

KMT 031 OL LHS

rev. C

Ref. / PS-KMT-296

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Approvals:

Laurent Kubat Engineering Manager	Date
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Revision record:

Revision	Date	Comments
-	December 16 th 2010	Creation
rev. A	February 8 th , 2011	Update : (According to ECR N°6361) <ul style="list-style-type: none">• IP code
rev. B	January 5 th , 2012	Update : (According to ECR N°7252) <ul style="list-style-type: none">• KMT switch integration recommendation (§10)
rev. C	April 6 th , 2012	Update : (According to ECR N°7840) <ul style="list-style-type: none">• Packaging: 5000 p/reel instead of 4000 p/reel

Summary:

1. Description / Main Features
2. Construction
3. Electrical data
4. Mechanical data
5. Physical data
6. Operating environment
7. Additional data : storage and handling environment
8. Additional data : process environment
9. Applicable norms
10. KMT Switch integration recommendation

Appendix:

- 1: Reflow profile characteristics
- 2: Packaging

Note: This specification, attached documents and attached drawings cannot be communicated to anybody without written agreement of C&K.

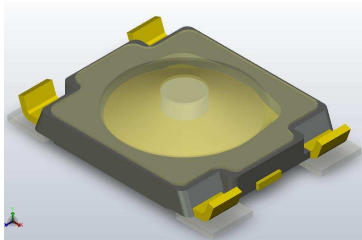
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1 - Description



The KMT 031 OL LHS is an ultra-low profile tact switch, single pole, normally open, momentary action, and designed for SMT mounting.

Main Features

- 0.65 mm height with actuator
- Version without ground
- Good tactile feed-back
- Terminal plating : LFS (Lead Free Silver)
- **ROHS** compliance
- **Halogen Free** compliance
 - Bromine (Br) ≤ 900 ppm
 - Chlorine (Cl) ≤ 900 ppm
 - Total concentration of Br & Cl ≤ 1500 ppm
- Compatible with lead free reflow soldering process
- Delivered on plastic reels
- Compatible with Pick&Place machines

2 - Construction

Function	Momentary action
Contact type	Normally Open
Terminals	4 SMT (J type)

3 - Electrical data

	Contact plating : silver
Maximum power	0.5 VA
Min/max voltage	20 mV – 32 Vdc
Min/max current	1 mA – 50 mA
Dielectric strength	≥ 250 Vrms (1 mn)
Contact resistance	≤ 150 mΩ
Insulation resistance	≥ 50 MΩ
Bounce time	≤ 6 ms

4 - Mechanical data (after 2 reflow cycles)

Operating force (Fa)	Fa = 3.4 N ± 25%
Tactile feeling (Δ%)	Δ ≥ 30%
Return force (Frr)	Frr ≥ 0.5 N
Electrical travel (Te)	Te = 0.15 mm ± 0.1
Mechanical travel (Tm)	Tm = 0.15 mm ± 0.1
Simultaneity	≤ 0.05mm

5 - Physical data

Dimensions & layout	According to drawing : CU 34 MH2 006 FP
Mass	0.02 g ± 0.01

6 - Operating environment

Operating temperatures	- 40 °C / + 85 °C
Relative humidity	90 to 96 % According to NF EN 60068-2-78
Operating life	≥ 300 000 cycles <i>Contact resistance measurements after life test :</i> ≤ 5 Ω
Vibrations	10-500 Hz / 10 g / 3 axis No discontinuity > 1μs According to NF EN 60068-2-6
Mechanical shocks	½ sinusoidal / 50 g / 11 ms 3 shocks in each direction of the 3 axis No discontinuity > 1μs According to NF EN 60068-2-27
Overload	Static Overload : 65 N – one actuation for 5s with diameter 3mm probe. Overload life test : 10 N – 1000 cycles

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7 - Additional data : storage and handling environment

