

100 mm 1 UNIT WITH MOTOR SLIDE POTENTIOMETERS SPECIFICATIONS

1. General

1.1 Application: This specification is applied to potentiometers used for electronic equipment .

1.2 Operating temperature: $-10\sim+55^{\circ}\text{C}$

1.3 Test conditions : the standard test conditions shall be $5\sim35^{\circ}\text{C}$ in temperature , $45\sim85\%\text{RH}$ and $860\sim1060\text{mbar}$ in atmospheric , should any doubt arise in judgement , tests shall be conducted at $20\pm2^{\circ}\text{C}$, $65\pm5\%\text{RH}$ and $860\sim1060\text{mbar}$.

2. Construction and dimensions

Refer to attached drawing

3. Electrical characteristics

NO.	Item	Test conditions	Specifications
3-1	Total resistance	Measurement shall be made by the resistance between terminal 1 and 3 with lever setted at terminal 1 or 3 .	$10\text{K}\Omega\pm20\%$
3-2	Power rating	Power rating is based on continuous full load operation at the maximum voltage between terminal 1 and terminal 3.	(Servo track) 1B taper : 0.5W
3-3	Rated voltage	Rated voltage $E=\sqrt{\text{PR}}$ (V) P: Power rating (W) R: Nominal total resistance (Ω) When the rated voltage exceeds the maximum operating voltage , the maximum operating voltage shall be the rated voltage .	

					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								MD100AM1B-D- -1B10K-6H	
								VERSION :	A
								PAGE :	1 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2009.2.12	2009.2.12	2009.2.12	DRAWING NO. :	MD100AM-003

100 mm 1 UNIT WITH MOTOR SLIDE POTENTIOMETERS SPECIFICATIONS

NO.	Item	Test conditions				Specifications
3-4	Max operating voltage					200V A.C
3-5	Taper	Measurement shall be made by the resistance law method .				Resistance taper list
		taper	test point (mm)	$\frac{V1-2}{V1-3}$	$\frac{V2-3}{V1-3}$	
	Servo track	1B	50	✓	—	40~60%
3-6	Voltage proof	Applying 250V A.C measure for 1 min . Applied position : Between terminal and frame .				Without damage to parts arcing or breakdown .
3-7	Residual resistance	The resistances at each end of the mechanical between terminal 1 and 2, terminal 2 and 3 shall be measured .				1-2T : 10Ω (MAX) 2-3T : 20Ω (MAX)
3-8	Insulation resistance	Test voltage : 250V D.C measure after 1 min Test position : Between terminal and frame .				100MΩ (MIN)
3-9	Slider noise	Applying 20V D.C between the terminals 1 and 3. (When the rated voltage is small than the 20V D.C, it shall be applied the rated voltage.And then the noise shall be measured by the specified speed 20 mm/sec.				47mV (MAX)
3-10	Conductive resistance	Touch sense track resistance. (between lever and terminal T)				1KΩ (MAX)

					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								MD100AM1B-D- -1B10K-6H	
								VERSION :	A
								PAGE :	2 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2009.2.12	2009.2.12	2009.2.12	DRAWING NO. :	MD100AM-003

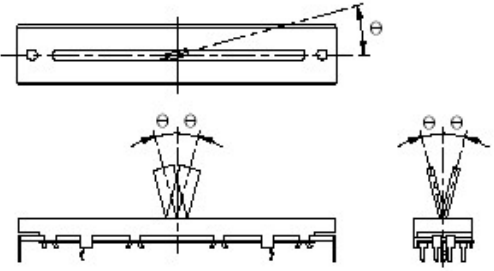
100 mm 1 UNIT WITH MOTOR SLIDE POTENTIOMETERS SPECIFICATIONS

