Tact Switch



Tact Switch

- Contributes to downzizing and lighter weight of application devices.
- · Reflow solderable
- Package with a 12mm wide embossed taping.

How to order Package: B=Bulk R=Reel Type: A=4.7x4.7x0.55mm B=4.7x4.7x0.55mm Terminal type: J=J Bend F=Flat - Life: =Standard H=1 million operation cycles L=Lead Free F=Hologen Free Operating Force: 1=100±50 2=160±50 3=260±70

Applications

- . For operating various devices such audio devices, video recorders, communication devices, cameras and automotive sets that require Low-profile and lightweight design.
- · Mobile phone

Specification

Items Operating Temperature Range		Standard	
		−20°C to +70°C	
Electrical performance	Rating	50mA 12V DC	
	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles, 500,000 Cycles, 1,000,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
	Travel	0.2±0.1 mm	

Diagram

	TSIA-J	TSIB-J	TSIB-F
Dimensions	1,7(79 94 14 14 17 17 17 17 17 17 17 17 17 17 17 17 17	4.746.3 4.26 9.0 102.2 9.0 102.2 102.2 102.2 103.2 104.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0 105.0	4710,3 4,5040,25 4,8040,25 4,8040,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 1110,25 110,25 110,25 110,25 110,25 110,25 110,25 110,25 110,25 110,25 110,25 110
Circuit Diagram	© Girguit Diagram	© Cirguit Diagram	©irguit Diagram
Pad Layout	2.594451 3.50643 PCB Board	2.865011 5.00601	2.80401 Stenat

TSI Series

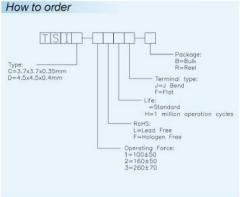
3.7 × 3.7 / 4.5 × 4.5 Thinness Type Tact Switch





Features

- · Contributes to downzizing and lighter weight of application devices.
- Reflow solderable
- Package with a 12mm wide embossed taping.



Applications

- . For operating various devices such audio devices, video recorders, communication devices, cameras and automotive sets that require Low-profile and lightweight design.
- Mobile phone

Specification

Items Operating Temperature Range		Standard	
		-20°C to +70°C	
Electrical performance	Rating	50mA. 12V DC	
	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles, 500,000 Cycles, 1,000,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
	Travel	0.2±0.1 mm	

	TSIC-J	TSID-J
Dimensions	Salar	Harman Andrews Control of the Contro
Circuit Diagram	© Girguit Diagram	Grguit Diagram
Pad Layout		PCB Board

5.2×5.2 SMD Single Key Tact Switch



Pockage: B=Bulk R=Reel

Stem Material: =Without B=Brass E=Brass plating Ni

L=Lead Free F=Hologen Free

Terminal type: =Standard J=J Bend

Operating Force: 0=70±30 1=110±30

2=160±50

H=1 million operation cycles





Features

Tact Switch

- 5.2×5.2mm dimensions suitable for high density mounting.
- . Flat type with 0.8mm height in pursuit, for thin design. "With stem" type in pursuit for easier use.
- Contact sealed construction offers a highly reliable switch.
- · Reflow solderable.
- · Packaged with a 12mm wide embossed taping.

Applications

. For operating various electronic devices such as audio devices, video recorders, communication devices, cameras, automotive sets, electric home appliances, etc

How to order

D=0.8mm(Without cover)

A=0.8mm B=1.5mm C=1.7mm

Specification

Items Operating Temperature Range		Standard -20°C to +70°C	
Electrical performance	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles, 500,000 Cycles, 1,000,000 Cycles	
Mechanical performance	Operating Force	0: 70±30gf ; 1: 110±30gf ; 2: 160±50gf ; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

	TSKA	TSKB	TSKC	TSKD
Dimensions		2.0	20 20 41	6.4
		N 6 5.2	25.2	4.8
Circuit Diagram	©——® ⊗——⊛ Cirguit Diagram	© ® ⊗ ⊙ Cirguit Diagram	© ® ® © Cirguit Diagram	① ① ② ③ ② ③ Cirguit Diagram
Pad Layout	AA BU PCB Board	44 B.J PCB Board	44 B.0 PCB Board	4.4. 8.0 PCB Board

TSK-P Series

5.2×5.2 SMD Single Key Tact Switch With Ground Terminal





Features

- 5.2×5.2mm dimensions suitable for high density mounting.
- Flat type with 0.8mm height in pursuit, for thin design. "With stem" type in pursuit for easier use.
- · Contact sealed construction offers a highly reliable switch.
- · Reflow solderable.
- · Packaged with a 12mm wide embossed taping.

How to order Package B=Bulk R=Reel A=0.8mm B=1.5mm C=1.7mm Stem Material: =Without B=Brass E=Brass plating Ni F=Molagen Proc Life: =Standard H=1 million operation cycles Ground Terminal: =Without ground terminal P=With ground terminal - Terminal type: -Standard J=J Bend 0=0 Bend 0=70±30 1=110±30 2=160±50 3=260±70

Applications

. For operating various electronic devices such as audio devices, video recorders, communication devices, cameras, automotive sets, electric home appliances, etc

Specification

Items Operating Temperature Range		Standard -20°C to +70°C	
Electrical performance	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 mΩ Max.	
Durability	Operating Life	100,000 Cycles, 500,000 Cycles, 1,000,000 Cycles	
Mechanical performance	Operating Force	0: 70±30gf ; 1: 110±30gf ; 2: 160±50gf ; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSKA-P	TSKB-P	TSKC-P
	₹		
Dimensions	32	52	5.2
Circuit Diagram	Cirgui Diagram	Cirguit Diagram	Cirgut Dagram
Pad Layout	114 POB Board	122 22 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25	20 20 20 20 20 20 20 20 20 20 20 20 20 2

5.0×5.0 SMD Single Key Tact Switch



Package B=Bulk R=Reel

=Without B=Brass E=Brass plating Ni

Stem Material:

L=Lead Free F=Hologen Free

H=1 million operation cycles

=Standard

Terminal type: =Standard J=J Bend

Operating Force: 2=160±50 3=260±70



Features

- 5.0×5.0mm dimensions suitable for high density mounting.
- . Flat type with 0.8mm height in pursuit, for thin design. "With stem" type in pursuit for easier use.
- Contact sealed construction offers a highly reliable switch.
- · Reflow solderable.
- · Packaged with a 12mm wide embossed taping.

