

# OMRON®

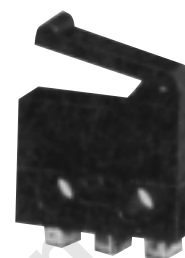
## SUBMINIATURE

### Basic Switch

### D2MQ

#### Subminiature Basic Switch

- Super compact switch weighing only 0.3 g. Ideal for reducing equipment weight
- Angle terminal allows operation from the side when mounted to a PCB
- Despite its compact size, the snap action mechanism gives it superior electrical characteristics
- Silver-plated contact. Gold-plated contact also available for loads under 50 mA
- Ideal for use on equipment with stringent space and reliability requirements, such as in compact audio equipment, optical devices, and communications equipment

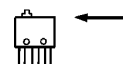


#### Ordering Information

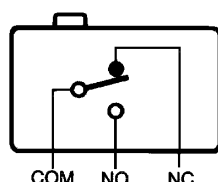


| Actuator    | Contact              | Part Number        |                     |                      |
|-------------|----------------------|--------------------|---------------------|----------------------|
|             |                      | Straight Terminal  | Left-angle Terminal | Right-angle Terminal |
| Pin plunger | Silver-plated (Ag-P) | <b>D2MQ-1</b>      | <b>D2MQ-1-TL</b>    | <b>D2MQ-1-TR</b>     |
|             | Gold-plated (Au-P)   | <b>D2MQ-1-105</b>  | —                   | —                    |
| Leaf lever  | Silver-plated (Ag-P) | <b>D2MQ-1L</b>     | <b>D2MQ-1L-TL</b>   | <b>D2MQ-1L-TR</b>    |
|             | Gold-plated (Au-P)   | <b>D2MQ-1L-105</b> | —                   | —                    |

Note: The angle of the terminal illustration above is from the side of the arrow shown on the right.



#### ■ CONTACT FORM



#### Specifications

| Ratings            |  |
|--------------------|--|
| Electrical ratings | Ag-Plated contact: 50 to 500 mA, 30 VDC (resistive load)<br>Au-Plated contact: 5 to 50 mA, 30 VDC (resistive load) |
| Inrush current     | NC: 0.5 A max. (Ag-P), 0.05 A max. (Au-P)<br>NO: 0.5 A max. (Ag-P), 0.05 A max. (Au-P)                             |

# D2MQ OMRON D2MQ

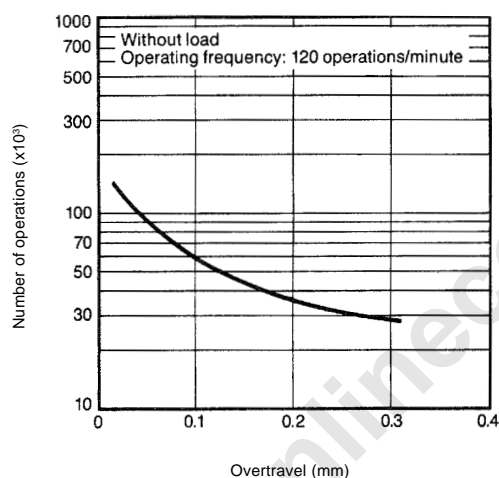
## Characteristics

|                       |                        |   |
|-----------------------|------------------------|---|
| Operating speed       |                        | 0.1 mm to 0.5 m/second (0.004 to 19.7 in/second) at pin plunger               |
| Operating frequency   | Mechanical             | 60 operations per minute  |
|                       | Electrical             | 20 operations per minute  |
| Contact resistance    |                        | 100 mΩ max. (initial)   |
| Insulation resistance |                        | 100 MΩ min. (at 250 VDC)  |
| Dielectric strength   |                        | 500 VAC, 50/60 Hz for 1 minute between terminals of same polarity             |
|                       |                        | 500 VAC, 50/60 Hz for 1 minute between current-carrying metal part and ground |
| Vibration             | Malfunction durability | 10 to 55 Hz, 1.5 mm double amplitude  |
| Shock                 | Mechanical durability  | 1,000 m/s <sup>2</sup> min. (approx. 100 g min.)                              |
|                       | Malfunction durability | 300 m/s <sup>2</sup> min. (approx. 30 g min.)                                 |
| Ambient temperature   | Operating              | -15° to 70°C (with not condensation)  |
| Humidity              |                        | 35% to 85% RH   |
| Service life          | Mechanical             | 30,000 operations min. (at full OT value)                                     |
|                       | Electrical             | 10,000 operations min. (at full OT value)                                     |
| Weight                |                        | Approx. 0.3 g   |

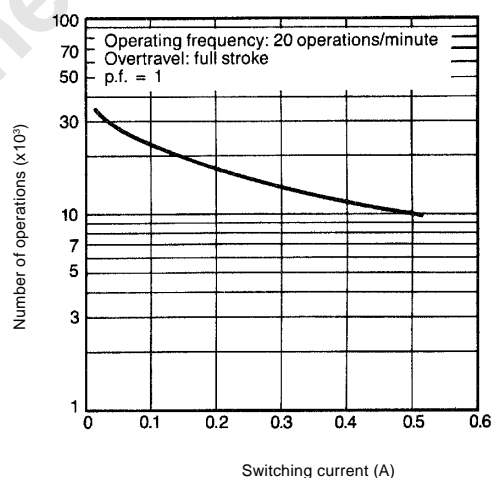
Note: Data shown are of initial value.

### ■ CHARACTERISTIC DATA

#### Mechanical service life



#### Electrical service life



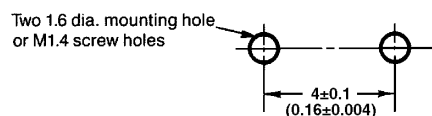


## Precautions

### ■ MOUNTING

Mount firmly using M1.4 screws and 1 kg-cm tightening torque.

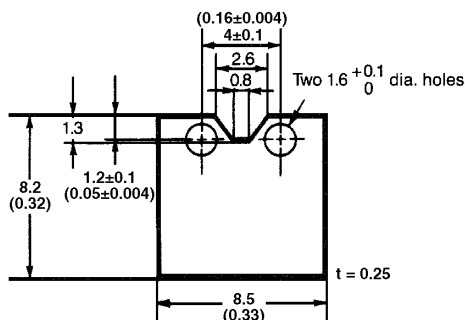
#### Mounting hole matching dimensions



When mounting onto a metal body, always install a separator between the switch and the mounting panel.

Design the insulation separator (made up of hard material) into the shape shown below.

#### Separator shape



### ■ SOLDERING

Holding the switch at the free position, solder the lead wire to its terminal within 3 seconds, using a soldering iron rated at less than 15 W with a tip temperature of less than 280°C. Excess wattage or prolonged heating can deteriorate the electrical characteristics of the switch.

### ■ OPERATION

Set the operating force of the pushbutton and leaf lever at less than twice the OF standard value.

Always make the OT value larger than the specification value.

Do not change the operating position of the actuator.

Do not operate at extremely slow speed; also do not use the switch with its pushbutton located between the free position and the operating position.

Mount the pin pushbutton type in such a way that the stroke of the pushbutton and the stroke of the operating control overlap on a vertical line.

Do not operate the switch roughly as it may deteriorate the functions of the switch.

Do not apply excessive force to the actuator of the leaf lever type along its operating direction, opposite to its operating direction, or in the lateral direction.

# OMRON

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