	According to drawings in appendix 2
	Tape and reel per EIA 481-B
	<i>Number of pieces per reel: 5000</i>
Packaging conditions	Dry pack with desiccant. Once dry pack is opened and a part of the reel unused for more one week, baking, prior to SMT 4 hour/60°C is recommended.
Transport conditions	According to specification NF H00-060
Storage temperatures	- 55 °C (10 days) / +85 °C (4 days)

8 - Additional data : process environment

	According to C&K Procedure : PS-LF-001 (reflow profile characteristics described in appendix 1)
Lead free reflow soldering process	<i>Recommendation for solder paste thickness : 100 µm ± 20 µm</i>
Re-work process by iron soldering	N.A.
Washing process	NA
PCB coating	NA
Sealing	IP 68
Chemical agent	NA
Shear test (switch/PCB)	> 30 N

9 - Applicable norms

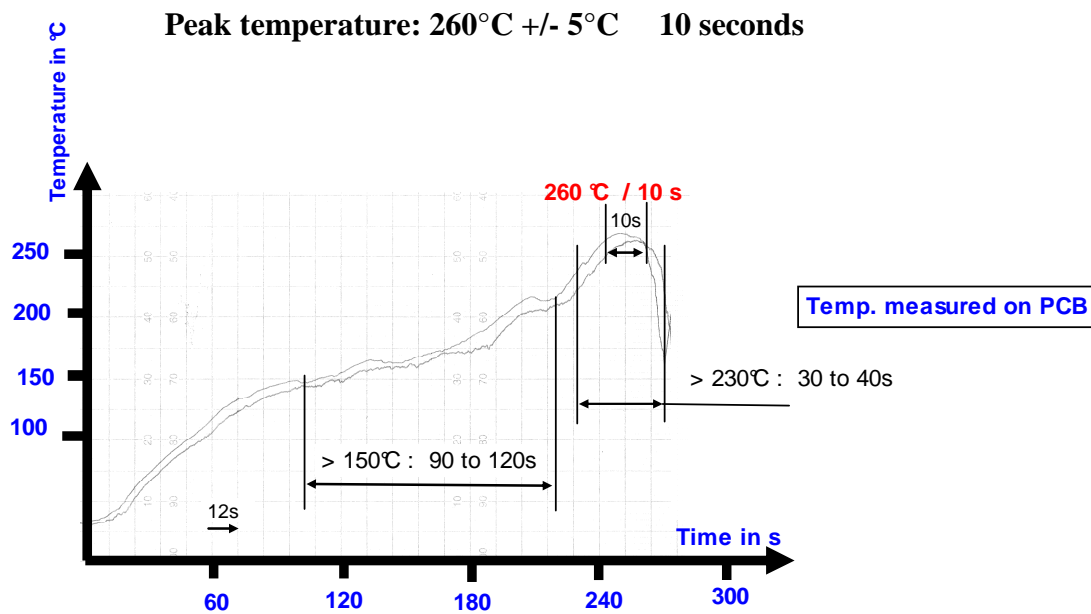
Testing procedure (C&K spec)	Proc-essai 16
Legal norm (EHS)	C&K procedure

