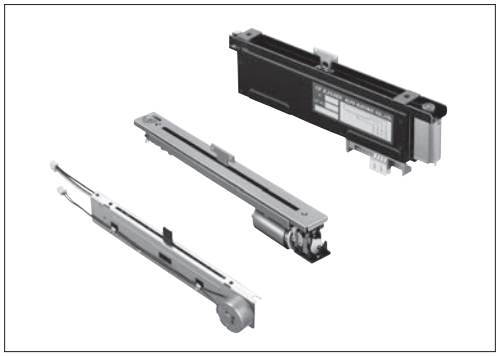
Motor-driven Master Type (Motor N Fader, Motor K Fader, Motor V Fader)

Provides a superior operational feel with high-speed tracking in motor drive mode



Typical Specifications

Items	Specifications		
	Motor N fader	Motor K fader	Motor V fader
Total resistance tolerance	±20%		
Maximum operating voltage	10V DC, 200V AC (Travel:60mm) 10V DC, 500V AC (Travel:100mm)		
Operating force	0.8±0.5N	0.4±0.25N	—
Operating life	30,000 cycles	300,000 cycles	100,000 cycles
Rated voltage of motor	10V DC		8V DC
Maximum current of motor	800mA or less (at 10V DC)		625mA or less (at 5V DC)
Operating temperature range	−10℃ to +60℃		

Product Line

Number of resistor elements	Travel (mm)	Type	Lever type	Length of lever (mm)	Total resistance (kΩ)	Resistance taper	Terminal style	Touch sense track	Minimum order unit(pcs.) Japan	Minimum order unit(pcs.) Export	Products No.	Drawing No.
Single-unit	60	Motor N Fadar	9-T (T-bar)	8.2	10	1B	Lead	With	200	400	**RS60N11M9A0E**	1
							For PC board (for auto dipping)		120	240	**RS60N11M9A0F**	2
	100						Lead		100	200	**RSA0N11M9A0K**	3
							For PC board (for auto dipping)		80	160	**RSA0N11M9A0J**	4
		Motor K Fadar (CP type)					Connector		42	84	**RSA0K11V901S**	5
		Motor V Fadar	—	10.95				Without	80	80	**RSA0V11M9001**	6

Note

Other varieties are also available. Refer to "Other Specifications" (P.435).

Packing Specifications

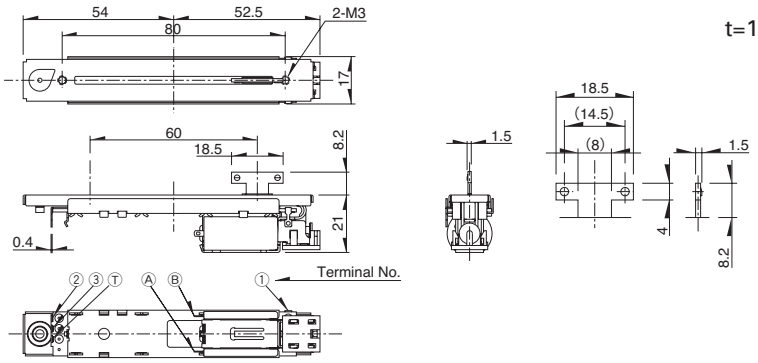
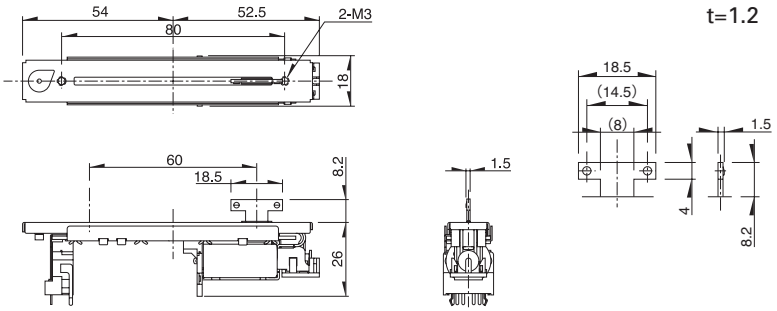
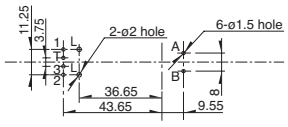
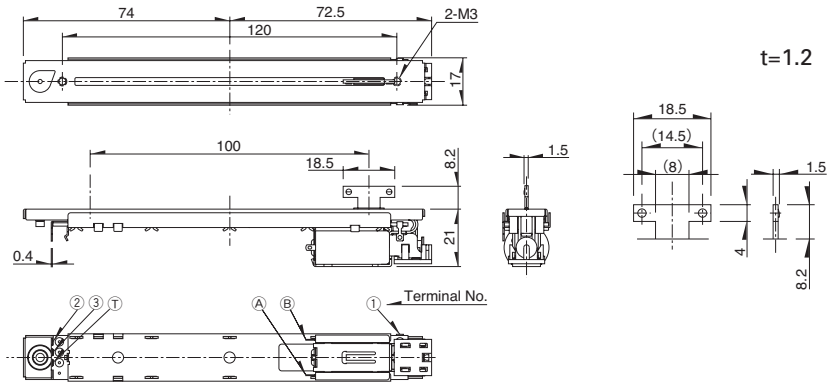
Bulk/Tray

