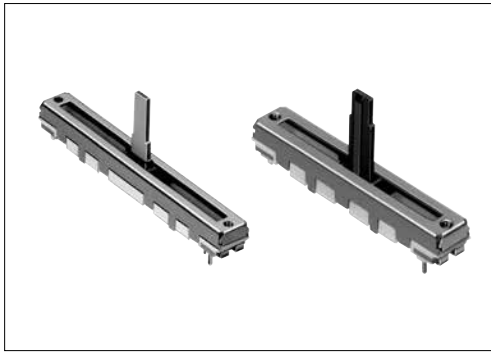


Solderable with auto dipping and available in a wide variety



Typical Specifications



Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	Please see P.392
Operating force	0.3 to 2.5N
Operating life	15,000 cycles
Operating temperature range	-25°C to +70°C

Product Line

Insulated lever

Number of resistor elements	Travel (mm)	Lever types	Length of lever (L1) (mm)	Total resistance (k Ω)	Resistance taper	Detent	Mounting plate	Minimum order unit (pcs.)		Products No.	Drawing No.
								Japan	Export		
Single-unit	20	J-1	5	10	1B	Without	Without	700	2,800	RS201111J011	1
	30				15A		With			RS301111J00P	2
				45	1B		Without			RS301111AJ01R	3
	60				15A		With			RS301111J00R	2
		30	A	10	10		1B	Without	600	2,400	RS301111AJ01K
	C						Without	RS301111A01G			4
	45		B		1B		With	RS301111AC00V			6
			C		1B		With	RS451111ABA02			7
Dual-unit	30	J-1	5	10	3B	Without	600	2,400	RS30112AC00J	8	
						RS30112AJA02			9		

Metal lever

Number of resistor elements	Travel (mm)	Lever types	Length of lever (L1) (mm)	Total resistance (k Ω)	Resistance taper	Detent	Mounting plate	Minimum order unit (pcs.)		Products No.	Drawing No.	
								Japan	Export			
Single-unit	15	9-1	10	10	15A	Without	With	700	2,800	RS15111A900B	10	
	20				RS20111A9A03					11		
	30	4	15	20	1B		Without	600	2,400	RS30111A9012	12	
		6					RS3011114A02			13		
	45	9-1	10	10	1B		With	1,440	2,880	RS30111A602N	14	
							Without			RS45111A900F	15	
	60	6	15	10	15A		With	1,300	1,300	RS4511119A04	16	
		9-1					10			Without	RS6011YA600M	17
		60	6		15		1B	Without	900	900	RS6011Y19004	18
			6		15			RS6011Y1600Q			19	
Dual-unit	45	4	20	10	1B	Without	1,150	1,150	RS451121400A	20		
									RS45112A400G	21		
	60	6	15	20	15A	With	900	900	RS60112A600N	22		
RS60112A600U												

Note

Other varieties are also available. Refer to "Other Specifications" (P.392, 393).

Refer to P.392 for other specifications.
 Refer to P.393 for configuration details.
 Refer to P.394 for ordering products not listed.
 Refer to P.417 for soldering conditions.

Rotary Potentiometers
 Slide Potentiometers
 General-use Mixer

Packing Specifications
Tray

Product No.	Number of resistor elements	Number of packages (pcs.)		Export package measurements (mm)
		1 case /Japan	1 case /export packing	
RS151 RS201	Single-unit	700	2,800	518×378×422
RS301	Single-unit/ Dual-unit	600	2,400	
RS3011114A02 RS30111A602N	Single-unit	1,440	2,880	518×378×530
RS451	Single-unit	1,300	1,300	529×373×273
	Dual-unit	1,150	1,150	
RS601	Single-unit/ Dual-unit	900	900	

Dimensions

Unit:mm

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

The length of Lever (L₁) can be customized. Refer to P.393 for details.

■ Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
4		
5		
6		
7		
8		

The length of Lever (L₁) can be customized. Refer to P.393 for details.

■ Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
9		
10		
11		
12		
13		

The length of Lever (L₁) can be customized. Refer to P.393 for details.

