

# Product change notification

PCN09-6-KSU

## Document revision

Revision	Date	Description	Author
A	04/05/09	Creation	Rodolphe GIE

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## 1. Purpose

C&K Components, as designer and manufacturer of micro-switches, is willing to provide continuous improvement on its products towards 0-default quality.

This continuous improvement work leads us to make a significant change on our KSU SPST detect switch: cancel the output terminal cut on each side. This will improve the molding of the housing, by reducing the plastic burrs in this area, as well as the process stability.

For our customers, this modification will also result in a better coplanarity of the terminals and better sealing against flux, which means less soldering issues.

## 2. Change definition

### 2.1 Overview

Lead frame

- The central cut of each side output terminal is cancelled
- The output separation removal will make the terminal more rigid

Housing

- The risk of plastic burrs will be decreased by making the overmolding easier around the terminals

Finish product

- The layout of the switch is modified: From 4 to 2 output connections

### 2.2 Illustration

Central cut to be removed

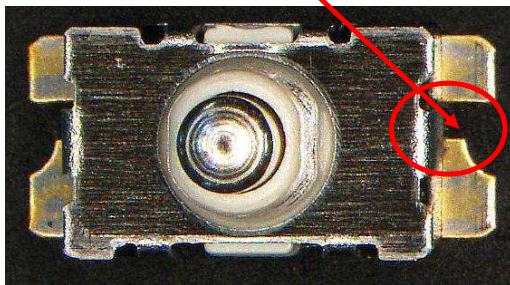


Fig 1: picture with current central cut

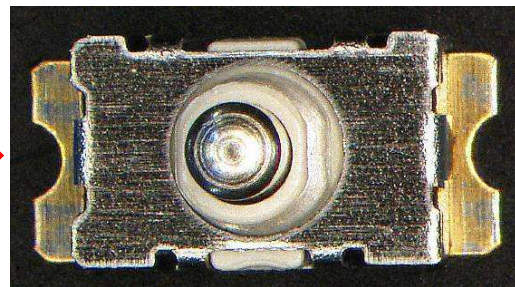


Fig 2: picture with central cut removed

### 3. Change impact and qualification method

#### 3.1 Impact of changes

The internal construction is not modified. Then **all environmental, electrical and mechanical characteristics remain unchanged.**

The contact type is still **SPST** making an electrical connection between right and left side.

The switch layout is modified with 2 output terminals instead of 4. **The new design is only compatible with a 2 pads PCB layout. Compatibility with PCB layout has to be checked.**

