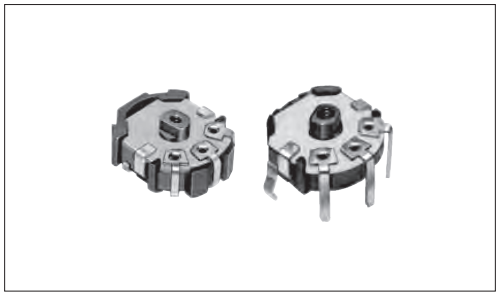
RK08H Without Knob Type

Compact type potentiometer suitable for volume and tone controls



Typical Specifications

Items	Specifications
Total resistance tolerance	±30%
Maximum operating voltage	50V AC 20V DC (Single-unit only)
Total rotational angle	200°±10°
Rotational torque	1 to 10mN·m 0.5 to 10mN·m (Reflow type)
Operating life	Without detent 10,000 cycles With detent 5,000 cycles
Operating temperature range	−10℃ to +60℃

Product Line

Number of resistor elements	Mounting method	Length of the shaft (mm)	Center detent	Total resistance(kΩ)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.
						Japan	Export		
Single-unit	Manual	1	Without	10	1B	1,000	1,000	**RK08H11100UD**	1
			With					**RK08H11100RB**	
	Reflow		Without					**RK08H113003Q**	2
Dual-unit	Manual				15A			**RK08H12100GZ**	1
	Reflow							**RK08H1230012**	2

Notes

1. Other varieties are also available. Refer to "Other Specifications" (P.336).
2. The above products are compatible with dip soldering. If required, please specify "dip soldering type."
3. We recommend print boards with a thickness of 0.8mm to 1.2mm. For 1.6mm thickness board applications, please contact us.

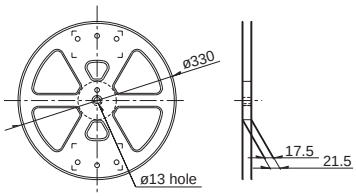
Packing Specifications

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	—	5,000	10,000	—	528×369×178
Reflow	Taping	1,000	4,000	4,000	16	401×397×139

Unit:mm

Reel size

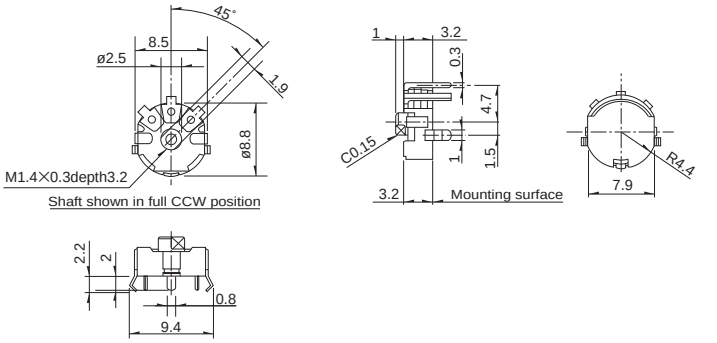
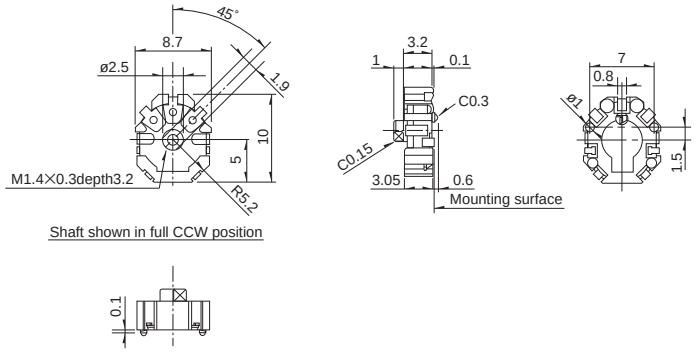


Refer to P.336 for other specifications.
Refer to P.336 for soldering conditions.
Refer to P.341 for ordering products not listed.

