

Knob Operating Type Potentiometer With Knob Type

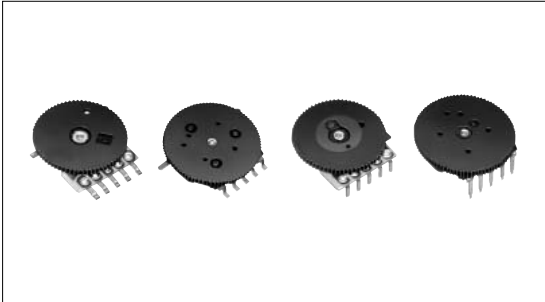
RK10J/RK14J Series



Low-profile, dip and reflow solderable.

Rotary
Potentiometers

Slide
Potentiometers



Typical Specifications

Items	Specifications	
	RK10J	RK14J
Total resistance tolerance	±30%	
Maximum operating voltage	50V AC, 20V DC (Single-unit only)	
Total rotational angle	270±10 °	270±5 °
Operating life	10,000cycles	
Operating temperature range	-10°C to +60°C	-25°C to +70°C

Product Line

Type	Number of resistor elements	Knob type	Total resistance (kΩ)	Resistance taper	Soldering	Mounting board type	For DC use	Minimum order unit (pcs.)	Products No.	Drawing No.	
10mm Size	Single-unit	Outer size : ϕ14 Knob thickness : t0.9 Color : Black	10	1B	Manual	Insertion (2mm)	20V DC	100	RK10J11E0034	1	
	Dual-unit		20	3B			Not applicable		RK10J11E002Y		
			10	15A					RK10J12E0A0A		
				3B					RK10J12E002L		
				20					15C		RK10J12E0024
	Single-unit	Outer size : ϕ14 Knob thickness : t1.0 Color : Black	10	15A	Reflow	Surface mounting	20V DC	1,000	RK10J11R001Y	2	
	Dual-unit			3B			Not applicable		RK10J11R0A0H		
				15A					RK10J12R0A0B		
				15C					RK10J12R0052		
	Dual-unit	Outer size : ϕ14 Knob thickness : t2.5 Color : Black	20	15A	Not applicable	RK10J12R0A0Z	3				
			50	3B		RK10J12R0A02					
		14mm Size	Single-unit	Outer size : ϕ15 Knob thickness : t0.9 Color : Black	10	1B	Manual	Insertion (2mm)	20V DC	100	RK14J11A000G
	Dual-unit		50		3B	Not applicable			RK14J11A0A02		
			100		1B				RK14J11A0007		
			20		15C				RK14J12A0A0U		
50			3B		RK14J12A0A0K						
Single-unit	Outer size : ϕ15 Knob thickness : t0.9 Color : Black		10		1B	Reflow	Surface mounting	20V DC	1,000	RK14J11R000J	5
Dual-unit			50		3B			Not applicable		RK14J11R000H	
			10		15A					RK14J12R0A01	
				3B	RK14J12R0A0C						
				15C	RK14J12R0A09						

Notes

- Products other than those listed in above products are also available. Please contact us for details.
- Dip soldering can be applied to RK14J. For dip soldering applications, specify separately as "dip soldering applicable product."

Refer to P.396 for product varieties.

