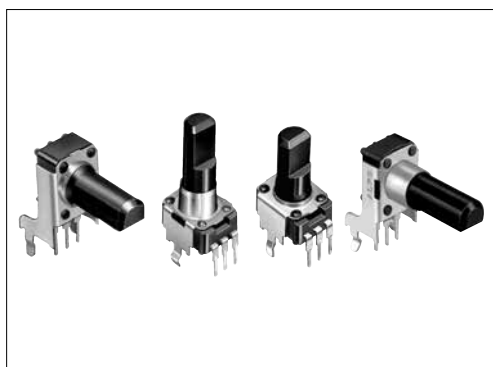


Compact type potentiometer with 9.8mm width is ideal for designing high density sets



Typical Specifications



Items		Specifications
Total resistance tolerance	Single-unit	±20%
	Dual-unit	±30%
Maximum operating voltage	Single-unit	50V AC, 20V DC
	Dual-unit	50V AC for AC only
Total rotational angle	Single-unit	RK09K: 280° ±5° RK09D: 300° ±5°
	Dual-unit	280° ±5°
Rotational torque		1 to 8mN·m
Operating life	Single-unit	5,000 cycles
	Dual-unit	10,000 cycles
Operating temperature range		-10°C to +70°C

Product Line

Number of resistor elements	Mounting direction	Total rotationangle	Collar (Sleeve type)	Shaft type	Length of the shaft L _{M1} (mm)	Center detent	Total resistance(k Ω)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.		
									Japan	Export				
Single-unit (20V DC)	Vertical type	280°±5°	Without	Flat	15	With	10	1B	1,000	2,000	RK09K113004U	2		
						Without	5				RK09K1130AU2			
							10	15A			RK09K1130A6S			
							20	1B			RK09K1130AJ3			
							50				RK09K1130ACM			
							10				RK09K1130ACL			
				20	RK09K1130AAU									
				25	RK09K1130AH1									
				30	RK09K1130BM4									
				15	10	RK09K1130A8G	7							
				20		RK09K1130A5R								
				30		RK09K1130081								
	Screw driver	15	5	RK09K1130A70	8									
		20		RK09K1130AP5										
	Horizontal type H=6.5mm	Flat	15	Without	10	15A	RK09K1110A2S	1						
					20	1B	RK09K1110AK4							
					5		RK09K1110AH8							
		Knob	20	10	RK09K1110B1V		5							
				With	50	RK09K1110A0J								
				50	15A	RK09K11100E9								
	Horizontal type H=10mm	Flat	15	Without	10	1B	RK09K1110B1R	6						
			20				RK09K1110B26							
	25		50				RK09D1130C1B							
	30		10	RK09D1130C2P	4									
	20			RK09D1130A1L										
	25			RK09D1130A1N										
	Horizontal type H=10mm	30	With	10		RK09D1130C3W	3							
		25	Without	50		RK09D1130C3C								
													RK09D113000F	
													RK09D1110C0R	3

Note

Other varieties are also available. Refer to "Other Specifications" (P.350).

Refer to P.350 for other specifications.
Refer to P.351 for ordering products not listed.
Refer to P.366 for soldering conditions.

■ Product Line

Number of resistor elements	Mounting direction	Total rotationangle	Collar (Sleeve type)	Shaft type	Length of the shaft LM ₁ (mm)	Center detent	Total resistance(k Ω)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.
									Japan	Export		
Dual-unit (50V AC)	Vertical type	280°±5°	Without	Flat	15	Without	10	15A	1,000	2,000	RK09K12C0A19	10
					20		50				RK09K12C0A2S	
					30						RK09K12C0A4D	
			With		25		10				RK09K12C0A8P	12
	30						RK09K12C0A8K					
	Horizontal type H=6.5mm		Without		15	50	RK09K12A0A2K				9	
					20		RK09K12A0A6R					
					With		RK09K12A0B0W					11

■ Clear Shaft

Number of resistor elements	Mounting direction	Total rotation angle	Collar (Sleeve type)	Shaft type	Length of the shaft LM ₁ (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.
									Japan	Export		
Single-unit (20V DC)	Vertical type	280°±5°	Without	Knob	20	Without	10	1B	1,000	2,000	RK09K1130D62	7

Note

Other varieties are also available. Refer to "Other Specifications" (P.350).

