

SPECIFICATIONS

1. THIS SPECIFICATIONS APPLY TO RS6011Y14 POTENTIOMETERS.

2. CONTENTS OF THIS SPECIFICATIONS.

4S6028N-301M, 4S0008-45M
4S0001-200, 4S0001-201
S6028N404A

3. MARKING

MARKING ON ALL UNITS
DATE CODE RESIST. VALUE TAPER TRADE MARK

Marking ← in specifications shows standard and condition for application

CLASSNO.	TITLE STANDARD TYPE POTENTIOMETER (SLIDE)
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ELECTRICAL

1. Overall resistance :

Overall resistance tolerances : $\pm 20\%$ Unit : K Ω

5	10	20	50	100	200	250	500	1,000
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2. Minimum resistance :

Unit : Ω

Overall resistance (K Ω)	5,10	20,50	100	200, 250	500	1000
Across term.1-2	30	50	100	200	300	500
Across term.2-3	50	70	120	220	320	500

3. Taper : "A"

(SAS16)

4. Rated power : 0.1 Watts.

5. Rated voltage : Rated voltage = $\sqrt{P \cdot R}$ (V)

P : rated power (W)

R : nominal overall resistance (Ω)

When the rated voltage exceeds the maximum operating voltage the maximum operating voltage shall be the rated voltage.

Maximum operating voltage : A.C. 150V , D.C. 10V

6. Dielectric test : Units shall be designed to withstand 300 volts A.C. 50 Hz R.M.S. between resistance elements and case for a period of one minute without damage or arcing.

7. Insulation resistance : Greater than 100 megohms between resistance elements and case when tested by a 250 volts D.C. insulation resistance meter.

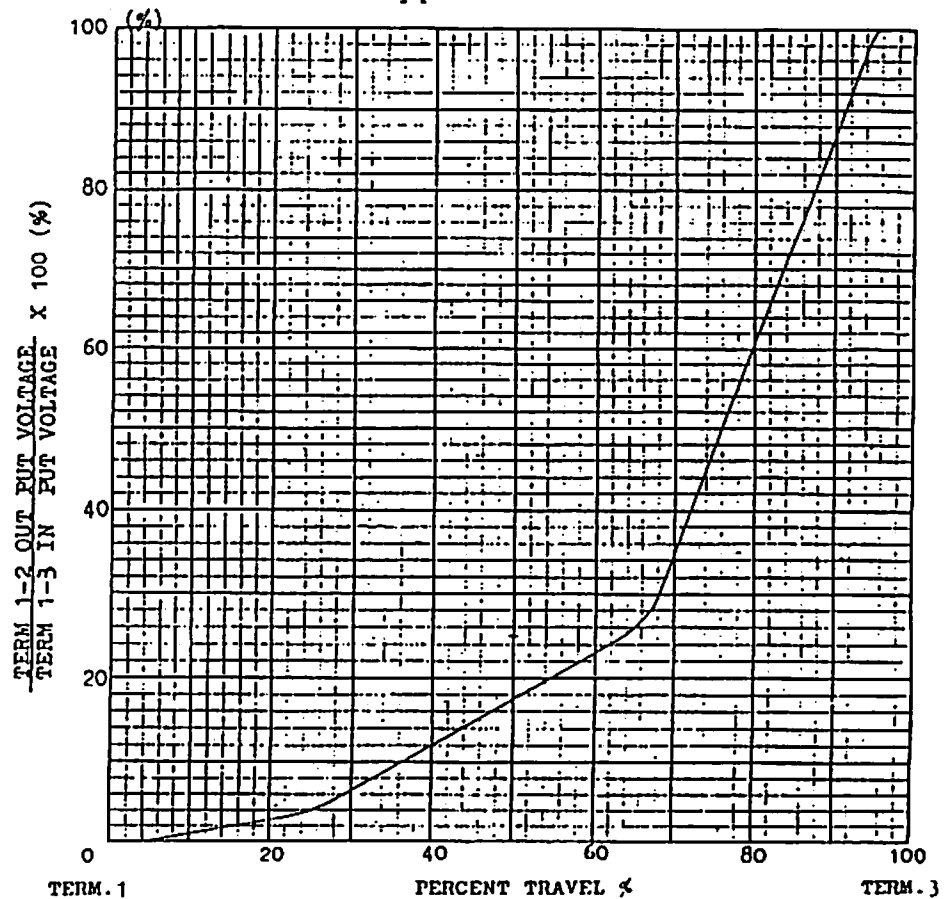
8. Sliding lifetest : 15,000 cycles

• Lever shall be operable with speed of 20 mm per sec. without noise by static electricity.

