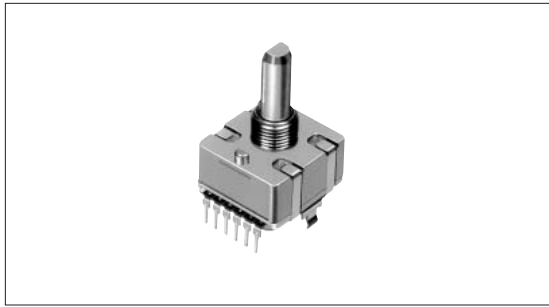


Metal Shaft Potentiometer 20mm Size Metal Shaft Type (for Electric Ovens)

RK20B Series



High detent torque type for safe, assured operation under high-temperature environments.



Features

- Endless rotation.
- Resistive element with printed-pattern switch.
- With the shaft-locking mechanism.

Applications

- Temperature control for electric or gas ovens

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors
Linear Sensors

Metal Shaft

Insulated Shaft

Knob Operating

Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	20V DC
Total rotational angle	360° Endless
Detent torque	140±50 mN·m
Operating life	15,000 cycles
Operating temperature range	-10°C to +105°C

Recommended Products List

Number of resistor elements	Mounting direction	Products No.	Shaft type	Length of the shaft (mm)	Total resistance (kΩ)	Resistance taper	Rating power (W)	Switch contact resistance	Switch rating	Axial locking release	Rotation stoppage strength when the axis is locked	Minimum packing unit (pcs.)
Single-unit	Vertical type	RK20B1100001	Flat	19.95	10	1B	0.06	300Ω max.	10mA 12V DC	7±3N	1.7N·m min.	100

Dimensions

Unit:mm

Style	PC board mounting hole dimensions (Viewed from mounting side)
<p>1.1mm Push travel limit 0.7mm On push-to-tin 32.15 12.2 19.95 0.8 max. 6 12.85 15 3.6 1.8 1.5 M9×0.75 0.5 ø6 Shaft shown in start pos. 20 4.5 0.6 0.3 9 11.3 0.8 ø3</p> <p>Switch1 Switch2 235° 54° 10° 9° 20° 18° Start pos. Detent position</p>	<p>20 1.6 ø2 12 1T 2T 3T 7.5 2.5 12.5 6-ø1 holes PC board T=1.6mm</p>

For products specifications, see P.46, 47

Products Specifications

Items		Model	RK20B	RK25T	RK271	RK501	
		Operating temperature range		-10°C to +105°C	-10°C to +60°C	-10°C to +70°C	
Electrical performance	Total resistance tolerance	±20%					
	Rated power	0.06W	0.05W		0.1W		
	Maximum operating voltage	20V DC	5V DC	30V AC	150V AC		
	Residual resistance	—		$R \leq 10k\Omega$ 20Ω max. $10k\Omega < R \leq 50k\Omega$ 30Ω max. $50k\Omega < R$ 0.1% or less of nominal total resistance		—	
	Maximum attenuation (Volume control)	—		$5k\Omega \leq R < 10k\Omega$ 70dB min. $10k\Omega \leq R < 50k\Omega$ 80dB min. $50k\Omega \leq R < 100k\Omega$ 90dB min. $100k\Omega \leq R$ 100dB min.		120dB min.	
	Insulation resistance	100MΩ min. 250V DC			100MΩ min. 500V DC		
	Voltage proof	1 minute 300V AC			1 minute 500V AC		
Mechanical performance	Total rotational angle	360°	300±5°	300±3° Motor-driven 300±5°	300±3°		
	Rotational torque (mN·m)	20 to 80	0.5 to 7.5	5 to 35 Motor-driven 15 to 45	13 to 43		
	Stopper strength (N·m)	—	0.5	0.9	1.5		
	Push-pull strength	100N max.				150N 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					
	Solder heat resistance	Manual soldering	350°C max. 3s max.				
Dip soldering (Dip available products)		260±5°C, 4±1s		—	260±5°C, 4±1s		
Endurance	Operating life	15,000 cycles	100,000 cycles	15,000 cycles			
Environmental test	Cold	-10°C for 96h					
	Long-term heat resistance	+105°C for 96h	+70°C for 96h				
	Moisture resistance	+40±2°C, 90 to 95%RH for 96h					

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