4. Mechanical characteristics

NO.	Item	Test conditions	Specifications
4-1	Lever travel		100±1mm
4-2	Operating force	Traveling speed : 20mm / sec . Operating position : tip of the lever.	30~130gf
	Starting force	Traveling speed : 20mm / sec . Operating position : tip of the lever.	Operating force + 100gf MAX
4-3	Lever travel stop strength	A static load of 10Kgf shall be applied at the point 5mm from top surface of the case for both ends in the direction of lever travel for 10 sec .	Without excessive paly or poor contact .
4-4	Side thrust of the lever	A static load of 2Kgf shall be applied at the point 5mm from top surface of the case in a direction perpendicular to the axial direcation for 10 sec . with the potentiometer mounted in assembly conditions .	Without deformation or breaks in the sliding part and contact part .
4-5	Thrust and tensile lever	Thrust and tensile static load of 5Kgf shall be applied to the potentiometer in the lever direction for 10 sec .	Without damage such as bed sliding and breaking or play in the lever . Electrical characteristics shall be satisfied .
4-6	Displacement of lever	A torsion mornent of 250gf-cm shall be applied at the lever in a direction perpendicular to the axial direction and then the displacement shall be measured .	2 (2 × L/25) mm p-p MAX L = Length of lever

					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								MD100AM1B-D- -1B10K-6H	
								VERSION :	A
								PAGE :	3 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2009.2.12	2009.2.12	2009.2.12	DRAWING NO. :	MD100AM-003

100 mm 1 UNIT WITH MOTOR SLIDE POTENTIOMETERS SPECIFICATIONS

NO.	Item	Test conditions	Specifications
4-7	Lever inclination and torsion		$\theta : 2^{\circ}$ MAX Return to the same position after torsion .
4-8	Lever deviation	After sliding lever as far as it will go in each direction, the distance from the center of the lever to the middle of the mounting screw hole shall be measured at the both ends .	0.5mm MAX on each end
4-9	Resistance to soldering heat	At $300 \pm 5^{\circ}\text{C}$ for 3 ± 0.5 sec or $260 \pm 5^{\circ}\text{C}$ for 5 ± 0.5 sec. Then the potentiometer shall be maintained at standard atmospheric for 1 hour after which measurement shall be made.	Change in total resistance is relative to the value before test $\pm 5\%$. Without excessive looseness of terminals and failure contact .

5. Endurance

NO.	Item	Test conditions	Specifications
5-1	Sliding life	The moving contact , without electrical load , shall be slid from one end stop to the other end returned to its original position extend over 90% or more effective distance . Slide speed : 600 cycle / hour . Total cycles : 50,000 cycles .	1. Change in total resistance is relative to the value before test $\pm 15\%$. 2. Noise : 150mV MAX 3. Residual resistance: 1-2T:30Ω MAX. 2-3T:50Ω MAX 4. Clause(3).(4) shall be satisfied

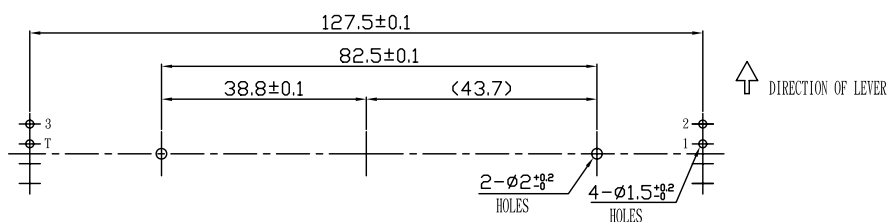
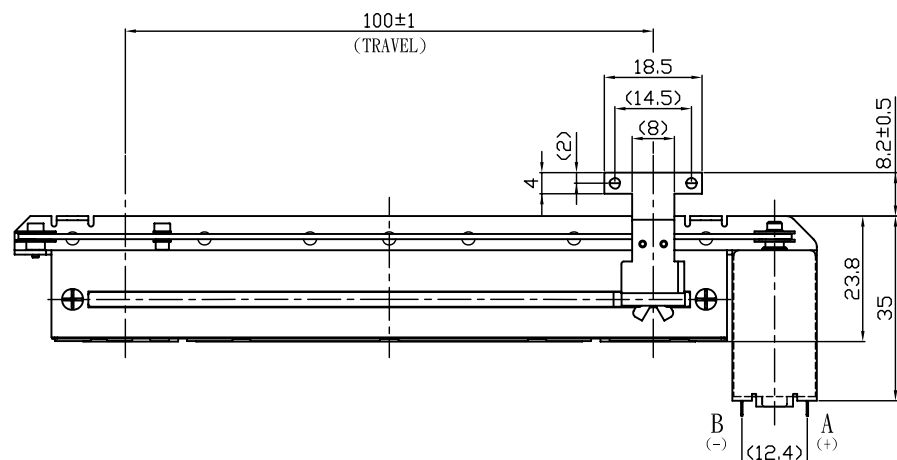
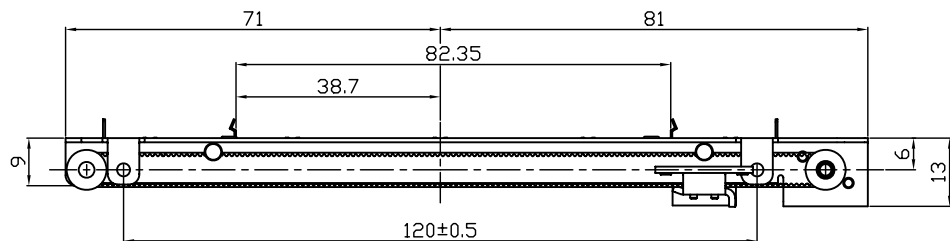
					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								MD100AM1B-D- -1B10K-6H	
								VERSION :	A
								PAGE :	4 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2009.2.12	2009.2.12	2009.2.12	DRAWING NO. :	MD100AM-003