ALPS ELECTRIC CO., LTD.				
APPD.	CHKD.	DSGD.	TITLE	
Aug. 9 '91		May 16 '91	SPECIFICATIONS	
DOCUMENT NO			4S6028N-301M	
SYMB	DATE	APPD.	CHKD.	DSGD.

USED ON 45.60mm TRAVEL TYPE	NAME RESISTANCE TAPER
ALPS ELECTRIC CO., LTD. 1-7 YUKIGAYA OTSUKA-CHO OTA-KU TOKYO JAPAN	TITLE SPECIFICATIONS

TAPERED CURVE: 'A'



NOTES: PERCENT VOLTAGE CHECK POINT TOLERANCE
50% TRAVEL FROM TERM.1 10-25%

APPD.	CHKD.	DSGD.	NAME
Aug. 28 '81		Aug. 28 '81	RESISTANCE TAPER
SYMB DATE APPD. CHKD. DSGD.			DWG. NO. SAS16

CLASS.NO.

TITLE

STANDARD TYPE POTENTIOMETER (SLIDE)

MECHANICAL

- Travel : Specified in particular Figure.
- Operating force : 30-250 gf (Note 1)
- Starting force : Operating force + 100 gf max. (Note 1)
(Note 1) Measuring temperature : 5°C - 35°C

Measuring point :

→ 5 mm from lever end (Lever length > 6 mm)

: 1 mm from lever end (Lever length ≤ 6 mm)

Sliding speed : 20 mm per sec.

4. Stop strength :

→ 5 kgf at a position 5 mm from mounting surface.

(Lever length > 6 mm)

5 kgf at a position 2 mm from mounting surface.

(Lever length ≤ 6 mm)

5. Lever lateral play :

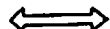
When an alternating bending moment of 250 gf·cm is applied perpendicular to the direction of lever travel, the bothside movement of the lever shall be less than $2 (2 \times L / 20)$ mm

L: Lever length on the measurement point from mtg. surface.

(Note 2) Exempt warping of insulated lever.

Lever lateral play

M = 250 gf·cm

 $L \leq 5$ mm

The bothside movement
of the lever shall be
less than 1.2 mm

6. Lever strength :

- To be resistant with 5 kgf static force of pull or push applied to lever in thrust direction for 10 seconds without damage.

CLASS.NO.

TITLE

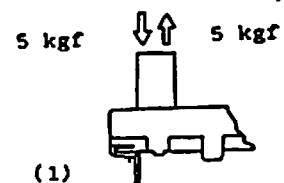
STANDARD TYPE POTENTIOMETER (SLIDE)

- To be resistant with following static force applied to lever in vertical direction to lever driving for 10 seconds without damage.

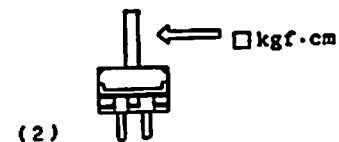
- 2 kgf·cm over : in case of pot., mounted to chassis with screws.

- 0.5 kgf·cm over : in case of pot., mounted to P.C.B. only with terminals.

- 2 kgf·cm over : in case of pot., mounted to P.C.B. with both terminals and mounting plate.



(1)



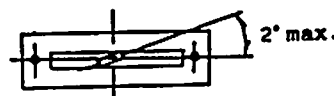
(2)

7. Lever inclination and twist :

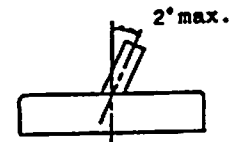
Twist

Inclination

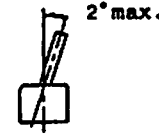
Inclination



2° max.



2° max.



2° max.