Dimensions

Unit:mm

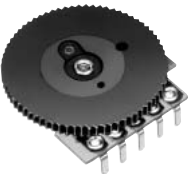
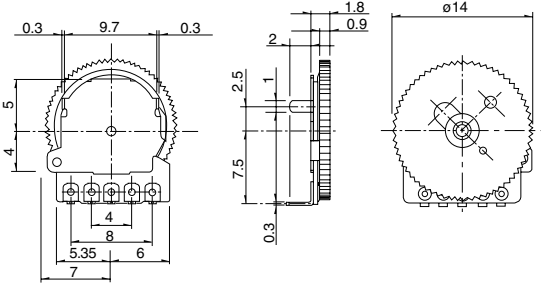
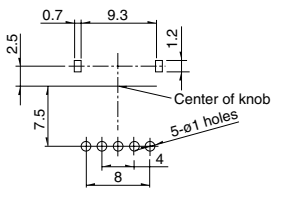
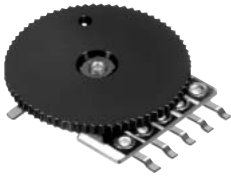
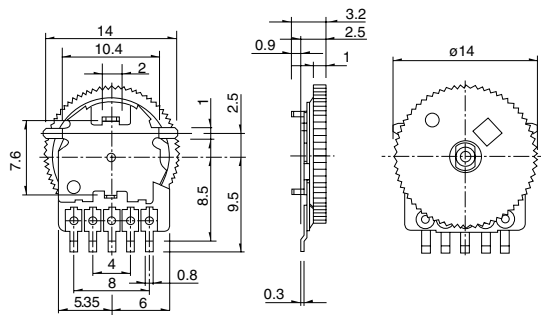
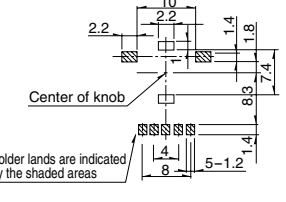
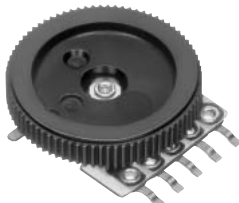
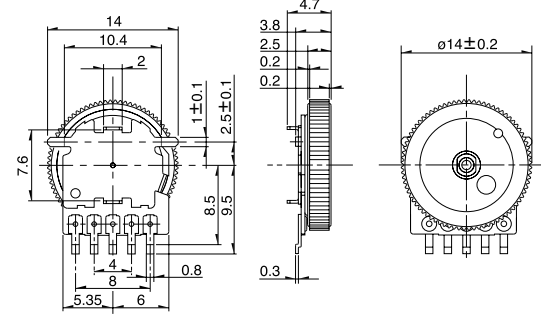
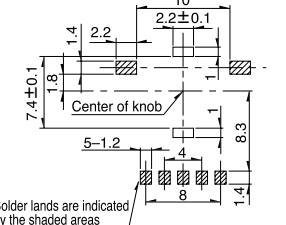
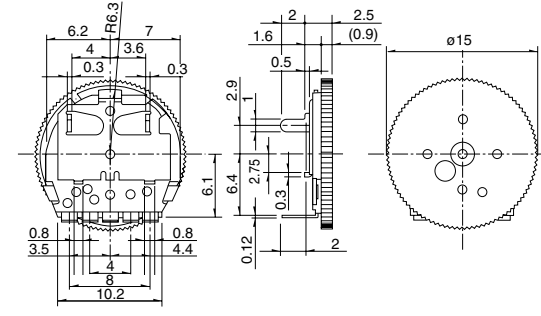
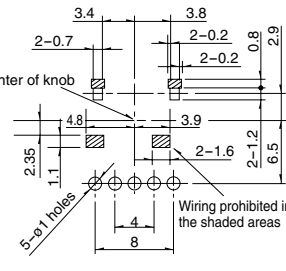
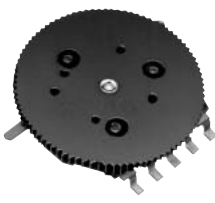
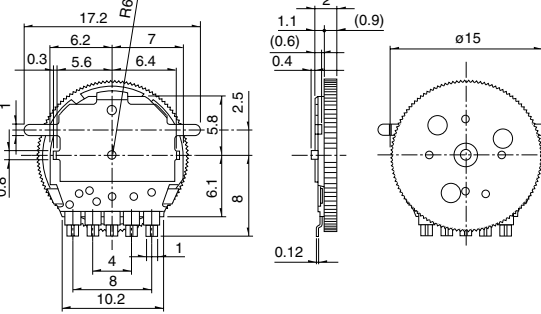
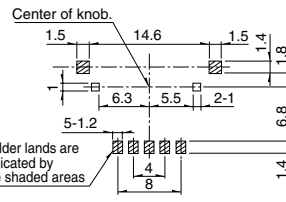
Rotary
Potentiometers

Slide
Potentiometers

Metal
Shaft

Insulated
Shaft

Knob
Operating

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)
1			
2			
3			
4			
5			

Product Varieties

In addition to the recommended products, the following specifications can also be accommodated.