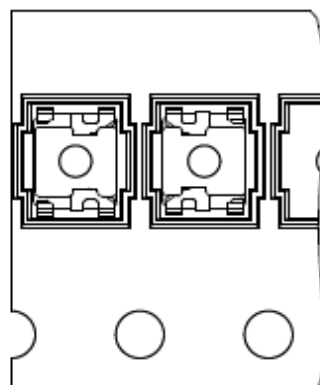
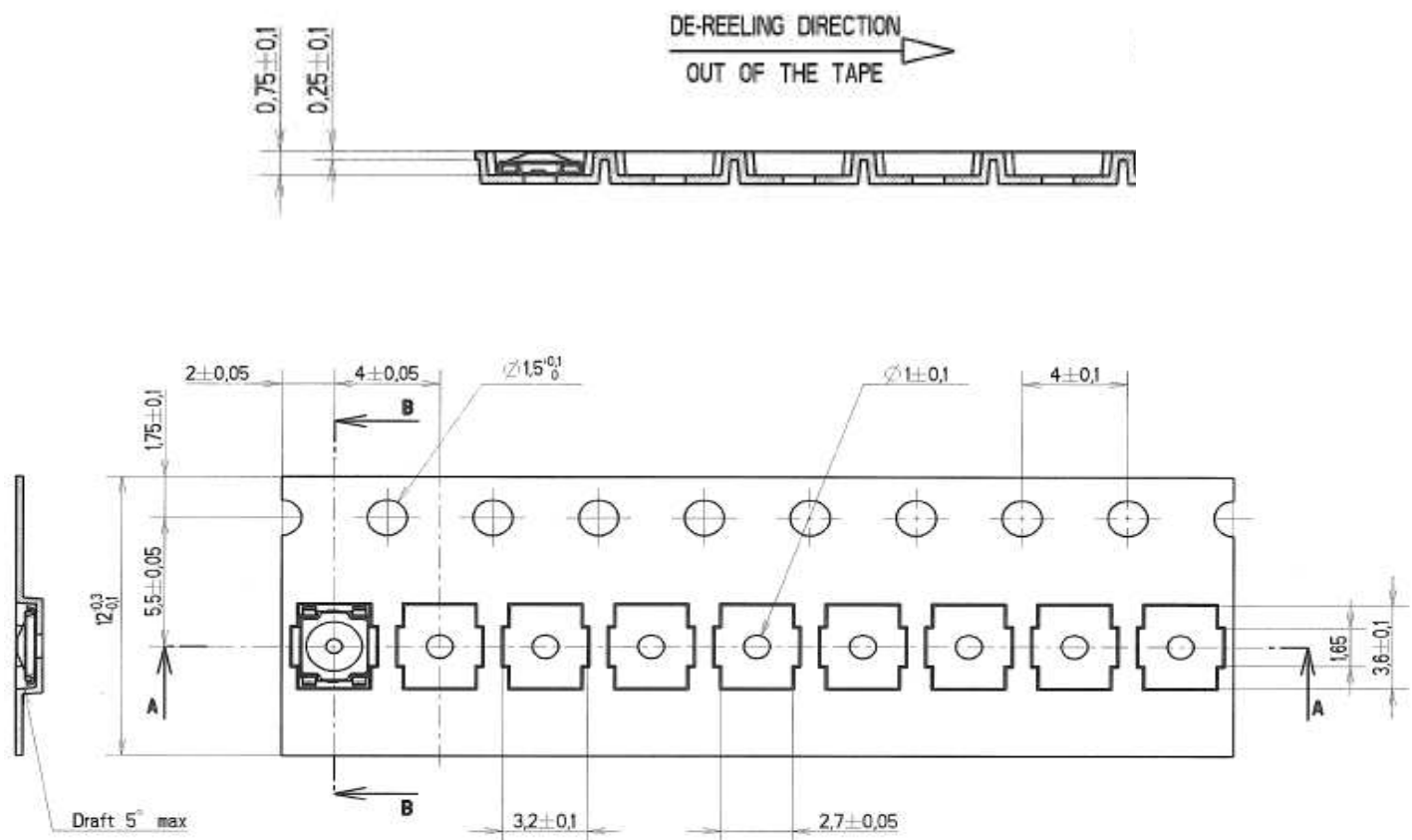
10 - KMT Switch integration recommendation

PCB pad and stencil definition – P&P setup	According to C&K procedure: RU-KMT-006
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Appendix 1

Reflow profile test characteristics



Appendix 2**Packaging (1/2)**

Product are symmetrical
but can be presented
in any 180° direction
as shown on the left

Be careful! Bottom view

Appendix 2**Packaging (2/2)**