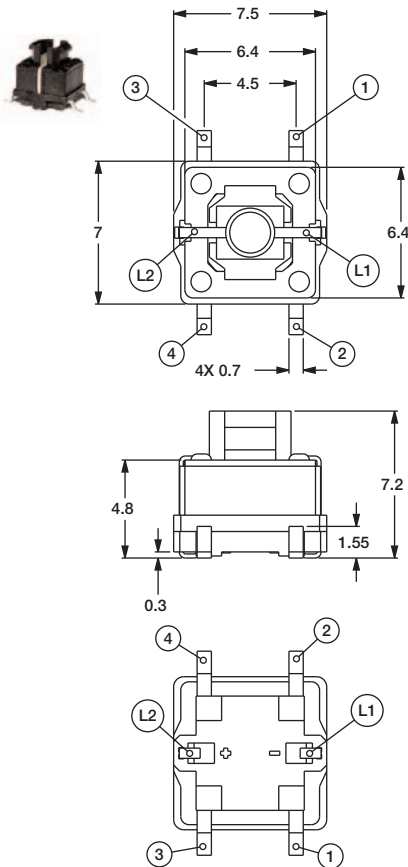
NEW!

MOUNTING STYLES

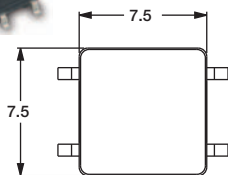
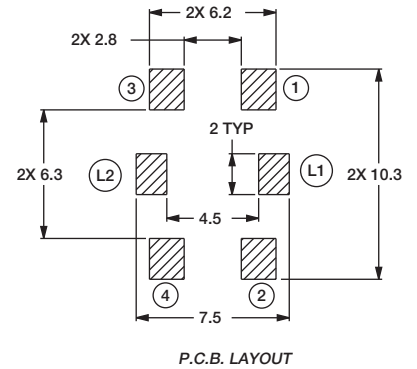
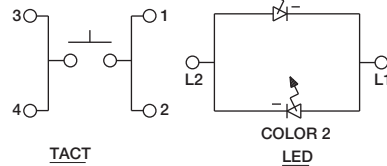
V3 - Vertical SMT; Gull wing with J bend LED

Tactile Switches

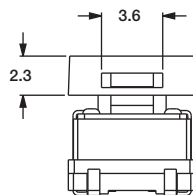
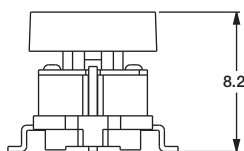
B



ELECTRICAL SCHEMATIC

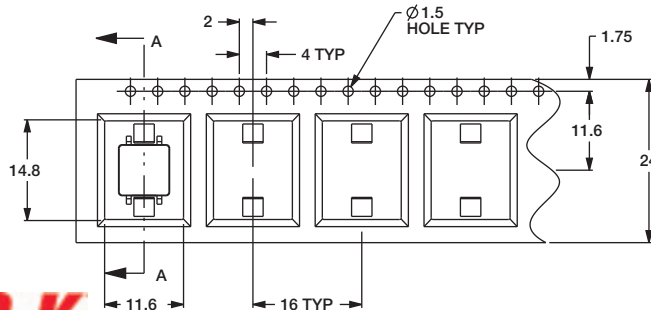


SCALE 3:1

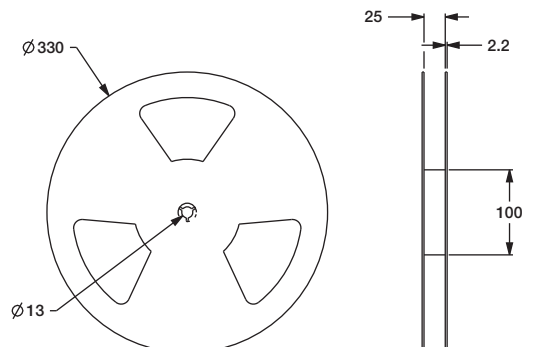
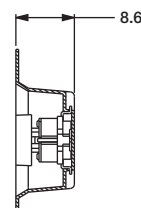


TAPE & REEL: 500 PIECES

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



SECTION A-A



Dimensions are shown: mm
Specifications and dimensions subject to change

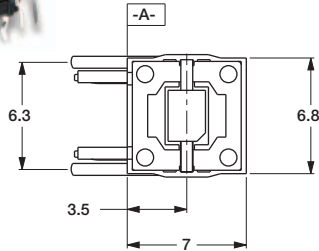
C&K

NEW!

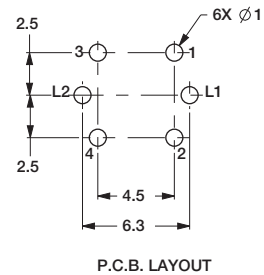
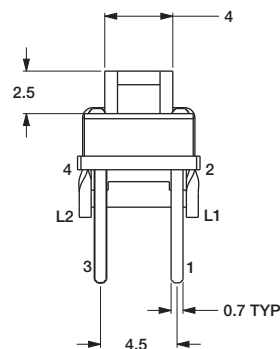
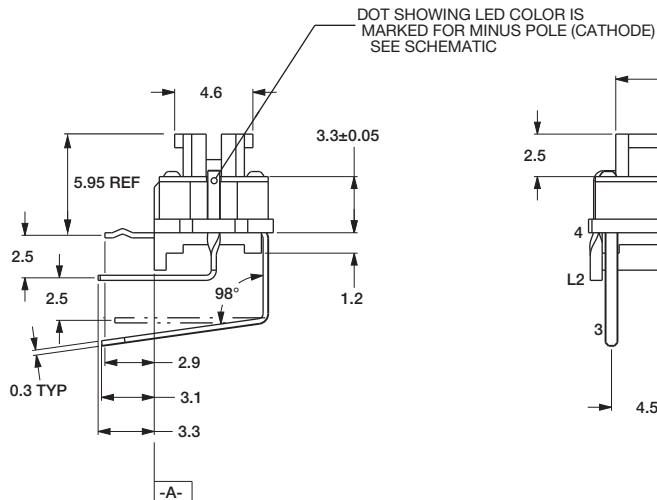
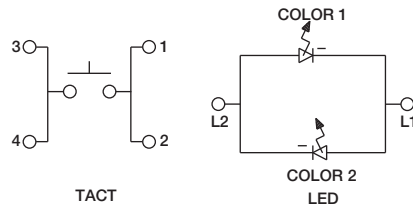
ITS Series Illuminated Tact Switch

MOUNTING STYLES

R1 - Right Angle; Thru-hole

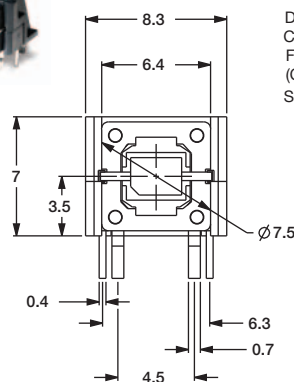


ELECTRICAL SCHEMATIC

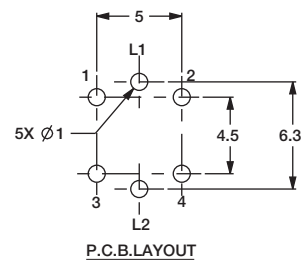
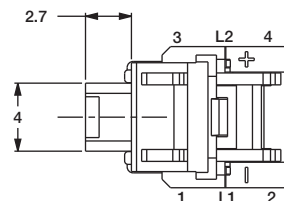
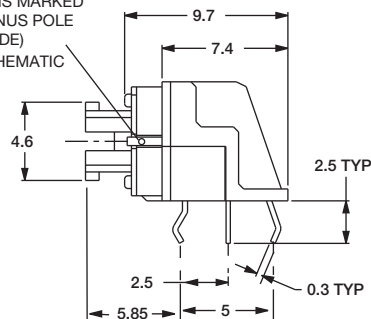


TRAY PACKAGING: 200 PIECES

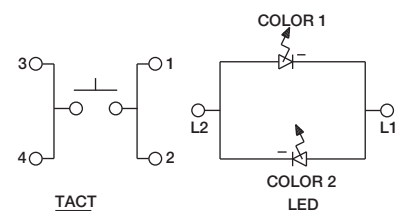
R2 - Right Angle; Thru-hole 2.5mm leads



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



ELECTRICAL SCHEMATIC



TRAY PACKAGING: 200 PIECES



11 nov 13

ITS Series
Illuminated Tact Switch

NEW!

