

Customer: ROXBURGH ELECTRONICS LIMITED

No. SSV96-0311

Date: Jan. 30, 1996

Attention:

Your ref. No:

Your Part. No: 22 6072

## SPECIFICATIONS

ALPS:

MODEL RS6011Y14  
( 50 kB )

F.E.C. No: 698-052

Sample No.: G0447764M

RECEIPT STATUS

RECEIVED

By: Date

Signature

Name

Title

ALPS ELECTRIC CO., LTD.

HEAD OFFICE  
1-7, YUKIGAYA-OHTSUKA-CHO,  
OHTA-KU, TOKYO 145 JAPAN

DSG'D

APP'D

ENG. DEPT. DIVISION

Sales

*Y. Saito*  
*M. Umemori*

## SPECIFICATIONS

1. THIS SPECIFICATIONS APPLY TO RS6011Y14 POTENTIOMETERS.

2. CONTENTS OF THIS SPECIFICATIONS.

4S6028N-302M, 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)

ELECTRICAL

1. Overall resistance :  
Overall resistance tolerances : ±20 %  
Unit : K Ω

|   |    |    |    |     |     |     |     |       |
|---|----|----|----|-----|-----|-----|-----|-------|
| 5 | 10 | 20 | 50 | 100 | 200 | 250 | 500 | 1,000 |
|---|----|----|----|-----|-----|-----|-----|-------|

2. Minimum resistance :  
Unit : Ω

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

3. Taper : ALPS "B" (SBS50)

4. Rated power : 0.2 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.200V , D.C. 10 V

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.

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APPRO. CHCKD. DSQD. TITLE SPECIFICATIONS

DATE APPR. CHCKD. DSQD. DOCUMENT NO.

4S6028N-302M

USED ON

TRAVEL TYPE

NAME

RESISTANCE TAPER

60 mm

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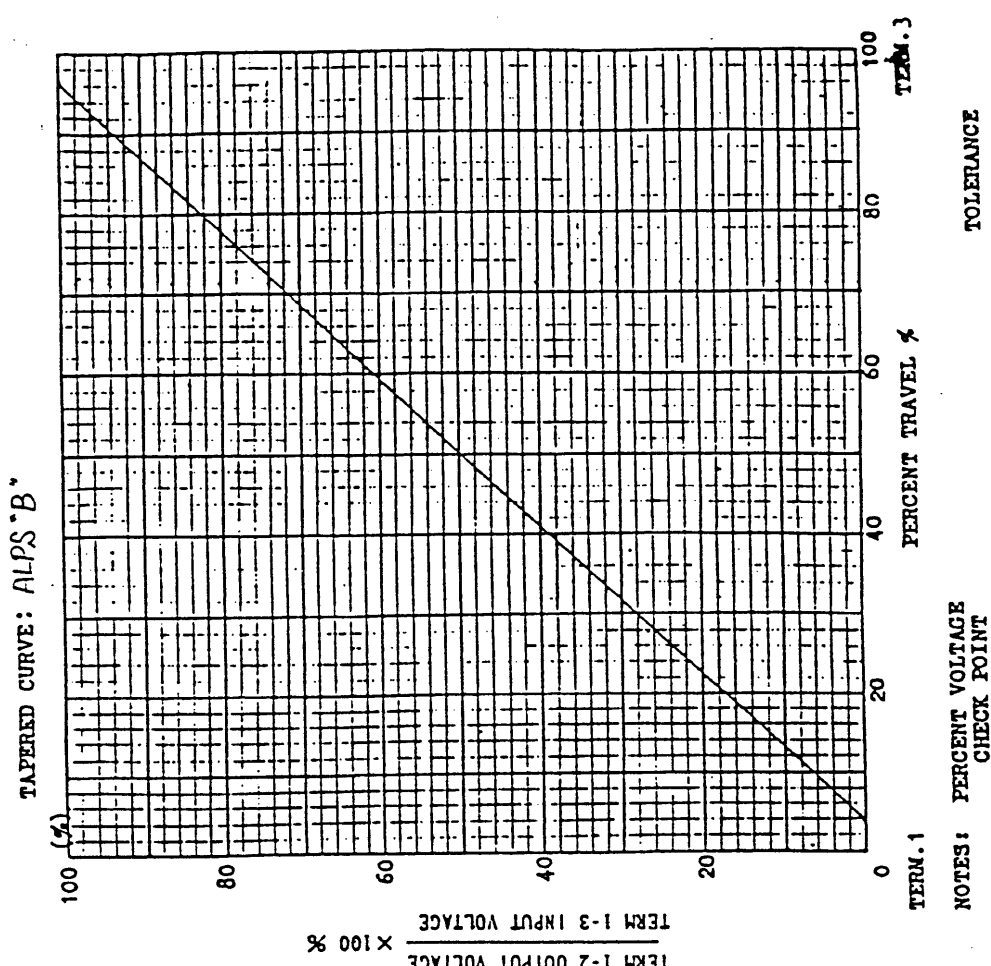
TITLE

