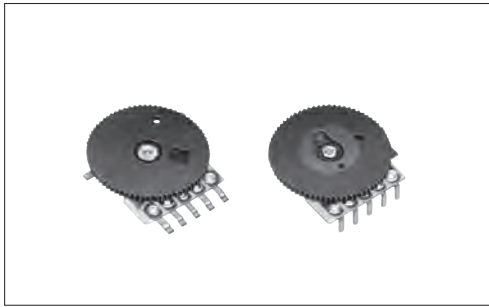


# RK10J With Knob Type

Low-profile type compatible with reflow soldering



## Typical Specifications



| Items                       | Specifications                    |
|-----------------------------|-----------------------------------|
| Total resistance tolerance  | ±30%                              |
| Maximum operating voltage   | 50V AC, 20V DC (Single-unit only) |
| Total rotational angle      | 270° ± 10°                        |
| Rotational torque           | 0.5 to 10mN·m                     |
| Operating life              | 10,000 cycles                     |
| Operating temperature range | -10°C to +60°C                    |

Rotary Potentiometers  
Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

Ring Type

## Product Line

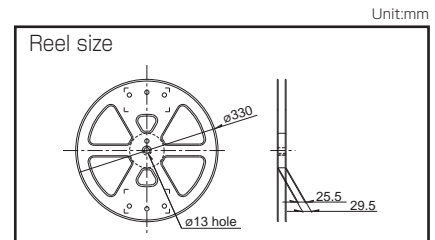
| Number of resistor elements | Mounting method | Mounting type    | Knob type  | Total resistance (k Ω) | Resistance taper | For DC use     | Minimum order unit (pcs.) |        | Products No. | Drawing No.  |              |
|-----------------------------|-----------------|------------------|--|------------------------|------------------|----------------|---------------------------|--------|--------------|--------------|--------------|
|                             |                 |                  |  |                        |                  |                | Japan                     | Export |              |              |              |
| Single-unit                 | Manual          | Insertion (2mm)  | Knob diameter : φ 14<br>Knob thickness : t0.9<br>Color : Black | 10                     | 1B               | 20V DC         | 3,000                     | 2,400  | RK10J11E0034 | 1            |              |
| Dual-unit                   |                 |                  |  |                        | 15A              | Not applicable |                           |        |              |              | RK10J12E0A0A |
| Single-unit                 | Reflow          | Surface mounting | Knob diameter : φ 14<br>Knob thickness : t1.0<br>Color : Black |                        | 1B               | 20V DC         |                           | 3,000  | 3,000        | RK10J11R0A0L | 2            |
| Dual-unit                   |                 |                  |  |                        | 15A              | Not applicable |                           |        |              |              |              |

**Notes** Other varieties are also available. Refer to "Other Specifications" (P.338, 339).

## Packing Specifications

Bulk / Taping

| Mounting method | Packing specifications | Number of packages (pcs.) |               |                        | Tape width (mm) | Export package measurements (mm) |
|-----------------|------------------------|---------------------------|---------------|------------------------|-----------------|----------------------------------|
|                 |                        | 1 reel                    | 1 case /Japan | 1 case /export packing |                 |                                  |
| Manual          | Bulk                   | —                         | 3,000         | 2,400                  | —               | 371×250×190                      |
| Reflow          | Taping                 | 1,000                     | 3,000         | 3,000                  | 24              | 401×397×139                      |



## Dimensions

| No. | Photo                           | Style | PC board mounting hole dimensions (Viewed from mounting side) |
|-----|---------------------------------|-------|---|
| 1   | <p><b>RK10J1 □ E Manual</b></p> |       |   |

Refer to P.338 for other specifications.  
Refer to P.340 for ordering products not listed.  
Refer to P.341 for soldering conditions.

# RK10J With Knob Type

## Dimensions

Unit:mm

| No. | Photo                           | Style | PC board mounting hole dimensions<br>(Viewed from mounting side) |
|-----|---------------------------------|-------|--|
| 2   | <p><b>RK10J1 □ R Reflow</b></p> |       | <p>Center of knob</p> <p>Shaded area: Solder land</p>            |

## Circuit Diagram

| Single-unit | Dual-unit | Dual-unit resistance taper 15C |
|-------------|-----------|--------------------------------|
|             |           |                                |

## With Knob Type / Other Specifications

In addition to the Product Line, we accommodate the following specifications. Combinations not included in the Product Line are treated as semi-standard products.

