

PTS645 Series

6.0 x 6.0 mm Tactile Switches



Specifications

Function	Momentary action
Contact Arrangement	SPST, N.O.
Terminals	PC pins

Electrical Characteristics

Contact Rating	Max. 50mA@12VDC Min. 10µA@1VDC
Dielectric Strength	250 V AC min.
Contact Resistance	100 mΩ max. initial
Insulation Resistance	10 ¹¹ Ω min.

Environmental Characteristics

Operating Temperature	-40°C to 85°C
Storage Temperature	

Notes:

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

The PTS series is not certified for using in Automotive application and no PPAP. However, in the case of some automotive accessories and specific applications for 2 and 3 wheeled vehicles the PTS is widely used and very suitable. Please contact your local C&K representative to discuss your application and the best switch solution.

Description

The PTS645 switch series are 6mm tactile switches, designed to provide those designing for consumer product, instrumentation and computing equipment applications the long-lasting, responsive switch they need. PTS645 switches are compact (6 x 6mm) and are available in a variety of actuator lengths, with a choice of actuation force, allowing you to customize the switch to your product's needs.

Features & Benefits

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

Applications

- Consumer products
- Computer products
- Instrumentation
- Industrial

Process

Soldering	Test 2 times Max. Reflow soldering conditions (Reference standard: J-STD-020) Preheat—150°C-200°C, 60-120 (sec) Peak temperature—260°C Max. 10 (sec) Soldering area temperature—217°C, 60-150 (sec)
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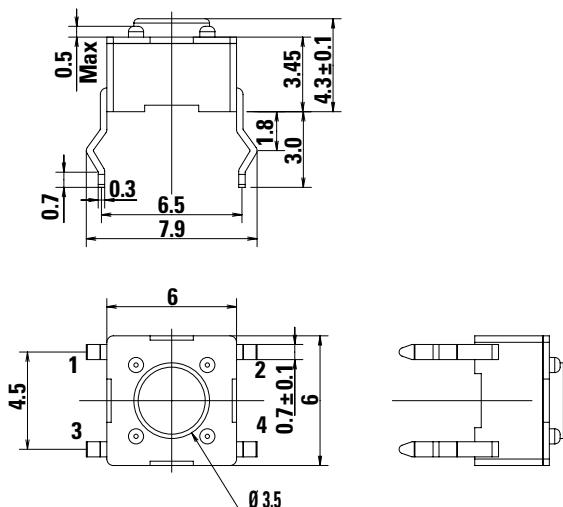
PTS645 Series

6.0 x 6.0 mm Tactile Switches

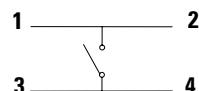
Mechanical Characteristics

Part	Operating Force (Newtons)	Operating Life (operations)	Electrical Travel (mm)
PTS645SL95SMTR92 LFS	1.3 +/-0.3	100,000	0.25 +/-0.1/-0.15
PTS645SM43SMTR92 LFS	1.6 +/-0.3	100,000	0.30 +/-0.1/-0.15
PTS645SH43SMTR92 LFS	2.0 +/-0.5	100,000	0.30 +/-0.1/-0.15
PTS645SK43SMTR92 LFS	2.6 +/-0.5	100,000	0.30 +/-0.1/-0.15

