

# SPECIFICATIONS

## ELECTRICAL

- 1.Total resistance : 10k  $\Omega$   $\pm$ 20%
- 2.Rated power : 0.05 W
- 3.Rated voltage :

The rated voltage shall be the voltage of D.C. or A.C.

(commercial frequency ,effective value ) corresponding to the rated power (dissipation),and be obtained from the following formula. When the obtained rated voltage exceeds the maximum working voltage given in the following,

however, the maximum working voltage of the following shall be the rated voltage.

$$E = \sqrt{P \cdot R} \text{ (V)}$$

Where E : Rated voltage (V)

P : Rated power(dissipation) (W)

R : Nominal total resistance ( $\Omega$ )

Maximum working voltage : 50 V A.C. , 20 V D.C.

- 4.Residual resistance between terminals  
between term.1&2, term.2&3 : 300 $\Omega$  max.
- 5.Sliding noise : Less than 100 mV measured by method of JIS C 6443.
6. Insulation resistance : Greater than 100 M $\Omega$  measured by D.C. 250V.
7. Withstand voltage: More than 1 minute with an application of A.C. 250 V.
8. Taper : B

## MECHANICAL

- 1.Overall rotational angle : 280° $\pm$ 5°
- 2.Operation torque : 1~8mN·m (Rotational speed 60°/sec.)
- 3.Shaft end stop strength : No damage with an application of 0.3N·m.
- 4.Starting torque : 10mN·m MAX.
5. Resistance to soldering heat :  
After manual soldering (Less than 350°C and quicker than 3 seconds) there shall be no evidence of poor contact between resistance element and terminals, or any physical damages as a result of the test.
6. Play of shaft :  
The resistor shall be mounted by soldering the mounting legs on the panel. Then a side thrust of 25mN·m at the end of the shaft shall be applied, then the total play of the shaft shall not exceed 0.8 x L / 20 mm p-p.  
(L:Shaft length)
7. Inclination of shaft :  
The eccentricity of the root of shaft shall not exceed 0.35mm against the center of the mounting position.
8. Eccentricity of shaft :  
The inclination of shaft shall be within 0.35mm to the center of shaft, which is parallel to the mounting surface.
9. Robustness of shaft against end thrust :  
The shaft shall withstand against end thrust of 50N for 3 seconds.
10. Robustness of shaft against side thrust :  
The shaft shall withstand against side thrust of 40N for 3 seconds on the end of the shaft at right angles to the axis of the shaft after mounting the resistor by soldering.

## ENDURANCE

1. Rotational life : 5,000 cycles min.

## NOTE

1. The items except above mentioned items shall meet or exceed JIS C 6443.
2. Operating temperature : -10°C~+70°C, 3. Storage temperature : -30°C~+70°C.

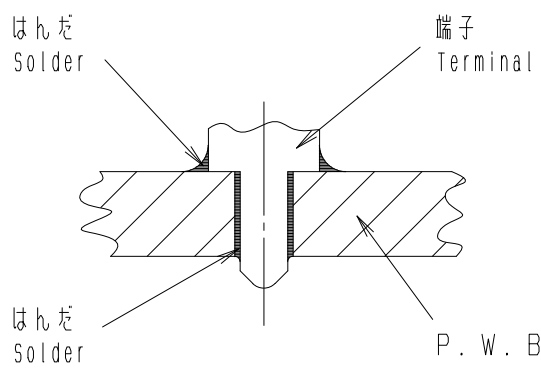
|      |      |      |      |      |                            |              |              |              |
|------|------|------|------|------|----------------------------|--------------|--------------|--------------|
|      |      |      |      |      | <b>ALPSALPINE CO.,LTD.</b> |              |              |              |
|      |      |      |      |      |                            |              |              |              |
|      |      |      |      |      | APPD.                      | CHKD.        | DSGD.        | TITLE        |
|      |      |      |      |      | Sep. 13, '96               | Sep. 13, '96 | Sep. 13, '96 |              |
|      |      |      |      |      | S. Aizawa                  | M. Satoh     | Y. Saitoh    | DOCUMENT NO. |
| SYMB | DATE | APPD | CHKD | DSGD |                            |              |              |              |

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1. はんだ付けに関するその他注意事項  
Other precautions for Soldering