FORCE

OPTION CODE	FORCE
S	Standard 160 gf

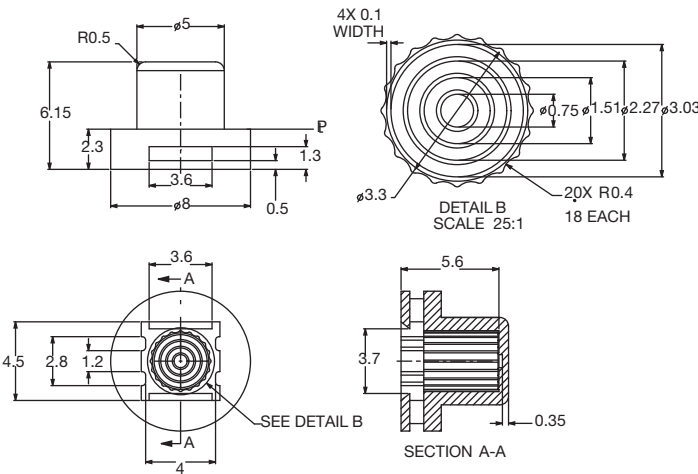
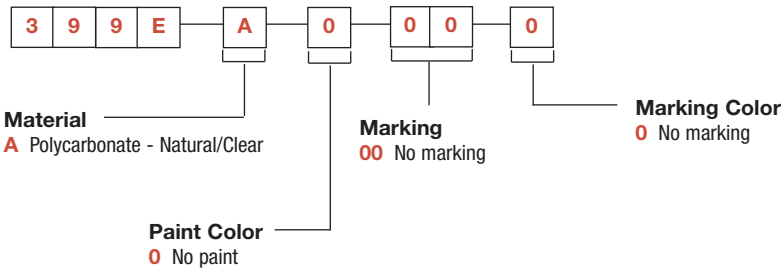
CAPS

Use the individual ordering code for each cap



399EA0000

Round cap, clear



NEW!

ITS Series Illuminated Tact Switch

CAPS



400EA0000

Natural/clear



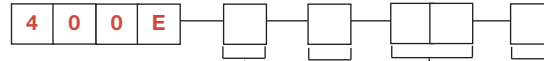
400EB0000

Translucent white, flat edge



400ECA01E

Matte silver paint laser etch, flat edge



Material

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

Paint Color

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

Laser Etch Marking

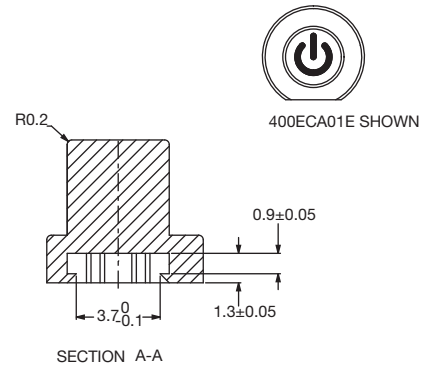
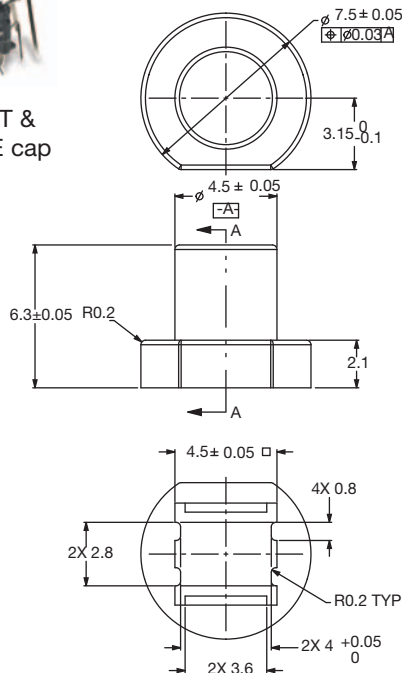
- 00** No marking
- 01** Power On/Off
- 04** Arrow right
- 05** Arrow left
- 06** Arrow up
- 07** Arrow down
- 09** Power
- 33** Arrow up (fill)
- 34** Arrow down (fill)
- 97** I/O

Marking Color

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



ITSXXFR1ST &
400ECA01E cap



B

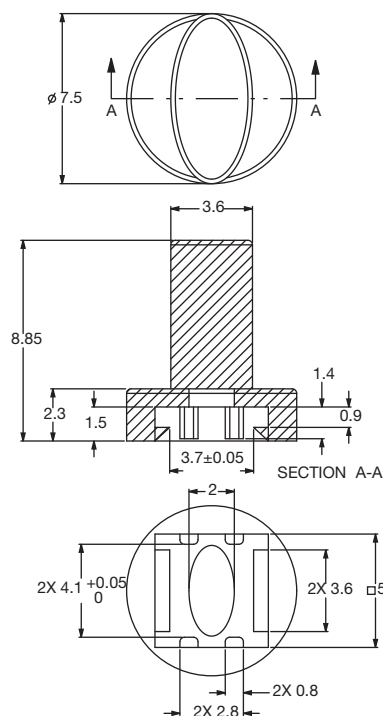
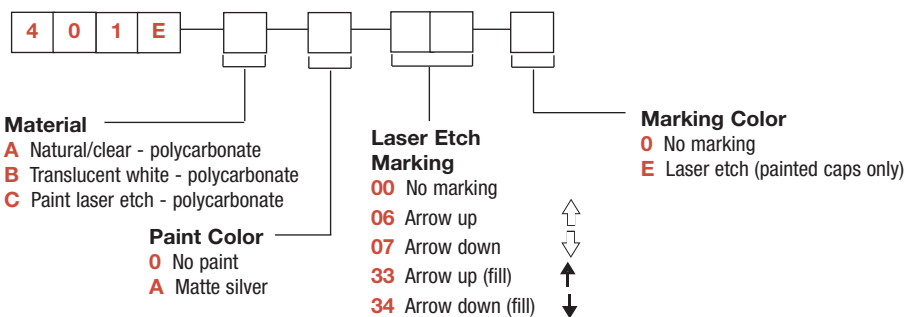
Tactile Switches

NEW!

Tactile Switches



B



NEW!