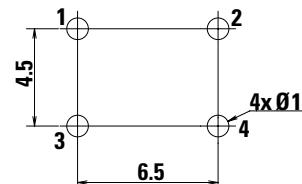
Termination (mm) S Straight



SCHEMATIC

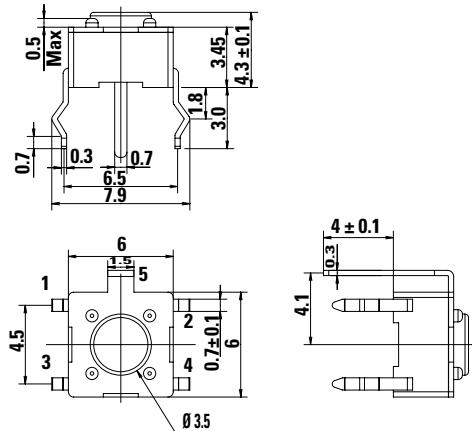
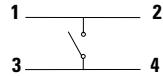
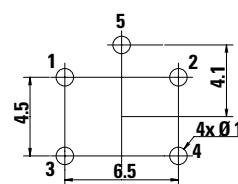
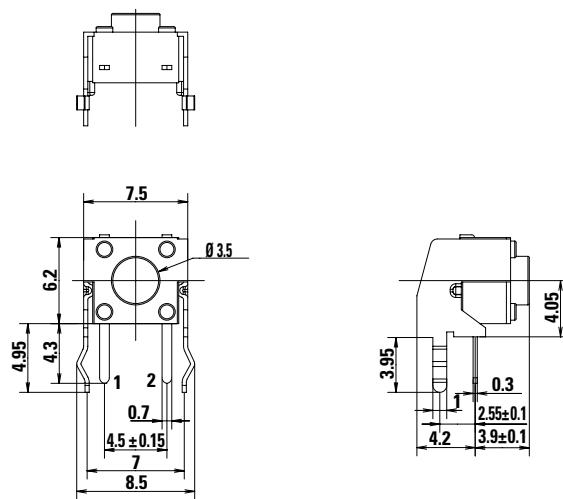
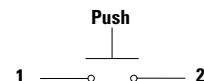
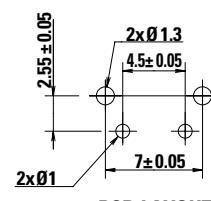
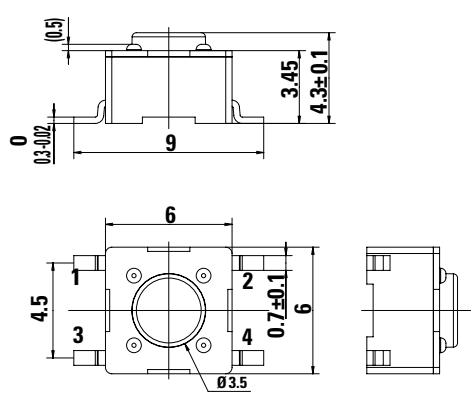
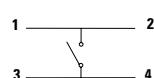
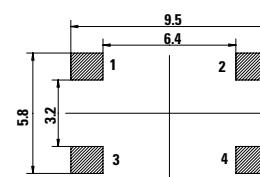