- Resistance to soldering heat : 3 sec. max. at 300°C

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SYSD	DATE	APPD.	CHKD.	DSGD.
		App. 4/91		App. 3/91
TITLE SPECIFICATIONS				
DOCUMENT NO. 4S0008-45M (1/2)				

ALPS ELECTRIC CO., LTD.				
SYSD	DATE	APPD.	CHKD.	DSGD.
		App. 4/91		App. 3/91
TITLE SPECIFICATIONS				
DOCUMENT NO. 4S0008-45M (2/2)				

ご使用上の注意
PRECAUTION IN USE

1. 偏心ツマミをご使用になる場合

レハ-の中心より離れたところを作用点としてご使用になる場合、可能な限り
 下図A寸法を短くしてご使用下さい。

If it will be used the operating point away from the center line of the lever, it should be shorter as possible.

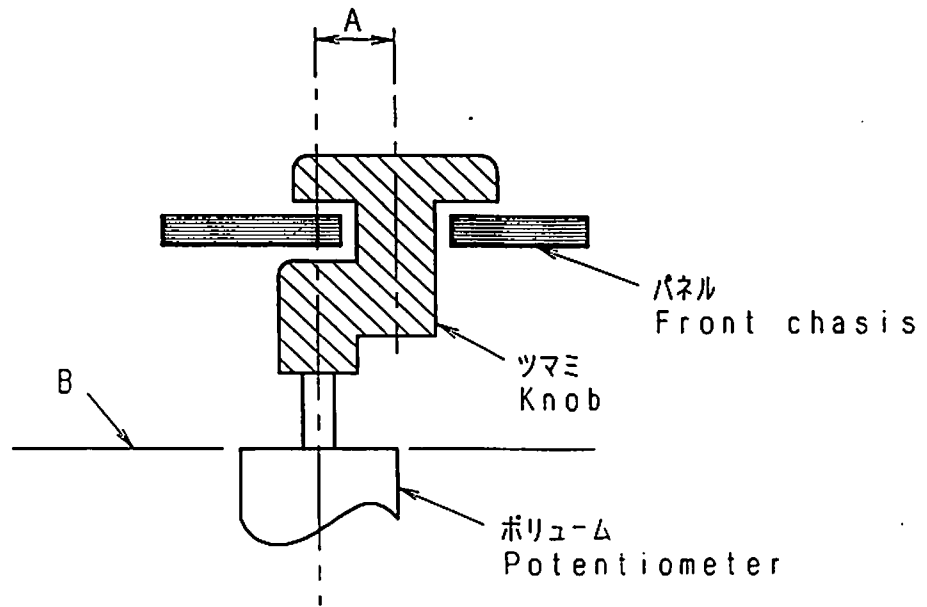
2. レハ-長さについて

レハ-長さについては、ツマミを含めて、下図B面より極力短いものをご使用願います。レハ-長さについては、作用点までの距離が短いほどしゅう動感触が良好となり、長いほど好ましくない感触になります。

About the length of lever

If conditions permit, it is advisable to use the shortest possible lever.

The longer the length up to operating point, the more unfavorable slide feeling will be given.



3. レハ-の駆動に関しては上記内容を考慮の上、セット実装を行い
 あらかじめ異常のないことをご確認願います。

Regarding the operation of the lever, please consider the above mentioned, and make sure nothing is wrong with the operation under installing in your appliance that you plan to use our products actually.

4. ツマミ挿入及びレハ-操作は、ポリウムマウント基板に
 ソリ(曲がり)のない状態で行って下さい。

Knob assembly on the lever and functioning the lever to be performed under the condition of P. C. B. without warp.

					ALPS ELECTRIC CO., LTD.				
					APPD.	CHKD.	DSGD.	TITLE	
					PDI-ENGI '95.7.24 YOSIOKA	PDI-ENGI '95.7.24 KIMURA	PDI-ENGI '95.7.24 Y. SAITOH	スライドポリウム仕様書 SPECIFICATIONS	
ORIGINAL	'91-7-3	Y·Y	K·N	S·A				DOCUMENT NO.	4S0001-200
SYMB	DATE	APPD	CHKD	DSGD					
								G0447683M	

はんだ付け条件

FOLLOW THE NEXT CONDITIONS FOR SOLDERING

1. はんだ SOLDER

JIS Z 3282に規定の63% Snはんだを使用
63% Sn solder specified in JIS Z 3282.