ALPS

1-7 YUKIGAYA OTSUKA-CHO

SPECIFICATIONS

OTA-KU TOKYO JAPAN



NOTES: PERCENT VOLTAGE CHECK POINT

50% TRAVEL FROM TERM.1

TOLERANCE

40 - 60 %

TERM.1

TERM.2

TERM.3

SYMB

DATE

APPR

CHCKD

DSQD

APPR

CHCKD

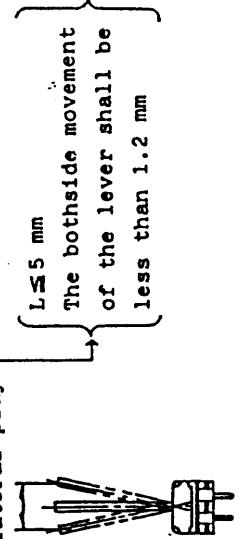
DSQD

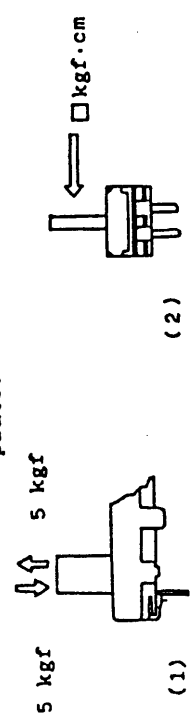
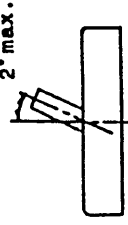
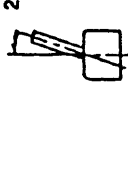
IMAGE

RESISTANCE TAPER

DWG.NO.

SBS50

|                                                                                                                                                                                      |       |                                     |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------|--|--|--|--|--|--|--|--|--|
| CLASSNO.                                                                                                                                                                             | TITLE | STANDARD TYPE POTENTIOMETER (SLIDE) |  |  |  |  |  |  |  |  |  |
| MECHANICAL                                                                                                                                                                           |       |                                     |  |  |  |  |  |  |  |  |  |
| 1. Travel : Specified in particular Figure.                                                                                                                                          |       |                                     |  |  |  |  |  |  |  |  |  |
| 2. Operating force : 30-250 gf ( Note 1 )                                                                                                                                            |       |                                     |  |  |  |  |  |  |  |  |  |
| 3. 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 X 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                                                                                                                                                                        |       |                                     |  |  |  |  |  |  |  |  |  |
| 6. Lever strength :                                                                                                                                                                  |       |                                     |  |  |  |  |  |  |  |  |  |
| (1) To be resistant with 5 kgf static force of pull or push applied to lever in thrust direction for 10 seconds without damage.                                                      |       |                                     |  |  |  |  |  |  |  |  |  |
| ALPS ELECTRIC CO., LTD.                                                                                                                                                              |       |                                     |  |  |  |  |  |  |  |  |  |
| APPRO. CHKD. DSGD. TITLE                                                                                                                                                             |       |                                     |  |  |  |  |  |  |  |  |  |
| SPECIFICATIONS                                                                                                                                                                       |       |                                     |  |  |  |  |  |  |  |  |  |
| DATE APPD. CHKD. DSGD. DOCUMENT NO.                                                                                                                                                  |       |                                     |  |  |  |  |  |  |  |  |  |
| 4 S 0 0 0 8 - 4 5 M (1/2)                                                                                                                                                            |       |                                     |  |  |  |  |  |  |  |  |  |

