

承认书

SPECIFICATION FOR APPROVAL

Rev.A

FILE NO. AS-KFC-011SB-H3.5-EP

客户名称

CUSTOMER NAME.

客户料号

CUSTOMER PART NO.:

型 号

TACT SWITCH

Model Type:

制造者系列号

KFC SERIES

Maker Series No.:

制造者料号

KFC-011SB-H3.5-EP

Maker Part No.:

日 期

2023.05.22

DATE

Approved by Customer:



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Specifications

Description	TACT SWITCH	Designed	Checked	Approved
Maker Model No.	KFC SERIES	Linda.Chen	Long.Zhao	Paul.Weii
Maker Part No.	KFC-011SB-H3.5-EP			
Customer Ref				

1. Construction

1.1 Dimension:

As shown in the attached part drawing/s.

1.2 Component and materials:

As specified in the table of the attached part drawing/s.

2. Rating:

DC 12V 50mA Max.

3. Operation Temperature Range:

-20 °C to 70 °C

4. Test Condition:

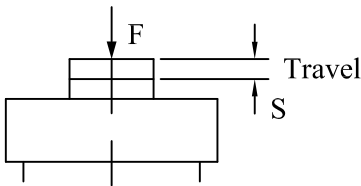
Unless otherwise specified herein, all measurements and tests shall be performed at below conditions:

4.1 Ambient temperature: 5 °C to 35 °C

4.2 Relative humidity: 45 to 85%

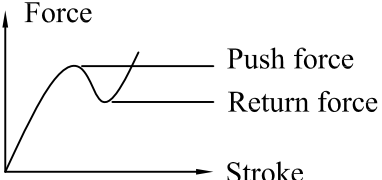
4.3 Air pressure: 86 to 106 kpa (860 to 1060mbar)

5. Mechanical characteristics

No	Item	Test conditions	Performance
5.1	Travel	Push on center of stem under the conditions addressed in 4. $F = \text{Operation force} \times 2$ 	Travel $S = 0.25 \pm 0.1 \text{ mm}$

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No	Item	Test conditions	Performance
5.2	Operation force	Push on center of stem under the conditions addressed in 4. 	Push force = 250 ± 50 gram force Return force = 40 gram force min.
5.3	Terminal strength	The maximum force 400gf shall be applied to every terminal at any direction for 60seconds	No loosening and breakdown occurred, but deformation of terminal is allowed
5.4	Stop strength	A static load of 3 kgf is applied on the direction of stem operation for a period of 60 seconds.	No electrical and mechanical damage occurred.
5.5	Stem strength	The maximum force to withstand a pull applied opposite to the direction of stem operation shall be measured.	1kgf Min.
5.6	Solderability test	The switch samples to be tested shall be dipped into soldering flux. • Dwell time: 3 ± 0.5 seconds • The length of terminal dipped into soldering flux: 2 ± 0.5mm • Soldering bath temperature: $245 \pm 5^\circ\text{C}$	Test area is covered with fresh solder more than 95% than dipped area.

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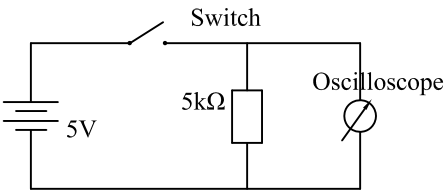
No	Item	Test conditions	Performance
5.7	Resistance to soldering heat test	1. Wave solder: Terminal for a printed circuit board(PCB), Temperature of solder: $265^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Dip time: 5 seconds Min.; 2. SMT Reflow solder: Temperature of solder: $255^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Dip time: 10 seconds Min.; 3. Terminal for a lead wire: Temperature of solder: $380\text{-}420^{\circ}\text{C}$ Time: ≤ 4 seconds	No electrical and mechanical damage occurred.

