

SPECIFICATION FOR APPROVAL
PRODUCT APPROVAL SHEET

PRODUCT NAME : Tactile Switch

PART NO : 12x12mm Four-pin Surface-Mount Device

PART NO : _____

DESIGNED BY	CHECK BY	APPROVED BY	
WU Yongyu	WU Yongyou	ZHANG Peng	
DATE 20201117	DATE 20201117	DATE 20201117	

APPROVAL SIGNATURE

CUSTOMER NAME: _____

CUSTOMER TYPE: _____

CUSTOMER NO: _____

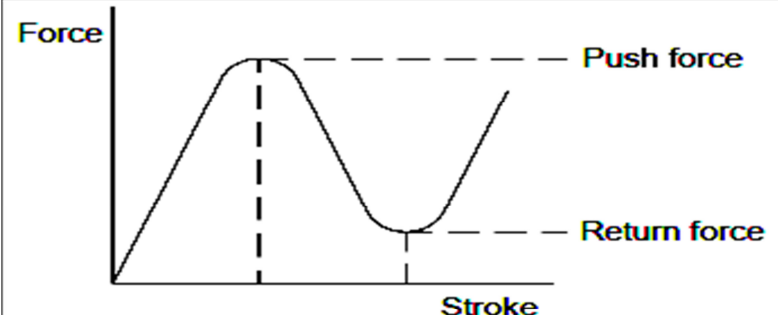
PLEASE ACKNOWLEDGE AND RETURN BY _____ DATE: _____

PLEASE RETURN TO US AFTER CONFIRMED! THANK YOU!



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Shenzhen Kinghelm Electronics Co., Ltd.		Product Line	Tact Switch
TACT SWITCH SPECIFICATION			
<p>1、GENERAL</p> <p>1.1 Application</p> <p>This specification is applied to the requirements for TACTILE SWITCH (MECHANICAL CONTACT)</p> <p>1.2 Operating Temperature Range</p> <p>-20 ~ 70 (Normal humidity,normal air pressure)</p> <p>1.3 Storage Temperature Range</p> <p>-40 ~ 85 (Normal humidity,normal air pressure)</p> <p>1.4 Test Conditions</p> <p>Unless otherwise specified,tests and measurement shall be made in the following standard conditions:</p> <p>Normal temperature.....5 ~ 35</p> <p>Normal humidity.....relative humidity 45% ~ 85%</p> <p>Normal air pressure.....86KPa ~ 106KPa</p> <p>If any doubt arise from the judgment, tests shall be conducted at the following conditions :</p> <p>Temperature.....20 ±2</p> <p>Relative humidity.....65%±5%</p> <p>Air pressure.....86KPa ~ 106KPa</p> <p>2、DETAILED SPECIFICATION</p> <p>2.1 Appearance:There should be no defects that affect the serviceability of product.</p> <p>2.2 Style and dimension:shall conform to the assemble drawings.</p>			
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Shenzhen Kinghelm Electronics Co., Ltd.			Product Line	Tact Switch
TACT SWITCH SPECIFICATION				
2.3 Type of actuating:Tactile feedback. 2.4 Contact arrangement:1 pole,1 throw(Details of contact arrangement are given in the assembly drawings.) 2.5 Ratings:DC12V 50mA				
TEST ITEM				
3、ELECTRINICAL PERORMANCE				
3-1 CONTACT RESISTANCE Being tested at 1kHz small current and voltage (50mA, 20mA) by contact resistance meter. 100M max.				
3-2 INSULATION RESISTANCE DC 250v shall be applied for test between terminals and between terminals and frame for one minutes. 100M min.				
3-3 WITHSTAND VOLTAGE AC 250v and induction current 1mA shall be applied for test between terminals and between terminals and frame for one minute. There shall be no breakdown.				
4、MECHANICAL PERFORMANCE				
4-1 OPERATING FORCE 160±30gf 260±30gf		 <p>Force</p> <p>Stroke</p> <p>Push force</p> <p>Return force</p> <p>Push by recommended operating conditions</p>		
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TACT SWITCH SPECIFICATION

5、DURABILITY

5-1 SOLDERING TEST

The tip of the terminal shall be dipped 0.5mm in the solder bath within temperature of 260 ± 5 for 3s.

Over 95% of the immersed surface was covered by tin.

5-2 SOLDERING RESISTANT TEST

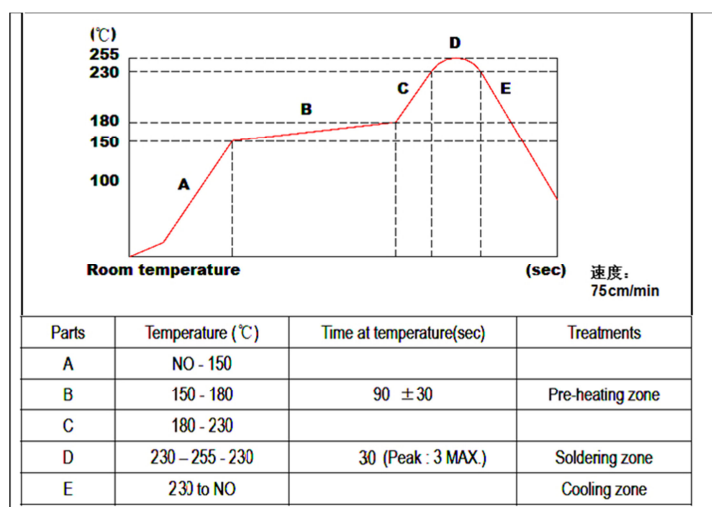
Soldering temperature 260 ± 5 ,soldering time 3 ± 0.5 s,immersion depth up to the surface of the board,thickness of PCB 1.6mm.