2. 使用基板 BOARD IN USE

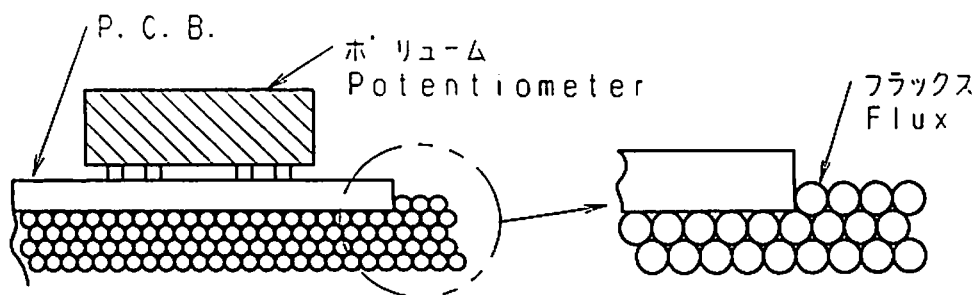
両面スルーホール基板又は、片面銅張積層板 板厚 $t=1.6\text{mm}$
Double-faces through-hole board or Single-face copper laid laminate board.
Plate thickness (t) = 1.6mm

3. 自動はんだ<DIP条件>

- (1) レハール位置 センター付近に設定願います。
- (2) フラックス比重 0.83 ± 0.01 (発泡式)
- (3) フラックス高さ プリント基板の板厚の半分の位置にフラックスの上面が接するレベル (図1) 又、ホリウム挿入面への流れ込みのないこと。(フラックス上がり、飛散に注意)
- (4) プリヒート温度 100°C max. 時間1分以内。(プリント基板のホリウム挿入側の温度)
- (5) はんだ温度 260°C max. 時間5秒以内。はんだ回数は1回までとする。

IN THE CASE OF DIP SOLDERING

- (1) State of potentiometer
Position a lever in the vicinity of center.
- (2) Specific Gravity of Flux
 0.83 ± 0.01 (foaming type)
- (3) Height of Flux face
A level of the upper face of flux for reaching the position at a half of the plate thickness of printed board. (Fig. 1)
Further, no flow of flux invading on the surface of printed board on the side of installing potentiometer is allowed.
- (4) Preheat condition
 100°C max. within 1 minute
(Temperature on the side of installing printed board is designated.)
- (5) Soldering condition
Solder temperature: 260°C max.
Soldering period : within 5 seconds
Time of soldering : only one time is permitted



(Fig. 1)

4. 手はんだ IN THE CASE OF MANUAL SOLDERING

はんだ温度 300°C max. 時間3秒以内 はんだ回数は1回までとする。
Solder temperature : 300°C max.
Soldering period : within 3 seconds
Time of soldering : only one time is permitted

					ALPS ALPS ELECTRIC CO., LTD.				
					APPD. PDI-ENGI '95. 7. 24 YOSIOKA	CHKD. PDI-ENGI '95. 7. 24 KIMURA	DSGD. PDI-ENGI '95. 7. 24 Y. SAITOH	TITLE スライト'ホリウム仕様書 SPECIFICATIONS 1/2	
ORIGINAL	'91-9-3	Y·Y	S·A	S·S				DOCUMENT NO.	
SYMB	DATE	APPD	CHKD	DSGD				450001-201	

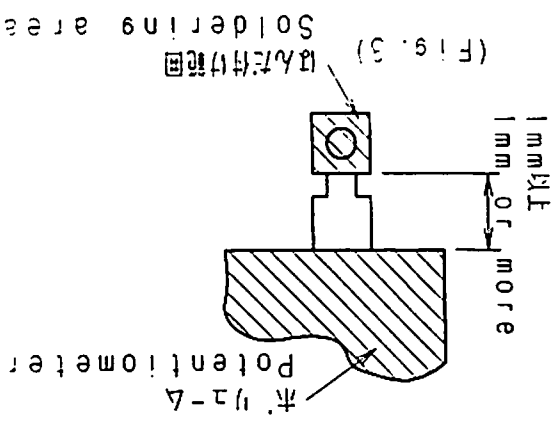
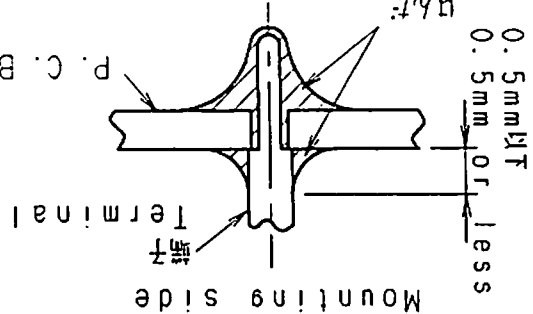
5. 注意事項