Product No.	Terminal style	Packing specifications	Number of packages (pcs.) 1 case /Japan	Number of packages (pcs.) 1 case /export packing	Export package measurements (mm)
RS60N	Lead	Tray	200	400	370×520×270
	For PC board		120	240	375×285×393
RSA0N	Lead		100	200	455×578×175
	For PC board		80	160	375×285×393
RSA0K	Connector	Bulk	42	84	370×520×201
RSA0V		Tray	80	80	524×344×173

Refer to P.435 for other specifications.
Refer to P.435 for details of lever types.
Refer to P.436, 437 for ordering products not listed.
Refer to P.438 for soldering conditions.

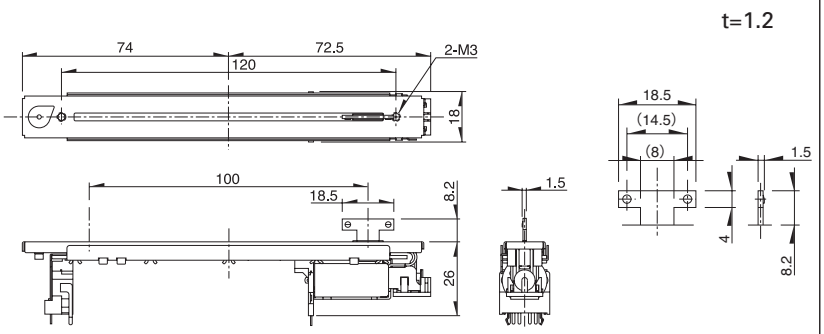
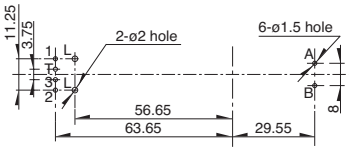
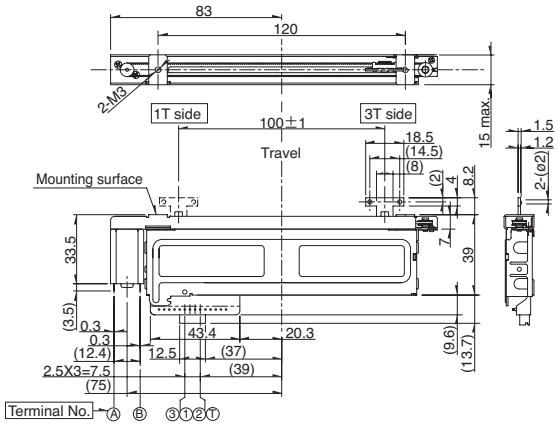
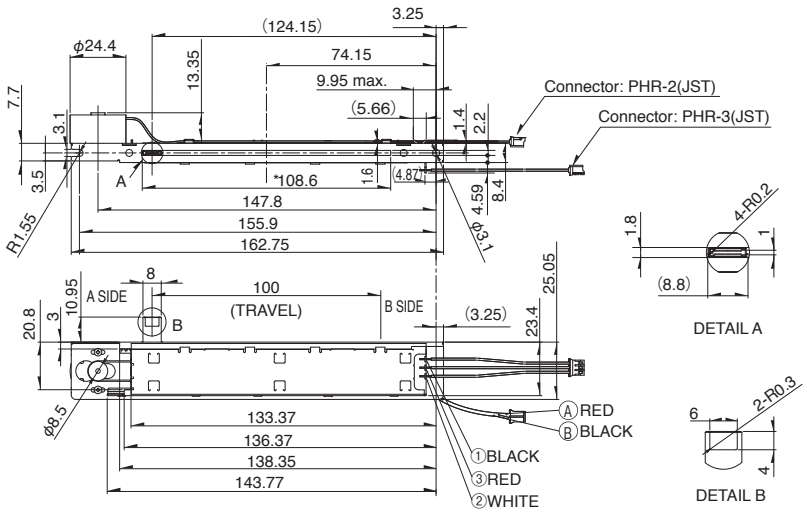
Dimensions

Unit:mm

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

Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
4		 L:Lug terminal
5		
6		

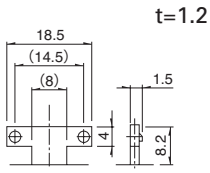
In addition to the products listed, we can accommodate the follow specifications.