|                                                                                                                                        |       |                                     |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------|--|--|--|--|--|--|--|--|--|
| CLASSNO.                                                                                                                               | TITLE | STANDARD TYPE POTENTIOMETER (SLIDE) |  |  |  |  |  |  |  |  |  |
| (2) To be resistant with following static force applied to lever in vertical direction to lever driving for 10 seconds without damage. |       |                                     |  |  |  |  |  |  |  |  |  |
| ① 2 kgf.cm over : in case of pot., mounted to chassis with screws.                                                                     |       |                                     |  |  |  |  |  |  |  |  |  |
| ② 0.5 kgf.cm over : in case of pot., mounted to P.C.B. only with terminals.                                                            |       |                                     |  |  |  |  |  |  |  |  |  |
| ③ 2 kgf.cm over : in case of pot., mounted to P.C.B. with both terminals and mounting plate.                                           |       |                                     |  |  |  |  |  |  |  |  |  |
|                                                       |       |                                     |  |  |  |  |  |  |  |  |  |
| 7. Lever inclination and twist :                                                                                                       |       |                                     |  |  |  |  |  |  |  |  |  |
| Twist                                                                                                                                  |       |                                     |  |  |  |  |  |  |  |  |  |
|                                                       |       |                                     |  |  |  |  |  |  |  |  |  |
| Inclination                                                                                                                            |       |                                     |  |  |  |  |  |  |  |  |  |
|                                                       |       |                                     |  |  |  |  |  |  |  |  |  |
| Inclination                                                                                                                            |       |                                     |  |  |  |  |  |  |  |  |  |
|                                                       |       |                                     |  |  |  |  |  |  |  |  |  |
| 8. Resistance to soldering heat : 3 sec. max. at 300°C                                                                                 |       |                                     |  |  |  |  |  |  |  |  |  |
| ALPS ELECTRIC CO., LTD.                                                                                                                |       |                                     |  |  |  |  |  |  |  |  |  |
| APPRO. CHKD. DSGD. TITLE                                                                                                               |       |                                     |  |  |  |  |  |  |  |  |  |
| SPECIFICATIONS                                                                                                                         |       |                                     |  |  |  |  |  |  |  |  |  |
| DATE APPD. CHKD. DSGD. DOCUMENT NO.                                                                                                    |       |                                     |  |  |  |  |  |  |  |  |  |
| 4 S 0 0 0 8 - 4 5 M (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<sup>レバ</sup>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.

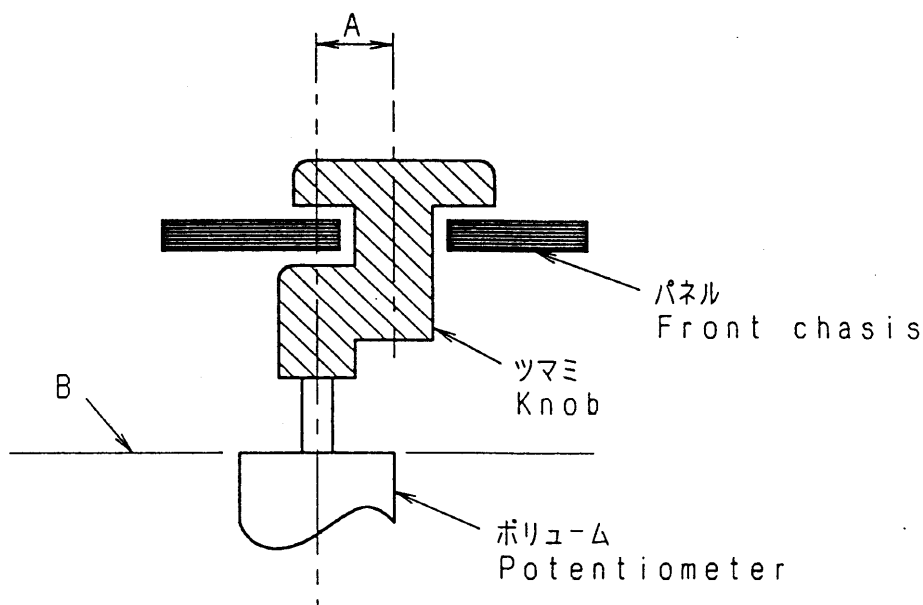
2. レハ<sup>レバ</sup>の長さについて

レハ<sup>レバ</sup>の長さについては、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<sup>レバ</sup>の長さについては、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<sup>レバ</sup>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<sup>レバ</sup>の操作は、ホ<sup>ポ</sup>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.