6. Electrical characteristics

No	Item	Test conditions	Performance
6.1	Contact resistance	Applying a static load twice the operation force shall be applied to the center of the stem, measuring the contact resistance with a 1KHz small-current contact resistance meter.	$\leq 100\text{m}\Omega$
6.2	Insulation resistance	DC 100V applied between mutual insulated metal terminal for one minute	$\geq 100\text{M}\Omega$
6.3	Dielectric withstanding voltage	AC 250V(50Hz)shall be applied between mutual insulated metal terminal for one minute	Not breaking insulation

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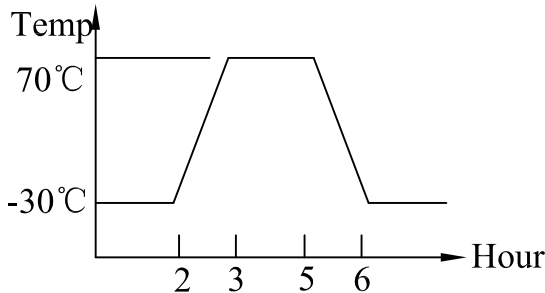
No	Item	Test conditions	Performance
6.4	Bounce	Lightly striking the center of the stem at a rate encountered in normal use, 3 to 4 operations per second, bounce shall be measured at ON and OFF per the test circuit below: 	≤10 msecond

7. Reliability test

No	Item	Test conditions	Performance
7.1	Cold test	• Samples to be tested with packaging shall be placed into a chamber at controlled temperature of -30℃, 10% RH for a total of 96 hours. • Remove from chamber and allow a minimum 1 hour at ambient conditions • Check appearance and key parameters	• Contact resistance ≤ 200mΩ • Insulation resistance ≥ 10MΩ • Comply with 5.1, 5.2, 5.3 • No appearance defect occurred

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No	Item	Test conditions	Performance
7.2	Heat test	• Samples to be tested with packaging shall be placed into a chamber at controlled temperature of 70℃ for a total of 96 hours. • Remove from chamber and allow a minimum 1 hour at ambient conditions • Check appearance and key parameters	• Contact resistance $\leq 200m\Omega$ • Insulation resistance $\geq 10M\Omega$ • Comply with 5.1, 5.2, 5.3 • No appearance defect occurred
7.3	Temperature cycle test	• Switch samples to be tested shall be placed into a chamber per the requirements below in temperature and duration for 5 cycles. • Remove from chamber and allow a minimum 1 hour at ambient conditions • Check appearance and key parameters  The graph illustrates the temperature profile for the temperature cycle test. The vertical axis is labeled 'Temp' and has markers for 70°C and -30°C. The horizontal axis is labeled 'Hour' and has markers at 2, 3, 5, and 6. The temperature starts at -30°C, remains constant until 2 hours, then rises linearly to 70°C at 3 hours. It remains at 70°C until 5 hours, then falls linearly back to -30°C at 6 hours, where it remains constant.	• Contact resistance $\leq 200m\Omega$ • Insulation resistance $\geq 10M\Omega$ • Comply with 5.1, 5.2, 5.3 • No appearance defect occurred

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No	Item	Test conditions	Performance
7.4	Humidity test	• Samples to be tested with packaging shall be placed into a chamber at controlled temperature of 40°C, 90-95% RH for a total of 96 hours. • Remove from chamber and allow a minimum 4 hours at ambient conditions • Check appearance and key parameters	• Contact resistance $\leq 200\text{m}\Omega$ • Insulation resistance $\geq 10\text{M}\Omega$ • Comply with 5.1, 5.2, 5.3 • No appearance defect occurred
7.5	Operation life test	• Ambient conditions • DC 5V, 5mA resistance load • Operation speed: 2 times/second • Push force: Maximum value of operation force • Cycle of operation: 100,000 cycles	• Contact resistance $\leq 200\text{m}\Omega$ • Insulation resistance $\geq 10\text{M}\Omega$ • Bounce $\leq 20\text{msecond}$ • Actuating force within 30% of initial force
7.6	Salt spray test	• Unpacked samples are placed in a 5% salt fog spray for 24 hours at 35°C, RH85-95% • Rinsed in distilled water • Blown dry and left for one hours at ambient temperature • Check appearance and key parameters	No corrosion occurred on terminals