Products Specifications

Type		Travel (mm)	Model	Operating force	Touch sense track	Terminal
Single-unit	Motor N fader	60	RS60N11M	0.8±0.5N	Available	For PC board (for auto dipping) Lead
		100	RSA0N11M			
	Motor K fader CP type		RSA0K11V	0.4±0.25N		Fader terminal: Connector Motor terminal: Lead
Dual-unit (Servo + Audio track)	Motor N fader	60	RS60N12M	0.8±0.5N		Lead
		100	RSA0N12M			
	Motor K fader CP type		RSA0K12V	0.5 $^{+0.4}_{-0.25}$ N		Fader terminal: Connector Motor terminal: Lead

Lever Types

Unit:mm

Configuration code	9-T (T-Bar)
Dimensions	

Total Resistance Variety

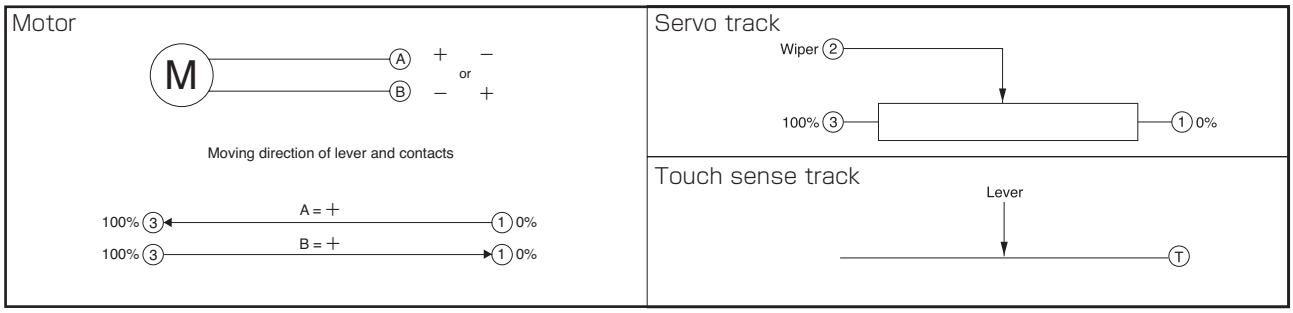
Total resistance (k Ω)	10※	50	100	250

※ Motor K fader, Motor V fader: Only 10kΩ

Resistance Taper

Resistance taper	Servo	1B		
	Audio	15A	1B	10A

Circuit Diagram



Note

Marked are specifications recommended by Alps.

Refer to P.436, 437 for ordering products not listed.

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

Sample Part Number

R	S	6	0	N	1	1	M	T	0	B	1	0	3

Travel (mm)

60	60
A0	100

Number of resistor elements

Single-unit	1
Dual-unit	2

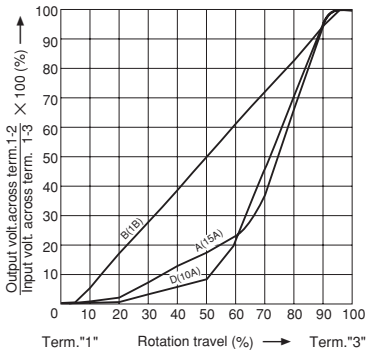
Touch sense track

Code	Touch sense track
T0	Without
T1	With

Resistance taper

Code	Resistance taper
B	1B
A	15A
D	10A

For dual-units specify the taper of the audio track. Servo track will always be 1B taper.



Total resistance

Code	Total resistance (k Ω)
103	10
503	50
104	100
254	250

Note

Marked are specifications recommended by Alps.

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

Sample Part Number

R	S	A	0	K	1	1	V	–	T	0	–	B	1	0	3

Number of resistor elements

Single-unit	1
Dual-unit	2

Type

CP type	V

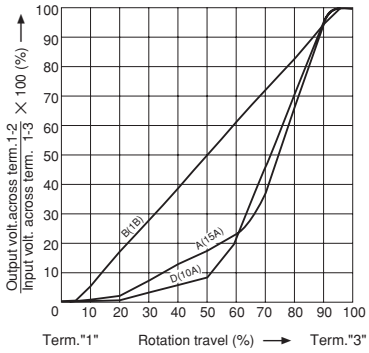
Touch sense track

Code	Touch sense track
T0	Without
T1	With

Resistance taper

Code	Resistance taper
B	1B
A	15A
D	10A

Appoint the taper of audio track in the case of dual-unit.
Servo track is surely 1B taper.



Total resistance

Code	Total resistance (k Ω)
103	10

Note

Marked are specifications recommended by Alps.