- (1) はんた付けの際に、端子にストレスを加えないで下さい。例えば、端子に熱を加えたまま製品を動かしますと、かしのめか、及び電気的特性が劣化する恐れがあります。
- (2) 両面アル-ホ-ル基板を使用する場合は、ホ-リユ-△挿入側の端子取付穴に、はんたラントが取り出しを避けるアル-ホ-ル配線用の穴を設けるなどの配慮をお願いします。
- (3) ホ-リユ-△挿入側のはんた上がりは、はんた熱による端子接続不良の発生原因となりますので(図2)を参照願います。
- (4) リ-ト配線の場合、ホ-リユ-△本体と、はんた付け部の距離を1mm以上開けてはんた付け願います。(図3)
- (5) はんた付けによるホ-リユ-△の影響は、7°リソト基板の大きさ、ホ-リユ-△の取付け位置、はんた槽の大きさ、等により異なりますのであらかじめ実使用状態で実証し、異常のないことを確認の上、はんた付けして下さい。

MATTERS TO BE NOTED

- (1) Do not add any stress on terminals in the case of soldering. For instance, forced movement of potentiometer with terminals being heated may probably deteriorate the electric features due to generation of looseness in connection between resistant board and terminals.
- (2) Avoid use of double-faces through-hole board as much as possible. If it is necessary to use it, Do not apply through-hole plating to a hole in which a potentiometer is inserted, and install a land to which terminals are soldered only on a face opposite to the face on the side of installing potentiometer.
- (3) Use caution to soldering process so as to prevent solder from rising up to the surface of printed board on the side of installing potentiometer, because defective contact may take place in terminal connecting part due to soldering heat. (Fig. 2)
- (4) In the case of lead wiring, solder it so that a gap of 1mm or more may be reserved between the potentiometer body and soldering part. (Fig. 3)
- (5) The grade of influence of soldering exerted on the potentiometer depends upon the size of a printed board, installing position of the potentiometer, and the size of a solder bath etc. Therefore, make sure in advance, of no abnormal state under the conditions of soldering to be carried out at present.

