

# RS □□ K Master Type (K Fader)

Minimum lever wobble and high precision characteristics combined with good operational feel



## Typical Specifications



Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	350V AC, 20V DC
Operating force	Please see P.368
Operating life	Please see P.368
Operating temperature range	-10°C to +60°C

## Product Line

Type	Number of resistor elements	Travel (mm)	Lever type	Length of lever (mm)	Total resistance (k Ω)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.
							Japan	Export		
Standard Type	Single-unit	60	9-T (T-Bar)	8.2	10	15A	50	100	<b>RS60K11A9010</b>	1
		100							<b>RSA0K11A901L</b>	2
	Dual-unit	<b>RSA0K12A901H</b>							3	
CP Type	Single-unit	60	9-T (T-Bar)	8.2	10	15A	50	100	<b>RS60K11K9A13</b>	4
		100							<b>RSA0K11K9A16</b>	5
	Dual-unit	<b>RSA0K12K9A14</b>							6	

### Note

Other varieties are also available. Refer to "Other Specifications" (P.368).

## Packing Specifications

### Bulk

Travel (mm)	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
60	50	100	524×296×196
100	50	100	524×374×201

Refer to P.368 for other specifications.  
 Refer to P.368 for details of lever types.  
 Refer to P.369 for ordering products not listed.  
 Refer to P.383 for soldering conditions.

# RS □ □ K Master Type (K Fader)

## Dimensions

Unit:mm

No.	Style
1	
2	
3	

Rotary  
Potentiometers

Slide  
Potentiometers

General-use

Mixer

Dimensions

Unit:mm

No.	Style	
4		
5		
6		

Rotary Potentiometers

Slide Potentiometers

General-use Mixer

# Master Type (K Fader) / 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.

## Specifications

Type		Travel (mm)	Terminal style		Operating force	Sliding life	Micro switch
Standard type	Single-unit	60 / 100	Lead type		$0.3^{+0.3N}_{-0.2}$	100,000 cycles	Available (100mm only)
	Dual-unit				$0.4 \pm 0.3N$		
CP type	Single-unit		Connector type	JST S4B-EH	$0.2 \pm 0.15N$	300,000 cycles	
	Dual-unit			JST S9B-EH	$0.3 \pm 0.2N$		

## Lever Types

Configuration code	1	4	9-T (T-Bar)
Dimensions			

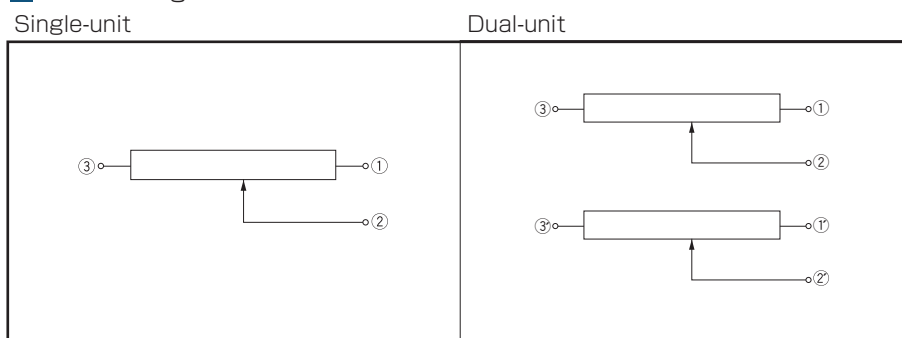
## Total Resistance Variety

Total resistance (k Ω)	10*	50	100
			※CP type: Only 10 kΩ

## Resistance Taper

Resistance taper	15A	1B

## Circuit Diagram



### Note

Marked are specifications recommended by Alps Alpine.

# Master Type (K Fader) / 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 S 6 0 K 1 1 A - 9 T - A 1 0 3**

Travel

Code	Travel(mm)
60	60
A0	100

Number of resistor elements

Code	Number of resistor elements
1	Single-unit
2	Dual-unit

Resistor element type, and presence of micro switch

Code	Resistor elements Standard type	Code	Resistor elements CP type
A	Without micro switch	K	Without micro switch
B	With micro switch	L	With micro switch

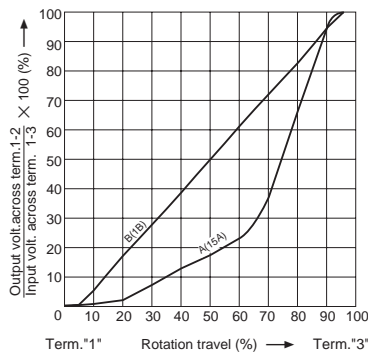
※ With microswitch: Available only with 100mm travel type

Lever types

Code	Configuration code
01	1
04	4
9T	9-T (T-Bar)

Resistance taper

Code	Resistance taper
A	15A
B	1B



Total resistance

Code	Total resistance (k Ω)	Code	Total resistance (k Ω)
103	10	104	100
503	50	—	—

CP type: Supports 10kΩ only.









### Note

Marked are specifications recommended by Alps Alpine.