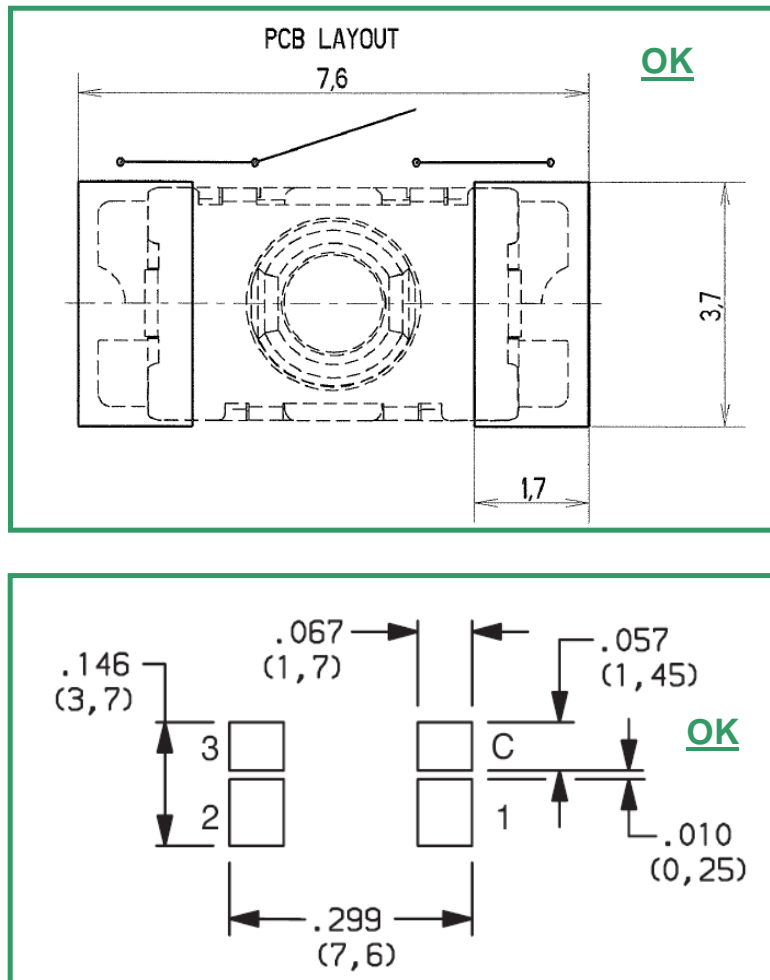


Fig 3: Current switch layout with 4 terminals and PCB layouts compatibility

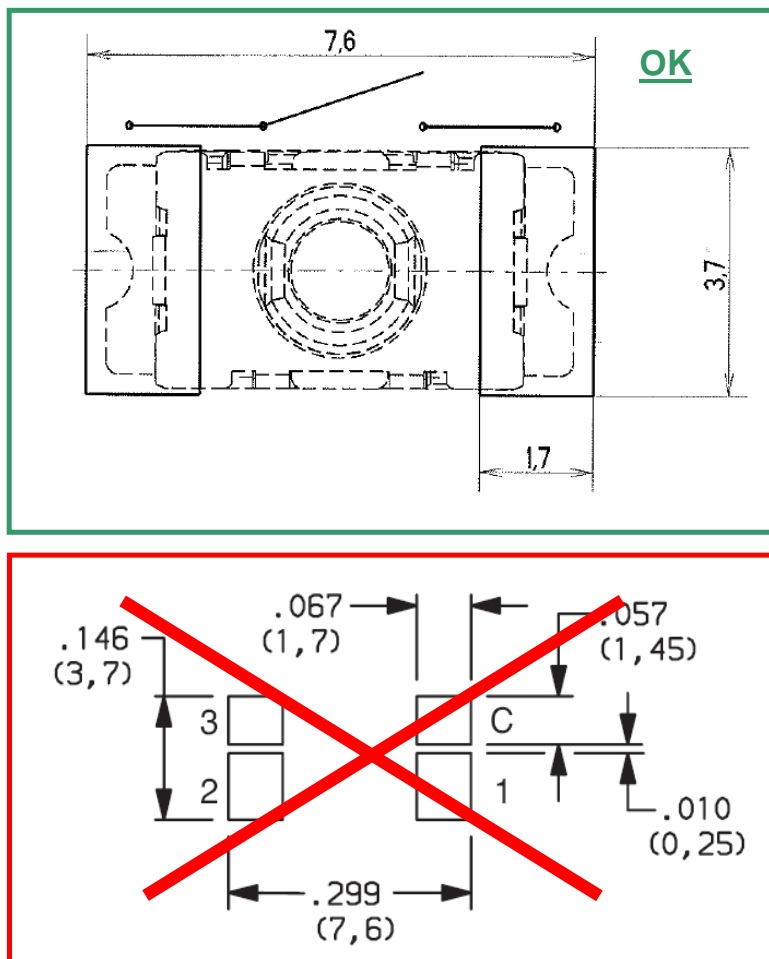


Fig 4: New switch layout with 2 terminals and PCB layout compatibility

The manufacturing & quality processes, location and procedures remain also unchanged.

### 3.2 Qualification method

As the modification is only impacting the soldering of the switch on the PCB, the qualification proceeds as follows:

- Soldering test
- Sealing against flux : Alcohol penetration test

## 4. Application

### 4.1 Overview

The new lead frame including die cut will be introduced on the whole KSU family at the application date, depending on compatibility with customer PCB layout.

### 4.2 Date of application

- Customer PCN approval: June 15<sup>th</sup> 2009
- This modification to be implemented in production on July 13<sup>th</sup> 2009

### 4.3 Ordering, pricing and stock handling policy

- Ordering: P/N codes remain unchanged,
- Pricing: any pricing and other sales conditions remain valid.
- Stock handling: no obsolescence and no specification modification are applied on any P/N.
- No return or scrap for obsolescence will be accepted.

### 4.4 Customer qualification

We recommend to our customers to carry on the necessary layout compatibility check and qualifications they feel necessary to make sure that they will be ready at the date of application. We haven't modified the product features to minimize the customer impact and make easier the modification acceptance. **For any reason, if you evaluate that your acceptance will be released after the date of application, you have to notify C&K components at least 1 month before the application date, ie June 15<sup>th</sup> 2009.** Without this notification, the change will be applied on any purchased products affected by the modification.

As no material modification is done, the IMDS data remain unchanged.

## 5. Acknowledgement

We recommend acknowledging this PCN with your requirements in terms of samples & qualification files no later than June 15<sup>th</sup> 2009 at the following email address: [rodolphe.gie@coactive-tech.com](mailto:rodolphe.gie@coactive-tech.com).

## 6. Support

For any question, please contact your sales representative

<b>Annex 1: Lab report</b>
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# LABORATORY

## TEST REPORT

Report N° :	<b>238-09C</b>	Date :	14-avr.-09	Page :	1/2
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### Product

Family	Sub-Family	Designation	Date code	Quantity
KSU		KSU 213W		

### Purpose

Validation of output terminal central cut removal

### Traceability

- Batch 1: current parts with central cut (10 pces)
- Batch 2: parts with terminal central cut removed (10 pces)

### Test description

**Solderability**  
**Sealing against flux (colored alcohol penetration test)**

### Applicable Documents (Spec, norms...)

1	<input type="checkbox"/> SPEC	PEC N° :	This SPEC is available on the EMATRIX System
2	<input type="checkbox"/> Norm	Title :	
3	<input type="checkbox"/> Other	Specify :	

### Contents

N°	Description	Page
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### General Conclusion

