

Ultramec™ 6C

High performance tactile switches •
low profile • IP67



DISTINCTIVE FEATURES

Low profile $h=2.5$ mm

8 x 8 mm

Normally open momentary switch

Sealed to IP67

3,000,000 cycles lifetime



ENVIRONMENTAL SPECIFICATIONS

- Sealing : IP67 according to IEC 60529
- Working and storage temperature : $-40^{\circ}\text{C}/+85^{\circ}\text{C}$
- Soldering : JEDEC J-STD-020E



ELECTRICAL SPECIFICATIONS

- Recommended load : 0.5-50mA 24VDC
- Contact resistance : $<50\text{m}\Omega$
- Insulation resistance : $>10\text{M}\Omega$
- Contact bounce : $<2\text{mS}$
- Dielectric strength: 250V



MECHANICAL SPECIFICATIONS

- Standard actuation force :
before soldering $4.2\text{N} \pm 1.0\text{N}$
after soldering : $3.7\text{N} \pm 0.7\text{N}$
- Max. actuation force : 100N for 10 sec
- Travel : $0.3\text{ mm} \pm 0.15\text{ mm}$
- Lifetime : 3,000,000 cycles

The company reserves the right to change specifications without notice.



MATERIALS

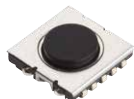
- Housing : PPS UL94V0
- Actuator : silicone
- Contact dome : stainless steel
- Fixed contacts :
Silver : $\text{CuZn} + 1\mu\text{Ni} + 4\mu\text{Ag}$
- Terminals : $\text{CuZn} + 1\mu\text{Ni}$

All tolerance if not otherwise specified $\pm 0.2\text{mm}$.

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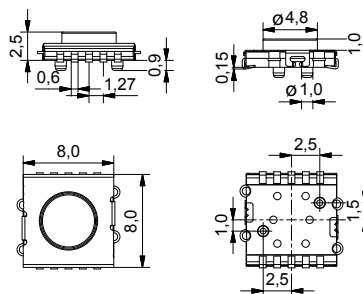
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6C

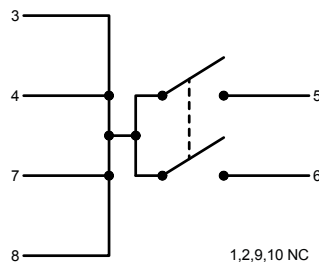
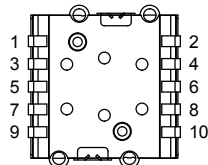
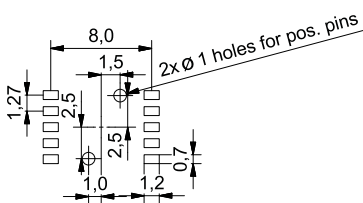


- J-bend
- NO

All tolerances unless otherwise noted : ±0.2 mm

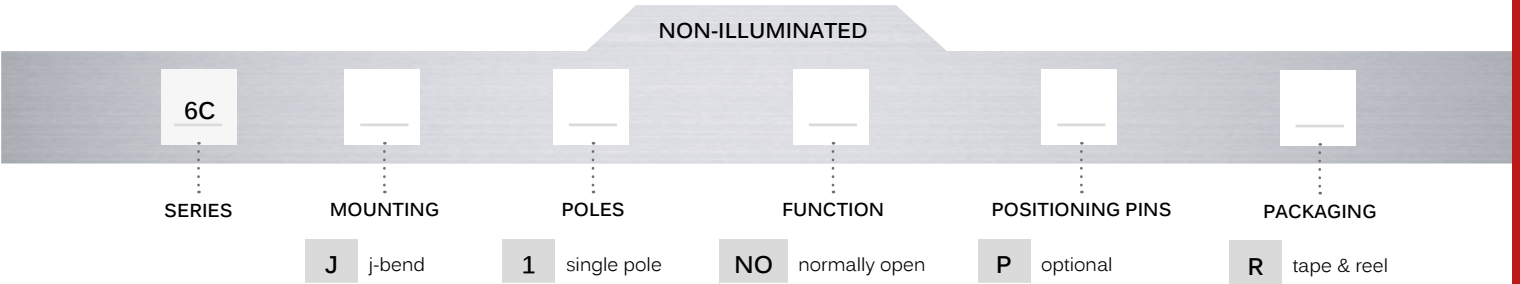


PCB LAYOUT & CIRCUIT DIAGRAM





BUILD YOUR PART NUMBER



ABOUT THIS SERIES



Notice : please note that not all combinations of above numbers are available.
Refer to www.apem.com for further information.



