RK09Y11L 9mm Size Insulated Shaft Long-life Type

A compact long-life type with a rotational life of 1 million cycles

■ Typical Specifications

<table>
<thead>
<tr>
<th>Items</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total resistance tolerance</td>
<td>±30%</td>
</tr>
<tr>
<td>Maximum operating voltage</td>
<td>50V AC, 5V DC</td>
</tr>
<tr>
<td>Total rotational angle</td>
<td>300° ±5° (Effective electrical rotational angle: 60° ±5°)</td>
</tr>
<tr>
<td>Rotational torque</td>
<td>5mN-m max.</td>
</tr>
<tr>
<td>Operating life</td>
<td>1,000,000 cycles</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>−10°C to +70°C</td>
</tr>
</tbody>
</table>

■ Product Line

<table>
<thead>
<tr>
<th>Number of resistor elements</th>
<th>Shaft type</th>
<th>Length of the shaft (mm)</th>
<th>Total resistance (kΩ)</th>
<th>Resistance taper</th>
<th>Minimum order unit (pcs.)</th>
<th>Products No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-unit</td>
<td>Flat</td>
<td>12</td>
<td>10</td>
<td>B</td>
<td>3,500</td>
<td>RK09Y11L0001</td>
</tr>
</tbody>
</table>

■ Packing Specifications

<table>
<thead>
<tr>
<th>Number of packages (pcs.)</th>
<th>Export package measurements (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 case / Japan</td>
<td>528×369×178</td>
</tr>
<tr>
<td>1 case / export packing</td>
<td></td>
</tr>
</tbody>
</table>

■ Dimensions

<table>
<thead>
<tr>
<th>Style</th>
<th>PC board mounting hole dimensions (Viewed from mounting side)</th>
</tr>
</thead>
</table>

Refer to P.331 for soldering conditions.
Refer to P.388 for Resistance taper
## Insulated Shaft Potentiometers

### List of Varieties

<table>
<thead>
<tr>
<th>Type</th>
<th>9mm size</th>
<th>11mm size</th>
<th>12mm size</th>
<th>14mm size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>RK09K11</td>
<td>RK09Y11L</td>
<td>RK11K</td>
<td>RK12L12</td>
</tr>
<tr>
<td></td>
<td>Single-unit</td>
<td>Single-unit</td>
<td>Single-unit</td>
<td>Dual-unit</td>
</tr>
<tr>
<td></td>
<td>RK09D11</td>
<td>RK11L</td>
<td>RK14K</td>
<td>RK14K</td>
</tr>
<tr>
<td></td>
<td>Single-unit</td>
<td>Dual-unit</td>
<td>Dual-unit</td>
<td></td>
</tr>
</tbody>
</table>

### Photo

- Vertical / Horizontal
- Horizontal
- Vertical / Horizontal

### Control part orientation

- Without
- With
- Vertical / Horizontal

### Bushing

- Without
- With
- Vertical / Horizontal

### Operating temperature range

-10°C to +70°C

### Operating life

- 5,000 cycles
- 1,000,000 cycles
- 15,000 cycles

### Available for automotive use

- —
- —
- —

### Life cycle


### Electrical performance

#### Total resistance (kΩ)
- 5, 10, 20, 50, 100, 200
- 5, 10, 20, 50, 100, 200

#### Resistance taper
- 15A, 1B, 3B, 15C
- 15A, 1B, 3B, 15C

#### Total resistance tolerance
- ±20%
- ±30%
- ±20%

#### Rated power
- 0.05W
- 0.01W
- 0.05W

#### Maximum operating voltage
- 50V AC
- 50V AC
- 50V AC
- 50V AC
- 50V AC
- 50V AC
- 50V AC
- 50V AC

#### Gang error
- —
- —
- —

#### Insulation resistance
- 100MΩ min. 250V DC
- 100MΩ min. 500V DC
- 100MΩ min. 250V DC

#### Voltage proof
- 250V AC for 1 minute
- 500V AC for 1 minute
- 300V AC for 1 minute

#### Center-taps
- Without
- Without / With
- Without
- Without / With (Volume control)

#### Detent
- Without
- Without
- Without
- Without

#### Stopper strength
- 0.3N/m
- —
- Without bushing 0.5N/m
- 0.5N/m
- 0.6N/m

#### Push-pull strength
- 50N max.
- 30N max.
- 80N max.

#### Vibration
- 10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y, and Z and for 2 hours respectively

### Mechanical performance

#### Shaft configuration
- Flat type
- Knob type
- Screwdriver type
- Flat type

### Terminal style

- Insertion
- Insertion

### Page

- 312 (for Mixers)
- 318
- 319
- 322
- 325

### Note

- Indicates applicability to all products in the series.
# Rotary Potentiometers

<table>
<thead>
<tr>
<th>Operating Through Shaft Type</th>
<th>Ring Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Shaft</td>
<td>Insulated Shaft</td>
</tr>
</tbody>
</table>

---

## Insulated Shaft Potentiometers / Soldering Conditions

### Reference for Manual Soldering

<table>
<thead>
<tr>
<th>Series</th>
<th>Tip temperature</th>
<th>Soldering time</th>
<th>No. of solders</th>
</tr>
</thead>
<tbody>
<tr>
<td>RK09D, RK09K, RK09Y11L, RK11K, RK12L, RK14K</td>
<td>350°C max.</td>
<td>3s max.</td>
<td>1 time</td>
</tr>
</tbody>
</table>

### Reference for Dip Soldering

<table>
<thead>
<tr>
<th>Series</th>
<th>Preheating</th>
<th>Dip soldering</th>
<th>No. of solders</th>
</tr>
</thead>
<tbody>
<tr>
<td>RK12L</td>
<td>Tip temperature</td>
<td>Soldering time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100°C</td>
<td>280°C max.</td>
<td>5s max.</td>
</tr>
<tr>
<td></td>
<td>1 min. max.</td>
<td>5s max.</td>
<td>2 time max.</td>
</tr>
</tbody>
</table>