■ Packing Specifications

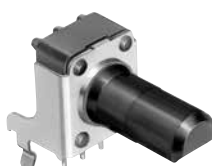
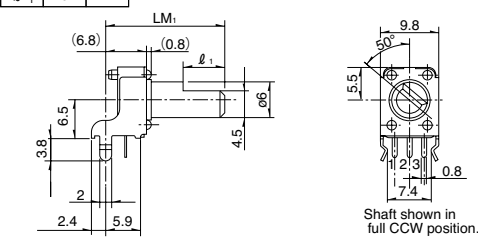
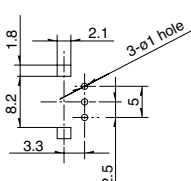
Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,000	2,000	528×369×178

■ Dimensions

Single-shaft, single-unit

Unit:mm

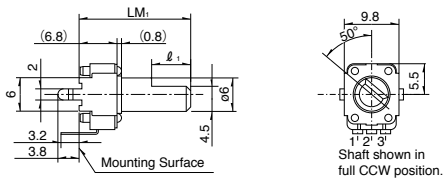
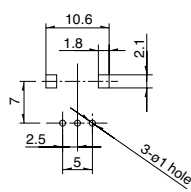
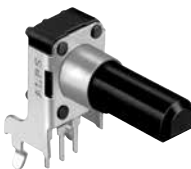
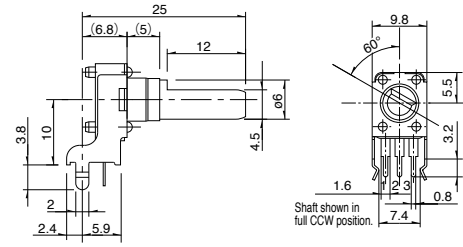
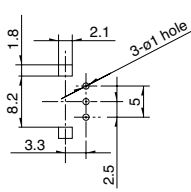
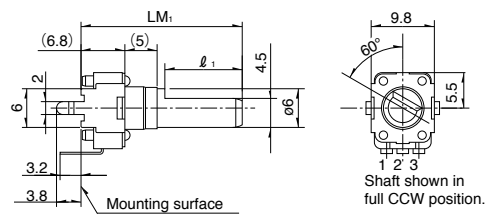
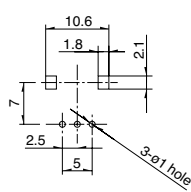
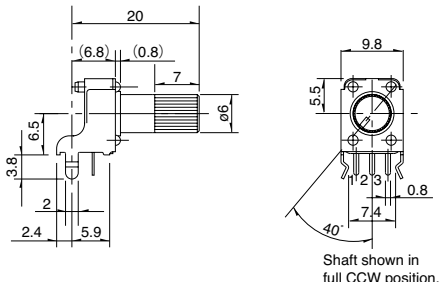
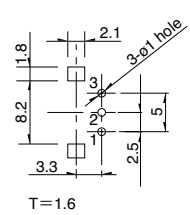
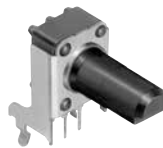
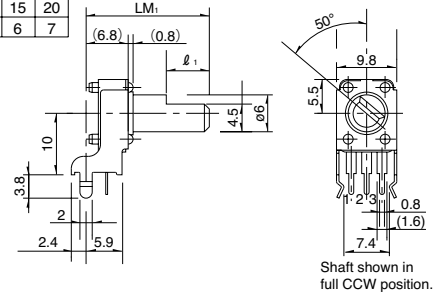
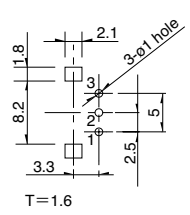
No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)						
1	Horizontal type RK09K111 	<table><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table>  Shaft shown in full CCW position.	LM ₁	15	20	ℓ ₁	6	7	
LM ₁	15	20							
ℓ ₁	6	7							

Refer to P.350 for other specifications.
Refer to P.351 for ordering products not listed.
Refer to P.366 for soldering conditions.