PCB LAYOUT



PTS645 Series

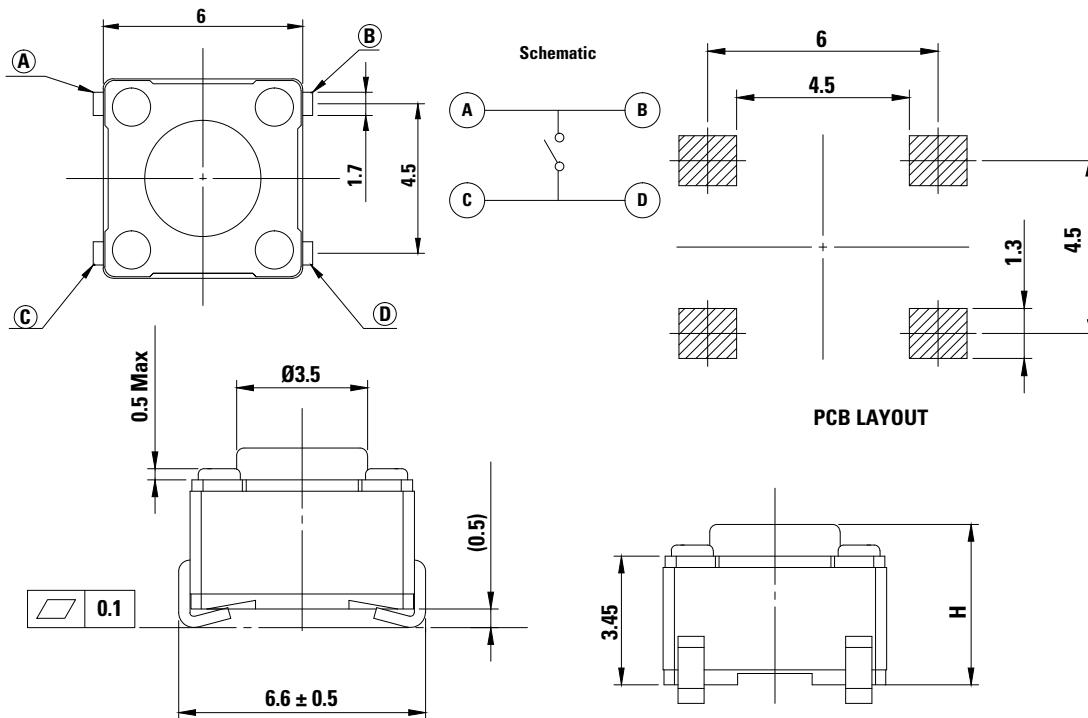
6.0 x 6.0 mm Tactile Switches

T Straight with ESD pin**SCHEMATIC****PCB LAYOUT****V Vertical THT****SCHEMATIC****PCB LAYOUT****SMT G Type****SCHEMATIC****PCB LAYOUT**