### Total Resistance Variety

| Total resistance (k Ω) | 10 | 20 | 50 | 100 |
|------------------------|----|----|----|-----|
|                        |    |    |    |     |

### Resistance Taper

| Resistance taper | 15A | 1B | 3B | 15C |
|------------------|-----|----|----|-----|
|                  |     |    |    |     |

### Terminal Layout

|  | Resistance taper A or B |           | Resistance taper C |           |
|--|-------------------------|-----------|--------------------|-----------|
|  | Single-unit             | Dual-unit | Single-unit        | Dual-unit |
| <b>10mm Single-unit/<br/>Dual-unit<br/>RK10J1 □ E<br/>(Manual)</b> |                         |           |                    |           |
| <b>10mm Single-unit/<br/>Dual-unit<br/>RK10J1 □ R<br/>(Reflow)</b> |                         |           |                    |           |

Refer to P.340 for ordering products not listed.

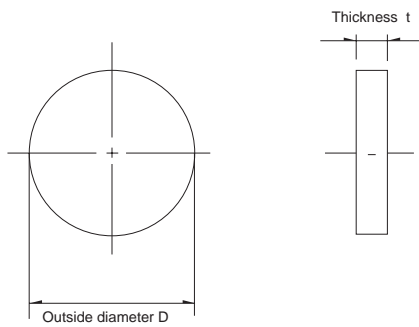
# With Knob Type / Other Specifications

In addition to the Product Line, we accommodate the following specifications. Combinations not included in the Product Line are treated as semi-standard products.

## ■ Mounting Plate Types and Terminal Types

| RK10J1 □ E (Manual)   |                       | Unit:mm |
|-----------------------|-----------------------|---------|
| Terminal length : 2.0 | Terminal length : 2.8 |         |
|                       |                       |         |

## ■ Knob Variety



| Applicable models                                     | Knob variety |                  |                | Body thickness (mm) |
|---|--------------|------------------|----------------|---------------------|
|   | Type         | Outer diameter D | Thickness (mm) |                     |
| <b>RK10J11E</b><br><b>RK10J12E</b><br><b>(Manual)</b> | K4           | $\phi 14$        | 0.9            | Black               |
|   | K5           | $\phi 16$        | 3.0            |                     |
| <b>RK10J11R</b><br><b>RK10J12R</b><br><b>(Reflow)</b> | K1           | $\phi 14$        | 1.0            | Black               |
|   | K2           | $\phi 14$        | 2.5            |                     |
|   | K3           | $\phi 16$        |                |                     |

### Note

Marked are specifications recommended by Alps Alpine.

# With Knob Type / Ordering Products Not Listed

In addition to the Product Line, we accommodate the following specifications. Combinations not included in the Product Line are treated as semi-standard products. Please refer to the notation example below.

## Sample Part Number

**R K 1 0 J 1 1 R** — **K 1** — **B 2 0 3**

### Model type

| Code     | Model type                   |
|----------|------------------------------|
| RK10J11E | 10mm size single-unit Manual |
| RK10J12E | 10mm size dual-unit Manual   |
| RK10J11R | 10mm size single-unit Reflow |
| RK10J12R | 10mm size dual-unit Reflow   |

### Shaft type (Outer diameter/Thickness) (mm)

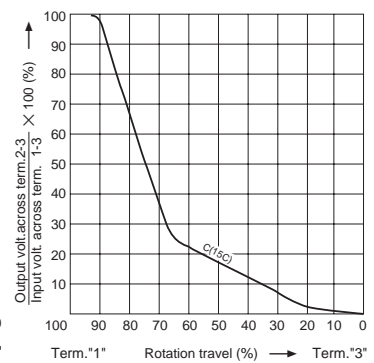
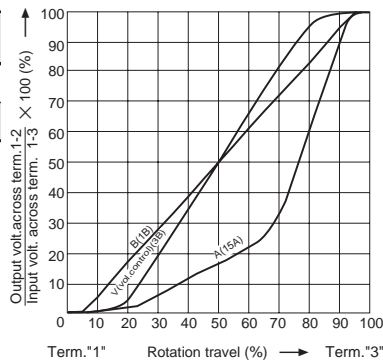
| Code | RK10J1□E | RK10J1□R |
|------|----------|----------|
| K1   | —        | V14 t1.0 |
| K2   | —        | V14 t2.5 |
| K3   | —        | V16 t2.5 |
| K4   | V14 t0.9 | —        |
| K5   | V16 t3.0 | —        |