■ Dimensions

Single-shaft, single-unit

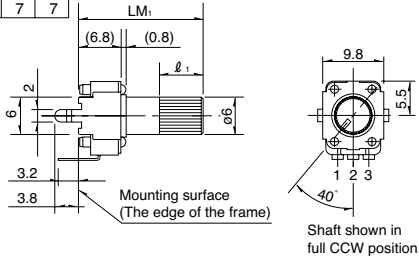
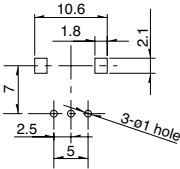
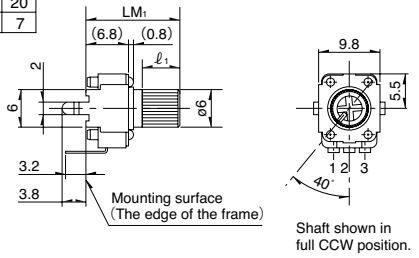
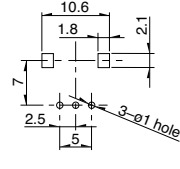
Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)										
2	Vertical type RK09K113 	<table><tr><td>LM₁</td><td>15</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td><td>12</td><td>12</td></tr></table> 	LM ₁	15	20	25	30	ℓ ₁	6	7	12	12	
LM ₁	15	20	25	30									
ℓ ₁	6	7	12	12									
3	Horizontal type with collar RK09D111 												
4	Vertical type with collar RK09D113 	<table><tr><td>LM₁</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ₁</td><td>7</td><td>12</td><td>12</td></tr></table> 	LM ₁	20	25	30	ℓ ₁	7	12	12			
LM ₁	20	25	30										
ℓ ₁	7	12	12										
5	Horizontal type RK09K111 												
6	Horizontal type RK09K111 	<table><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table> 	LM ₁	15	20	ℓ ₁	6	7					
LM ₁	15	20											
ℓ ₁	6	7											

■ Dimensions

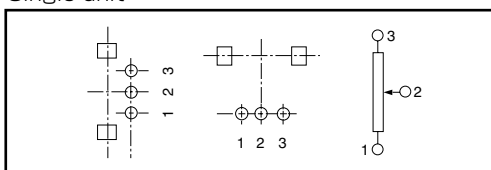
Single-shaft, single-unit

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)								
7	Vertical type RK09K113  Clear Shaft	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td><td>30</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td><td>7</td></tr></table>  Shaft shown in full CCW position.	LM ₁	15	20	30	ℓ ₁	6	7	7	
LM ₁	15	20	30								
ℓ ₁	6	7	7								
8	Vertical type RK09K113 	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table>  Shaft shown in full CCW position.	LM ₁	15	20	ℓ ₁	6	7			
LM ₁	15	20									
ℓ ₁	6	7									

■ Terminal Layout / Circuit Diagram

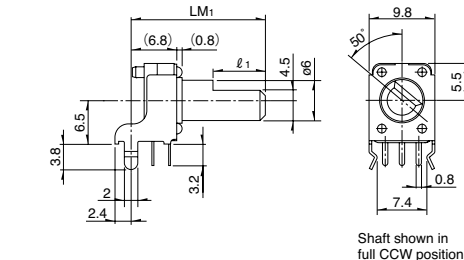
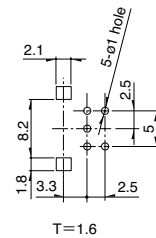
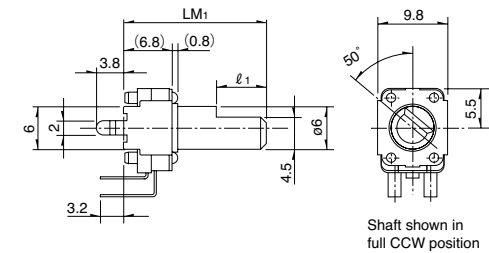
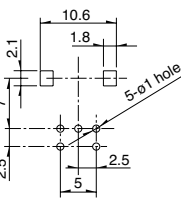
Single-unit



■ Dimensions

Single-shaft, dual-unit

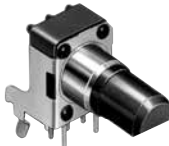
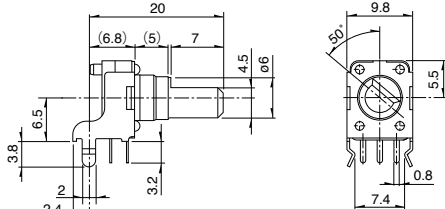
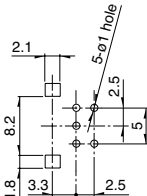
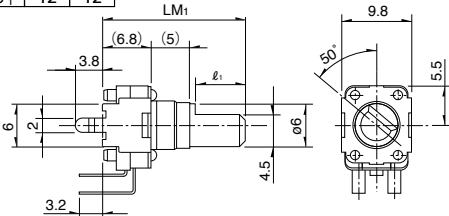
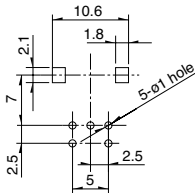
Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)								
9	Horizontal type RK09K12A 	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table>  Shaft shown in full CCW position	LM ₁	15	20	ℓ ₁	6	7	 T=1.6		
LM ₁	15	20									
ℓ ₁	6	7									
10	Vertical type RK09K12C 	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td><td>30</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td><td>12</td></tr></table>  Shaft shown in full CCW position	LM ₁	15	20	30	ℓ ₁	6	7	12	
LM ₁	15	20	30								
ℓ ₁	6	7	12								