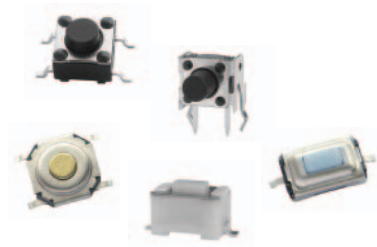
RS Series Tact Switches

Features/Benefits

- Broad range of products
- Extra long life cycles available
- Variety of operating forces and heights
- Thru-hole and SMT options
- Custom design available

Typical Applications

- Consumer electronics
- Computer peripherals
- Household appliances
- Audio & visual equipment
- Automotive

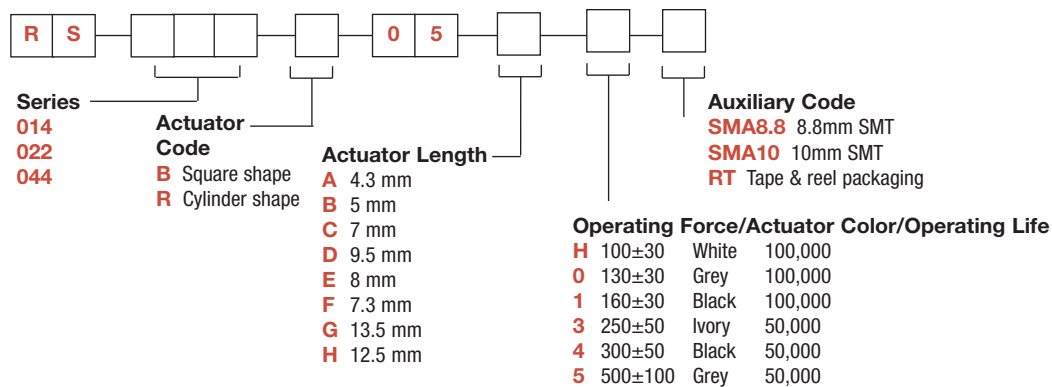


B

Tactile Switches

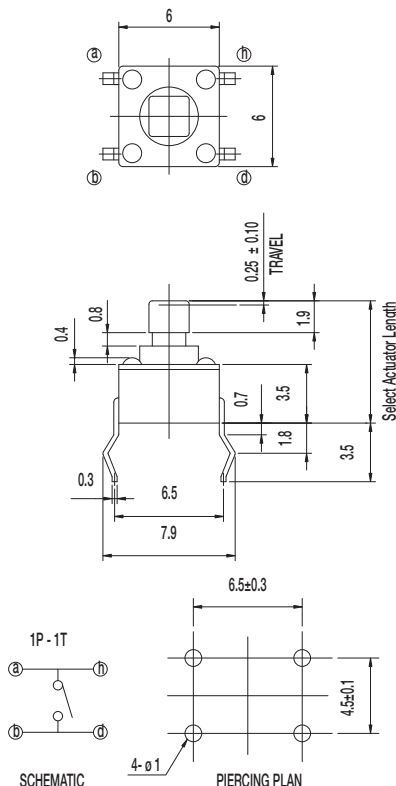
How To Order

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.



RS-014B05

Square Shape Actuator



Specifications

CONTACT RATING: 50mA @ 12 VDC

INITIAL CONTACT RESISTANCE: 100 m ohms max.

INSULATION RESISTANCE: 100 M ohms min.

DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.

RELEASING FORCE: 20gf min. (0.196N min.)

TRAVEL: 0.25 ± 0.10 mm

OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA

COVER: SPCC

HOUSING: PA

SPRING PLATE: Silver clad

TERMINAL: Silver plated

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



Dimensions are shown: mm
 Specifications and dimensions subject to change

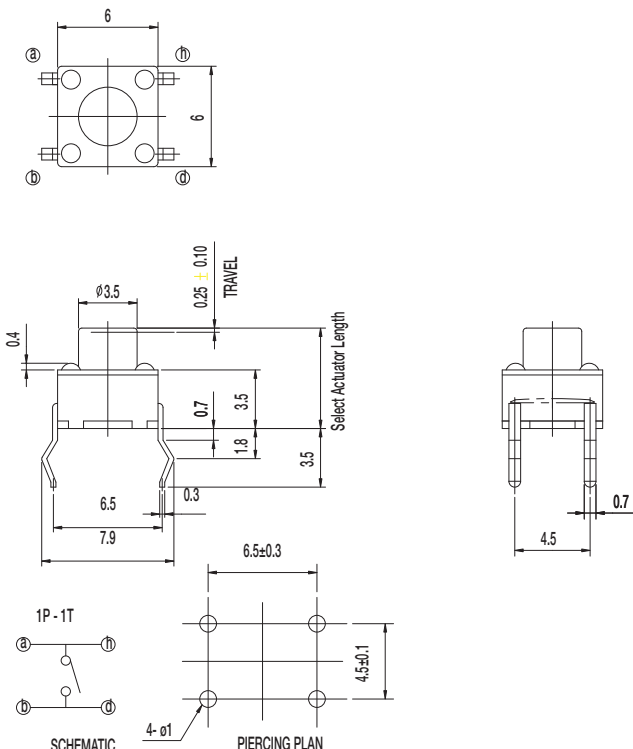
RS Series Tact Switches

NEW!

RS-014R05 Cylinder Shape Actuator

Tactile Switches

B



Specifications

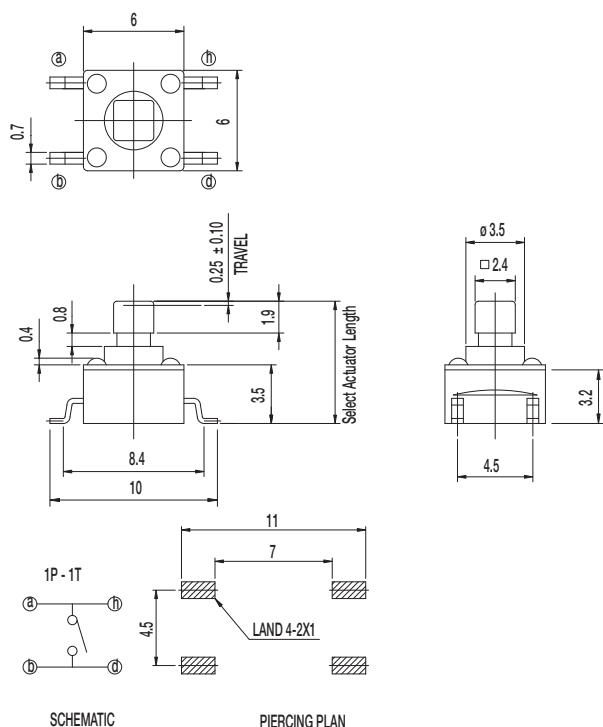
CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
RELEASING FORCE: 20gf min. (0.196N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
COVER: SPCC
HOUSING: PA
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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

RS-014B05 SMA Square Shape Actuator SMT



Specifications

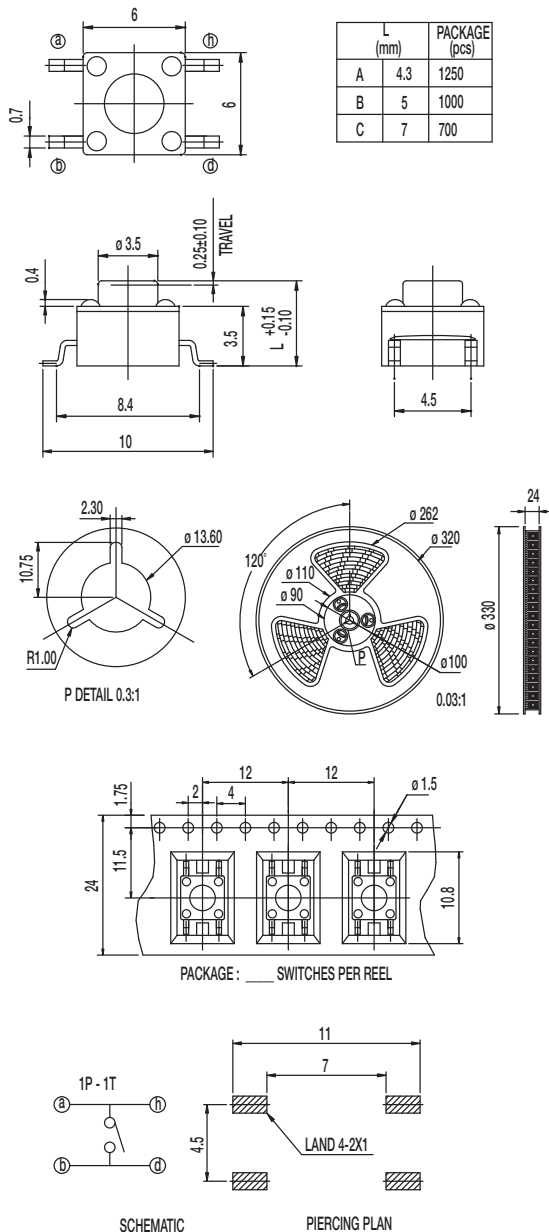
CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
RELEASING FORCE: 20gf min. (0.2N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
COVER: SPTE
HOUSING: PA
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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