Applications

. For operating various electronic devices such as audio devices, video recorders, communication devices, cameras, automotive sets, electric home appliances, etc

Specification

Items Operating Temperature Range		Standard
		−20°C to +70°C
Electrical performance	Rating	50mA 12V DC
	Insulation Resistance	100MΩ Min. 100V DC
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles, 1,000,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

Diagram

	TSKA-J	TSKB-J
3	32.78	22.42
Dimensions	20 0001	20002
Circuit Diagram	Cirguit Diagram	Cirguit Diagram
Pad Layout	3.4 5.4 PCB Board	3.4 PCB Board

TSK-JP Series

5.0×5.0 SMD Single Key Tact Switch With Ground Terminal





Features

- 5.0×5.0mm dimensions suitable for high density mounting.
- Flat type with 0.8mm height in pursuit, for thin design. "With stem" type in pursuit for easier use.
- · Contact sealed construction offers a highly reliable switch.
- · Reflow solderable.
- · Packaged with a 12mm wide embossed taping.

How to order Package: B=Bulk R=Reel Total H: — A=0.8mm B=1.5mm Stem Material: =Without B=Brass E=Brass plating Ni P=Plastic L=Lead Free F=Hologen Free H=1 million operation cycles Ground Terminat: =Without ground terminal P=With ground terminal - Terminal type: =Standard J=J Bend Operating Force: 2=160±50 3=260±70

Applications

. For operating various electronic devices such as audio devices, video recorders, communication devices, cameras, automotive sets, electric home appliances, etc

Specification

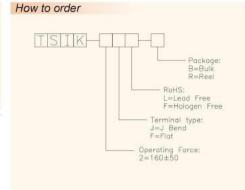
Items Operating Temperature Range		Standard
		−20°C to +70°C
	Rating	50mA 12V DC
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles, 1,000,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

	TSKA-JP	TSKB-JP
	537	5.27
Dimensions	50402	20002
Circuit Diagram	O O O O O O O O O O O O O O O O O O O	© 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Pad Layout	POB Board	CONTROL OF THE PROPERTY OF THE





- Smallest footprint
- Smallest thickness
- · High number of cycles within the smallest packaging



Applications

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

Specification

Items Operating Temperature Range		Standard -20°C to +70°C	
Insulation Resistance	100M Ω Min. 100V DC		
Dielectric Strength	100V AC for 1 min (50Hz or 60Hz)		
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf	
	Travel	0.10 +0.10/-0.05 mm	

Diagram

	TSIK-J	
Dimensions	2.90 2.80 2.60 2.60 2.70 2.70 2.70 2.70	
Circuit Diagram	Circuit Diagram Any land patterns or vins shall not be provided in this problibited area.	
Pad Layout	be provided in this prohibited area.	



Features

TSSK Series

- · Improve mounting density of components on PC board.
- Reflow solderable.
- Contacts are comletelysealed, enhancing reliability.
- Available with ground terminal for electrostatic discharge.
- Packaged with a 12mm wide embossed taping.

How to order Package: B=Bulk R=Reel Total H: -A=0.9mm B=1.5mm L=Lead Free F=Hologen Free - Life: =Standard H=1 million operation cycles Ground terminal: =Without ground terminal P=With ground terminal Operating Force: 2=160±50 3=260±70

Applications

- · For operating various mobile devices
- . For operating various devices that require high density mounting such as mobile phones, communication devices, compact electronic devices

Specification

Items Operating Temperature Range		Standard −20°C to +70°C	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles; 1,000,000 Cycles.	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSSKA-P	TSSKB-P
Dimensions	4.0	91.8
Dimensions	3.3	3.3
Circuit Diagram	© Tools Diagram	© T S S S S S S S S S S S S S S S S S S
Pad Layout	Sign V	The state of the s

3.5 × 3.0 Miniature Type Horizontal Push & Vertical Push Tact Switch

How to order

Total H: A=Vertical push S=Side push



B=Bulk R=Reel

RoHS: L=Lead Free F=Hologen Free

S=Standard J=J Bend

Fix Boss: N=Without boss S=Fix boss

Operating Force: 2=160±50 3=260±70

TSJ Series 3.9 × 2.9 Miniature Type Tact Switch



Features

- Improve mounting density of components on PC board.
- Reflow solderable.
- Sharp "click" feel with a positive tactile feedback.
- · Packaged with a 12mm wide embossed taping.

Applications

- Portable audio
- · Mobile phones and personal digital assistants
- Operation of various digital devices

Specification

Items Operating Temperature Range		Standard −20°C to +70°C	
Insulation Resistance	100M Ω Min. 100V DC		
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles; 100,000 Cycles.	
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

	TSCA-SS	TSCS-NS	TSCS-SS
Dimensions	35:50	35501 93 36501 93	100 mm m
Circuit Diagram	© Cirguit Diagram	© © Cirguit Diagram	③ ④ Girguit Diagram
Pad Layout	28 28 51 PCB Board	PCB Board	PCB Board



Features

- · Improve mounting density of components on PC board.
- Reflow solderable.
- Contacts are comletelysealed, enhancing reliability.
- Packaged with a 12mm wide embossed taping.

How to order Package: B=Bulk R=Reel L=Lead Free F=Hologen Free Terminal type; S=Standard J=J Bend Fix Boss: N=Without boss S=Fix boss Operating Force: 2=160±50 3=260±70

Applications

- Portable audio
- · Mobile phones and personal digital assistants
- . Operation of various digital devices

Specification

Items Operating Temperature Range		Standard	
		-20°C to +70°C	
0	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 mΩ Max.	
Durability	Operating Life	100,000 Cycles.	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSJA-NS	TSJA-SS	TSJA-NJ	TSJA-SJ
Dimensions	#16501 1 24 1 25 1 25 1 25 1 25 1 25 1 25 1 25 1 25	73,600,E	1500A	3,270,52
Circuit Diagram	⊕ ⊸ ⊸ ⊘ Cirguit Diagram	①—— ② Cirguit Diagram	①——② Cirguit Diagram	①—— ② Cirguit Diagram
Pad Layout	34 35 PCB Board	ad a	3.4 S PCB Board	3.4 S PCB Board

6.0 × 3.7 SMD Tact Switch

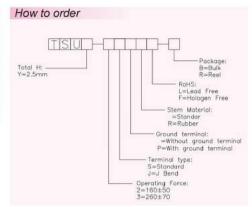




Features

Tact Switch

- · Highly reliable contacts sealed structure.
- Larger top surface of stem improves mounting speed.
- Reflow solderable.
- · Packaged with a 16mm wide embossed taping.