Total Resistance Variety

Total resistance (kΩ)	10	20	50	100
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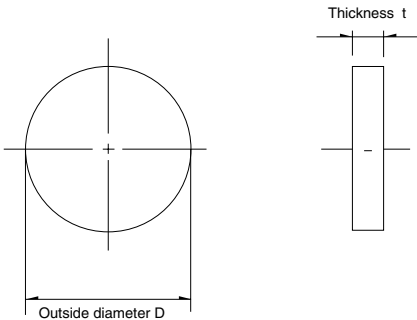
Resistance Taper

Resistance taper	15A	1B	3B	15C
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PC board Mounting Hole Details

	Resistance taper A or B		Resistance taper C	
	Single-unit	Dual-unit	Single-unit	Dual-unit
10mm Single-unit • Dual-unit RK10J1□E				
10mm Single-unit • Dual-unit RK10J1□R (Reflow-type)				
14mm Single-unit • Dual-unit RK14J1□A RK14J1□R				

Knob Variety



Applicable models	Knob variety							Body thickness (mm)
	Type	Outer Diameter D	Knob thickness (mm)	Color				
RK10J11E RK10J12E	K4	ϕ 14	0.9	Black	Gray	Ivory	White	1.8
	K5	ϕ 16	3.0					4.0
RK10J11R RK10J12R (Reflow-type)	K1	ϕ 14	1.0	Black				2.5
	K2	ϕ 14	2.5					3.8
	K3	ϕ 16						
RK14J11A RK14J12A	K1	ϕ 15	0.9	Black	Gray	Ivory	White	2.5
	K2	ϕ 15	3.0					4.6
	K3	ϕ 18						
RK14J11R RK14J12R (Reflow-type)	K1	ϕ 15	0.9	Black				2.0
	K2	ϕ 15	3.0					4.1

Mounting Plate Types and Terminal Types

Unit:mm

RK14J1□A	RK10J1□E

Note

marked are specifications recommended by ALPS.

Refer to P.397, 502 for resistance taper.

Orders Other Than Recommended Products

When ordering product varieties that are not listed in the Product Line, please specify by referring to the below example.

Sample Part Number

R K 1 4 J 1 1 A — **K 1** — **B 2 0 3**

Model type

Code	Model type
RK10J11E	10mm size single-unit print terminal
RK10J12E	10mm size dual-unit print terminal
RK10J11R	10mm size single-unit Reflow type
RK10J12R	10mm size dual-unit Reflow type
RK14J11A	14mm size single-unit print terminal
RK14J12A	14mm size dual-unit print terminal
RK14J11R	14mm size single-unit Reflow type
RK14J12R	14mm size dual-unit Reflow type

Shaft type (Outer diameter•Thickness)

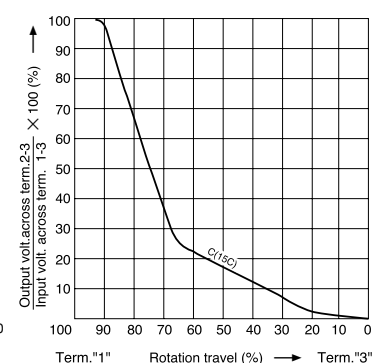
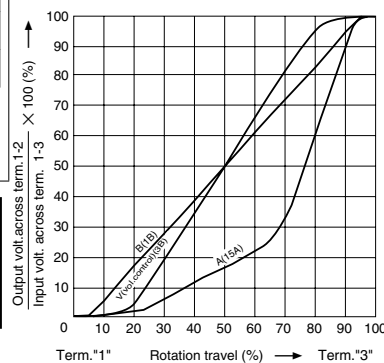
Code	RK10J1□E	RK10J1□R	RK14J1□A	RK14J1□R
K1	—	φ 14 t1.0	φ 15 t0.9	φ 15 t0.9
K2	—	φ 14 t2.5	φ 15 t3.0	φ 15 t3.0
K3	—	φ 16 t2.5	φ 18 t3.0	—
K4	φ 14 t0.9	—	—	—
K5	φ 16 t3.0	—	—	—

*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 (kΩ)	Code	Total resistance (kΩ)
103	10	503	50
203	20	104	100

Circuit Diagram

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

Note

marked are specifications recommended by ALPS.