Accessories : See the website for cap and bezel options

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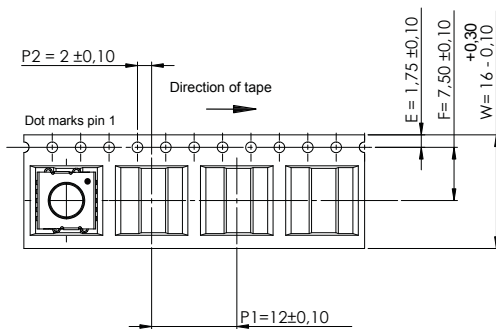


TAPE & REEL

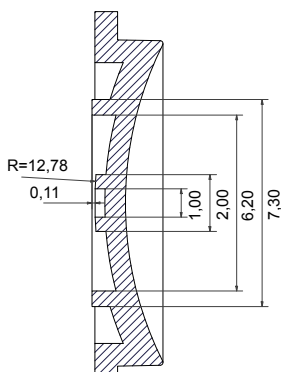
Tape and reel is available for the parts listed and has the following specifications

- Reel diameter: Ø330 mm
- Tape width: 16 mm
- Pitch: see list
- Tape and reel material : antistatic or better
- Quantity per reel : see list

PART NO.	ORDERING CODE	PITCH	QUANTITY PER REEL
6CJ1NOP	6CJ1NOPR	12	1000
6CJ1NO	6CJ1NOR	12	1000



CAP DESIGN RECOMMENDATION

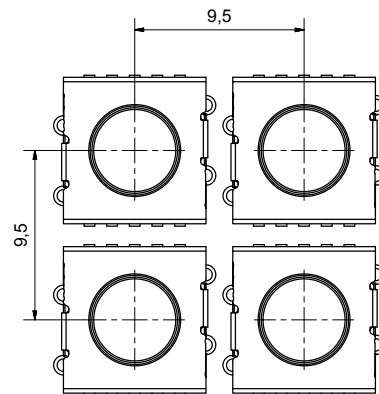


- When designing a cap to be used with Ultramec™ 6C the two circles indicated on the drawings are recommended to achieve superior tactile feel.
- The little center circle provides a crisper sound and feel, and the outer circle provides protection against overtravel.



MOUNTING

SPACE REQUIREMENT - MATRIX MOUNTING



surface mount (J-bend)



USAGE GUIDELINES

HOW TO GET THE BEST RESULTS WITH MEC SWITCHES ?

These guidelines are offered to users of MEC Switches as an aid to ensure successful and reliable switch operation. Please see the technical specifications for details on operating and storage temperatures and soldering guidelines to make sure you select the best switch for your application.

When reflow soldering is taking place, MEC strongly recommend that the temperature profile is analyzed and compared with the temperature rating of the switch. It is also important to monitor the accumulated heat buildup from both the pre-heat zones and the solder zone.

Standard accessories for Ultramec™ switches are made from ABS plastic with a maximum operating temperature of 65°C.

MOUNTING AND DISMOUNTING

If switches are to be mounted in rows it is essential that the recommendations regarding spacing are followed. PC board thickness should be 1.4 ± 0.2 mm.

SOLDERING AND CLEANING ULTRAMEC™ SERIES

Ultramec™ series switches are fully sealed to IP67 specifications to prevent solder flux and aqueous based cleaning solutions from entering the switch and contaminating the contacts. The switches can be placed on the PC board with other components and reflow soldered. Ultramec™ series offers a high level of sealing, however, with aqueous solvent solutions care must be taken to avoid the worst case situation with water jets, complete immersion into a liquid with a temperature below the board or surface tension reducing additives.

Recommended cleaning methods are demineralized water. Any surface tension reducing agents, such as soap, must not be used as they risk causing a potential leakage of the switch.

SOLDERING - SURFACE MOUNT VERSIONS

For all methods - infrared, convection and vapor phase. The upper limit 240 °C/40 sec must be observed. The soldering temperature profile must have moderate temperature gradients.

ROHS COMPLIANCE

As of 1 July 2006 MEC has completed the conversion to RoHS compliance.
For more info please see our homepage www.apem.com

TEMPERATURE LIMITS

Switch	85 °C
Accessories	65 °C

PACKAGING

The Ultramec™ switches are delivered on tape/reel.

Each reel contains 1000 pcs.

It is also possible to purchase half full reels.