Applications

Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communiction apparatus, measuring instruments, TV sets, VCRs, etc.

Specification

Items		Standard	
Operating Temperature Range	-20°C to +70°C		
Electrical performance	Rating	50mA 12V DC	
	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

	TSUY-S	TSUY-J	TSUY-SP
Dimensions	9 01010	61502	\$0 61 2.6 1.2
Dimensions	80402 5	5772	25502
Circuit Diagram	⊕ o o o o o o o o o o o o o o o o o o o	⊕⊸o o — ② Cirqut Diagram	Cirguit Diagram 9.39 6.30
Pad Layout	6.50 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	9.00 6.00 PCB Board	2 5 70 2 70 4.70 PCB Board

TSY Series

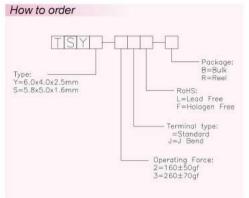
6.0 × 3.8 / 6.2 × 5.0 Normal Closed Type Tact Switch





Features

- · Highly reliable contacts sealed structure.
- Larger top surface of stem improves mounting speed.
- Reflow solderable.
- Packaged with a 16mm wide embossed taping.



Applications

. Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communiction apparatus, measuring instruments, TV sets, VCRs, etc.

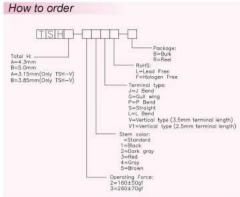
Specification

Items Operating Temperature Range		Standard	
		-20°C to +70°C	
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	TSYY: 50,000 Cycles ; TSYS: 100,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf	
	Travel	TSYY: 0.4±0.2mm; TSYS: 0.25 + 0.2 / -0.1 mm	

	TSYY	TSYS
Dimensions	28882	71 58 58
	7.3960.2	6.5 0.85 1.22 1.640.05
Circuit Diagram	①——ala——② Cirguit Diegram	⊕ ചിം—② <u>Cirguit Diagram</u>
Pad Layout	S.a. S.a. PCB Board	6.4 Ba PCB Board



- Reflow solderable
- . Sharp "click" feel with a positive tactile feedback.
- Packaged with a 24mm wide embossed taping.



Applications

 Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communication apparatus, measuring instruments, TV sets, VCRs, etc.

Specification

Items		Standard
Operating	Temperature Range	−20°C to +70°C
	Rating	50mA 12V DC
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	30,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

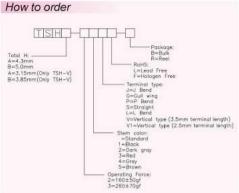
Diagram

	TSH-J	TSH-G	TSH-P
	100	6 4-80.3	1883
Dimensions	6.6±0.2	20 TO 11.15	20 44 51 45 51 51 51 51 51 51 51 51 51 51 51 51 51
Circuit Diagram	①—o¹o—② Cirguit Diagram	①—o o ② Cirguit Diagram	⊕ o o o o o o o o o o o o o o o o o o o
Pad Layout	4.3 7.9 PCB Board	- - - - - - - - - -	5.5 PCB Board



Features

- · Reflow solderable
- Sharp "click" feel with a positive tactile feedback.
- Packaged with a 24mm wide embossed taping.



Applications

 Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communiction apparatus, measuring instruments, TV sets, VCRs, etc.

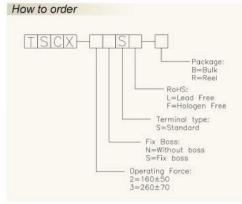
Specification

Items		Standard
Operating	Temperature Range	-20°C to +70°C
	Rating	50mA 12V DC
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 mΩ Max.
Durability	Operating Life	30,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

	TSH-S	TSH-L	TSH-V	TSH-V1
Dimensions	24.00.3	20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	23 23 24 24 25 25 25 25 25 25 26 26 26 26 26 26 26 26 26 26 26 26 26	7.3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Circuit Diagram	⊕ o o o o o o o o o o o o o o o o o o o	⊕ o o o o o o o o o o o o o o o o o o o	O-0-0-0 Cirguit Diagram	⊕ ⊕ ⊕ ⊕ € Cirquit Diagram
Pad Layout	PCB Board	62 62 88 PC8 Board	50 PCB Board	Su Su PCB Board



- Suitable for high-density mounting.
- . Vertical type capable of vertical opration to the PC board.
- Contacts are completely sealed, enhancing reliability.
 Packaged with a 16mm wide embossed taping.



Applications

- Portable devices
- Mobile phones and personal digital assistants.
- Operation of variouw digital devices.

Specification

Items		Standard	
Operating	Temperature Range	−20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100VDC	
performance	Dielectric Strength	250V AC for 1 min 50Hz	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.13±0.07mm	

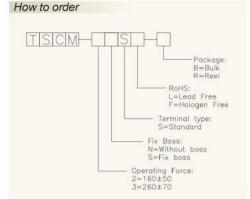
Diagram

	TSCX-S	TSCX-N	
Dimensions	1±0.10 3±0.00 10 10 10 10 10 10 10 10 10	3±0.05	
Circuit Diagram	①——② Cirguit Diagram	①— —② Cirguit Diagram	
Pad Layout	2.6.5.0.1 4.2.0.1 PCB Board	2,6;0,1 4,2;6,1 PCB Board	



Features

- · Suitable for high-density mounting.
- Vertical type capable of vertical opration to the PC board.
- Contacts are completely sealed, enhancing reliability.
- Packaged with a 16mm wide embossed taping.



Applications

- Portable devices
- Mobile phones and personal digital assistants.
 Operation of variouw digital devices.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100M Ω Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSCM-NS	TSCM-SS
Dimensions	5.0±0.2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5,040,2 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0
Circuit Diagram	⊕ o o o o o o o o o o o o o o o o o o o	⊕ ⊸ o o o o o o o o o o o o o o o o o o
Pad Layout	3.7 5.5 PCB Board	27 55 PCB Board

Switch (Side Push

33

Package:

B=Bulk R=Reel

RoHS: L=Lead Free F=Hologen Free

Terminal type: S=Standard J=J Bend

Fix Boss: N=Without boss

S=Fix boss Operating Force: 2=160±50 3=260±70



Features

Zact Switch (Side Push)

- Suitable for high-density mounting.
- . Vertical type capable of vertical opration to the PC board.
- Contacts are completely sealed, enhancing reliability.
 Packaged with a 16mm wide embossed taping.