Rotary Potentiometers
 Slide Potentiometers
 General-use
 Mixer

■ Dimensions

Unit:mm

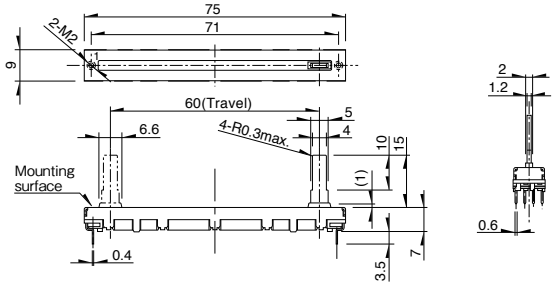
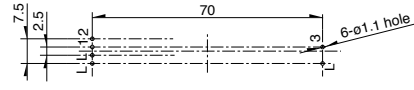
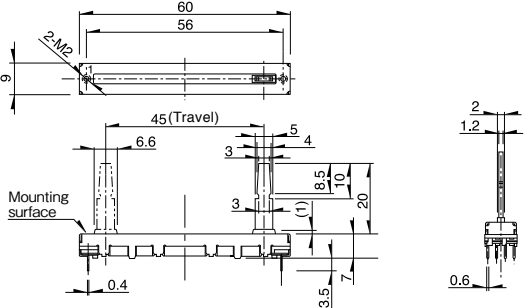
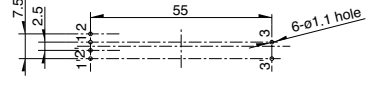
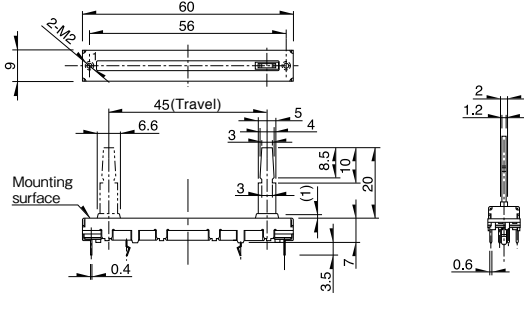
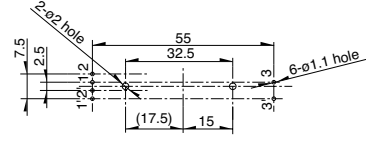
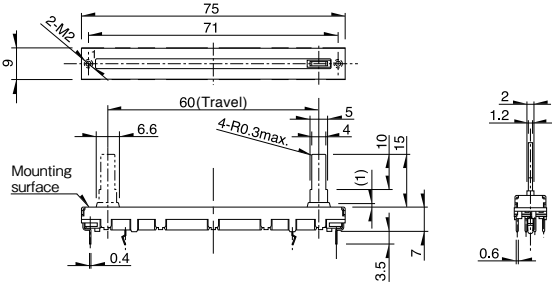
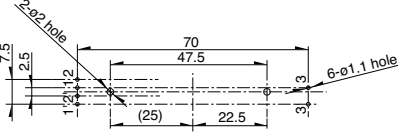
No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
14		
15		
16		
17		<p>L: Lug terminal</p>
18		<p>L: Lug terminal</p>

The length of Lever (L₁) can be customized. Refer to P.393 for details.

Rotary Potentiometers
 Slide Potentiometers
 General-use Mixer

■ Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
19		 <p>L: Lug terminal</p>
20		
21		
22		

The length of Lever (L) can be customized. Refer to P.393 for details.

Rotary
Potentiometers
Slide
Potentiometers

General-use

Mixer

In addition to the products listed, we can accommodate the follow specifications.

Travel Distance Variety

Travel (mm)	15	20	30	45	60
-------------	----	----	----	----	----

Total Resistance Variety

Total resistance (k Ω)	10	20	50	100	200
------------------------	----	----	----	-----	-----

Resistance Taper

Resistance taper	1B	3B	4B	10A	15A
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Note

DC (10V DC) is also available. (Tapped types are not available)

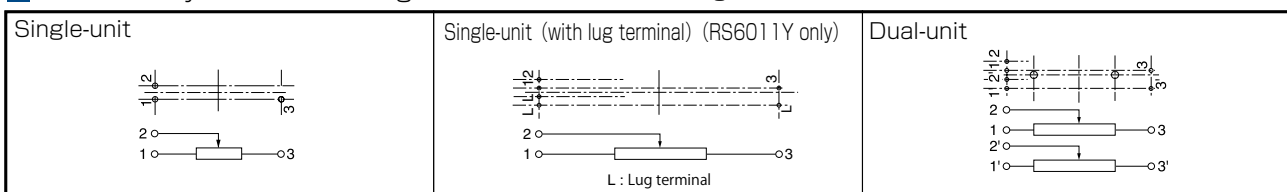
Rated Power

Travel	Single-unit		Dual-unit	
	1B	4B, 10A, 15A	1B, 3B	4B, 10A, 15A
15mm	0.05W	0.025W	0.025W	0.012W
20mm	0.1W	0.05W	0.05W	0.025W
30mm	0.2W	0.1W	0.1W	0.05W
45mm	0.25W	0.125W	0.125W	0.06W
60mm	0.2W	0.1W	0.2W	0.1W