RK08H Without Knob Type

Dimensions

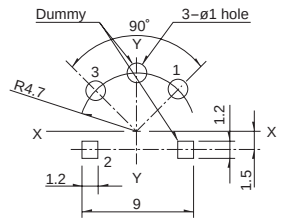
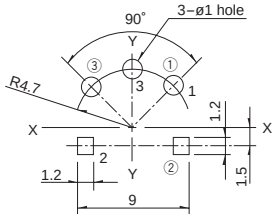
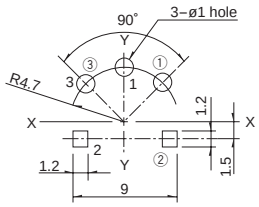
Unit:mm

No.	Photo	Style
1	**Manual** **Single-shaft, single-unit** **RK08H1110** **Single-shaft, dual-unit** **RK08H1210** 	
2	**Reflow** **Single-shaft, single-unit** **RK08H1130** **Single-shaft, dual-unit** **RK08H1230** 	

PC Board Mounting Hole Dimensions / Terminal Layout

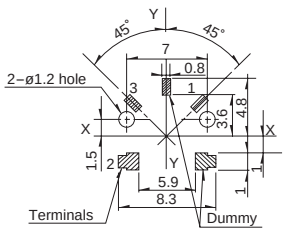
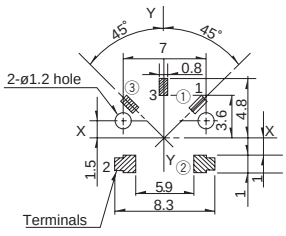
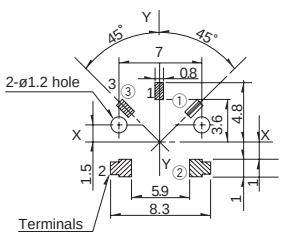
Manual (Viewed from mounting side)

Unit:mm

Single-shaft, single-unit	Single-shaft, dual-unit	Single-shaft, dual-unit (Resistance taper 15C)
		

Reflow (Viewed from mounting side)

Unit:mm

Single-shaft, single-unit	Single-shaft, dual-unit	Single-shaft, dual-unit (Resistance taper 15C)
 Shaded area: Solder land	 Shaded area: Solder land	 Shaded area: Solder land

Note

Keep the DUMMY terminal open in the circuit.

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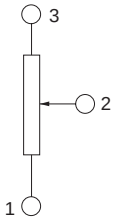
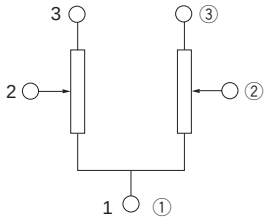
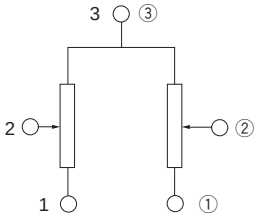
Standard Specification Circuit Diagram

Single-shaft, single-unit	Single-shaft, dual-unit	Single-shaft, dual-unit (Resistance taper 15C)
		

Without 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)	5	10	20	50	100

Resistance Taper

Resistance taper	15A	1B	3B	15C

Without Knob Type / Ordering Products Not Listed

Please refer to the notation example below for specification combinations not included in the Product Line.

Sample Part Number

R	K	0	8	H	1	1	1	0	—	F	1	—	C	0	—	B	1	0	3

Model type

Code	Model type
111	Single-unit Manual
113	Single-unit Reflow
121	Dual-unit Manual
123	Dual-unit Reflow

Length of the shaft (mm)

Code	Length of the shaft
F1	1

*Only 1mm types are provided with the M1.4 tap screws.