Dimensions

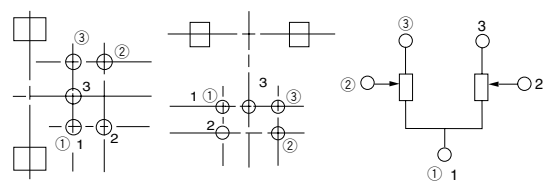
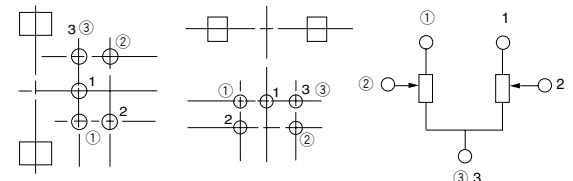
Single-shaft, dual-unit

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)						
11	Horizontal type with collar RK09K12A 	 Shaft shown in full CCW position							
12	Vertical type with collar RK09K12C 	<table border="1"><tr><td>LM₁</td><td>25</td><td>30</td></tr><tr><td>ℓ₁</td><td>12</td><td>12</td></tr></table>  Shaft shown in full CCW position	LM ₁	25	30	ℓ ₁	12	12	
LM ₁	25	30							
ℓ ₁	12	12							

Terminal Layout / Circuit Diagram

Dual-unit

Tapers 15A, 1B, 3B 	Tapers 15C 
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9mm Size Insulated Shaft Snap-in Type / Other Specifications

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

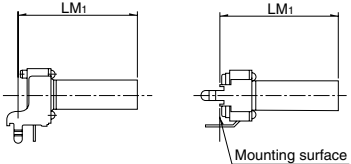
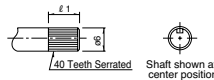
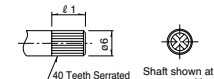
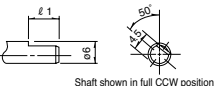
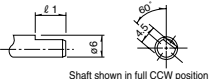
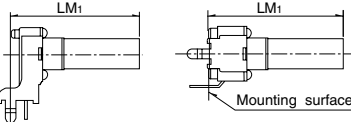
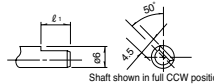
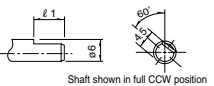
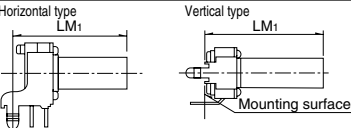
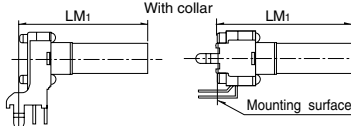
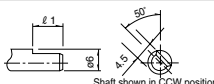
Total Resistance Variety

Total resistance (k Ω)	5	10	20	50	100	200
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Resistance Taper

Resistance taper	15A	1B	3B	15C
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Shaft Variety

Number of resistor elements	Style	Shaft type				Shaft color											
		Knob variety	Detail dimensions														
Single-unit	Horizontal type Vertical type 	Knob type ($\phi 6$)	<table><tr><td>LM₁</td><td>15</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>6</td><td>7</td><td>7</td><td>7</td></tr></table>				LM ₁	15	20	25	30	ℓ_1	6	7	7	7	Black
		LM ₁	15	20	25	30											
		ℓ_1	6	7	7	7											
																	
		Screw-driver adjustment type	<table><tr><td>LM₁</td><td>9.5</td><td>15</td><td>20</td></tr><tr><td>ℓ_1</td><td>—</td><td>6</td><td>7</td></tr></table>				LM ₁	9.5	15	20	ℓ_1	—	6	7			
		LM ₁	9.5	15	20												
	ℓ_1	—	6	7													
																	
