

SPECIFICATIONS

ELECTRICAL

- 1.Total resistance : 10k Ω $\pm$ 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 (Ω)

Maximum working voltage : 50 V A.C. , 10 V D.C.

4. Resistance taper : B

5. Residual resistance between terminals 1&2, 2&3 : 20 Ω max.

6. Sliding noise : Less than 100mV. (Measured by JIS C 6443)
(Except click point)

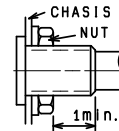
7. Insulation resistance : More than 100 M Ω at 250V D.C.

8. Withstand voltage: 300V A.C. for 1 minute.

MECHANICAL

- 1.Total rotational angle : 300° $\pm$ 5°
2. Rotational torque : 2~25mN·m (Rotational speed 60°/sec.)
3. Stopper strength : No damage with an application of 0.5N·m.
4. Resistance to soldering heat : Please refer to the attached
5. Bushing nut tightening strength : Tightening torque to be no greater than 1N·m.

*Pay attention otherwise the strength may not be assured.



6. Push/pull strength :

After installing the potentiometer, no damages with an application of push or pull force 80N for 10 seconds.

7. Shaft wobble :

The resistor shall be mounted by soldering the mounting legs on the panel and a side thrust of 50mN·m at the end of the shaft shall be applied ,then the total play of the shaft shall not exceed 0.6xL/20 mmp-p.

(L is the length between mounting surface and measuring point.)

8. Click position : 150° $\pm$ 5°
9. Click torque : Rotational torque + (2~20)mN·m
10. Rotation play at the click position : 5° max

ENDURANCE

1. Rotational life : 15,000 cycles min.

NOTE

1. Operating temperature range : -10~+70°C
2. Storage temperature range : -20~+80°C
3. The items except above mentioned items shall meet or exceed JIS C 6443.
4. The use for HomeAudio.
5. This type is protected against sulfides.

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SYMB	DATE	APPD	CHKD	DSGD	APPD.	CHKD.	DSGD.	TITLE
					Aug. 19, '93	Aug. 19, '93	Aug. 19, '93	
					S. Aizawa	M. Satoh	Y. Saitoh	
								DOCUMENT NO. L X

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SPECIFICATIONS

Resistance to soldering heat :

There shall be no evidence of poor contact between resistance element and terminals, or any physical damages as a result of soldering.

*Dip soldering :

Condition of soldering :

Soldering shall be certified with following condition.

Substrate to be soldered :

Copper clad laminated phenol board in one surface of 1.6mm thickness.

Solder flux :

Flux of 0.82 specific weight in bubbling type solder fluxcoating apparatus shall be used and bubbling surface height shall be defined substantially as half thickness of substrate.

Flux shall not flow up on substrate surface.

Preheating

Surface temperature of substrate shall be settled within 100°C in two minutes.

Dip soldering :

To be performed in 260±5°C , 5±1 sec.

Please use the above process only one or two times.

*Manual soldering :

To be performed in three seconds within 350°C.

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Y. Saitoh

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L X

SYMB DATE APPD CHKD DSGD

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Other precautions for Soldering