Maximum Operating Voltage

Travel	Single-unit		Dual-unit	
	1B	4B, 10A, 15A	1B, 3B	4B, 10A, 15A
15mm	100V AC, 10V DC	50V AC, 10V DC	100V AC, 10V DC	50V AC, 10V DC
20mm	200V AC, 10V DC	150V AC, 10V DC		
30mm				
45mm			200V AC, 10V DC	150V AC, 10V DC
60mm			200V AC, 10V DC	150V AC, 10V DC

Terminal Layout / Circuit Diagram (Viewed from Mounting Side)



Note

Marked are specifications recommended by Alps Alpine.

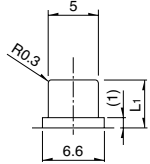
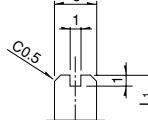
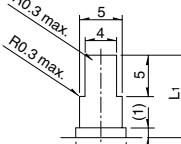
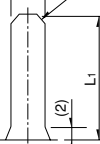
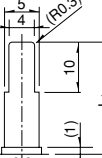
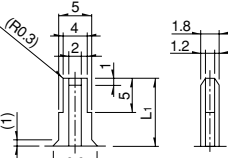
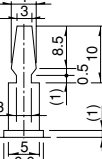
Refer to P.394 for ordering products not listed.

Rotary Potentiometers
 Slide Potentiometers
 General-use Mixer

Super Slide™ (Standard Type) / Other Specifications

In addition to the products listed, we can accommodate the follow specifications.

Lever Types

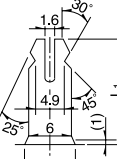
Metal lever		Insulated lever		Unit:mm						
Code	Dimensions	Code	Dimensions							
9-2	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>5</td></tr> </table>	L ₁	5	J-1	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>5</td></tr> </table>	L ₁	5			
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9-1	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>10</td></tr> </table>	L ₁	10	A	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>10</td></tr> <tr><td>15</td></tr> </table>	L ₁	10	15		
L ₁										
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6	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>15</td></tr> <tr><td>20</td></tr> </table>	L ₁	15	20	C	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>10</td></tr> <tr><td>15</td></tr> </table>	L ₁	10	15	
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L ₁										
15										
20										

Corresponding Specifications

Dust cover	Available
Tap	Available (Only the center-positioned)

Note

Marked are specifications recommended by Alps Alpine.

Insulated lever configuration		Unit:mm		
B				
 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>L₁</td></tr> <tr><td>10</td></tr> <tr><td>15</td></tr> </table>	L ₁	10	15	
L ₁				
10				
15				

When ordering product varieties that are not listed, specify referring to the examples below.

Sample Part Number



Specify the travel distance from the below codes.

Travel (mm)	Code	Travel (mm)	Code
15	15	45	45
20	20	60	60
30	30	—	—

Number of resistor elements

Single	1 (Enter "Y" for 60 mm travel)
Dual	2

Lever type / Length of lever (mm)

Insulated lever			Metal lever		
Code	Configuration	Length	Code	Configuration	Length
J1	J-1	5	91	9-1	10
0A	A	10	92	9-2	5
		15	04	4	15
0C	C	10			20
		15	06	6	15
0B	B	10			20
		15			

Length of operation unit
If the length is less than 10 mm, add a "0" before the number.
(e.x., 5 mm length= "05")

Detent

Code	Detent
C0	Without
C1	Center

Mounting plate

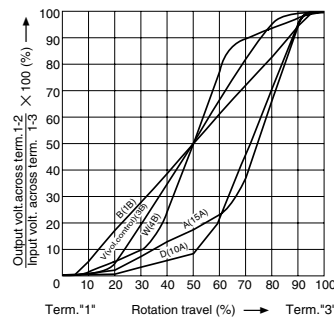
Code	Mounting plate
P0	Without
P1	With

Resistance taper

Code	Resistance taper
A	15A
B	1B
D	10A
W	4B
V	3B

Total resistance

Code	Total resistance (kΩ)	Code	Total resistance (kΩ)
103	10	104	100
203	20	204	200
503	50	—	—











Note

Marked are specifications recommended by Alps Alpine.