Rotary
Potentiometers
Slide
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Shaft
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List of Varieties

Items			Type	Without knob		With knob				
			Model	RK08H1□1 RK08H1□2	RK08H1□3	RK10J1□E	RK10J1□R	RK14J1□A	RK14J1□R	
				Vertical back-to-back mounting	Reflow type	Insertion type	Reflow type	Insertion type	Reflow type	
Photo										
Electrical performance	Rated power		0.03W							
	Insulation resistance		100MΩ min. 100V DC							
	Voltage proof		100V AC (for 1minute)							
Mechanical performance	Strength of the operating section	Stopper strength	0.1N•m		70mN•m					
		Push-pull strength (In vertical direction against the P.W.B. surface)	10N max.		5N 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							
	Solder heat resistance	Manual soldering	350°C max. 3s max.							
		Dip soldering	—————				260±5°C 4±1s		—————	
		Reflow soldering	—————	Please see P.398	—————	Please see P.398	—————	Please see P.398		
Environmental performance	Cold		- 10±2°C for 96h				- 25±2°C for 240h			
	Dry heat		70±2°C for 96h				70±2°C for 240h			
	Damp heat		40±2°C, 90 to 95%RH for 96h							
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Rotary
PotentiometersSlide
PotentiometersMetal
ShaftInsulated
ShaftKnob
Operating

Maximum Attenuation or Residual Resistance

※Application of non-standard

Nominal total resistance	Maximum attenuation	Nominal total resistance	Residual resistance
$R \geq 100k\Omega$	90dB min.	$100k\Omega \geq R \geq 50k\Omega$	0.1% or less of nominal total resistance
$100k\Omega > R \geq 50k\Omega$	80dB min.	$50k\Omega > R > 10k\Omega$	30Ω or less
$50k\Omega > R \geq 10k\Omega$	70dB min.	$10k\Omega \geq R$	20Ω or less
$10k\Omega > R$	60dB min.		

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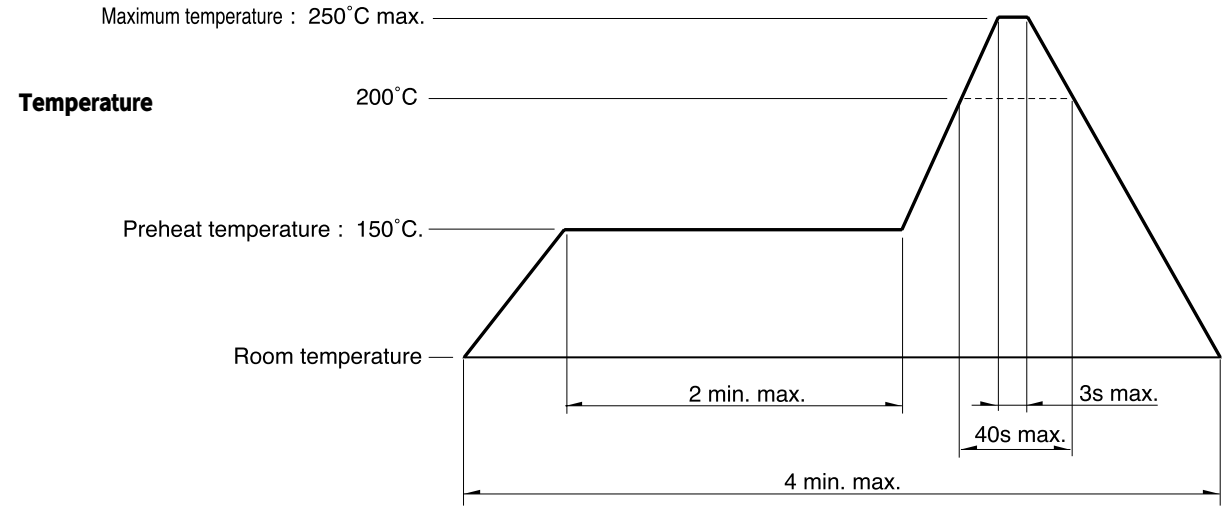
Note

Contact us separately when you require reflow type taping specifications.

Soldering Conditions

Soldering Conditions

1. Recommended reflow conditions



- | | |
|------------------------------|--|
| 2. Cleaning | Cleaning should not be attempted. |
| 3. Type of solder to be used | Use cream solder that contains 10 - 15 %wt flux. |
| 4. Soldering | Mounting plate should also be soldered. |

Notes

1. When using an infrared reflow oven, solder may sometimes not be applied. Be sure to use a hot air reflow oven or a type that uses infrared rays in combination with hot air.
2. The temperatures given above are the maximum temperatures at the terminals of the potentiometer when employing a hot air reflow method. The temperature of the PC board and the surface temperature of the potentiometer may vary greatly depending on the PC board material, its size and thickness. Ensure that the surface temperature of the potentiometer does not rise to 250°C or greater.
3. Conditions vary to some extent depending on the type of reflow bath used. Be sure to give due consideration to this prior to use.

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