Applications

- Portable devices
- Mobile phones and personal digital assistants.
- Operation of variouw digital devices.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical performance	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

	TSCF-NS	TSCF-SS	TSCF-NJ	TSCF-SJ
Dimensions	64101	6.4±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7±0.1 6.7	55501 47601 147601 17891 17891 17891 17891 17891 17891	7.5503 - 0.7503 - 0.7503
Circuit Diagram	© Grgutt Diagram	© 3	D S	O 3
Pad Layout	3.7±0.1 6.9±0.1 00 00 00 00 00 00 00 00 00 00 00 00 00	37±0.1 G#2.1	3.7±0.1 54 6.8±0.1 57 PCB Boort	3.7±0.1 6.8±0.1 P.CB Board

How to order

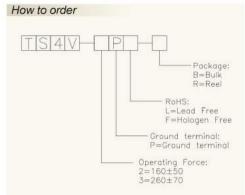


4.5 × 3.4 Side Push Tact Switch

Features

TS4V Series

- · Vertical type capable of vertical operation to the PCB board.
- Packaged with a 16mm wide embossed taping.



Applications

- · Portable devices
- Mobile phones and personal digital assistants.
 Operation of variouw digital devices.

Specification

Items		Standard
Operating	Temperature Range	-20°C to +70°C
	Rating	50mA, 12V DC
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

	TS4V
Dimensions	4.48 P.
Circuit Diagram	Ground Diagram
Pad Layout	0 0 0 1 2.4 4.25 5 PCB Board





35



Features

Switch (Side Push)

- . This horizontal-type switch allws the side of the soldered PCB
- Theswitch supports reflow soldering and is totally waterproof
- Packaged with a 12mm wide embossed taping.

Package: B=Bulk R=Reel RoHS: L=Lead Free F=Hologen Free Terminal type: J=J Bend Operating Force: 2=160±50gf

How to order

Applications

· Mobile terminal equipment, TV, VCR, cameras, etc.

Specification

Items Operating Temperature Range		Standard −20°C to +70°C	
Insulation Resistance	100M Ω Min. 100V DC		
Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)		
Contact Resistance	100 m Ω Max.		
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf	
	Travel	0.2±0.1mm	

Diagram

	TS09
Dimensions	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	200 350 350 350 350 350 350 350 3
Circuit Diagram	⊕ → ⊕ Cirguit Diagram 5.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30
Pad Layout	PCB Board

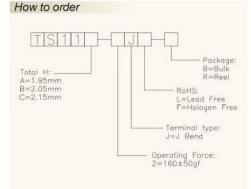
TS11 Series

4.5×2.4 / 2.5 / 2.6 Miniature Type Tact Switch



Features

- . This horizontal-type switch allws the side of the soldered PCB
- Theswitch supports reflow soldering and is totally waterproof
- Packaged with a 12mm wide embossed taping.



Applications

· Mobile terminal equipment, TV, VCR, cameras, etc.

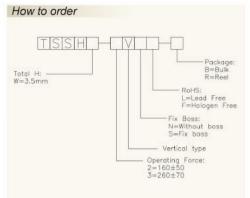
Specification

Items		Standard	
Operating	Temperature Range	−20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100ΜΩ	
performance	Dielectric Strength	100V AC for 1 min 50Hz	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf	
	Travel	0.15 + 0.2 / -0.1 mm	

	TS11
Dimensions	1951015 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 18005 1800
Circuit Diagram	①—————————————————————————————————————
Pad Layout	PCB Board



- Improve mounting density of components on PCB board.
- Reflow solderable.
- Package with 12mm wide embossed taping.



Applications

- · For operating various mobile devices.
- For operating various devices that require high density mounting such as mobile phones, communication devices, compact electronic devices.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	30,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

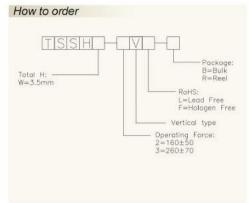
Diagram

	TSSH-VS	TSSH-VN
Dimensions	4.55 9 10 10 10 10 10 10 10 10 10 10	455
January 19	+ + + + + + + + + + + + + + + + + + +	5-137 34 34
Circuit Diagram	① — 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	①—— ② ③—— ④ Cirguit Diagram 34
Pad Layout	PCB Board	as PCB Board



Features

- Improve mounting density of components on PCB board.
- Reflow solderable.
- Package with 12mm wide embossed taping.



Applications

- · For operating various mobile devices.
- . For operating various devices that require high density mounting such as mobile phones, communication devices, compact electronic devices.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 mΩ Max.	
Durability	Operating Life	30,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

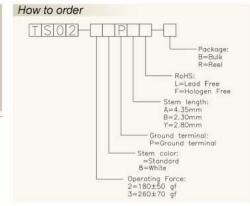
	TSSH-V
Dimensions	4.55
Circuit Diagram	2-3-25 3-5-3
Pad Layout	POB Board

Switch (Side Push



Features

- · Improve mounting density of components on PCB board
- Reflow solderable.
- Package with 24mm wide embossed taping.



Applications

- . For operating various mobile devices.
- For operating various devices that require high density mounting such as mobile phones, communication devices, compact electronic devices.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
Electrical performance	Rating	50mA 12V DC	
	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	200,000 Cycles	
Mechanical performance	Operating Force	2: 180±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

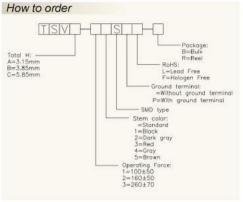
Diagram

	TS02	
Dimensions	12 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	
Dimensions		
Circuit Diagram	① — o o o o o o o o o o o o o o o o o o	
Pad Layout	B F F F F F F F F F F F F F F F F F F F	



Features

- · Improve mounting density of components on PCB board.
- Reflow solderable.
- Package with 16mm wide embossed taping.



Applications

- · For operating various mobile devices.
- . For operating various devices that require high density mounting such as mobile phones, communication devices, compact electronic devices.