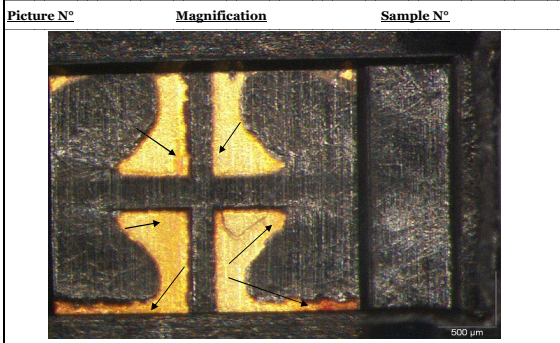
**Solderability : 3s at 245°C → Nothing to notice on both batches**

**Colored alcohol penetration test:**

- batch1 : the colored alcohol migrates on the contact areas (10/10 pces)
- batch 2 : alcohol penetrates into the housing but do not reached the contact area ( 1/10 pce )

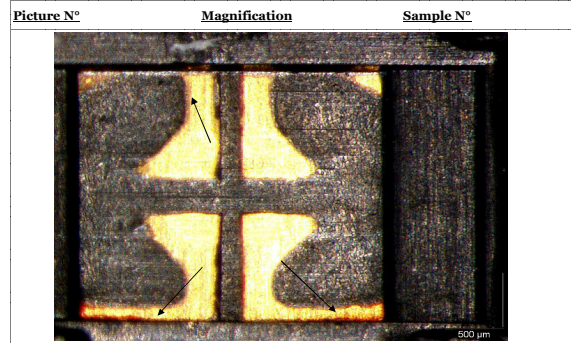
**The removal of terminals central cut brings a significant improvement on sealing against flux. No change on the switch solderability.**

Laboratory Technician	Laboratory Manager	Quality Director
<b>Brigitte GRUET</b>	<b>Daniel PEQUEGNOT</b>	<b>Jérôme BROCHOT</b>



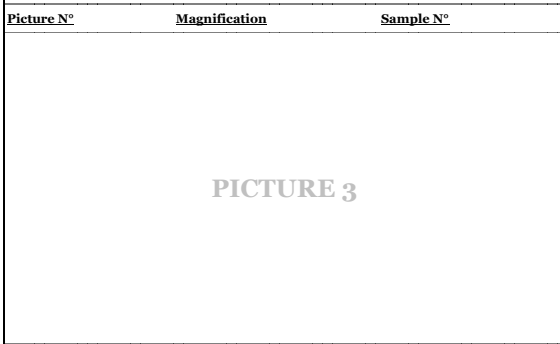
**Title :** témoin

**Comment :**  
10/10 pcs with alcohol on the contact areas



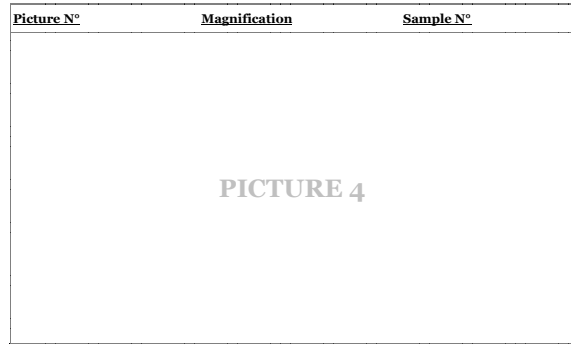
**Title :** connexion shuntée

**Comment :**  
1/10 pce with alcohol inside the switch but not on contact area



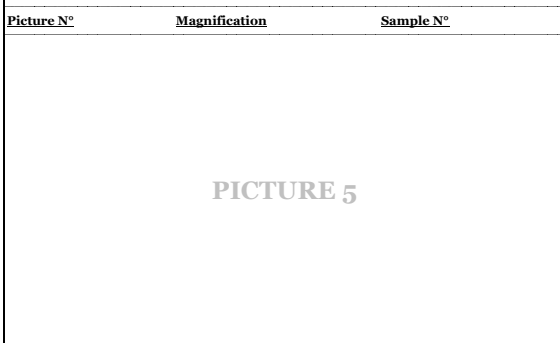
**Title :**

**Comment :**



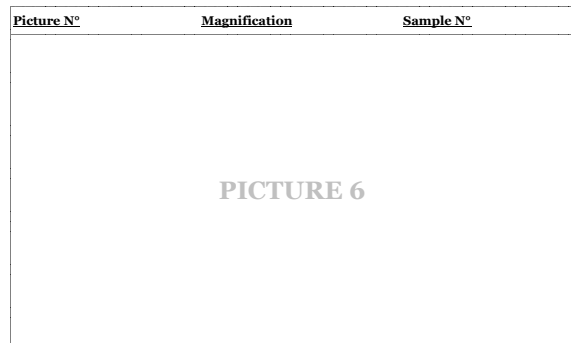
**Title :**

**Comment :**



**Title :**

**Comment :**



**Title :**

**Comment :**

**Conclusion :**  
This test does not allow to determine the absolute sealing level but only to make a comparison between both designs