Slide Potentiometers

List of Varieties

Type		Standard Type		Master Type	Low-profile Master Type
Series		Super Slide™	Compact Reflow Type	K Fader	N Fader
		RS □□ 1	RS08U	RS □□ K	RS □□ N
		Single-unit/Dual-unit	Single-unit	Single-unit/Dual-unit	Single-unit/Dual-unit
Photo					
Travel (mm)		15, 20, 30, 45, 60	8	60, 100	
Direction of lever		Vertical		Horizontal	Vertical
Lever material		Metal / 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)	30,000 cycles
Available for automotive use		○	—	—	—
Life cycle (availability)					
Electrical performance	Total resistance (k Ω)	10, 20, 50, 100, 200	10	10, 50, 100 (Standard) 10 (CP)	10, 50, 100, 250
	Resistance taper	10A, 15A, 1B, 3B, 4B	1B	15A, 1B	15A, 1B, 10A
	Rated Power	Please see P.392	0.025W	0.25W	0.1W (RS60N) 0.25W (RSA0N)
	Insulation resistance	100MΩ min. 250V DC	100MΩ min. 100V DC	100MΩ min. 250V DC	
	Voltage proof	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	0.17±0.15N	Please see P.399	Single-unit: 0.3 ^{+0.5} _{-0.25} N Dual-unit: 0.4 ^{+0.5} _{-0.35} N
	Center detent	Without / With	Without		
	Stopper strength	50N	5N	100N	
	Lever push-pull strength	50N	5N	100N	50N
	Lever wobble (mm) ※ Both sides	$\frac{2(2 \times L)}{20}$	—	$\frac{2(2 \times L)}{25}$	
	Detent slip-out force	Operating force + (0.2 to 2N)	—	—	—
	Lever deviation (mm) ※ One side	0.5 max.	—	0.5 max.	0.5 max. (One side)
Terminal style		Insertion	Reflow	Lead (Standard) Connector (CP)	Insertion
Page		386	395	396	401

Slide Potentiometers Soldering Conditions	417
Potentiometer Cautions	418
Potentiometers Measurement and Test Methods	420
Potentiometers Resistance Taper	420

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.

Reference for Manual Soldering

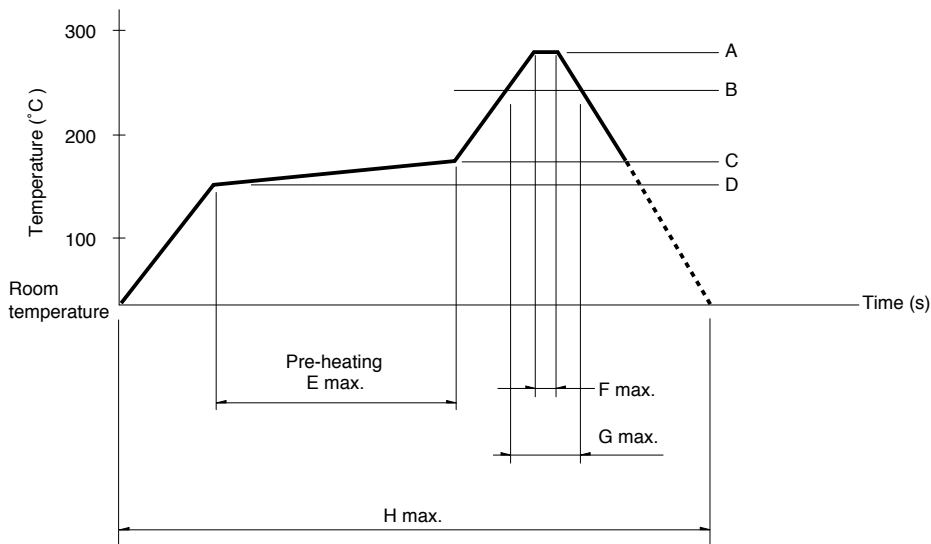
Series	Tip temperature	Duration of Soldering time	No. of solders
RS□□1, RS08U, RS□□K (Standard), RS□□N, RS□□N11S, RS6011□P, RS□□N1□M, RSA0K1□V (Motor terminal)	350°C max.	3s max.	1 time

Reference for Dip Soldering

Series	Preheating		Dip soldering		Number of soldering
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
RS□□1, RS□□N, RS□□N11S, 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.