Specification

Items		Standard	
Operating	Temperature Range	−20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 mΩ Max.	
Durability	Operating Life	100,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

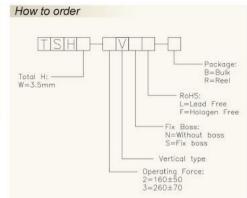
	TSV-S	TSV-SP
Dimensions	0.5 7.5a.0.2 0.5mmx 4	2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.50. 2.
Circuit Diagram	© + ⊕ Cirguit Disgram 1.1.5	⊕
Pad Layout	1.4 4.5 PCB Board	7.65 1.80 9.80 1.80 9.80 1.80 9.80 1.80 9.80 1.80 9.80 1.80 9.80 1.80 9.80

Switch (Side Push



Features

- · Improve mounting density of components on PCB board
- Reflow solderable.
- Package with 16mm wide embossed taping.



Applications

- · Various portable electronic devices.
- For operating various compact electronic devices such as mobile phones and communication devices, that require high density mounting.
- For operating various MP4, MP3.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
Electrical performance	Rating	50mA 12V DC	
	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	30,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

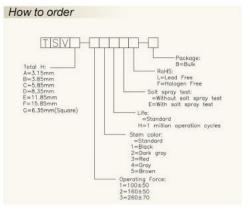
	TSH-VS	TSH-VN
Dimensions	7 12 13 13	2 28 9
	→ → → → → → → → → →	
Circuit Diagram	①—— ③—— Girguit Diagram	① — ② ③ — — ④ Cirguit Diagram
Pad Layout	PCB Board	PCB Board



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Available with anti-ESD ground terminal.
- Standard knobs are available.

TSV Series



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

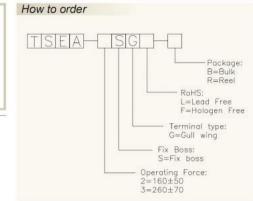
Specification

Items Operating Temperature Range		Standard -20°C to +70°C	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 mΩ Max.	
Durability	Operating Life	10,000 Cycles ; 1,000,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSVA~F	TSV-G
Dimensions	200 ms. 200 ms.	20 000 000 000 000 000 000 000 000 000
Circuit Diagram	① — O O O O O O O O O O O O O O O O O O	①——o o——② ③—— ± ④ Cirguit Diagram
Pad Layout	2-91,840.1 2-91,840.1 7.0 PCB Board	2-61.0401 2-61.0401 7.0 PCB Board



- · Suitable for high-density mounting.
- . Vertical type capable of vertical opration to the PC board.
- Contacts are completely sealed, enhancing reliability.
- · Packaged with a 16mm wide embossed taping.



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C	
Electrical	Insulation Resistance	100M Ω Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

	TSE-SG	
Dimensions	51 30 8	
	2/5 1/3 1/3 2/3 2/3 2/3 2/3 2/3 2/3 2/3 2/3 2/3 2	
Circuit Diagram	Giguit Dagram	
Pad Layout	PCS Borrd	

TSQ Series

12.0×12.0 Horizontal Push & Vertical Push Tact Switch





Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Standard knobs are available.
- SMT Type Available.

How to order Package: B=Bulk Total H: -R=Reel A=4.30mm B=7.50mm C=12.00mm RoHS: L=Lead Free E=6.45mm(Vertical) F=Hologen Free F=11.20mm(Vertical) G=7.30mm(Square) Stem coler: =Standard 1=Black Operating Force: 1=100±50 2=160±50 3=260±70

Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items		Standard	
Operating	ating Temperature Range -20°C to +70°C		
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSQA	TSQB	TSQC	TSQG
Dimensions	96.7 12.5 14.1 20.001 20.002	76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7	12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	22 24 25 25 25 25 25 25 25 25 25 25 25 25 25
Circuit Diagram	① ③ ② ④ Cirguit Diagram	① ③ ② ④ Cirguit Diagram	① ① ③ ② ② ④ Cirguit Diagram	③ ③ ② ④ Cirguit Diagram
Pad Layout	PCB Board	PCB Board	PCB Board	PCB Board

B=Bulk

RoHS:

Terminal type: G=Gull wing

Fix Boss: N=Without fix boss

Special stem coler:

=Standard 1=Black

Operating Force: 1=100±50

2=160±50 3=260±70 L=Lead Free

F=Hologen Free

R=Reel





Features

- . Snap-in type, which can be directly mounted on PC board.
- . Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- · Standard knobs are available.
- SMT Type Available.

Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

B=5.0mm

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

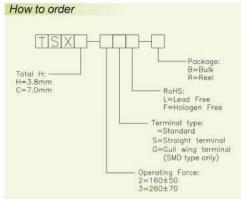
Diagram

	TSQ-G	TSQE	TSQF
Dimensions	12.010.2	131 0120 131 131 131 131 131 131 131 131 131 13	131 120 120 120 120 120 120 120 120 120 12
Circuit Diagram	© ® O Sirguit Diagram	①——◆ o——② Cirguit Diagram	①——② Cirguit Diagram
Pad Layout	2 3 4 5 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	PCB Board	230 28 28 28 28 28 28 28 28 28 28 28 28 28



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Standard knobs are available.



Applications

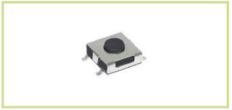
. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

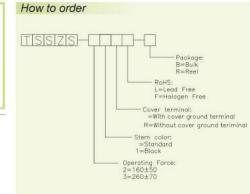
Items Operating Temperature Range		Standard	
		−20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	50,000 Cycles	
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSX-G	TSX	TSX-S
Dimensions	4.5 (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	0.4.5 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	02 S 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Circuit Diagram	© Griguit Diagram	① ③ ③ Cirguit Diogram	© Grguit Diagram
Pad Layout	90 PCB Board	8 2.9 2.9 2.9 2.9 PCB Board	4-918t005 hole





- Reflow solderable
- Package with a 12mm wide embossed taping.



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100M Ω Min, 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles	
Mechanical	Operating Force	2: 160±50gf; 3: 260±70gf	
performance	Travel	0.25 + 0.2 / -0.1 mm	

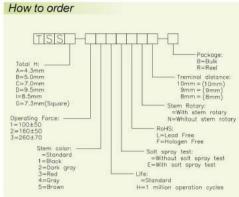
Diagram

	TSSZS	
Dimensions	700	
	20 00 00 00 00 00 00 00 00 00 00 00 00 0	
Circuit Diagram	© Cirguit Digram	
Pad Layout	7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	



Features

- · Reflow solderable.
- Packaged with a 16mm wide embossed taping.