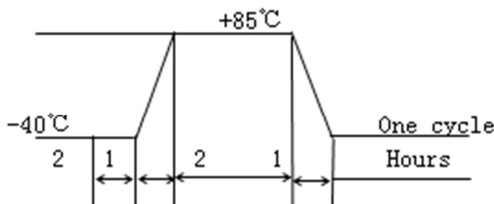
Manual soldering temperature 350 ± 5 , soldering time 3 ± 0.5 s,however excessive pressure shall not be applied to the terminal.

Without deformation of case or excessive looseness of electrical properties.

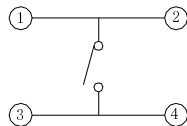
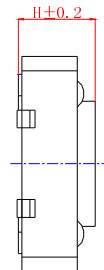
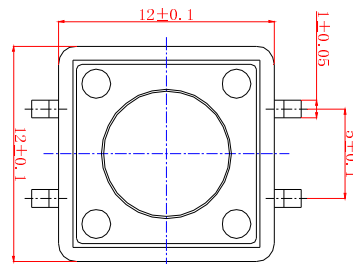
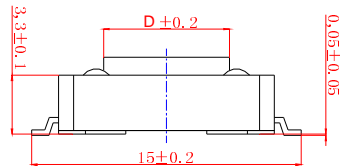
5-3 REFLOW SOLDERING HEAR TEST

Without deformation of case or excessive looseness of electrical properties.

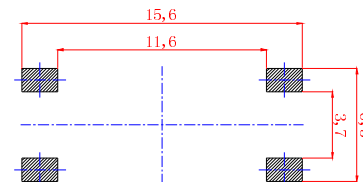


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<div>5-4 LIFE TEST</div> <div>100,000 cycles of operation at a rate of 100-120 cycles per minute with unloading.</div> <div>(1)Contact resistance 200M .</div> <div>(2)Operating force 30%initial value.</div> <div>(3)ITEM---1.2</div> <div>(4)ITEM---1.3</div> <div>(5)ITEM---2.2</div>				
<div>5-5 SAIL SPRA</div> <div>1)Temperature: 35±2</div> <div>2)Cycle: 4 Hours testing(1Times) and 1 Hours stop. Based on total 4 hours.</div> <div>3)Salt solution concentration: 5±1% by weight.</div> <div>(1)Contact resistance 200M .</div> <div>(2)Insulation resistance 100M min.</div> <div>(3)There shall be no sign of mechanical and electrical damage.</div>				
<div>5-6 HEAT RESISTAN TEST</div> <div>80±2 for 96H,test after keeping in normal condition for 30 min.</div> <div>5-7 MOISTURE RESISTANT TEST</div> <div>At 60±2 90 ~ 95% RH for 96H,test after keeping in normal condition for 30 min.</div> <div>5-8 COLD RESISTANT TEST</div> <div>At -40±2 for 96H,test after keeping in normal condition for 30 min.</div> <div>5-9 TEMPERATURE CYCLIG TEST</div> <div>According to following figure,after 5 cycles,test after keeping in normal condition for 1H.</div>	<div></div> <div>(1)Contact resistance 200M .</div> <div>(2)Insulation resistance 100M min.</div> <div>(3)There shall be no sign of mechanical and electrical damage.</div>			
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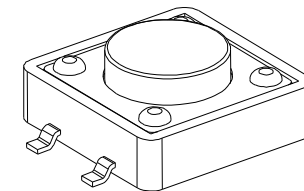
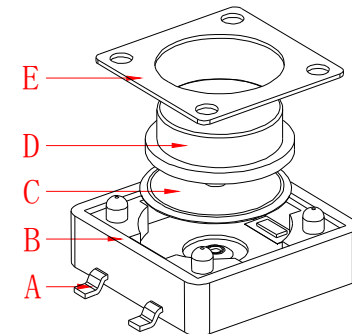
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Circuit Diagram

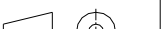


PCB Solder Diagram



Technical Specifications:
1. Rated Current: 50mA 12V DC
2. Contact Resistance: 100 milliohms
3. Stroke: 0.4 ± 0.1 mm
4. Resistance: 100 megohms
5. Withstand Voltage: 250V 50Hz 1Min

Press Force	160 ± 30gf	260 ± 50gf
Lifespan	100,000 cycles	100,000 cycles

E										First Angle Projection		Scale	Specification /Part No	12*12 Four-pad Surface-mount Technology (SMT) Piece	
											1:1				
	E	Cover	Iron	1	Tin-plated Copper						General Tolerance				
											> 0.5-2	±0.1			
	D	Button	PPA Black	1	Cleaning						>2-5	±0.2	Unit	Material Number /Part No	
										Greater than 5	±0.3				
C	Spring	Stainless Steel	1		Label	Revision Number	Change Document Number	Signature	Date	Angle	±1°	mm			
F	B	Base	PPA Black	1	Cleaning	Designed			Checked		Approved		Shenzhen Kinghelm Electronics Co., Ltd.		www.kinghelm.net
	A	Contact	Brass	1	Sliver plating	WU Yongyu			ZHANG Peng		HE Chunlin		KH-12X12X6H-SMT		
	NO.	Name	Material	Quantity	Remarks										