|          |         |      |      |      |                                |            |            |                |  |
|----------|---------|------|------|------|--------------------------------|------------|------------|----------------|--|
|          |         |      |      |      | <b>ALPS ELECTRIC CO., LTD.</b> |            |            |                |  |
|          |         |      |      |      | APPD.                          | CHKD.      | DSGD.      | TITLE          |  |
|          |         |      |      |      | POI-ENG1                       | POI-ENG1   | POI-ENG1   | スライド・ポリウム仕様書   |  |
|          |         |      |      |      | '95. 7. 24                     | '95. 7. 24 | '95. 7. 24 | SPECIFICATIONS |  |
|          |         |      |      |      | YOSIOKA                        | KINURA     | Y. SAITOH  | DOCUMENT NO.   |  |
| ORIGINAL | '91-7-3 | Y·Y  | K·N  | S·A  | 450001-200                     |            |            |                |  |
| SYMB     | DATE    | APPD | CHKD | DSGD |                                |            |            |                |  |

G0447764M

はんだ付け条件

FOLLOEW 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) レバー位置 センター付近に設定願います。

(2) フラックス比重  $0.83 \pm 0.01$  (発泡式)

(3) フラックス高さ フ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) フリヒート温度  $100^\circ\text{C}$  max. 時間1分以内。(フリント基板のホリウム挿入側の温度)

(5) はんだ温度  $260^\circ\text{C}$  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

$0.83 \pm 0.01$  (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

$100^\circ\text{C}$  max., within 1 minute

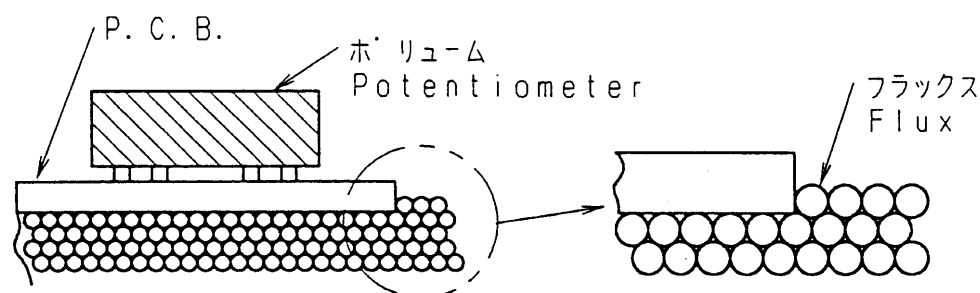
(Temperature on the side of installing printed board is designated.)

(5) Soldering condition

Solder temperature:  $260^\circ\text{C}$  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  $300^\circ\text{C}$  max. 時間3秒以内 はんだ回数は1回までとする。

Solder temperature :  $300^\circ\text{C}$  max.

Soldering period : within 3 seconds

Time of soldering : only one time is permitted

|          |         |      |      |      |  |                                                                                                                    |                                                                                     |                                                                                     |                                     |
|----------|---------|------|------|------|--|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------|
|          |         |      |      |      |  |  <b>ALPS ELECTRIC CO., LTD.</b> |                                                                                     |                                                                                     |                                     |
|          |         |      |      |      |  | APPD.                                                                                                              | CHKD.                                                                               | DSGD.                                                                               | TITLE                               |
|          |         |      |      |      |  |                                 |  |  | スライト・ホリウム 仕様書<br>SPECIFICATIONS 1/2 |
| ORIGINAL | '91-9-3 | Y・Y  | S・A  | S・S  |  |                                                                                                                    |                                                                                     |                                                                                     | DOCUMENT NO.                        |
| SYMB     | DATE    | APPD | CHKD | DSGD |  |                                                                                                                    |                                                                                     |                                                                                     | 4S0001-201                          |

