

MU series

Multidirectional switches



DISTINCTIVE FEATURES

One touch directional control
Distinctive tactile feel
Extremely compact
SMD-mounted
Variable heights



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : DC 12V 50mA
- Contact resistance : 100 mΩ max.
- Electrical life at full load : 100,000 cycles



GENERAL SPECIFICATIONS

- Travel :
 - 4 direction: 0.25 ± 0.1 mm
 - Center: 0.15 ± 0.1 mm
- Contact bounce: max 10 ms
- Operating angle: 4°
- Storage temperature range: -40°C to 85°C
- Operating temperature range: -20°C to 70°C



MATERIALS

- Case : polyamide
- Actuator : polyamide
- Contacts : brass, silver plated

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

The company reserves the right to change specifications without notice.



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MU-AS70R



10.5 mm x 10.4 mm, h=7.0 mm

Positioning pins

Operation force:

4 directions: $270 \pm 50 \text{ gf}$

Center: $500 \pm 70\text{gf}$

Quantity per reel: 550

CIRCUIT DIAGRAM EXPLAINED

Direction 1: Pin D & E will be connected

Direction 2: Pin D & A will be connected

Direction 3: Pin D & B will be connected

Direction 4: Pin D & C will be connected

Direction 5: Pin D & F will be connected

MU-AS90R



10.5 mm x 10.4 mm, h=9.0 mm

Positioning pins

Operation force:

4 directions: $180 \pm 50\text{gf}$

Center: $500 \pm 70\text{gf}$

Quantity per reel: 450

CIRCUIT DIAGRAM EXPLAINED

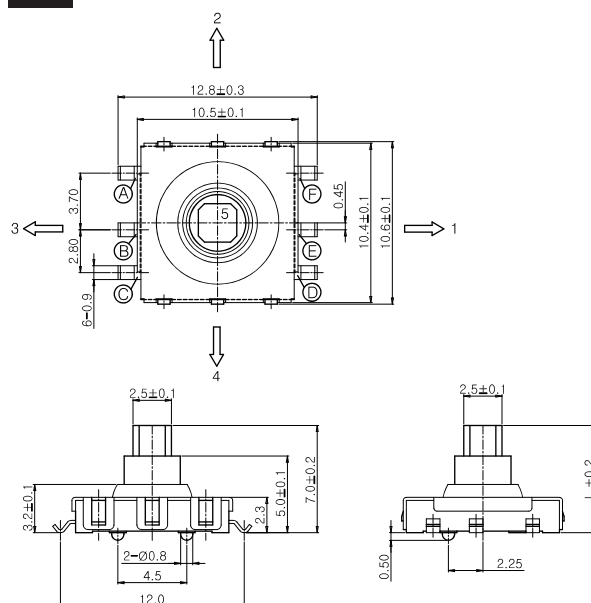
Direction 1: Pin D & E will be connected

Direction 2: Pin D & A will be connected

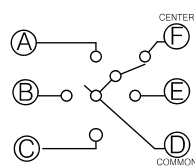
Direction 3: Pin D & B will be connected

Direction 4: Pin D & C will be connected

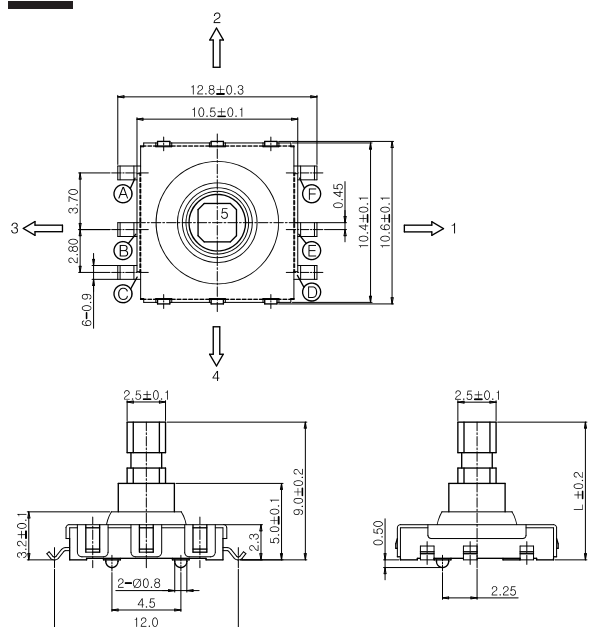
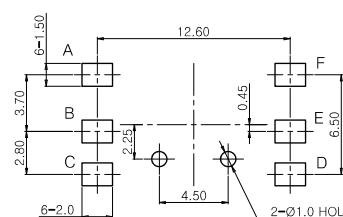
Direction 5: Pin D & F will be connected



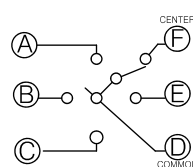
CIRCUIT DIAGRAM



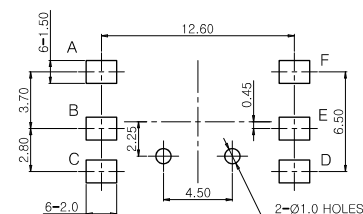
PCB DIMENSIONS



CIRCUIT DIAGRAM



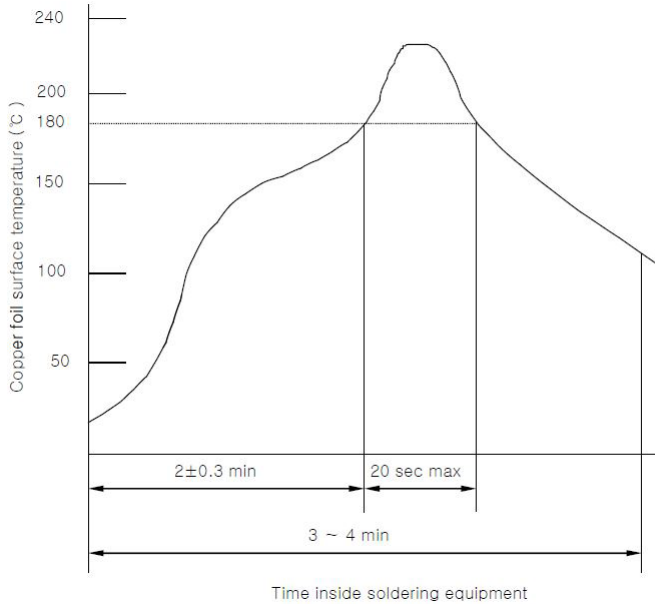
PCB DIMENSIONS



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TEMPERATURE PROFILE



REFLOW SOLDERING

It is recommended to determine soldering conditions through verification, since surface temperature varies depending upon material, size and PCB thickness.

Other precautions:

- 1) Switch shall not be washed after soldering with solvent or the like.
- 2) Soldering shall be controlled so as not to allow flux penetrates switch at its upper face.
- 3) Switch terminals and PCB upper face shall be free from flux prior to soldering

Mouser Electronics

Authorized Distributor

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