Slide Potentiometers

List of Varieties

Type		Low-profile master type			Motor-driven master type		
Series		N Fader	Slim Type	Super P Fader	Motor N Fader	Motor K Fader	Motor V Fader
		RS □□ N	**RS □□ N11S**	**RS6011 □ P**	**RS □□ N1 □ M**	**RSA0K1 □ V**	**RSA0V11M**
		Single-unit/Dual-unit	Single-unit	Single-unit/Dual-unit	Single-unit/Dual-unit	Single-unit/Dual-unit	Single-unit
Photo							
Travel (mm)		60, 100		60	60, 100	100	
Direction of lever		Vertical					
Lever material		Metal					Resin
Operating temperature range		−10℃ to +60℃					
Operating life		30,000 cycles				300,000 cycles	100,000 cycles
Available for automotive use		—	—	—	—	—	—
Life cycle		★2	★2	★2	★2	★2	★2
Electrical performance	Total resistance (k Ω)	10, 50, 100, 250		10, 20, 50	10, 50, 100, 250	10	
	Resistance taper	15A, 1B, 10A			Single-unit: 1B Dual-unit: Servo 1B Audio 15A, 1B, 10A		1B
	Rated Power	0.1W (RS60N) 0.25W (RSA0N)	0.2W (RS60N11S) 0.5W (RSA0N11S)	0.2W (Single-unit) 0.1W (Dual-unit)	0.2W (RS60N1□M) 0.5W (RSA0N1□M)	0.5W	
	Insulation resistance	100MΩ min. 250V DC					
	Voltage proof	250V AC for 1 minute					
	Center-taps	Without					
Mechanical performance	Operating force	Single-unit: $0.3^{+0.5}_{-0.25}$ N Dual-unit: $0.4^{+0.5}_{-0.35}$ N	$0.3^{+0.5}_{-0.25}$ N	$0.5^{+1.0}_{-0.4}$ N	0.8±0.5N	Single-unit: 0.4±0.25N Dual-unit: 0.25 to 0.9N	—
	Center detent	Without					
	Stopper strength	100N					10N
	Lever push-pull strength	50N					5N
	Lever wobble (mm) ※ Both sides	$\frac{2(2\times L)}{25}$					
	Lever deviation (mm)	0.5 max. (One side)					
Terminal style		Insertion			Lead, Insertion	Connector(Fader) Lead (Motor)	Connector
Page		422	426	429	432		

Notes

1. Attenuation is specified for residual resistance.
2. "L" in the "Lever Wobble" column of the above table indicates the length of lever.

Reference for Manual Soldering

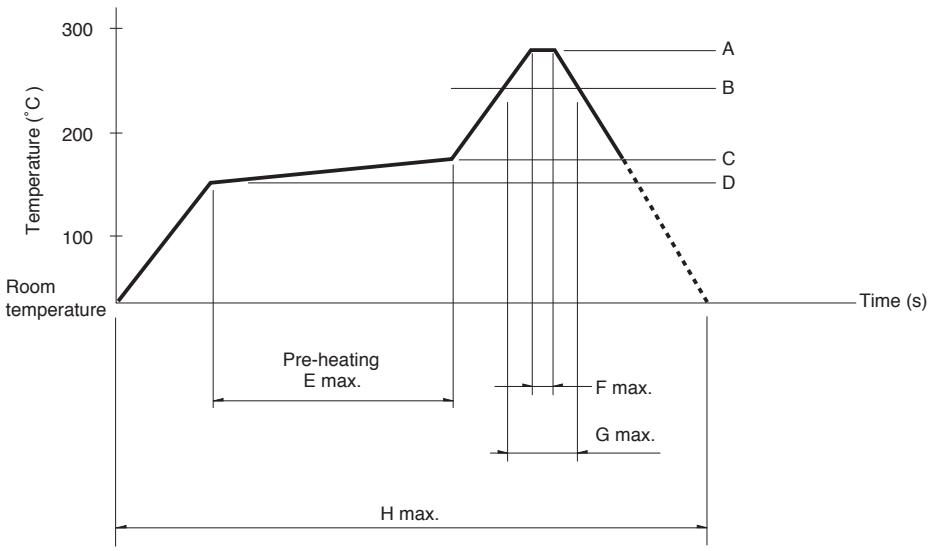
Series	Tip temperature	Duration of Soldering time	No. of solders
RS□□1, RS□□H, RS08U, RS□□K (Standard), RS□□N, RS□□N11S, RS6011□P, RS□□N1□M, RSA0K1□V (Motor terminal)	350℃ max.	3s max.	1 time

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, RS□□N11S, RS6011□P, RS□□N1□M	100℃ max.	1 min. max.	260℃	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℃	200℃	150℃	150℃	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 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.