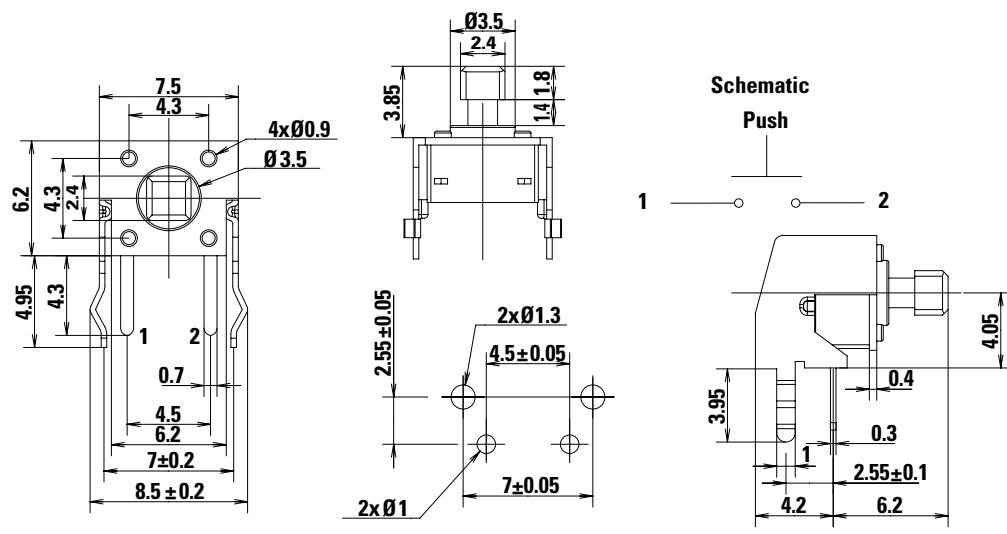
PTS645 Series

6.0 x 6.0 mm Tactile Switches

SMT J Type



Actuator Shape
J Square Actuator
Vertical THT - for 6.15mm length only



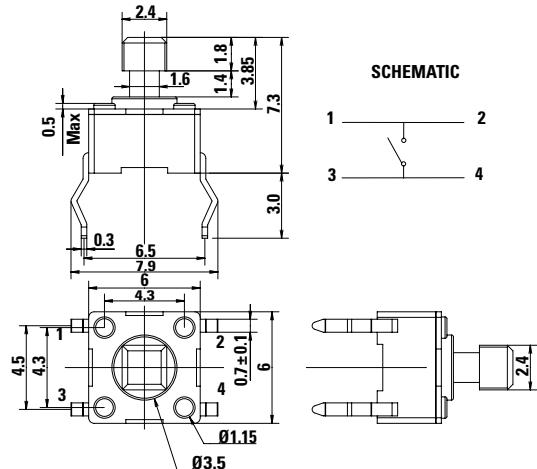
Recommended PCB Layout

PTS645 Series

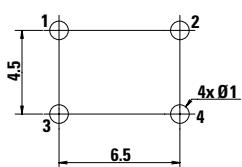
6.0 x 6.0 mm Tactile Switches



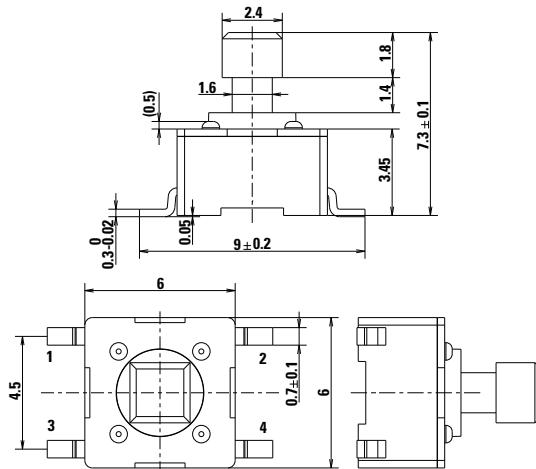
Straight THT - for 7.3mm height only



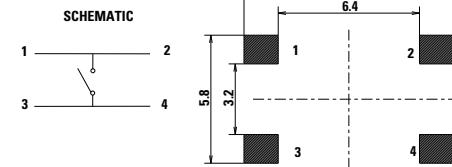
RECOMMENDED PCB LAYOUT



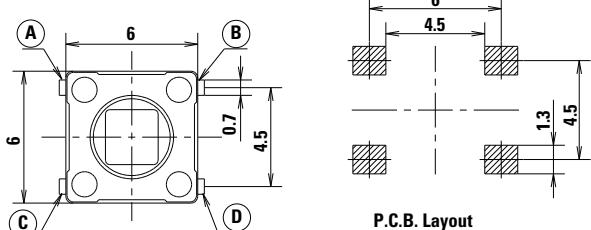
Straight SMT G Type - for 7.3mm height only



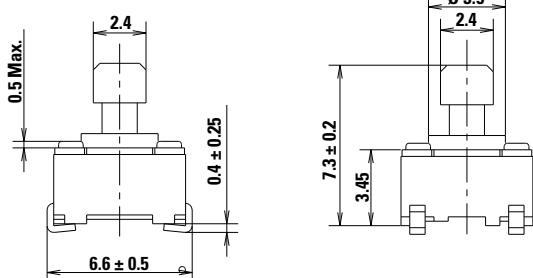
RECOMMENDED PCB LAYOUT



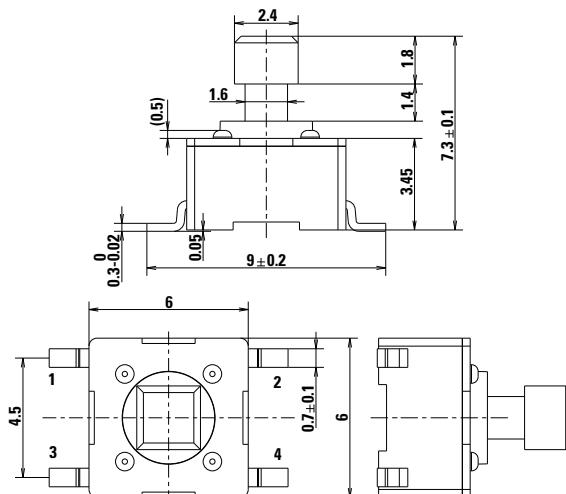
Straight SMT J Type - for 7.3mm height only



P.C.B. Layout

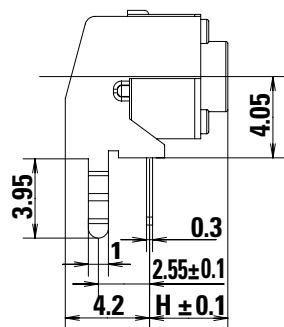
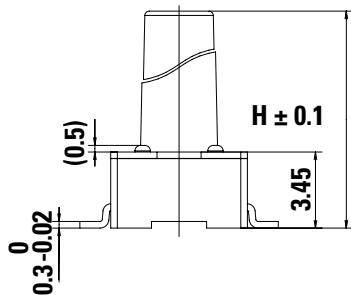