RS-014R05 SMA RT Cylinder Shape Acuator SMT



Specifications

CONTACT RATING: 50mA @ 12 VDC

INITIAL CONTACT RESISTANCE: 100 m ohms max.

INSULATION RESISTANCE: 100 M ohms min.

DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.

OPERATING LIFE: 100,000 cycles with load

OPERATING FORCE: 160 ± 30 gf

RELEASING FORCE: 20gf min. (0.196N min.)

TRAVEL: 0.25 ± 0.10 mm

OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA

COVER: SPTE

HOUSING: PA

SPRING PLATE: Silver clad

TERMINAL: Silver plated

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

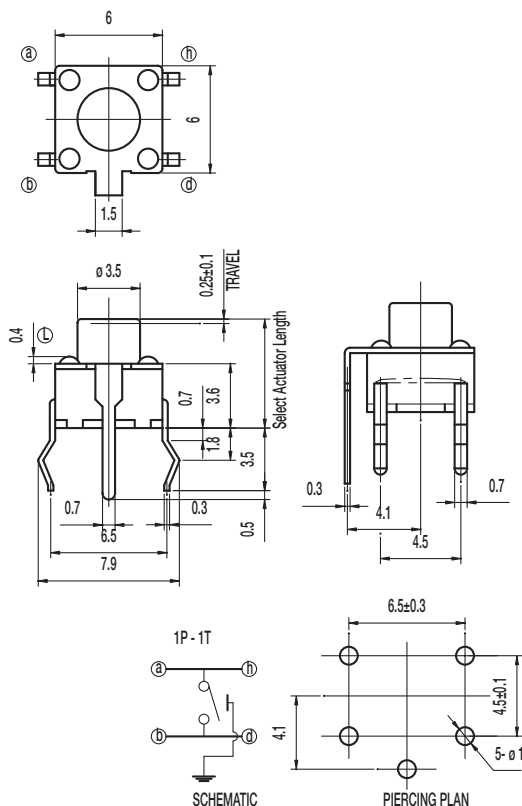
RS Series Tact Switches

NEW!

RS-044R05 Cylinder Shape Actuator THT

Tactile Switches

B



Specifications

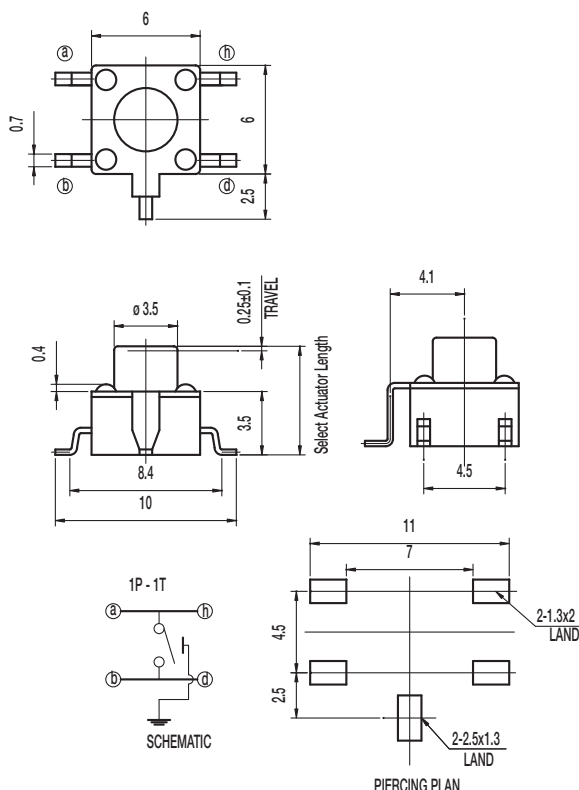
CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
RELEASING FORCE: 20gf min. (0.2N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PBT
COVER: SPTE
HOUSING: PBT
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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

RS-044R05 SMA Cylinder Shape Actuator SMT



Specifications

CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
RELEASING FORCE: 20gf min. (0.2N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
COVER: SPTE
HOUSING: PA
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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

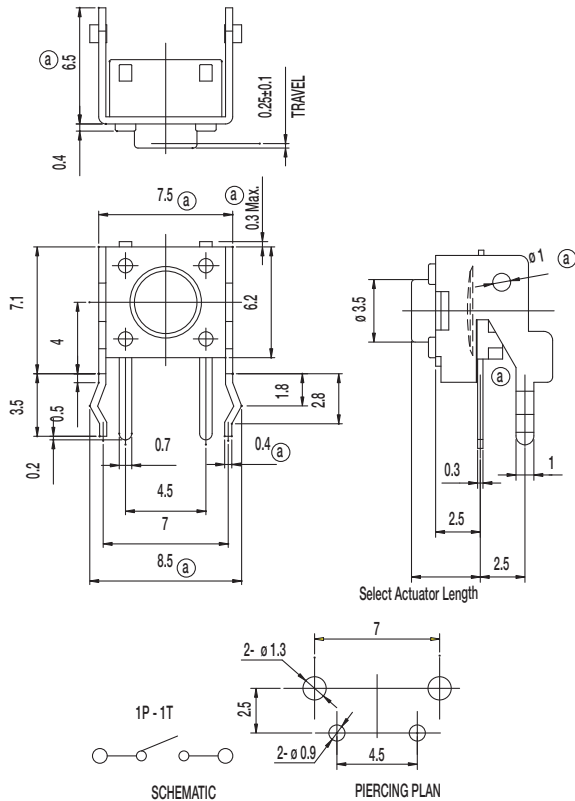
C&K

Dimensions are shown: mm
Specifications and dimensions subject to change

NEW!

RS Series Tact Switches

RS-022R05



Specifications

CONTACT RATING: 50mA @ 12 VDC

INITIAL CONTACT RESISTANCE: 100 m ohms max.

INSULATION RESISTANCE: 100 M ohms min.

DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.

RELEASING FORCE: 20gf min. (0.196N min.)