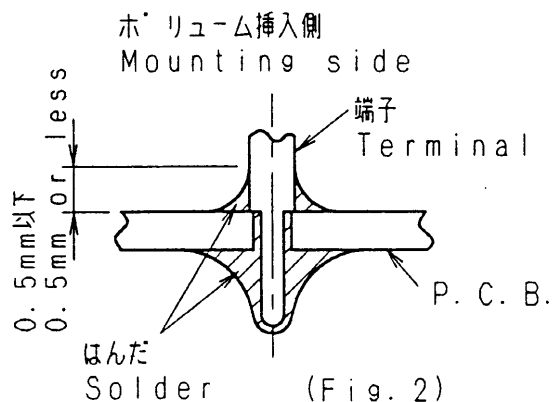
G0447764M

## 5. 注意事項

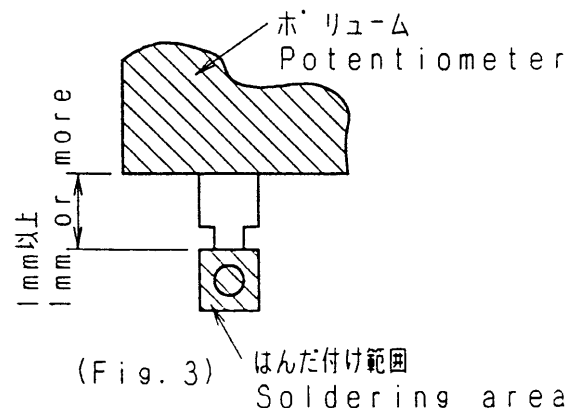
- (1) はんだ付けの際に、端子にストレスを加えないで下さい。例えば、端子に熱を加えたまま製品を動かしますと、かしめ力、タ及び電気的特性が劣化する恐れがあります。
- (2) 両面スルーホール基板を使用する場合は、ホリウム挿入側の端子取付穴に、はんだランドがないようにご配慮願います。ホリウム挿入側での配線が必要な場合は端子取付穴からの直接取り出しを避けスルーホール配線用の穴を設けるなどのご配慮をお願いします。
- (3) ホリウム挿入側へのはんだ上がりは、はんだ熱による端子接触不良の発生原因となりますので(図2)を参照願います。
- (4) リード配線の場合、ホリウム本体と、はんだ付け部の距離を1mm以上開けてはんだ付け願います。(図3)
- (5) はんだ付けによるホリウムへの影響は、プリント基板の大きさ、ホリウムの取付け位置、はんだ槽の大きさ、等により異なりますのであらかじめ実使用状態で実施し、異常のないことを確認の上、はんだ付けして下さい。

## 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 oppsite 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 1 mm 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 abnomal state under the conditions of soldering to be carried our at present.



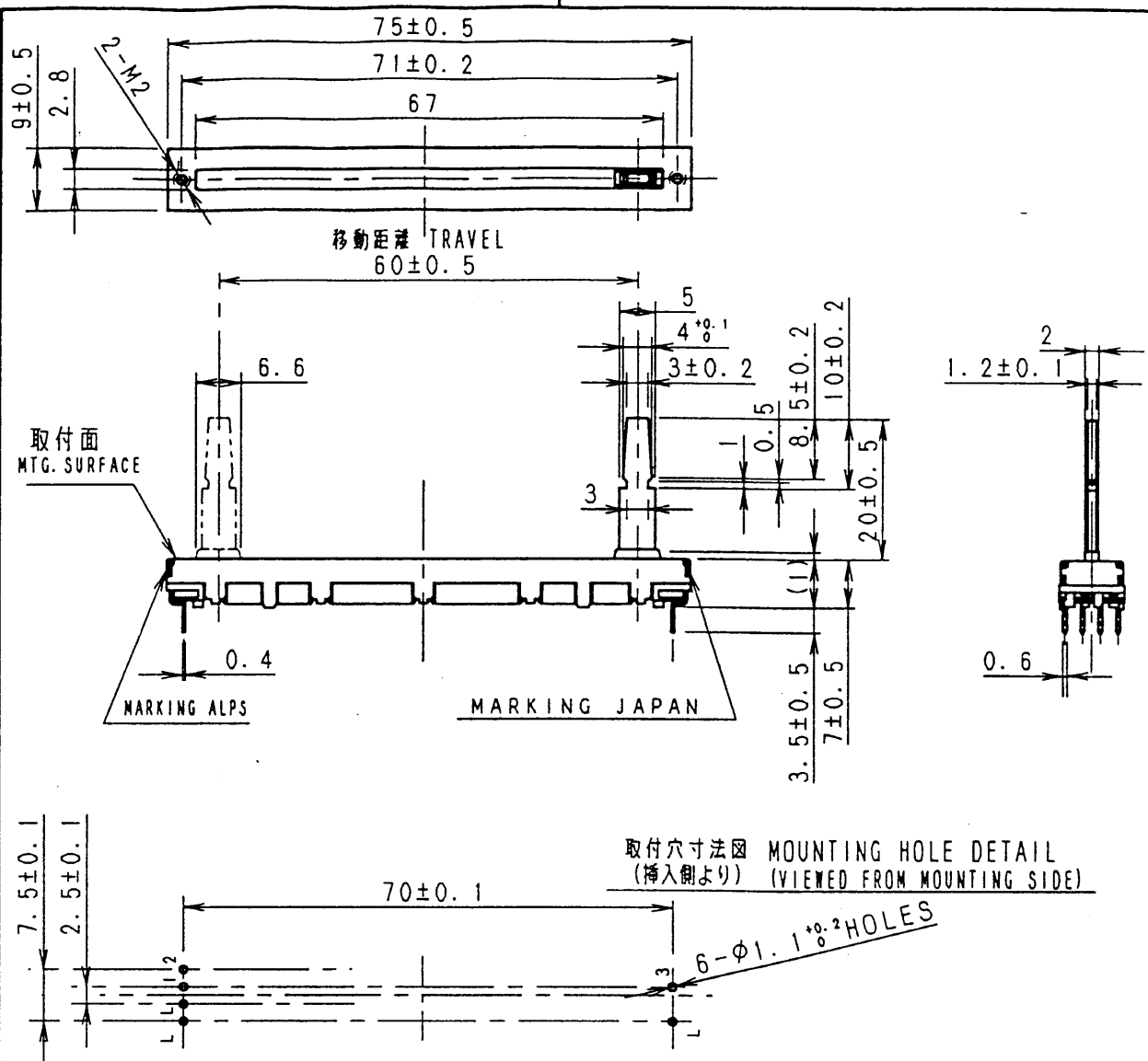
(Fig. 2)