Straight SMT - for 7.3mm height only



PTS645 Series

6.0 x 6.0 mm Tactile Switches

Actuator Height**Switch height from PCB for S and T only**

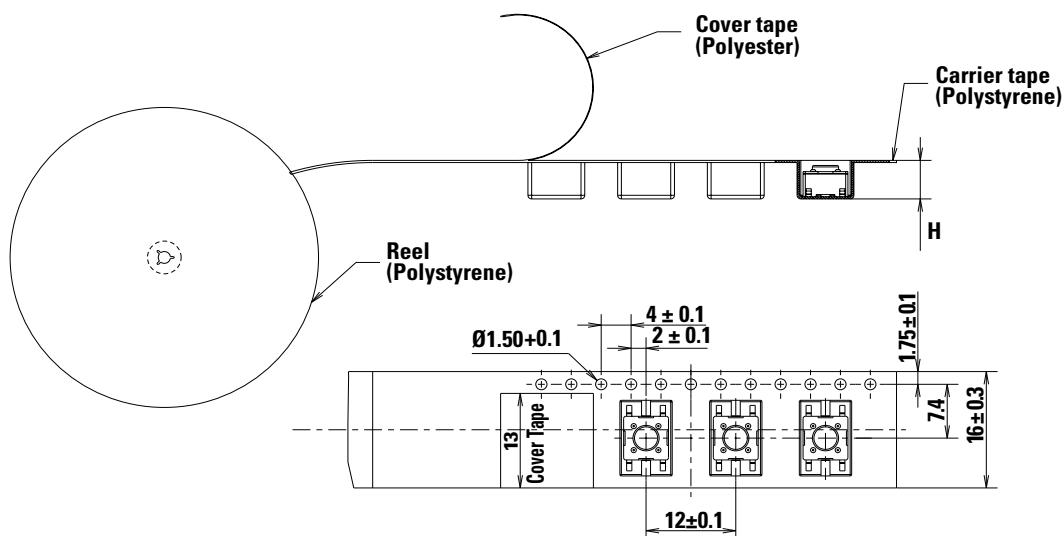
Option Code	Dimension H	Termination	Schematic	
			Without EMC pin	With EMC pin
43	4.3 (0.169)	Thru-hole and SMT		
50	5.0 (0.197)		1 o—o2	1 o—o2
70	7.0 (0.275)		3 o—o4	3 o—o4
95	9.5 (0.374)			
13	13.0 (0.512)	SMT		

Switch length from font leads for V only

Option Code	Dimension H	Termination	Schematic	
			Without EMC pin	With EMC pin
31	3.15 (0.124)	Vertical		
39	3.85 (0.151)			N/A
58	5.85 (0.230)			
83	8.35 (0.329)			

Tape Dimension

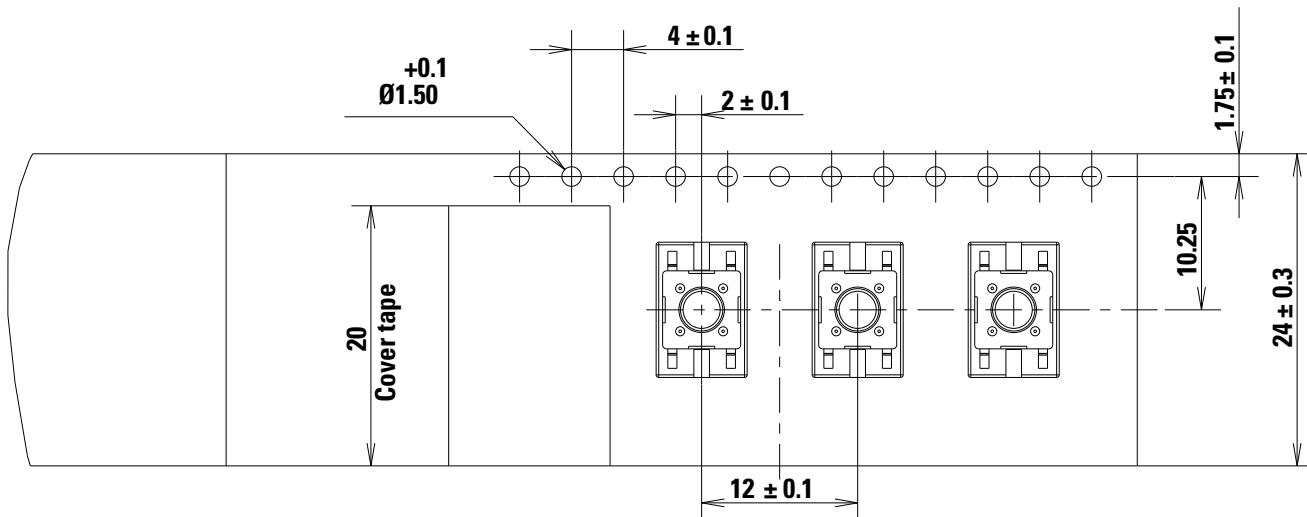
Option Code	Width Tape	Pocket Height
43	16 ± 0.3	5.3
50		7.3
70		7.6
73		
95	24 ± 0.3	10.3
13		13.3

