

Metal Shaft Potentiometer 50mm Size Metal Shaft High-quality-audio Type

RK50 Series



High sound quality, good response and high grade for high end audio devices.

Rotary Potentiometers

Slide Potentiometers



Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	150V AC
Total rotational angle	300±3°
Rotational torque	13 to 43mN·m
Operating life	15,000cycles
Operating temperature range	-10°C to +70°C

Metal Shaft

Insulated Shaft

Knob Operating

Ring Type Devices

Product Line

Number of resistor elements	Mounting direction	Shaft type	Length of the shaft (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)	Products No.	Drawing No.
Dual-unit	Horizontal type	Slotted	25	Without	100	15A	1	RK50112A0004	1
Quad-unit			30		50			RK50114A0001	2

Dimensions

Unit:mm

No.	Photo	Style
1	<p>Single-shaft, dual-unit RK50112</p>	<p>Not specified slotting angle</p> <p>Mounting surface</p> <p>Mounting hole detail view from mounting side</p>
2	<p>Single-shaft, quad-unit RK50114</p>	<p>Not specified slotting angle</p> <p>Mounting surface</p> <p>Mounting hole detail view from mounting side</p>

Product Varieties

In addition to the recommended products, the following specifications can also be accommodated.

Total Resistance Variety

Total resistance (kΩ)	10	20	50	100
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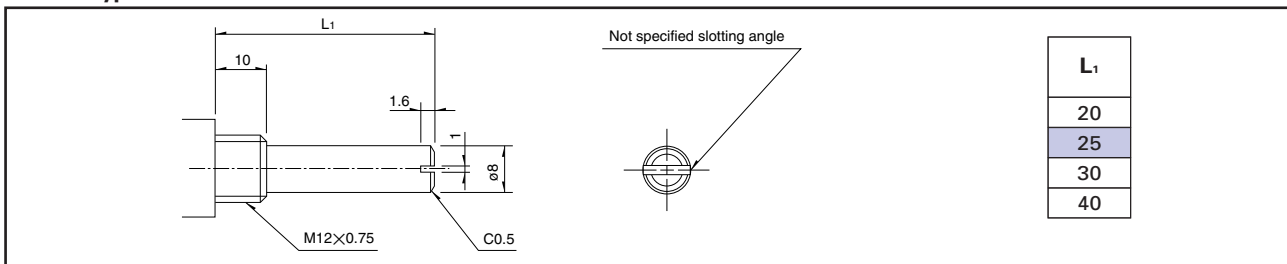
Resistance Taper

Resistance taper	15A	3B
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Dimensions of Shaft

Slotted type

Unit:mm



Note

marked are specifications recommended by ALPS.

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Refer to P.470 for resistance taper.

List of Varieties

Type	16mm size metal shaft	20mm size metal shaft	27mm size metal shaft	50mm size metal shaft high-quality-audio	Rotary motor-driven	
Number of drive shafts	Single-shaft					
Model	RK1631□1 RK1631□A	RK203 / EC20A	RK2711	RK5011□A	RK1681□ MG0	
Photo						
Fixing method of bushing	Bushing screw clamp					
Terminal mounting	Horizontal type	Vertical type	Horizontal type			
Attached switch	Without					
Gang error applicable to Dual-unit parts for audio volume control purposes	-40dB to 0dB 3dB max.	—	-60dB to 0dB 3dB max.	-100dB to 0dB 2dB max.	-40dB to 0dB 3dB max.	
Solder heat resistance	Manual soldering	350°C max. 5s max.	300°C max. 3s max.	350°C max. 5s max.	350±10°C, 5 ⁺¹ s 300°C max. 3s max. Motor terminal : 350° max 2s max.	
	Dip soldering	—	260±5°C, 5±1s	—	260±5°C, 5±1s	
	Reflow soldering	—				
Operating temperature range	-10°C to +70°C	-40°C to +85°C	-10°C to +70°C			
Automotive use	—	○	—			
Electrical performance	Rated power	0.05W		0.1W	0.05W	
	Residual resistance	R≤10kΩ 20Ω max. 10kΩ<R<50kΩ 30Ω max. 50kΩ≤R Nominal total resistance of 0.1% or less	—	R≤10kΩ 20Ω max. 10kΩ<R<50kΩ 30Ω max. 50kΩ≤R Nominal total resistance of 0.1% or less	—	
	Maximum attenuation (Volume control)	5kΩ≤R<10kΩ 70dB min. 10kΩ≤R<50kΩ 80dB min. 50kΩ≤R<100kΩ 90dB min. 100kΩ≤R 100dB min.	—	5kΩ≤R<10kΩ 70dB min. 10kΩ≤R<50kΩ 80dB min. 50kΩ≤R<100kΩ 90dB min. 100kΩ≤R 100dB min.	120dB min.	5kΩ≤R<10kΩ 70dB min. 10kΩ≤R<50kΩ 80dB min. 50kΩ≤R<100kΩ 90dB min. 100kΩ≤R 100dB min.
	Insulation resistance	100MΩ min. 500V DC	100MΩ min. 250V DC	100MΩ min. 500V DC		100MΩ min. 250V DC
	Voltage proof	500V AC for 1minute	300V AC for 1minute	500V AC for 1minute		300V AC for 1minute
Mechanical performance	Stopper strength (N·m)	0.9	0.5	0.9	1.5	0.9
	Push-pull strength	100N max.			150N max.	100N 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				
Environmental performance	Cold	-20±2 for 96h	-40±3°C for 240h	-30±3°C for 96h	-20±3°C for 240h	-20±2°C for 96h
	Dry heat	70±2°C for 96h	85±3°C for 240h	70±2°C for 96h	70±2°C for 240h	70±2°C for 96h
	Damp heat	40±2°C, 90 to 95%RH for 96h	60±3°C, 90 to 95%RH for 240h	40±2°C, 90 to 95%RH for 96h	60±2°C, 90 to 95%RH for 240h	40±2°C, 90 to 95%RH for 96h
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Note

○marks in "Available for automotive use" indicate that some of the series products can work at the operating temperature range from -40°C to +85°C.

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