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles	
Mechanical	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
performance	Travel	0.25 + 0.2 / -0.1 mm	

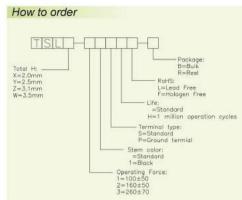
	TSSA~D, I	TSS-G
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16.2 1 10 50 80 1 10 50 80 1 10 80 80 1 10 80 1 1
Dimensions	\$3.5 \$3.5 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0	24 25 27 27 27 27 27 27 27 27 27 27 27 27 27
Circuit Diagram	©	© © Cirguit Diagram
Pad Layout	4-1.2*1.2 D	C

6.2×6.2 Ground Terminal Tact Switch



Features

- Reflow solderable.
- · Available with anti-ESD ground terminal.
- Packaged with a 16mm wide embossed taping.



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100M Ω Min, 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles	
Mechanical	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
performance	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

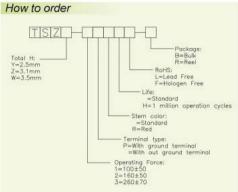
	TSL-S	TSL-P
Dimensions	6.2	6.2
	7.2 00	7.2
Circuit Diagram	© Cirquit Diagram	O S S S S S S S S S S S S S S S S S S S
Pad Layout	9.5 4.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	9.5 4.0



Features

TSZ Series

- · Reflow solderable.
- · Available with anti-ESD ground terminal.
- Packaged with a 16mm wide embossed taping.



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items		Standard	
Operating	Temperature Range	-20°C to +70°C	
	Rating	50mA 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles	
Mechanical	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf	
performance	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

	TSZ-P	TSZ-R
Dimensions	20 62 62 62	8.0
	338	
Circuit Diagram	Circuit Disegram	Cirput Diagram
Pad Layout	6.8 Vi	6.8 5-1.6 PCB Board

Please follow drawing of Approved Sheet that catalog drawing only for reference.

B=Bulk

R=Reel

L=Lead Free

J=J bend

Operating Force: 1=100±50

2=160±50

3=260±70 7=300±70 9=400±120

F=Hologen Free Terminal type: G=Gull wing



Features

- . Stem is made of rubber, achevies excellent oprationality with pre-travel and over-travel.
- Rrflow solderable
- Package with a 24mm wide embossed taping.

Applications

- Electric home appliances.
- · Car navigation systems, car audio systems.
- . Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Total H:

Y=2.5mm W=3.5mm

J=5.2mm

Specification

Items Standard Operating Temperature Range −20°C to +70°C		Standard	
		−20°C to +70°C	
Rating		50mA, 12V DC	
Electrical performance	Insulation Resistance	100MΩ Min. 100V DC	
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 m Ω Max.	
Durability	Operating Life	100gf: 1,000,000 Cycles ; 160gf: 500,000 Cycles ; Other:300,000 Cycles	
Mechanical	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf; 7: 300±70gf; 9: 400±120gf	
performance	Travel	0.25 + 0.2 / -0.1 mm	

Diagram

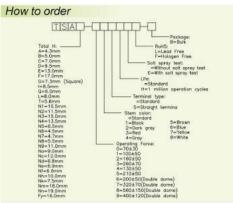
	TSO-G	TSO-J
Dimensions	222	333
	93.2	35 74
Circuit Diagram	© ③ © © Oirguit Diagram	©—————————————————————————————————————
Pad Layout	2///2	30 B4 PCB Board



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Standard knobs are available.

TSA Series



Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items Operating Remperature Range -20		Standard	
		−20°C to +70°C	
	Rating	50mA, 12V DC	
Electrical	Insulation Resistance	100MΩ Min. 100V DC	
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)	
	Contact Resistance	100 mΩ Max.	
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles	
Mechanical performance	Operating Force	1: 100±50gf; 2: 300±100gf; 3: 260±70gf	
	Travel	0.25 + 0.2 / -0.1 mm	

	TSAA~Fy	TSAG	TSA-S
Dimensions	65.50.1 7.94.02	33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5	0.3 v 0.7 4.5±0.1
Circuit Diagram	① ③ ② ④ Cirguit Diagram	① ③ ② ④ Cirguit Diagram	① ③ ② ④ Cirguit Diagram
Pad Layout	6.5±0.1 d-e1.0±0.05 PCB Board	6.5±0.1 4=81.0±0.05 PCB Board	6.5±0.1 4-91.0±0.05 PCB Board

6.0×6.0 Through Hole Type Tact Switch



Features

- . Snap-in type, which can be directly mounted on PC board.
- . Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- · Available with anti-ESD ground terminal.
- Standard knobs are available.

How to order -Package: B=Bulk Total H: — A=4.3mm B=5.0mm C=7.0mm D=9.5mm L=Lead Free F=Hologen Free =Standard H=1 million operation cycles E=13.0mm F=17.0mm G=7.3mm (Square) Stern color: =Standard 1=Black 2=Dark gray 3=Red 4=Gray 5=Brown Operating Force: 1=100±50 2=160±50 3=260±70

Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 mΩ Max.
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

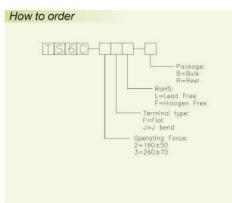
Diagram

	TSPA~F	TSPG
	10.5 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 1	625
Dimensions	83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5 83.5	24 20 20 20 20 20 20 20 20 20 20 20 20 20
Circuit Diagram	© 3 © 3 Cirguit Diagram	© Orguit Diagram
Pad Layout	65±01	65-801 00 00 00 00 00 00 00 00 00 00 00 00 0



Features

- . Steady and low contact resistance.
- Improved operation by using a larger push plate.
- Excellent solderability.



Applications

- · Car electronics equipment.
- . Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf
	Travel	1.3 ± 0.2 mm

	TS6C	
Dimensions	5.9	
Circuit Diagram	①—— Cirguit Diagram	
Pad Layout	PCB Board	

B=Bulk R=Reel

L=Lead Free F=Hologen Free

=Standard H=1 million operation cycles

Terminal type:

D=DIP

Stem color:

=Standard 1=Black

Operating Force: 1=100±50 2=160±50 3=260±70



Features

Tact Switch

- . Snap-in type, which can be directly mounted on PC board.
- . Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Standard knobs are available.

Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs. video recorders, automotive sets, etc.

How to order

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

Diagram

	TSL-D	
Dimensions	8 - CO - CO - H - CO - CO - H - CO - CO -	
Circuit Diagram	© © © Cirguit Diagram	
Pad Layout	4-01-81 6-5=0.1- PCB Board	



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Available with anti-ESD grouped terminal.
- Standard knobs are available.

TSD1D Series

How to order Package: B=Bulk RoHS: L=Lead Free F=Hologen Free Special stem color: =Standard 1=Black Operating Force: 2=160±50 3=260±70

Applications

. Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments, TVs, video recorders, automotive sets, etc.

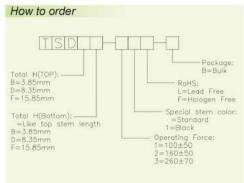
Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

	TSD1D
Dimensions	94.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0 95.0
Circuit Diagram	©—o→o→o⊕© ©——© Cirguit Diagram
Pad Layout	PCB Board



- A vertical two-story TACT switch mechanism offers the best panel design flexibility.
- Vertical switch pitch:12.5mm.



Applications

 Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communications apparatus, measuring instruments, TV sets, VCRs, etc.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

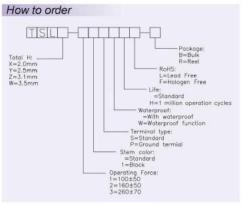
Diagram

	TSD	
Dimensions	0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1 0.40.0.1	
Circuit Diagram	Upper example ①——c o — @ Lower example ②——c o — @ © —— © Cirguit Diagram 4-#1.3040.05 HOLES	
Pad Layout	2±0.1	



Features

- Reflow solderable.
- Available with anti-ESD ground terminal.
- Packaged with a 16mm wide embossed taping.

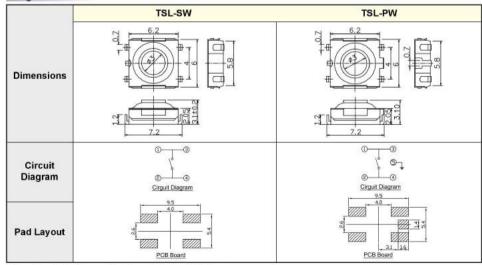


Applications

Operating switches in all types of electronic equipment such as audio devices, office devices, communication devices, measuring instruments,
 TVs, video recorders, automotive sets, etc.

Specification

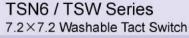
Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100M Ω Min. 100V DC
erformance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles ; 1,000,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm











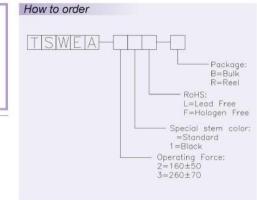






Tact Switch

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads. thus making circuit design easy.
- Switch can be washable.



Applications

For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard −20°C to +70°C
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	300,000 Cycles
Mechanical	Operating Force	2: 160±50gf; 3: 260±70gf
performance	Travel	0.25 + 0.2 / -0.1 mm

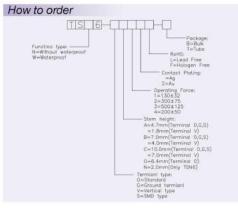
Diagram

	TSWEA	
Dimensions	2.6 10.0±0.2	
Circuit Diagram	©	
Pad Layout	PCB Board	



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Switch can be washable.



Applications

For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1:130±32gf; 2:300±75gf; 3:500±125gf; 4:200±50gf
	Travel	0.3 + 0.4 / -0 mm (TSW6O Sereis 0.7 ± 0.2mm)

	TSN6	TSW6-O	TSW6-G
Dimensions	7.2 8.0 7.2 8.0 7.2 8.0 7.2 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	25 T T T T T T T T T T T T T T T T T T T	7.6. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Circuit Diagram	Cirguit Diagram	© S Cirguit Diagram	Cirguit Diagram
Pad Layout	7.62401 - PCB Board	7.62013 PCB Board	7.68991 Baard

7.2×1.8~7.0 Washable Tact Switch



Features

- . Snap-in type, which can be directly mounted on PC board.
- . Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Switch can be washable.

How to order TISI 6H I I H Package: B=Bulk T=Tube Functino type: N=Without waterproof W=Waterproof RoHS - RoHS: L=Lead Free F=Hologen Free Contact Plating: =Ag 2=Au 2=Au Operating Force: 1=130±32 2=300±75 3=500±125 4=200±50 4=200±50 Stem height incl. 0,G,S) =1.8mm(Terminal V) B=7.0mm(Terminal V) B=7.0mm(Terminal V) C=10.0mm(Terminal V) C=10.0mm(Terminal V) O=0.4mm(Terminal V) O=0.4mm(Terminal V) O=0.4mm(Terminal V) O=0.4mm(Terminal V) D=0.4mm(Only TSN6) Terminal News N=2.0mm(Only 1 Termianl type: 0=Standard G=Ground termianl V=Vertical type S=SMO type

Applications

For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1:130±32gf; 2:300±75gf; 3:500±125gf; 4:200±50gf
	Travel	0.3 + 0.4 / -0 mm (TSW6O Sereis 0.7 ± 0.2mm)

Diagram

	TSW6-V	TSW6-S
Dimensions	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	72 72 73 73 74 74 75 75 75 75 75 75 75 75 75 75 75 75 75
Circuit Diagram	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	① ① ③ ③ ② ② ② ② ② ② ② ② ② ② ③ ③ ③ ③ ③ ③
Pad Layout	PCB Board	5.8g*s 12.0g*s 10.0g*s

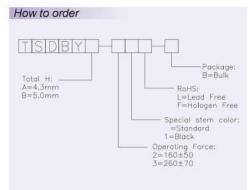


Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Switch can be washable.

TSDBY Series

6.5×6.5 Washable Tact Switch



Applications

* For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard
		-20°C to +70°C
	Rating	50mA 12V DC
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf
	Travel	0.3 + 0.2 / -0.1 mm

Diagram

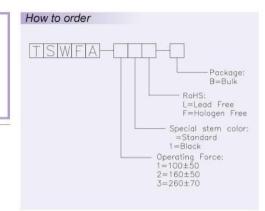
	TSDBY	
Dimensions	1932 1932 1932 1932 1932 1932	
Circuit Diagram	⊕ ⊕ ⊕ Cirguit Diagram	
Pad Layout	PCB Board	

60



Tact Switch

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads. thus making circuit design easy.
- Switch can be washable.