TRAVEL: 0.25 ± 0.10 mm

OPERATING TEMPERATURE: -20°C to 80°C

Materials

KNOB: PA

COVER: SPTE

HOUSING: PA

SPRING PLATE: Silver clad

TERMINAL: Silver plated

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

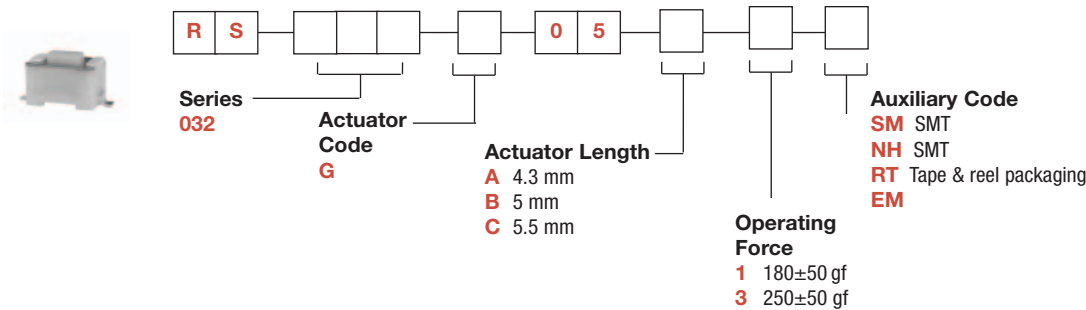


B

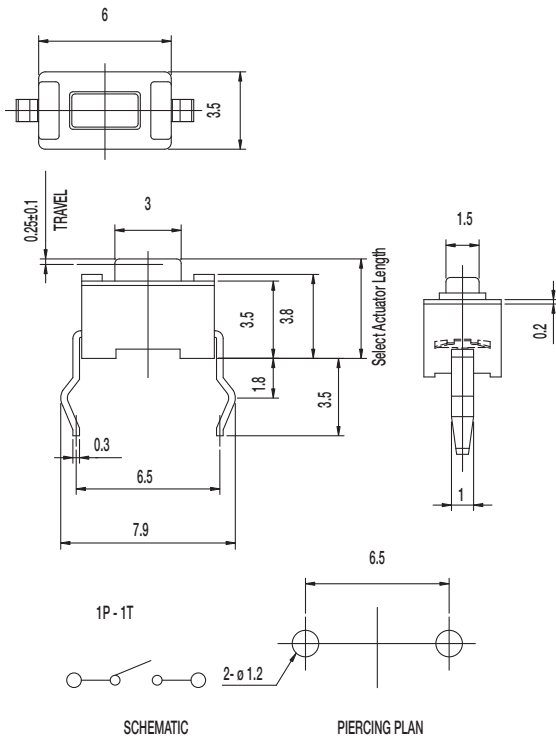
Tactile Switches

RS 032 Series
Tact Switches

NEW!



RS-032G05



Specifications

CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
RELEASING FORCE: 20gf min. (0.196N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

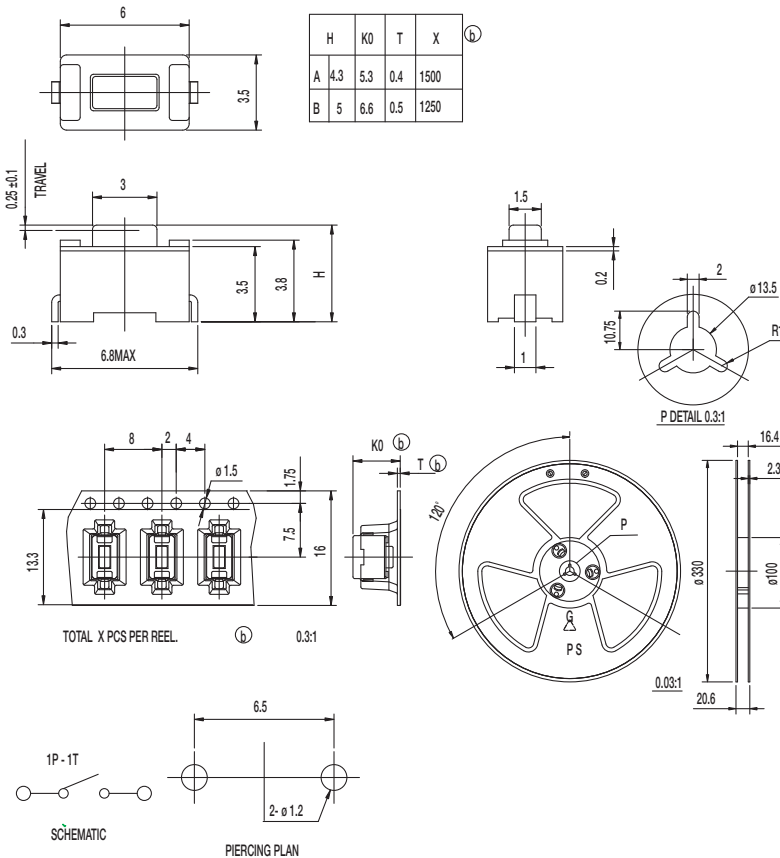
KNOB: PA46
COVER: SUS
HOUSING: PA46
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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

NEW!

RS Series Tact Switches

RS-032G05 NH RT



Specifications

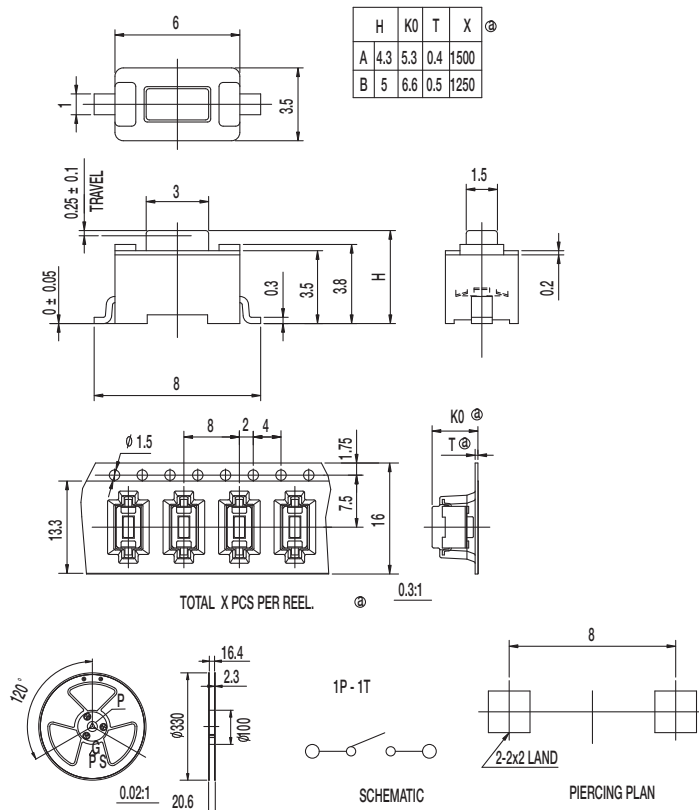
CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 30,000 cycles with load
 OPERATING FORCE: 180 ± 50gf
 RELEASING FORCE: 20gf min. (0.2N min.)
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
 COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

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

RS-032G05 SM RT



Specifications

CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 30,000 cycles with load
 OPERATING FORCE: 180 ± 50gf
 RELEASING FORCE: 20gf min. (0.2N min.)
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
 COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

