

Customer: ALPS EUROPE DISTRIBUTION

No. KK-2006-2193

Date: Nov. 07, 2006

Attention:

Your ref. No.:

Your Part No.: RK27112MC01E

SPECIFICATIONS

ALPS' ;

MODEL: RK27112MC01E
(50kAX2)

Spec. No.:

Sample No.: F 3 5 1 0 0 7 3 M

RECEIPT STATUS

RECEIVED

By Date

Signature

Name

Title

ALPS
ALPS ELECTRIC CO., LTD.

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APP'D

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ENG. DEPT. DIVISION

Sales

B6523

Q1003#03A (EA)

S P E C I F I C A T I O N S

1. THIS SPECIFICATIONS APPLY TO RK27112MC01E POTENTIOMETER.

2. CONTENTS OF THIS SPECIFICATIONS.

5K272AMS-4

K272AMCO0Y

4K16M-1

4K-1

3. MARKING

- MARKING ON ALL UNITS

DATE CODE, RESIST. VALUE, TAPER

4. REMARKS

- FURNISH PACKAGE

NUT:1 WASHER:1

- NOTES

- Silver printed patterns are coated with carbon as a protection against sulphuration.

- Marking $\Rightarrow$ in specifications shows standard and condition for application.

- CAUTION

Regardless of the suggested applications of these products being introduced in the specifications, when using them for equipment and devices requiring a high degree of safety, respective manufacturers will please preserve safety of the planned equipment and devices by providing necessary protective circuits and redundancy circuits and reconfirm if safety is being duly preserved.

Products being introduced in the specifications have been designed and manufactured for applications to ordinary electronic equipment and devices such as the AV equipment, electric home appliances, office machines and communications equipment. Consequently, when employing these products for applications requiring a high degree of safety and reliability such as the medical equipment, aviation and aircraft equipment, space equipment and burglar alarm equipment, the using manufacturers will please thoroughly study the proprieties of these products for the planned applications.

Although we are exerting our best efforts to maintain the quality of these products, we cannot guarantee that they will never cause short circuiting and open circuitry. Therefore, when designing an equipment or device with which the priority is given to the safety, you will please carefully study the influences to the whole equipment of a single function failure of Potentiometers and Encoders in advance to make out a fail-safe design providing.

CLASSNO.	TITLE	SPECIFICATIONS
		Feature This is a potentiometer with D.C. magnet motor and it is adjustable by both manual shaft and motor. Temperature for operating and storage 1. Dimensions : See attached drawing 2. Operating temperature : -10 °C ~ +70 °C 3. Storage temperature : -20 °C ~ +80 °C 4. Motor : D.C. magnet motor (With 6V Disk Varistor) Mechanical specifications 1. Operation : manual operation and motor drive 2. Total rotational angle : $300^{\circ} \pm 5^{\circ}$ 3. Rotational speed : 12 ± 3 sec/300° (at 4.5V D.C. applied to motor) 4. Direction of rotation : C.W. rotation at normal polarity. (When the potentiometer is looked at from the shaft side.) 5. Mechanical noise : Continuous, monotonous, not unpleasant sound to be heard. To be mutually discussed when questionable. 6. Rotational torque : $15 \sim 45$ mN·m (at 10 sec/300°) (Rotational speed 60°/sec.) 7. Stopper strength of shaft with manual operation : No damage with an application of 0.9 N·m (at 10 sec/300°). with motor drive : Shaft must be slipped at the both ends of manual rotation. 8. Bushing nut tightening strength: Δ Tightening torque to be no greater than 1.5 N·m (at 10 sec/300°). (Pay attention otherwise the strength may not be assured.) 9. Push / pull strength : No damages with an application of push or pull force 100 N (at 10 sec/300°) for 10 sec. 10. Resistance to soldering heat : After soldering there shall be no evidence of poor contact between resistance element and terminals, or any physical damage as a result of the test. The terminal of the potentiometer less than 350 °C and within 5 sec. The terminal of the motor less than 350 °C and within 2 sec.