ホ-リユ-△挿入側



Soldering area

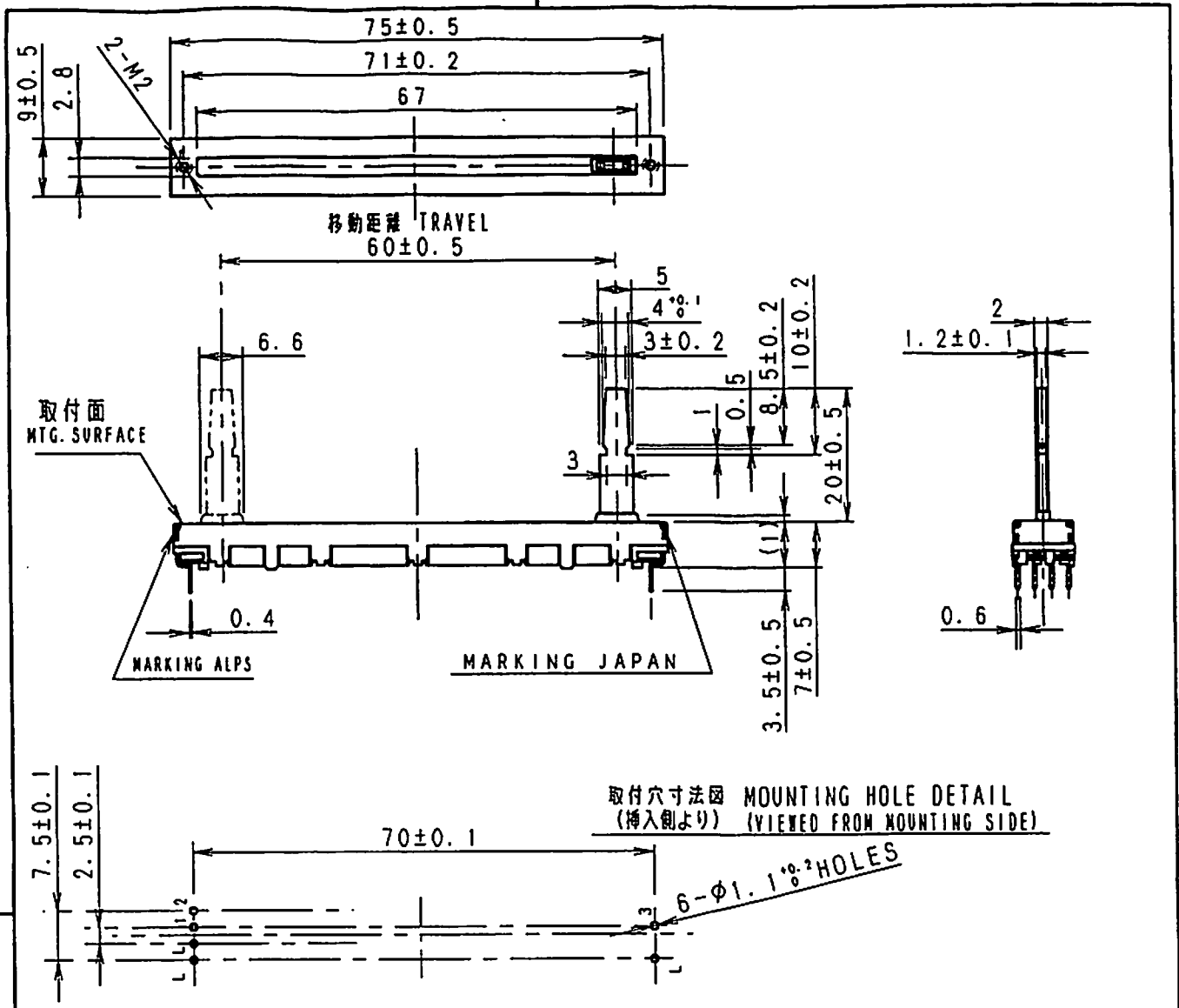
ORIGINAL	'91-9-3	Y-Y	S-A	S-S
SYMB DATE	APPD	CHKD	DSGD	

APPD.	CHKD.	DSGD.
YOSIOKA '95.7.24 P01-ENGI	KIMURA '95.7.24 P01-ENGI	Y. SAITOH '95.7.24 P01-ENGI

ALPS ELECTRIC CO., LTD.

TITLE 2/2
2547F.ホ-リユ-△ 仕様書 SPECIFICATIONS

DOCUMENT NO. 4S0001-201



L: LUG TERMINAL ラグ端子とする

- NOTES
1. MOUNTING SCREW THREAD LENGTH IS CHASSIS THICKNESS + 2mm MAX.
取付用ネジの首下長さは、シャーシ板厚 + 2mm 以下とする。
 2. TOP SIDE OF KNOB SHALL BE MOUNTED TO LEVER WITHIN 30mm LENGTH FROM LEVER MTG. SURFACE.
取付面からつまみ先端まで 30mm 以内でご利用願います。

指定なき部分の許容差 TOLERANCES UNLESS OTHERWISE SPEC.	
$L \leq 10$	± 0.3
$10 < L < 100$	± 0.5
$100 \leq L$	± 0.8
角度 ANGULAR DIMENSION	$\pm 5'$

PART NO.	NAME	MATERIAL NAME / CODE	FINISH
ALPS ELECTRIC CO., LTD.			
		DSGD. 設計 K. SATOU '96-06-16	SCALE 1:1
		CHKD. S. ABE '93-06-16	G0447683M S6028N404A
		APPD. Y. YOSHIOKA '93-06-16	TITLE SLIDE POTENTIOMETER SINGLE UNIT
SYMB	DATE	APPD	UNIT III III
		CHKD	DOCUMENT NO.
		DSGD	