\*Color : Black

### Resistance taper

| Code | Resistance taper | Code | Resistance taper |
|------|------------------|------|------------------|
| A    | 15A              | C    | 15C              |
| B    | 1B               | V    | 3B               |

B: For tone & general  
V: For vol.



### Total resistance

| Code | Total resistance (k Ω) | Code | Total resistance (k Ω) |
|------|------------------------|------|------------------------|
| 103  | 10                     | 503  | 50                     |
| 203  | 20                     | 104  | 100                    |

### Note

Marked are specifications recommended by Alps Alpine.

Rotary Potentiometers

Slide Potentiometers

Metal Shaft

Insulated Shaft







Knob Operating

Through Shaft Type

Ring Type

# Knob Operating Type Potentiometers

## List of Varieties

| Type                        |                        | Without knob type   |   | With knob type  |   |
|-----------------------------|------------------------|---|---|---|---|
| Series                      |                        | RK08H1 □ 1  | RK08H1 □ 3  | RK10J1 □ E  | RK10J1 □ R  |
|                             |                        | Single-unit/Dual-unit   | Single-unit/Dual-unit   | Single-unit/Dual-unit   | Single-unit/Dual-unit   |
| Photo                       |                        |  |  |  |  |
| Terminal orientation        |                        | Vertical  | Reflow type   | —   | —   |
| Operating temperature range |                        | -10°C to +60°C  |   |   |   |
| Operating life              |                        | Without detent 10,000 cycles<br>With detent 5,000 cycles                          |   | 10,000 cycles   |   |
| Automotive use              |                        | —   | —   | —   | —   |
| Life cycle                  |                        |  |   |  |   |
| Electrical performance      | Total resistance (k Ω) | 5, 10, 20, 50, 100  |   | 10, 20, 50, 100   |   |
|                             | Resistance taper       | 15A, 1B, 3B, 15C  |   |   |   |
|                             | Rated power            | 0.03W   |   |   |   |
|                             | Insulation resistance  | —   | —   | 100MΩ min. 100V DC  |   |
|                             | Voltage proof          | —   | —   | 100V AC for 1minute   |   |
| Mechanical performance      | Detent                 | Without / Center detent   |   | Without   |   |
|                             | Stopper strength       | 0.1N  |   | 70mN·m  |   |
|                             | Push-pull strength     | 10N   |   | 5N  |   |
| Terminal style              |                        | Insertion   | Reflow  | Insertion   | Reflow  |
| Page                        |                        | 333   |   | 337   |   |

### Residual Resistance

※ Applies only to products with specified residual resistance

| Nominal total resistance | ※ Residual resistance                    |
|--------------------------|--|
| 100kΩ ≥ R ≥ 50kΩ         | 0.1% or less of nominal total resistance |
| 50kΩ > R > 10kΩ          | 30Ω or less                              |
| 10kΩ ≥ R                 | 20Ω or less                              |

### Maximum Attenuation

| Nominal total resistance | Maximum attenuation |
|--------------------------|---------------------|
| R ≥ 100kΩ                | 90dB min.           |
| 100kΩ > R ≥ 50kΩ         | 80dB min.           |
| 50kΩ > R ≥ 10kΩ          | 70dB min.           |
| 10kΩ > R                 | 60dB min.           |

|   |     |
|---|-----|
| Knob Operating Type Potentiometers Soldering Conditions | 341 |
| Potentiometers Cautions                                 | 384 |
| Potentiometers Measurement and Test Methods             | 386 |
| Potentiometers Resistance Taper                         | 388 |