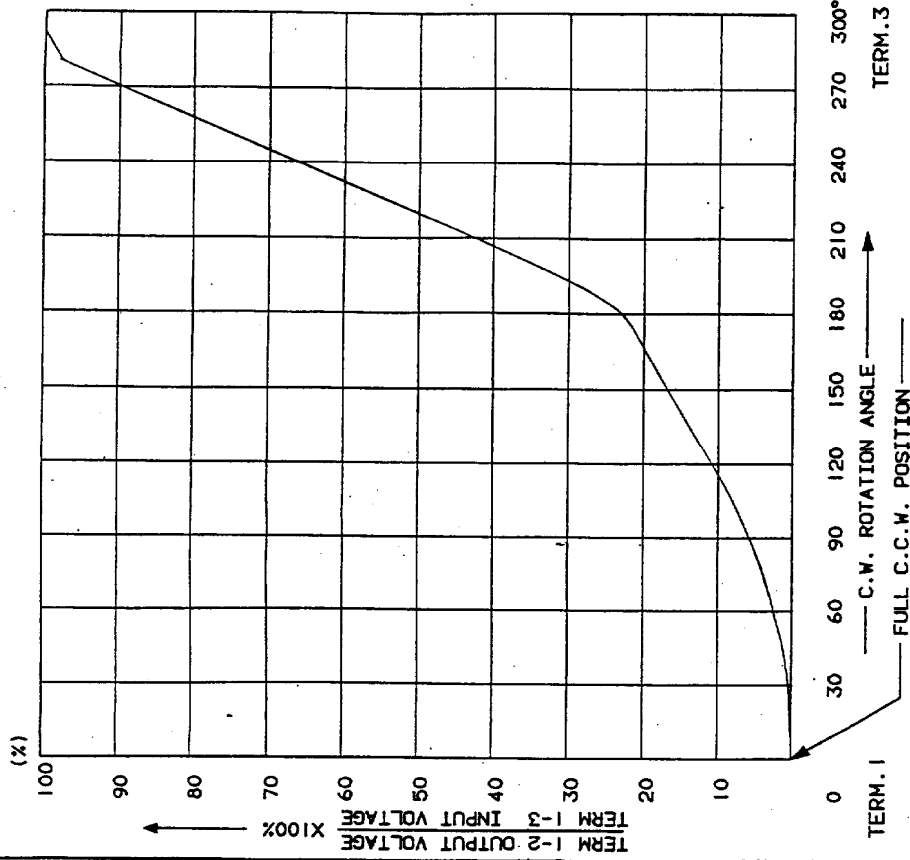
CLASSNO.	TITLE	SPECIFICATIONS																
		Electrical specifications 50kΛ 1. Total resistance : Nominal total resistance $\pm 20\%$ ($10k\Omega \leq R \leq 2M\Omega$) 2. Rated voltage : 30V A.C. This potentiometer is designed for A.C. voltage only. 3. Resistance taper : See (HSA02) 4. Maximum attenuation level at full C.C.W. position : <table><thead><tr><th>Total resistance</th><th>Attenuation level</th></tr></thead><tbody><tr><td>$R \geq 100k\Omega$</td><td>100 dB min.</td></tr><tr><td>$100k\Omega > R \geq 50k\Omega$</td><td>90 dB min.</td></tr><tr><td>$50k\Omega > R \geq 10k\Omega$</td><td>80 dB min.</td></tr></tbody></table> 5. Insertion loss at full C.W. position : 0.1 dB max. measure between (R1, R2) (term 1-2 output V) 6. Gang error : (term 1-3 in det V) <table><thead><tr><th>Total resistance</th><th>Gang error</th></tr></thead><tbody><tr><td>$R \geq 50k\Omega$</td><td>3 dB max. between -70 dB less than -60 dB</td></tr><tr><td>$50k\Omega > R \geq 20k\Omega$</td><td>2 dB max. between -60 dB ~ 0 dB</td></tr><tr><td>$20k\Omega > R \geq 10k\Omega$</td><td>3 dB max. between -60 dB ~ 0 dB</td></tr></tbody></table> 7. Sliding noise : Less than 47mV measured by JIS C 6443. (Neglected a impulsive noise at the C.W. and C.C.W. ends of position.) 8. Insulation resistance Potentiometer section : More than $100M\Omega$ at 500V D.C. Motor section : More than $1M\Omega$ at 100V D.C. 9. Withstand voltage Potentiometer section : 500V A.C. for 1 minute. 10. Supply voltage of motor : 4~6V D.C. 11. Motor current (at 4.5V D.C. applied to motor) Normal operation : 100mA max. Slipping operation at both ends : 150mA max. 4.5V D.C. Endurance specifications 1. Rotational life : 15,000 cycles min.	Total resistance	Attenuation level	$R \geq 100k\Omega$	100 dB min.	$100k\Omega > R \geq 50k\Omega$	90 dB min.	$50k\Omega > R \geq 10k\Omega$	80 dB min.	Total resistance	Gang error	$R \geq 50k\Omega$	3 dB max. between -70 dB less than -60 dB	$50k\Omega > R \geq 20k\Omega$	2 dB max. between -60 dB ~ 0 dB	$20k\Omega > R \geq 10k\Omega$	3 dB max. between -60 dB ~ 0 dB
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SYMB.	DATE	APPD.	CHRD.	DSGD.	TITLE
44	11/11/84	M.S.	Y.B.	Aug. 10/84	Aug. 6/84

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DOCUMENT NO. 5K272AMS-4

100%

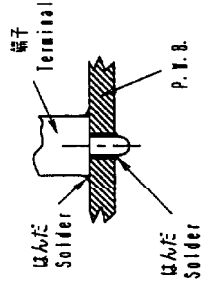


AT 180° C.W. SHAFT ROTATION FROM FULL C.C.W. POSITION, VOLTAGE PERCENT SHALL FALL WITHIN THE LIMITS OF 15 - 30PERCENT.

SYMB	DATE	APPD	CHKD	DSGD	SCALE	TITLE	DOCUMENT NO.
15-05-31	7.11.76	S.S. APPD	S. Sasaki	Jan. 22 '96	RESISTANCE TAPER	H S A O 2	

< はんだ付け時のご注意事項 >
図のようにP. W. Bの上面に はんだ付けをする配線は、お断り下さい。

Caution for soldering
Please avoid soldering on upper surface of P. W. B. as shown



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CHKD	DSGD	TITLE	DOCUMENT NO.
1-21 98.1.11 佐藤	1-21 98.1.11 天守		4K-1

SYMB DATE APPD CHKD DSGD

OR