Tape & Reel for SMT G type Versions

PTS645 Series

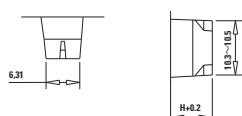
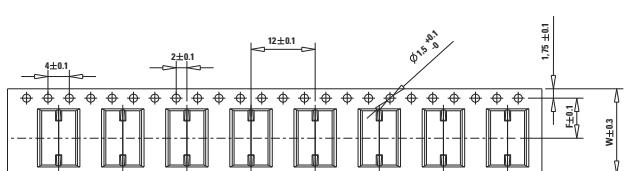
6.0 x 6.0 mm Tactile Switches

Packaging


Note:

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 700 pieces for 7.3 mm height.
 Reels of 500 pieces for 9.5 mm height.
 Reels of 400 pieces for 13.0 mm height.

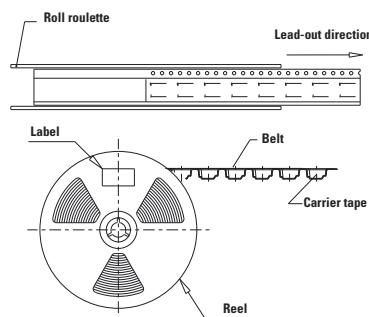
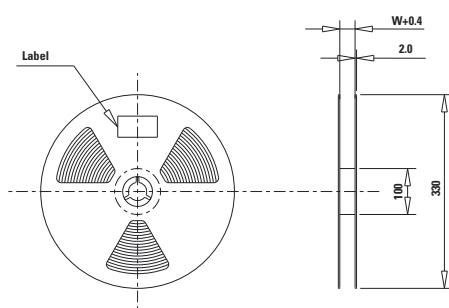
Tape & Reel for SMT J type Versions



Product Height	Carrier Width Tape (W) mm	Center Distance of Carrier Tape (F) mm	pcs/reel
4.3			1000
5.0	16	7.5	700
7.0			
7.3			
9.5			
11	24	11.5	500
13			

Note:

The disc rotates counterclockwise. According to the packing shown in the figure, the braid must not be twisted to prevent product deformation.



PTS645 Series

6.0 x 6.0 mm Tactile Switches



Ordering Number

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.

PTS645 - x - x - x - XX - XXXXXX - LFS

Termination

- S:** Straight
- T:** Straight with ESD pin
- V:** Vertical THT

Actuator Shape

- None:** Round actuator, All versions
- J:** Square actuator, 2.4 mm side (available for Straight 7.3 mm and Vertical 6.15 mm)

Actuation Force

- N:** 100 gf
- L:** 130 gf
- M:** 160 gf
- H:** 200 gf
- K:** 260 gf
- P:** 320 gf
- R:** 360 gf

RoHS compliant and compatible,
Silver plated

Insertion Type

- 2:** Thru hole
- SMT921:** Surface mount G-type, tape & reel
- JSMTR921:** Surface mount J-type, tape & reel

Switch height from PCB for S and T only (H dimension see actuator height drawings)

- 43:** 4.3 (.169), thru-hole and SMT
- 50:** 5.0 (.197), thru-hole and SMT
- 70:** 7.0 (.275), thru-hole and SMT
- 73:** 7.3 (.287), thru-hole and SMT, square actuator 2.4 mm side only
- 95:** 9.5 (.374), thru-hole and SMT
- 13:** 13.0 (.512) SMT only
- 11:** 11.0 (.433) SMT only

Switch length from front leads for V only (H dimension see actuator height drawings)

- 31:** 3.15 (.124), vertical
- 39:** 3.85 (.151), vertical
- 58:** 5.85 (.230), vertical
- 61:** 6.15 (.242), vertical, square actuator 2.4 mm side only
- 83:** 8.35 (.329), vertical

Notes:

1. Only the straight type termination without ESD pin is available in SMT type
Long life version has to be created case by case as special part number

Liability Limitation

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

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