Multi-Function Switch
**TSD Series**
4.1×3.9 / 5.0×5.0 Double Action Type Multi-Function Switch

**Features**
- These surface-mounting type keyboard switches are ideal for high density mounting.
- A single-pole-double-throw type offers a double action, turning on the lamp contact with the first push and the second step by pushing again.
- Reflow solderable.
- Packaged with a 12mm wide embossed tape.

**Applications**
- Operating switches in all types of electronic equipment such as audio apparatus, office equipment, communications equipment, measuring instruments, TV sets, VCRs, etc.

**Specification**

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard (TSD4)</th>
<th>Standard (TSD5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>20°C to 70°C</td>
<td>20°C to 70°C</td>
</tr>
<tr>
<td>Rating</td>
<td>50mA 12V DC</td>
<td>50mA 12V DC</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>100MΩ Min. 1kΩ DC</td>
<td>100MΩ Min. 1kΩ DC</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>100kΩ Min. 10MΩ</td>
<td>100kΩ Min. 10MΩ</td>
</tr>
<tr>
<td>Durability</td>
<td>10,000 cycles, 50,000 cycles, 100,000 Cycles</td>
<td>10,000 cycles, 50,000 cycles, 100,000 Cycles</td>
</tr>
<tr>
<td>Mechanical Force</td>
<td>1.0 N (0 ~ 30gf), 2.0 N (0 ~ 50gf)</td>
<td>1.0 N (0 ~ 30gf), 2.0 N (0 ~ 50gf)</td>
</tr>
</tbody>
</table>

**Diagram**

**RSM Series**
10.0×10.0 Rotary Type

**Features**
- Reliable contact and long-term stability.
- Binary decimal (8 or 10 positions) real and complementary codes available.
- Pinout is compatible with most of current equivalents.
- Gold plated contact to ensure low contact resistance.

**Applications**

**Specification**

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>−20°C to +70°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>−40°C to +85°C</td>
</tr>
<tr>
<td>Electrical Life</td>
<td>2,000 Steps</td>
</tr>
<tr>
<td>Non-Switching Rating</td>
<td>100mA, 50V DC</td>
</tr>
<tr>
<td>Switching Rating</td>
<td>25mA, 24V DC</td>
</tr>
</tbody>
</table>

**Diagram**
**TSMD Series**

**6.2 x 6.2 Mouse Key Switch**

**Features**
- Mini-type size, small contact gap, quick action, high sensitivity, and small operating travel.
- Long life (many times operating cycles), high reliability.

**Applications**
- Widely used in all kinds of mouse.

**Specification**
- **Operating Temperature Range**: -20°C to +70°C
- **Rating**: 50mA @ 12V DC
- **Insulation Resistance**: 100MΩ Min. 100V DC
- **Dielectric Strength**: 250V AC for 1 min (50Hz or 60Hz)
- **Contact Resistance**: 100 mΩ Max.
- **Duty**: Operating Life: 5,000,000 Cycles; 6,000,000 Cycles
- **Mechanical performance**: Operating Force: 0.2 ± 20gf
- **Travel**: 0.25 ± 0.1 mm

**Diagram**

**Dimensions**

**Circuit Diagram**

**Pad Layout**

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**MS Series**

**9.4 x 4.5 / 8.6 x 4.8 Mouse Key Switch**

**Features**
- Mini-type size, small contact gap, quick action, high sensitivity, and small operating travel.
- Long life (many times operating cycles), high reliability.

**Applications**
- Widely used in all kinds of mouse.

**Specification**
- **Operating Temperature Range**: -20°C to +70°C
- **Rating**: 50mA @ 12V DC
- **Insulation Resistance**: 100MΩ Min. 100V DC
- **Dielectric Strength**: 500V AC for 1 min (50Hz or 60Hz)
- **Contact Resistance**: 100 mΩ Max.
- **Duty**: Operating Life: 1,000,000 Cycles; 3,000,000 Cycles
- **Mechanical performance**: Operating Force: 0.6 ± 10gf; 1.8 ± 10gf
- **Travel**: 0.25 ± 0.50 mm

**Diagram**

**Dimensions**

**Circuit Diagram**

**Pad Layout**

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*Please refer to the drawing of the product for the actual dimensions.*
DMC Series
12.8 × 5.8 Mouse Key Switch

Features
- Minitype size, small contact gap, quick action, high sensitivity and small operating travel.
- Long life (many times operating cycles), high reliability.

Applications
- Widely used in all kind mouse.

Specification

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>−20°C to +70°C</td>
</tr>
<tr>
<td>Rating</td>
<td>50mA 30V DC</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>100MΩ Min. 100V DC</td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td>500V AC for 1 min (50Hz or 60Hz)</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>100 mΩ Max.</td>
</tr>
<tr>
<td>Operating Life</td>
<td>1,000,000 Cycles; 3,000,000 Cycles; 5,000,000 Cycles...</td>
</tr>
<tr>
<td>Operating Force</td>
<td>60 ± 15 gf</td>
</tr>
<tr>
<td>Travel</td>
<td>0.25–0.65 mm</td>
</tr>
</tbody>
</table>

Diagram

Dimensions

Circuit Diagram

Pad Layout