Applications

· For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100M Ω Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.3 + 0.2 / -0.1 mm

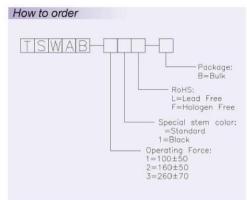
Diagram

	TSWFA	
Dimensions	23.5 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3	
Circuit Diagram	① ③ ② Cirguit Diagram	
Pad Layout	6.519.1	



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Switch can be washable.



Applications

* For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard -20°C to +70°C
Electrical	Insulation Resistance	100MΩ Min. 100V DC
performance	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.3 + 0.2 / -0.1 mm

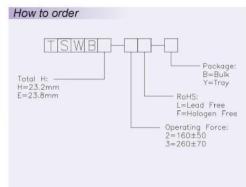
	TSWAB
Dimensions	100 min
Circuit Diagram	① ③ ② Cirguit Diagram
Pad Layout	6.546.1
	PCB Board

10.0×10.0 Washable Tact Switch



Features

- . Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads. thus making circuit design easy.
- Switch can be washable.



Applications

· For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items Operating Temperature Range		Standard
		−20°C to +70°C
Electrical performance	Rating	50mA 12V DC
	Insulation Resistance	100M Ω Min. 100V DC
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf ; 3: 260±70gf
	Travel	0.4±0.2 mm

Diagram

	TSWB	
	4 2	
Dimensions		
Circuit Diagram	© ® © Cirguit Diagram	
Pad Layout	10.3 to 10.3 t	



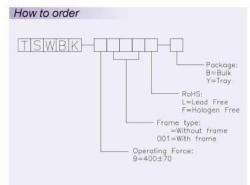
Features

. Snap-in type, which can be directly mounted on PC board.

10.0×10.0 Washable Tact Switch

- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Switch can be washable.

TSWBK Series



Applications

* For operating various electronic devices such as washing machines requiring water proof construction.

Specification

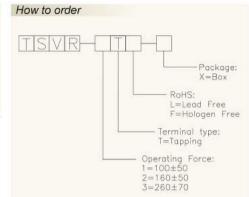
Items		Standard
Operating	Temperature Range	-20°C to +70°C
Electrical performance	Rating	50mA 12V DC
	Insulation Resistance	100M Ω Min. 100V DC
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	9: 400±150gf
	Travel	0.4±0.2 mm

	TSWBK-9	TSWBK-9001
Dimensions	922 123 124 125 125 125 125 125 125 125 125	0.5.h. 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Circuit Diagram	© © Cirguit Diagram	© To October Of Cirguit Diagram
Pad Layout	state PCB Board	PCB Board





- Supplied with radial taping.
- · Allows automatic insertion onto PC board with the radial auto insertion machine.



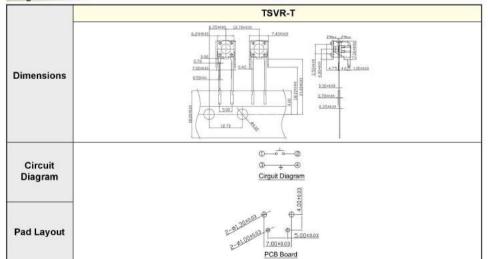
Applications

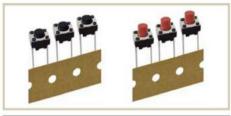
. Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communication apparatur, measuring instruments, TV sets, VCRs, etc.

Specification

Items		Standard
Operating	Temperature Range	-20°C to +70°C
Electrical performance	Rating	50mA 12V DC
	Insulation Resistance	100MΩ Min. 100V DC
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

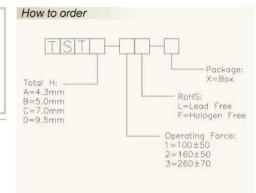
Diagram





Features

- · Supplied with radial taping.
- · Allows automatic insertion onto PC board with the radial auto insertion machine.



Applications

. Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communication apparatur, measuring instruments, TV sets, VCRs, etc.

Specification

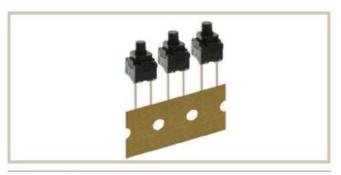
Items		Standard
Operating	Temperature Range	−20°C to +70°C
Electrical performance	Rating	50mA 12V DC
	Insulation Resistance	100MΩ Min. 100V DC
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 mΩ Max.
Durability	Operating Life	100,000 Cycles
Mechanical performance	Operating Force	1: 100±50gf; 2: 160±50gf; 3: 260±70gf
	Travel	0.25 + 0.2 / -0.1 mm

	тѕт
Dimensions	
Circuit Diagram	①——○ ○——② <u>Cirguit Diagram</u>
Pad Layout	5±0.1 PCB Board

TSWD Series

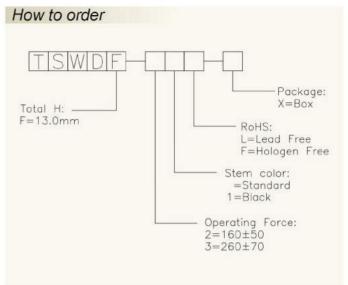
8.0×8.0 Washable Tact Switch





Features

- Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Switch can be washable.



Applications

• For operating various electronic devices such as washing machines requiring water proof construction.

Specification

Items		Standard
Operating	g Temperature Range	−20°C to +70°C
Electrical performance	Rating	50mA 12V DC
	Insulation Resistance	100M Ω Min. 100V DC
	Dielectric Strength	250V AC for 1 min (50Hz or 60Hz)
	Contact Resistance	100 m Ω Max.
Durability	Operating Life	50,000 Cycles ; 100,000 Cycles
Mechanical performance	Operating Force	2: 160±50gf; 3: 260±70gf
	Travel	0.3 + 0.2 / -0.1 mm

	TSWD
Dimensions	33802 4.3802 380 380 380 380 380 380 380 380
Circuit Diagram	⊕⊸⊸⊸© Cirguit Diagram
Pad Layout	2-Ø1.0;° ^{a1} 5.06±0.1 PCB Board