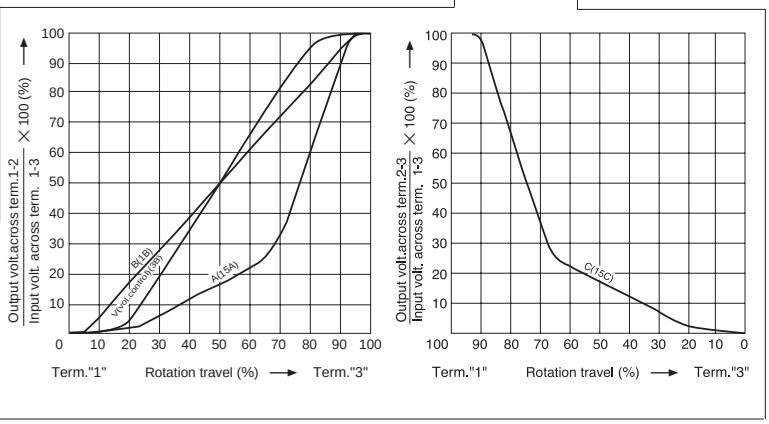
Detent

Code	Center detent
C0	Without
C1	With

*Detent can only be specified for non-reflow single-unit types.

Resistance taper

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



Total resistance

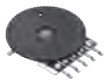
Code	Total resistance (k Ω)	Code	Total resistance (k Ω)
502	5	503	50
103	10	104	100
203	20	—	—

Note

Marked are specifications recommended by Alps Alpine.

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℃ to +60℃			
Operating life		Without detent 10,000 cycles With detent 5,000 cycles		10,000 cycles	
Automotive use		—	—	—	—
Life cycle		★2		★2	
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

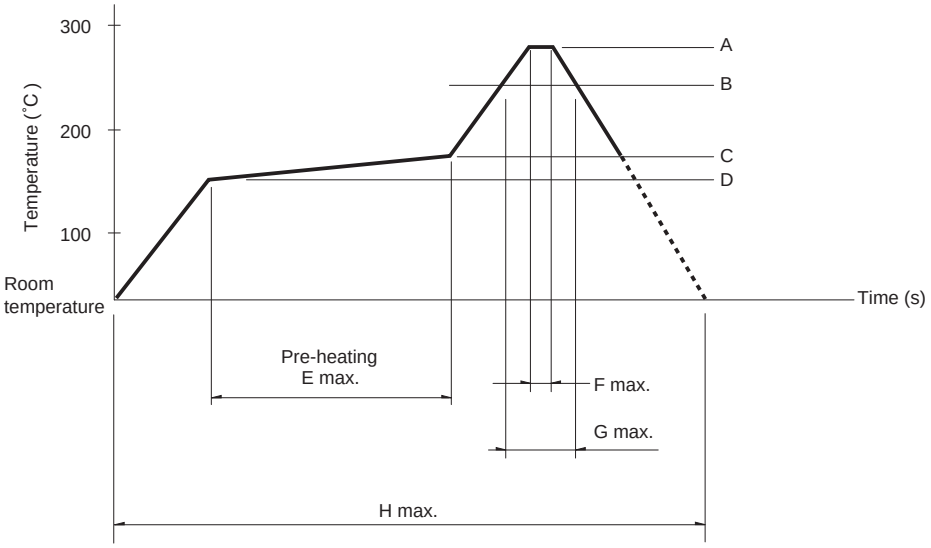
Nominal total resistance	Maximum attenuation
R≧100kΩ	90dB min.
100kΩ>R≧50kΩ	80dB min.
50kΩ>R≧10kΩ	70dB min.
10kΩ>R	60dB min.

Reference for Manual Soldering

Series	Tip temperature	Soldering time	No. of solders
RK08H1□1, RK10J	350℃ max.	3s max.	1 time

Example of Reflow Soldering Condition

Temperature profile



Series	A	B	C	D	E	F	G	H	No. of reflows
RK08H1□3, RK10J1□R	250℃	200℃	150℃	150℃	2 min.	3s	40s	4 min.	2 time max.

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℃ 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.