Rotary Potentiometers  
Slide Potentiometers  
General-use  
Mixer


# Slide Potentiometers

## List of Varieties

Type		Standard Type			Master Type
Series		Super Slide™	Slim Slide™ (Slim 4)	Compact Reflow Type	K Fader
		RS □□ 1	RS □□ H	RS08U	RS □□ K
		Single-unit/Dual-unit	Single-unit/Dual-unit	Single-unit	Single-unit/Dual-unit
Photo					
Travel (mm)		15, 20, 30, 45, 60	15, 20, 30	8	60, 100
Direction of lever		Vertical		Horizontal	Vertical
Lever material		Metal / Resin	Resin	Resin	Metal
Operating temperature range		-25°C to +70°C		-10°C to +70°C	-10°C to +60°C
Operating life		15,000 cycles	10,000 cycles		100,000 cycles (Standard) 300,000 cycles (CP)
Available for automotive use		○	—	—	—
Life cycle (availability)					
Electrical performance	Total resistance (k Ω)	10, 20, 50, 100, 200	5, 10, 20, 50, 100, 200, 250	10	10, 50, 100 (Standard) 10 (CP)
	Resistance taper	10A, 15A, 1B, 3B, 4B	15A, 1B, 3B	1B	15A, 1B
	Rated Power	Please see P.355	Please see P.362	0.025W	0.25W
	Insulation resistance	100MΩ min. 250V DC	Dual-unit: 100MΩ min. 250V DC	100MΩ min. 100V DC	100MΩ min. 250V DC
	Voltage proof	300V AC for 1 minute	Dual-unit: 300V AC for 1 minute	100V AC for 1 minute	250V AC for 1 minute
	Center-taps	Without / With		Without	
Mechanical performance	Operating force	0.3 to 2.5N	0.6 <sup>+0.5</sup> <sub>-0.4</sub> N	0.17±0.15N	Please see P.368
	Center detent	Without / With		Without	
	Stopper strength	50N	30N	5N	100N
	Lever push-pull strength	50N	30N	5N	100N
	Lever wobble (mm) ※ Both sides	$\frac{2(2 \times L)}{20}$	1.6 max.	—	$\frac{2(2 \times L)}{25}$
	Detent slip-out force	Operating force + (0.2 to 2N)	Operating force + 0.3 <sup>+0.5</sup> <sub>-0.25</sub> N	—	—
	Lever deviation (mm) ※ One side	0.5 max.	—	—	0.5 max.
Terminal style		Insertion		Reflow	Lead (Standard) Connector (CP)
Page		351	358	364	365

Slide Potentiometers Soldering Conditions	383
Potentiometer Cautions	384
Potentiometers Measurement and Test Methods	386
Potentiometers Resistance Taper	388

### Notes

- "L" in the "Lever Wobble" column of the above table indicates the length of lever.
- RS □□  □□ indicates travel.
- Indicates applicability to some products in the series.

# Slide Potentiometers / Soldering Conditions

## Reference for Manual Soldering

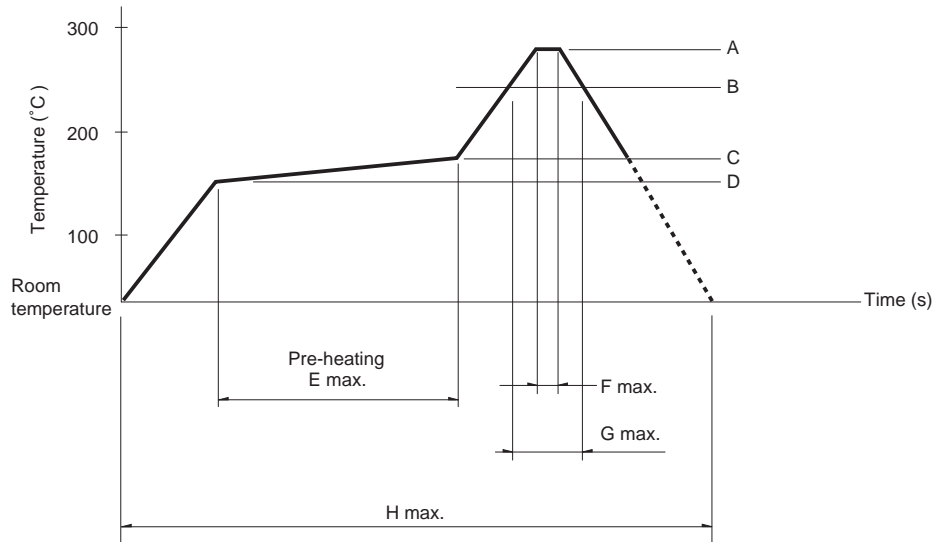
Series	Tip temperature	Duration of Soldering time	No. of solders
RS□□1, RS□□H, RS08U, RS□□K (Standard), RS□□N, RS6011□P, RS□□N1□M, RSA0K1□V (Motor terminal)	350°C max.	3s max.	1 time

## Reference for Dip Soldering

Series	Preheating		Dip soldering		Number of soldering
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
RS□□1, RS□□H, RS□□N, RS6011□P, RS□□N1□M	100°C max.	1 min. max.	260°C	5s max.	1 time

## Example of Reflow Soldering Condition

Temperature profile



Series	A	B	C	D	E	F	G	H	No. of reflows
RS08U	250°C	200°C	150°C	150°C	2 min.	3s	40s	4 min.	1 time

## 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 products when employing a hot air reflow method. The temperature of the PC board and the surface temperature of the products may vary greatly depending on the PC board material, its size and thickness. Ensure that the surface temperature of the products 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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