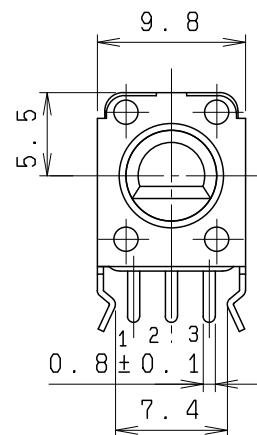
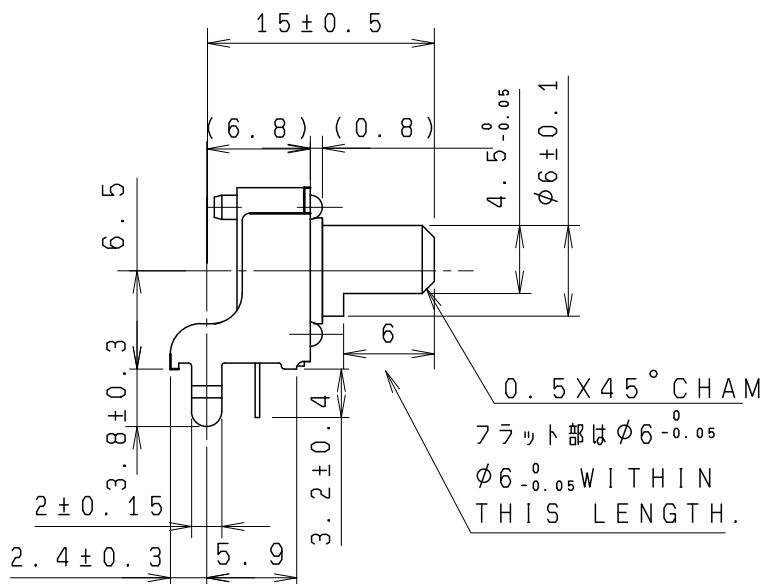
- 1) 図のようにP.W.B.の上面にはんだ付けをする配線は、お避け下さい。  
Please avoid soldering on upper surface of P.W.B. as shown below.



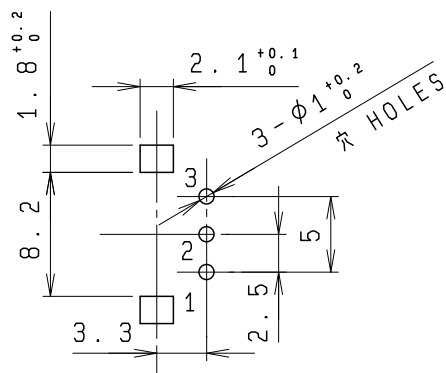
- 2) 基板に挿入される金属足ははんだ付けしてご使用願います。  
Please solder all inserted metal terminals and bracket to a PWB.
- 3) はんだ付け後、溶剤などで製品を洗浄しないで下さい。  
After soldering , please not to wash or clean products by liquid such as solvent or any similar.

|             |             |             |             |             |                            |               |               |                                      |
|-------------|-------------|-------------|-------------|-------------|----------------------------|---------------|---------------|--------------------------------------|
|             |             |             |             |             | <b>ALPSALPINE CO.,LTD.</b> |               |               |                                      |
|             |             |             |             |             | <b>APPD.</b>               | <b>CHKD.</b>  | <b>DSGD.</b>  | <b>TITLE</b> その他注意事項（手はんだ）           |
|             |             |             |             |             | Oct. 29. 2015              | Oct. 29. 2015 | Oct. 29. 2015 | Other precautions (Manual soldering) |
|             |             |             |             |             | S.Urushihara               | J. Yashiro    | H. Kimura     | <b>DOCUMENT NO.</b>                  |
| <b>SYMB</b> | <b>DATE</b> | <b>APPD</b> | <b>CHKD</b> | <b>DSGD</b> | C - 1      ( 1 / 1 )       |               |               |                                      |

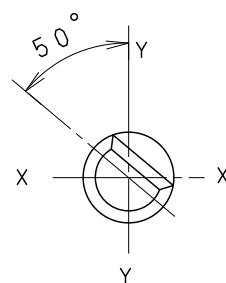




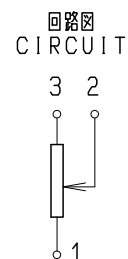
軸はセンター位置を示す。  
SHAFT SHOWN IN  
CENTER POSITION.



端子取付穴寸法図(挿入側より見た図)  
(許容差±0.1)  
MOUNTING HOLE DETAIL  
(TOLERANCE±0.1)  
VIEWED FROM MOUNTING SIDE  
板厚 t=1.6



軸は反時計方向に回し切った状態を示す。  
SHAFT SHOWN IN  
FULL C.C.W. POSITION.



製品質量: 1.4 g  
NET WEIGHT

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

|          |      |      |      |                      |                                    |                           |                |  |                               |  |
|----------|------|------|------|----------------------|------------------------------------|---------------------------|----------------|--|-------------------------------|--|
|          |      |      |      |                      |                                    | SHAFT COLOR<br>: BLACK(B) |                |  |                               |  |
| PART NO. |      | NAME |      | MATERIAL NAME / CODE |                                    |                           | FINISH         |  |                               |  |
|          |      |      |      |                      | <b>ALPSALPINE CO.,LTD.</b>         |                           |                |  |                               |  |
|          |      |      |      |                      |                                    |                           |                |  |                               |  |
|          |      |      |      |                      |                                    |                           |                |  |                               |  |
|          |      |      |      |                      |                                    |                           |                |  |                               |  |
|          |      |      |      |                      | DSGD. 1-設計1課<br>Y. Saitoh 96-09-13 |                           | SCALE<br>2 : 1 |  | NO.<br>RK09KK1110AK4          |  |
|          |      |      |      |                      | CHKD.<br>M. Satoh 96-09-13         |                           |                |  | TITLE<br>9形1軸単連絶縁軸VR          |  |
|          |      |      |      |                      | APPD.<br>S. Aizawa 96-09-13        |                           | UNIT<br>mm     |  | DOCUMENT NO. F07<br>K091B0Z16 |  |
| SYMB     | DATE | APPD | CHKD | DSGD                 |                                    |                           |                |  |                               |  |