	Flat type	<table><tr><td>LM₁</td><td>15</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>6</td><td>7</td><td>12</td><td>12</td></tr></table>				LM ₁	15	20	25	30	ℓ_1	6	7	12	12		
	LM ₁	15	20	25	30												
ℓ_1	6	7	12	12													
																	
Flat type	<table><tr><td>LM₁</td><td>15</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>6</td><td>7</td><td>12</td><td>12</td></tr></table>				LM ₁	15	20	25	30	ℓ_1	6	7	12	12	Gray (15, 20, 25) Black (30)		
LM ₁	15	20	25	30													
ℓ_1	6	7	12	12													
																	
With collar 	Flat type	<table><tr><td>LM₁</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>7</td><td>12</td><td>12</td></tr></table>				LM ₁	20	25	30	ℓ_1	7	12	12	Black			
	LM ₁	20	25	30													
	ℓ_1	7	12	12													
																	
Flat type	<table><tr><td>LM₁</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>7</td><td>12</td><td>12</td></tr></table>				LM ₁	20	25	30	ℓ_1	7	12	12	Gray (20, 25) Black (30)				
LM ₁	20	25	30														
ℓ_1	7	12	12														
																	
Dual-unit	Horizontal type Vertical type 	Flat type	<table><tr><td>LM₁</td><td>15</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>6</td><td>7</td><td>12</td><td>12</td></tr></table>				LM ₁	15	20	25	30	ℓ_1	6	7	12	12	Black
	LM ₁	15	20	25	30												
	ℓ_1	6	7	12	12												
	With collar 	Flat type	<table><tr><td>LM₁</td><td>20</td><td>25</td><td>30</td></tr><tr><td>ℓ_1</td><td>7</td><td>12</td><td>12</td></tr></table>				LM ₁	20	25	30	ℓ_1	7	12	12			
LM ₁		20	25	30													
ℓ_1		7	12	12													
																	

Note

Marked are specifications recommended by Alps Alpine.

9mm Size Insulated Shaft Snap-in Type / Ordering Products Not Listed

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 0 9 K 1 1 3 0 — **F 2 0** — **C 0** — **B 1 0 3**

Model type

Code	Model type
K111	280°single-unit horizontal type H=6.5
K113	280°single-unit vertical type
D111	300°single-unit horizontal type H=10
D113	300°single-unit vertical type
K12A	280°dual-unit horizontal type H=6.5
K12C	280°dual-unit vertical type

*All RK09D types are single-ganged.

*For other horizontal type mount height requirements, please indicate separately.

Shaft type

Code	Shaft type	Code	Shaft type
F	Flat	X	Screw driver
K	Knob	—	—

*All RK09D and RK09K12 types are only available in flat format.

Length of the shaft LM₁ (mm)

Code	Length of the shaft	Code	Length of the shaft
15	15	25	25
20	20	30	30

*20, 25 and 30 are the only available RK09D types.

*9.5, 15 and 20 are the only available models in the Screwdriver shape.

Detent

Code	Center detent
C0	Without
C1	With

Resistance taper

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

B: For tone & general

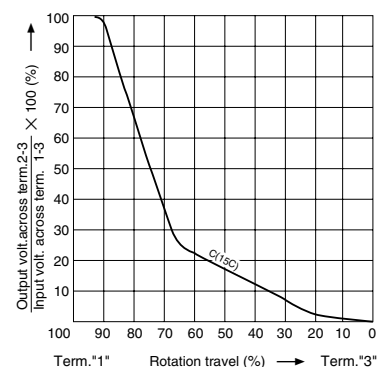
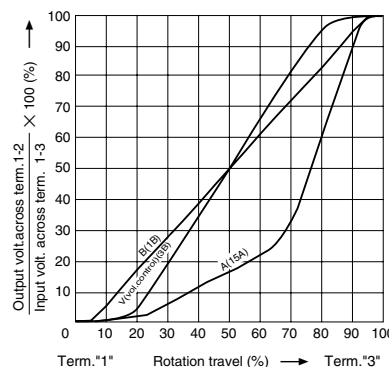
V: For vol.

*1B is a recommended specification for single-unit.

*3B is a recommended specification for dual-unit.