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

C&K

Dimensions are shown: mm
 Specifications and dimensions subject to change

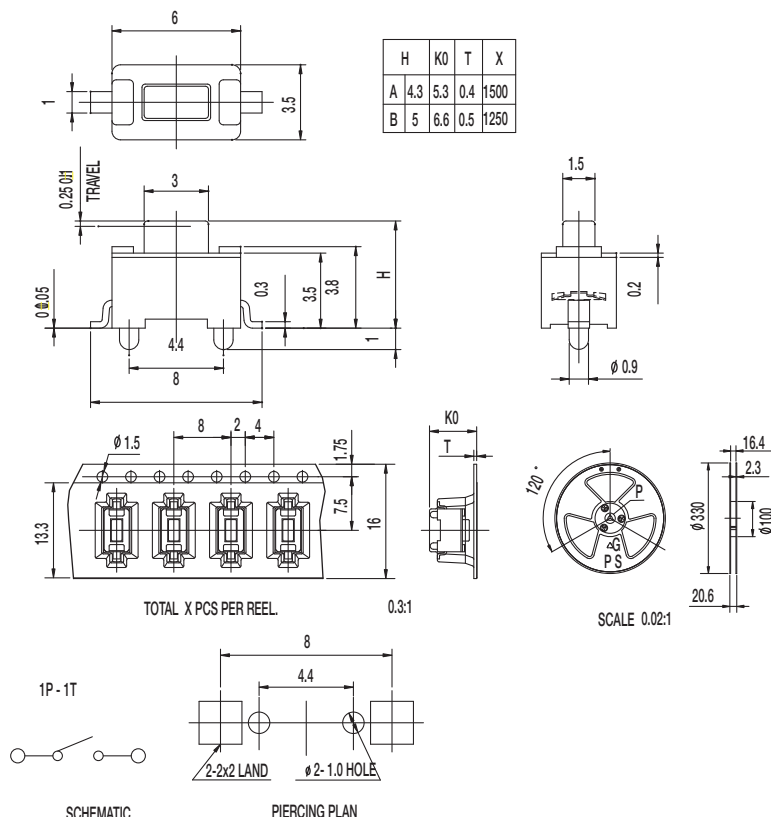
RS Series Tact Switches

NEW!

RS-032G05 SM EM RT

Tactile Switches

B



Specifications

CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 30,000 cycles with load
 OPERATING FORCE: 180 ± 50 gf
 RELEASING FORCE: 20gf min. (0.2N min.)
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

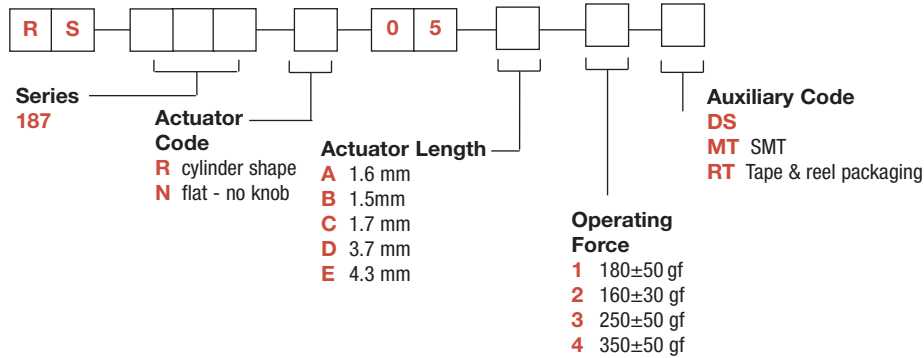
Materials

KNOB: PA
 COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

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

NEW!

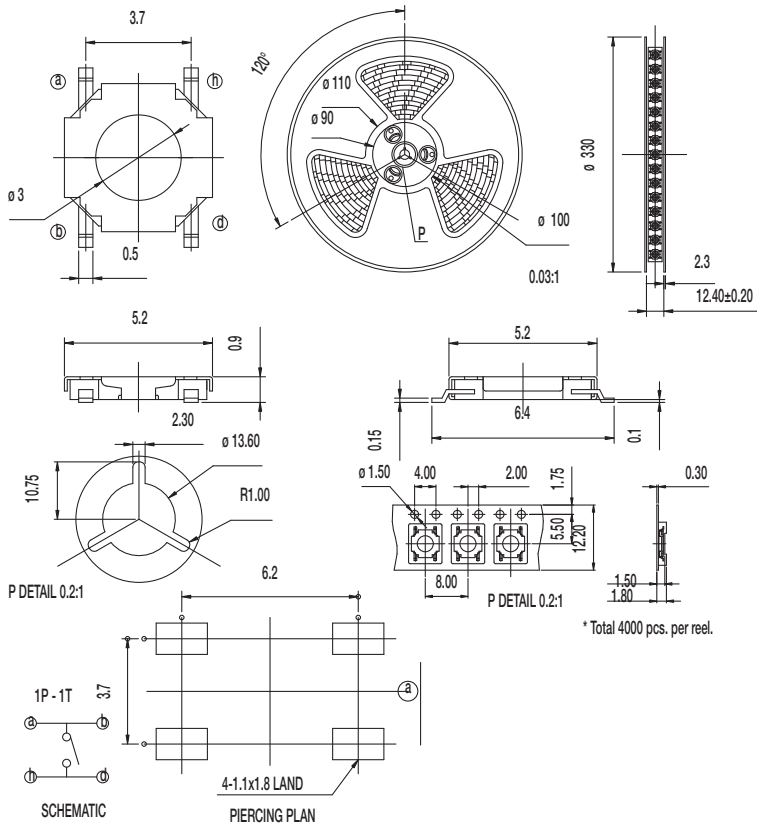
RS Series Tact Switches



B

Tactile Switches

RS-187N05 DS RT



Specifications

CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
OPERATING LIFE: 100,000 cycles with load
OPERATING FORCE: 180 ± 50gf (1.76 ± 0.49N)
RELEASING FORCE: 20gf min. (0.2N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

COVER: SUS
HOUSING: PA
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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



Dimensions are shown: mm
Specifications and dimensions subject to change

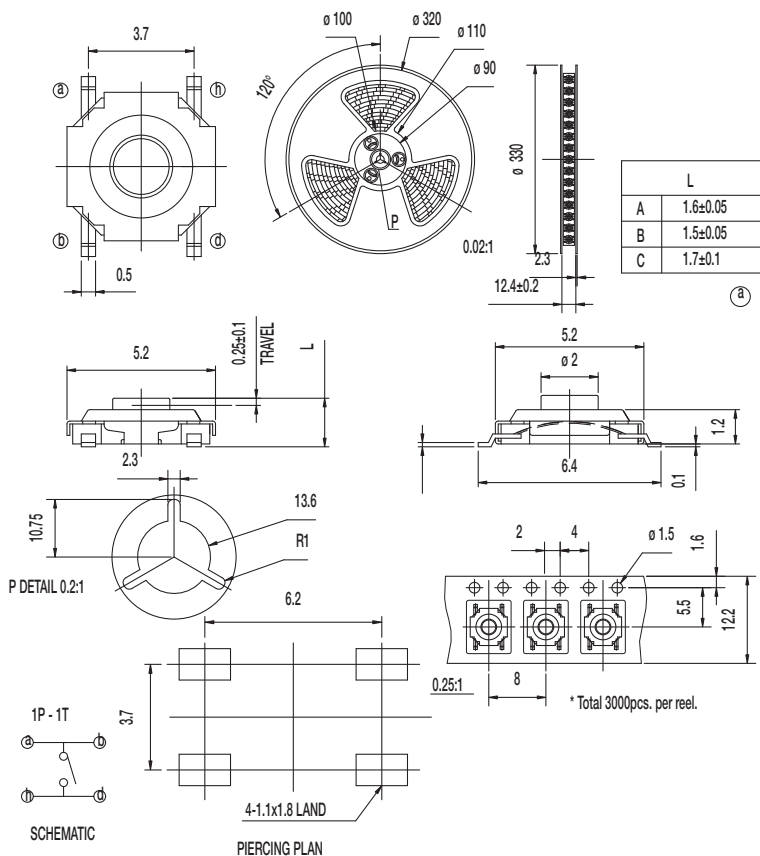
RS Series Tact Switches

NEW!