100 mm 1 UNIT WITH MOTOR SLIDE POTENTIOMETERS SPECIFICATIONS

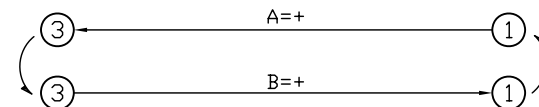
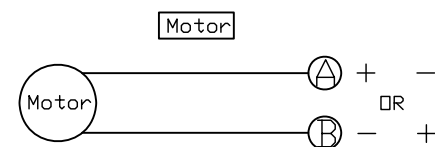
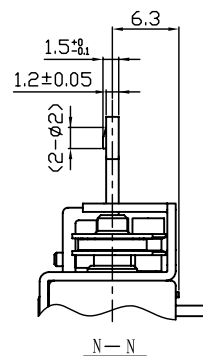
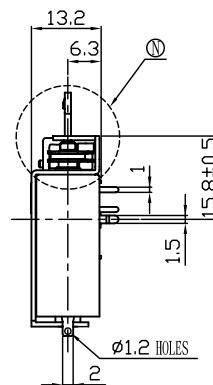
NO.	Item	Test conditions	Specifications
6-1	Rated voltage	Between terminals of the motor.	10V D.C.
6-2	Operating supply voltage range		6~11V D.C.
6-3	Starting current	Supply voltage 10V D.C.	800mA (MAX)
6-4	Starting force	Supply voltage 10V D.C. It shall be measured at the top of lever.	20gf (MIN)
6-5	Moving speed of lever	Supply voltage 10V D.C.	20mm/0.1sec (MIN)
6-6	Maximum current	Lock the shaft of the motor and the rated voltage shall be applied to the motor.	400~800mA

ROHS COMPLIANCE

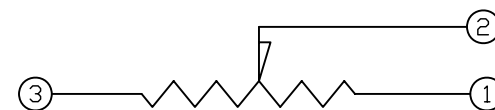
					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								MD100AM1B-D- -1B10K-6H	
								VERSION :	A
								PAGE :	5 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2009.2.12	2009.2.12	2009.2.12	DRAWING NO. :	MD100AM-003



MOUNTING HOLE DETAIL

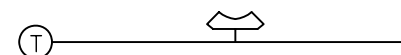


Servo track



Circuit diagram

Touch sense track



ROHS COMPLIANCE

CODE NO.			MODLE NAME	MD100AM1B-D-9-2M8.2-1B10K-6H				
PATH :	POT\100mm\MD100AM\SPEC		DRAWING NO.	MD100AM-003				
TOLERANCES		SIGNATURES	CHECKED BY	APPROVED BY	SCALE		m/m	A
10 < L	100	±0.5						
		±0.8						
angular dimension		±5°						

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