Total resistance

Code	Total resistance (k Ω)	Code	Total resistance (k Ω)
502	5	503	50
103	10	104	100
203	20	204	200



Notes

1. RK09D comes with a collar.
2. The recommended specification for RK09K does not include a collar. For collar requirements please indicate separately.
3. Marked are specifications recommended by Alps Alpine.
4. Please inquire for details on shaft varieties for the RK09K12 type (280° , Dual-unit).

Insulated Shaft Potentiometers

List of Varieties

Type		9mm size			11mm size	12mm size	14mm size
Series		RK09K11 RK09D11	RK09K12	RK09Y11L	RK11K	RK12L12	RK14K
		Single-unit	Dual-unit	Single-unit	Single-unit	Dual-unit	Dual-unit
Photo							
Terminal mounting		Vertical / Horizontal		Horizontal	Vertical / Horizontal		
Bushing		Without			With / Without	Without	With / Without
Operating temperature range		-10℃ to +70℃					
Operating life		5,000 cycles	10,000 cycles	1,000,000 cycles	15,000 cycles		
Available for automotive use		—	—	—	—	—	—
Life cycle							
Electrical performance	Total resistance (k Ω)	5, 10, 20, 50, 100, 200		10	5, 10, 20, 50, 100, 200		
	Resistance taper	15A, 1B, 3B, 15C		B	15A, 1B, 3B, 15C		
	Total resistance tolerance	±20%	±30%	±30%	±20%		
	Rated power	0.05W	0.03W	0.01W	0.05W		
	Maximum operating voltage	50V AC 20V DC	50V AC for AC only	50V AC 5V DC	50V AC 20V DC	50V AC for AC only	
	Gang error	—	-40dB to 0dB 3dB max.	—	—	Volume control -40dB to 0dB 3dB max. For tone control within 2dB at center	
	Insulation resistance	100MΩ min. 250V DC			100MΩ min. 500V DC	100MΩ min. 250V DC	
	Voltage proof	250V AC for 1minute			500V AC for 1minute	300V AC for 1minute	
	Center-taps	Without			Without / With	Without	Without / With (Volume control)
Mechanical performance	Detent	Without, Center		Without	Without, Center	Without	Without, Center
	Stopper strength	0.3N·m		—	Without bushing 0.5N·m With bushing 0.6N·m	0.5N·m	0.6N·m
	Push-pull strength	50N max.		30N max.	80N 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					
Shaft configuration		Flat type, Knob type, Screwdriver type		Flat type			
Terminal style		Insertion					
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Note

● Indicates applicability to all products in the series.

■ Reference for Manual Soldering

Series	Tip temperature	Soldering time	No. of solders
RK09D, RK09K, RK09Y11L, RK11K, RK12L, RK14K	350°C max.	3s max.	1 time

■ Reference for Dip Soldering

Series	Preheating		Dip soldering		No. of solders
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
RK12L	100°C	1 min. max.	260°C max.	5s max.	2 time max.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Alps Alpine:

<u>RK09D117000B</u>	<u>RK09D113000F</u>	<u>RK09K1130AJ3</u>	<u>RK09D1110C0R</u>	<u>RK09K11100E9</u>	<u>RK09K1110A0J</u>
<u>RK09K1130A6S</u>	<u>RK09K12A0B0W</u>	<u>RK09K1130BM4</u>	<u>RK09K1130AV7</u>	<u>RK09K1110B1R</u>	<u>RK09K1130A8G</u>
<u>RK09K12C0A19</u>	<u>RK09K1130AP5</u>	<u>RK09K1110AK4</u>	<u>RK09K1110A2S</u>	<u>RK09K1130ACM</u>	<u>RK09K1110B26</u>
<u>RK09K1130081</u>	<u>RK09K12A0A6R</u>	<u>RK09K1130A70</u>	<u>RK09K1130AAU</u>	<u>RK09K1110B1V</u>	<u>RK09K1130ACL</u>
<u>RK09K1130AU2</u>	<u>RK09K1130A5R</u>	<u>RK09K12A0A2K</u>	<u>RK09K113004U</u>	<u>RK09K12C0A2S</u>	<u>RK09K12C0A8K</u>
<u>RK09K1130AH1</u>	<u>RK09K1110AH8</u>	<u>RK09K12C0A8P</u>	<u>RK09D117000C</u>	<u>RK09K1130D62</u>	<u>RK09D113000K</u>
<u>RK09D113000Q</u>	<u>RK09D113000D</u>	<u>RK09K12C0D0U</u>	<u>RK09D1130009</u>		