(Fig. 3)

|          |         |      |      |      |  |                                 |                                |                                   |                     |  |  |            |  |  |  |  |  |
|----------|---------|------|------|------|--|---------------------------------|--------------------------------|-----------------------------------|---------------------|--|--|------------|--|--|--|--|--|
|          |         |      |      |      |  | <b>ALPS ELECTRIC CO., LTD.</b>  |                                |                                   |                     |  |  |            |  |  |  |  |  |
|          |         |      |      |      |  | APPD.                           | CHKD.                          | DSGD.                             | TITLE スライド ホリウム 仕様書 |  |  |            |  |  |  |  |  |
|          |         |      |      |      |  | PDI-ENGI<br>'95.7.24<br>YOSIOKA | PDI-ENGI<br>'95.7.24<br>KINURA | PDI-ENGI<br>'95.7.24<br>Y. SAITOH | SPECIFICATIONS 2/2  |  |  |            |  |  |  |  |  |
|          |         |      |      |      |  | DOCUMENT NO.                    |                                |                                   |                     |  |  | 4S0001-201 |  |  |  |  |  |
| ORIGINAL | '91-9-3 | Y-Y  | S-A  | S-S  |  |                                 |                                |                                   |                     |  |  |            |  |  |  |  |  |
| SYMB     | DATE    | APPD | CHKD | DSGD |  |                                 |                                |                                   |                     |  |  |            |  |  |  |  |  |

G0447764M



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.  
取付面からツマミ先端まで 30mm 以内でご使用願います。

| 指定なき部分の許容差<br>TOLERANCES UNLESS OTHERWISE SPEC |               |
|------------------------------------------------|---------------|
| $L \leq 10$                                    | $\pm 0.3$     |
| $10 < L < 100$                                 | $\pm 0.5$     |
| $100 \leq L$                                   | $\pm 0.8$     |
| 角度<br>ANGULAR DIMENSION                        | $\pm 5^\circ$ |

| PART NO.                       | NAME | MATERIAL NAME / CODE             | FINISH                                      |
|--------------------------------|------|----------------------------------|---------------------------------------------|
|                                |      |                                  |                                             |
| <b>ALPS ELECTRIC CO., LTD.</b> |      |                                  |                                             |
|                                |      | DSGD. セツケイ<br>K. SATOU '96-06-16 | SCALE<br>1:1                                |
|                                |      | CHKD.<br>S. ABE '93-06-16        | TITLE<br>SLIDE POTENTIOMETER<br>SINGLE UNIT |
|                                |      | APPD.<br>Y. YOSHIOKA '93-06-16   | UNIT<br>DOCUMENT NO.                        |
| SYMB                           | DATE | APPD                             | CHKD                                        |
|                                |      |                                  | DSGD                                        |