RS-187R05 DS MT RT

Tactile Switches

B



Specifications

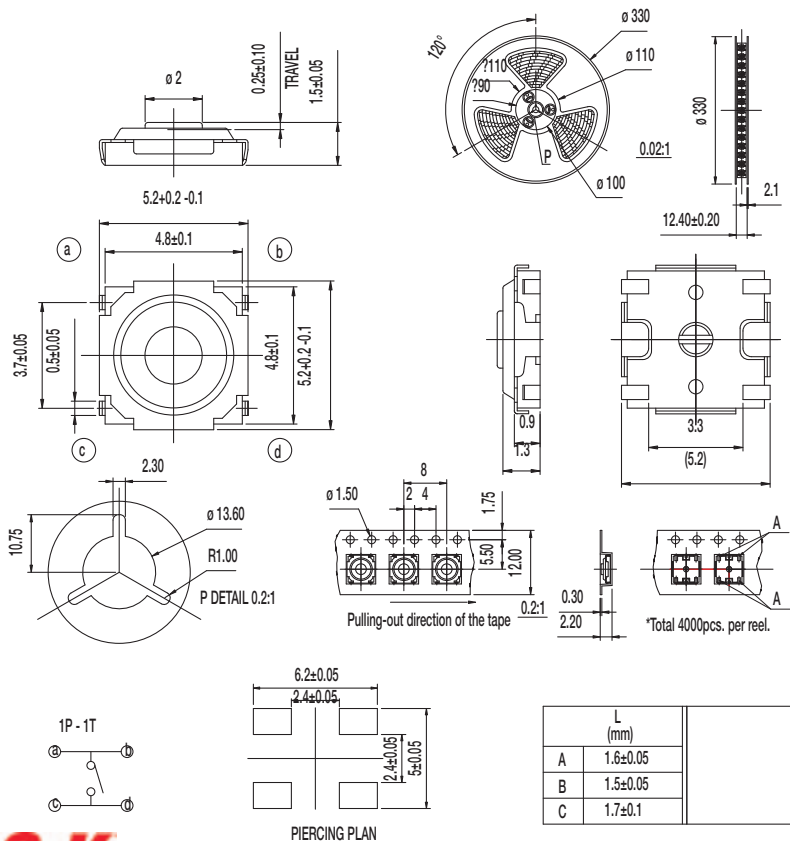
CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 50,000 cycles with load
 OPERATING FORCE: 180 ± 50gf (1.76 ± 0.49N)
 RELEASING FORCE: 20gf min. (0.2N min.)
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

Materials

COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

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

RS-187R05B DS-MT U RT



Specifications

CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 50,000 cycles with load
 OPERATING FORCE: 180 ± 50gf (1.764 ± 0.49N)
 RELEASING FORCE: 20gf min. (0.2N min.)
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: C2680R
 COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

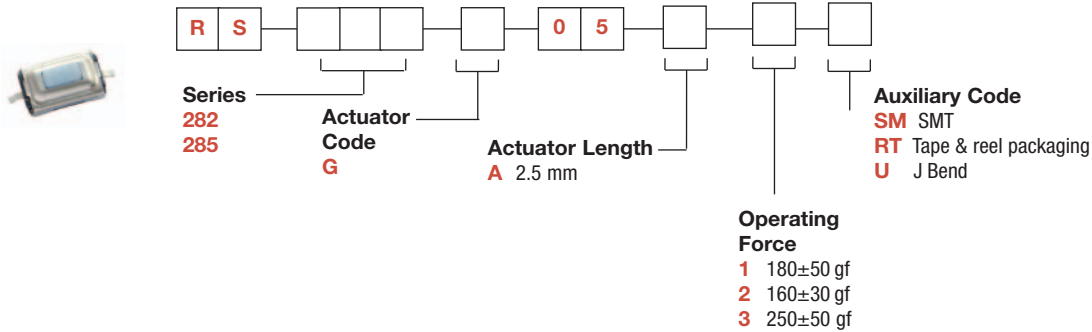
NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, please contact Customer Service.



Dimensions are shown: mm
 Specifications and dimensions subject to change

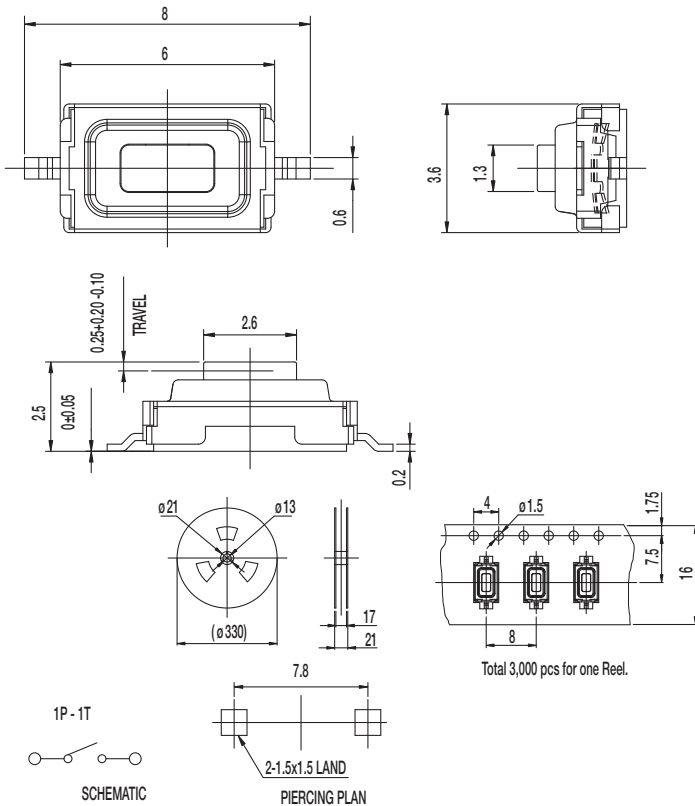
NEW!

RS Series Tact Switches



Tactile Switches

RS-282G05 SM RT



Specifications

CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
OPERATING LIFE: 50,000 cycles with load
OPERATING FORCE: 250 ± 50gf
RELEASING FORCE: 20gf min. (0.2N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
COVER: SUS
HOUSING: PA
SPRING PLATE: Silver clad
TERMINAL: Silver plated

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



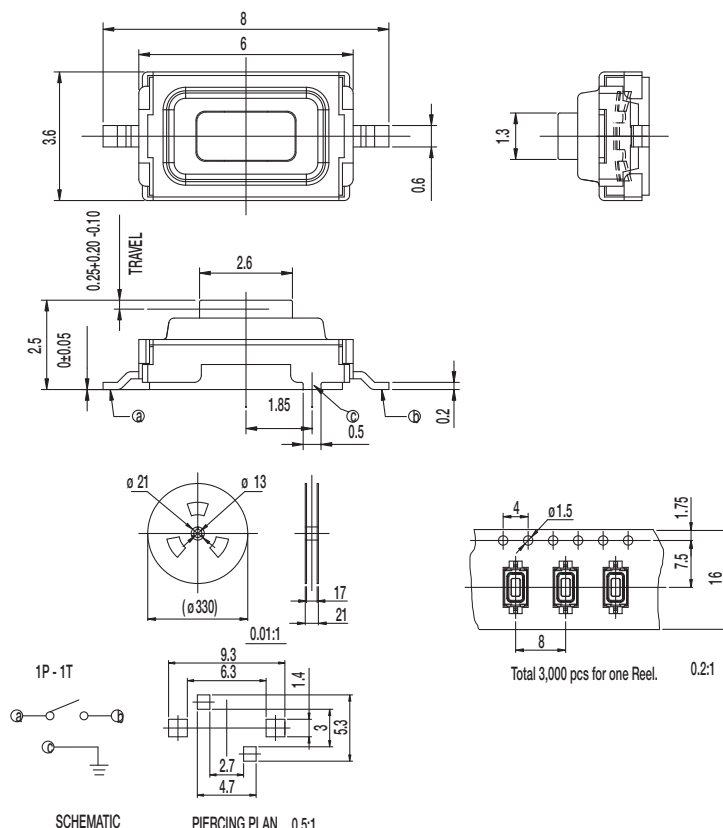
RS Series Tact Switches

NEW!

RS-285G05 SM RT

Tactile Switches

B



Specifications

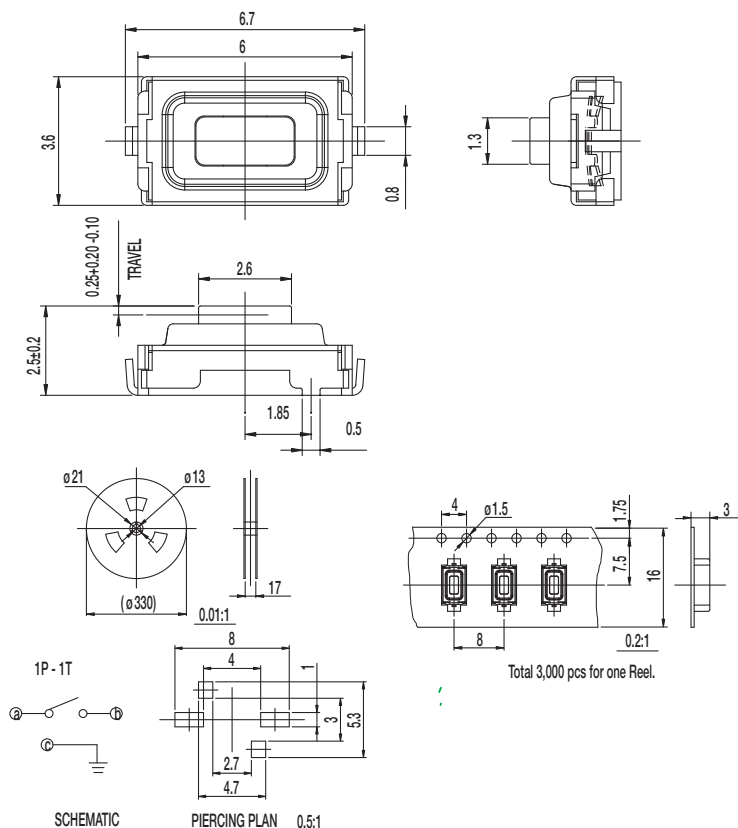
CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 50,000 cycles with load
 OPERATING FORCE: 180 ± 50gf (1.76 ± 0.49N)
 RELEASING FORCE: 20gf min. (0.2N min.)
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
 COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

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

RS-285G05 U RT



Specifications

CONTACT RATING: 50mA @ 12 VDC
 INITIAL CONTACT RESISTANCE: 100 m ohms max.
 INSULATION RESISTANCE: 100 M ohms min.
 DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
 OPERATING LIFE: 100,000 cycles with load
 OPERATING FORCE: 160 ± 50gf
 RELEASING FORCE: 50gf min.
 TRAVEL: 0.25 ± 0.10 mm
 OPERATING TEMPERATURE: -20°C to 70°C

Materials

COVER: SUS
 HOUSING: PA
 SPRING PLATE: Silver clad
 TERMINAL: Silver plated

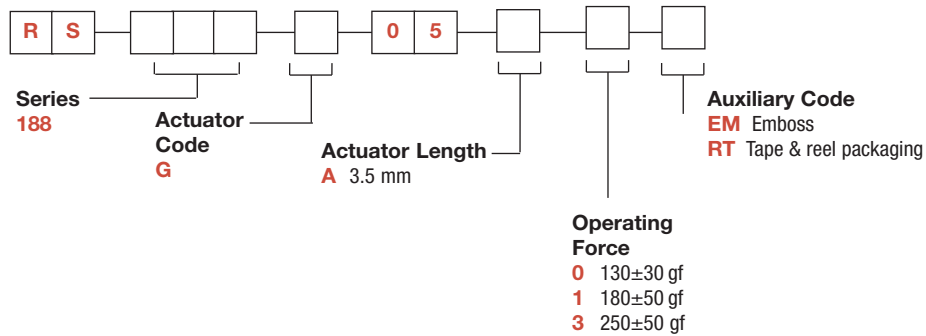
NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, please contact Customer Service.



Dimensions are shown: mm
 Specifications and dimensions subject to change

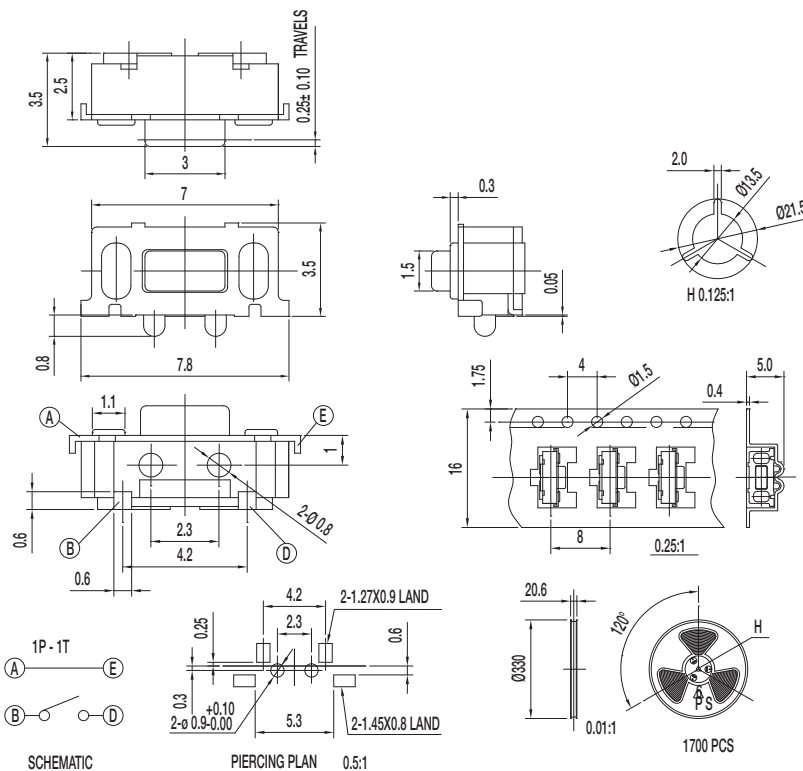
NEW!

RS Series Tact Switches



Tactile Switches

RS-188G05A EM RT



Specifications

CONTACT RATING: 50mA @ 12 VDC
INITIAL CONTACT RESISTANCE: 100 m ohms max.
INSULATION RESISTANCE: 100 M ohms min.
DIELECTRIC STRENGTH: 250 V AC (50-60 Hz) between open terminals and between the frame and terminal.
OPERATING LIFE: 30,000 cycles with load
OPERATING FORCE: 180 ± 50gf
RELEASING FORCE: 20gf min. (0.2N min.)
TRAVEL: 0.25 ± 0.10 mm
OPERATING TEMPERATURE: -20°C to 70°C

Materials

KNOB: PA
COVER: SPTE
HOUSING: PA
SPRING PLATE: SUS
TERMINAL: Silver plated

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

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