-

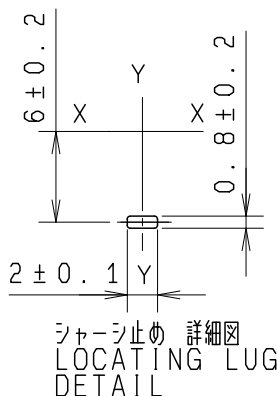
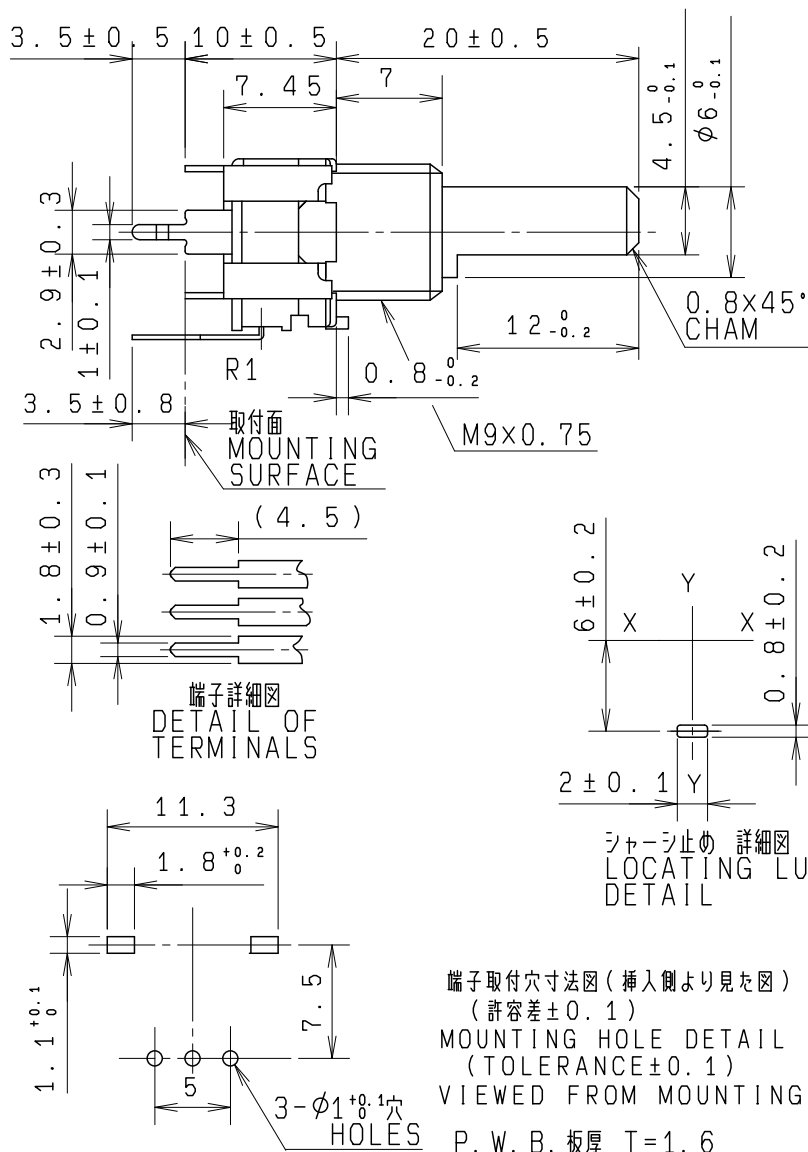
- 2) 基板に挿入される金属足ははんだ付けしてご使用願います。
Please solder all inserted metal terminals and bracket to a PWB.
- 3) はんだ付け後、溶剤などで製品を洗浄しないで下さい。
After soldering , please not to wash or clean products by liquid such as solvent or any similar.
- 4) Selective solderingの場合は、Dip solderingと条件が異なりますので、
事前に貴社設備で充分確認の上条件設定をお願いします。
Please thoroughly test and decide appropriate parameters for soldering by your soldering equipment under actual condition of production.(for example , parameters for selective soldering can be different from for wave soldering.)
- 5) Spray fluxerの場合は、製品の実装側からfluxが浸入しないようにして下さい。
If you use spray fluxer equipment , please prevent the flux from entering the inside of product from mounting side.

					ALPSALPINE CO.,LTD.			
					APPD. Oct. 22. 2015 S. Urushihara	CHKD. Oct. 22. 2015 K. Sasaki	DSGD. Oct. 22. 2015 Y. Ashida	TITLE その他注意事項 （DIP／手はんだ） Other precautions (DIP/Manual soldering)
								DOCUMENT NO. C - 2 (1 / 1)
SYMB	DATE	APPD	CHKD	DSGD				

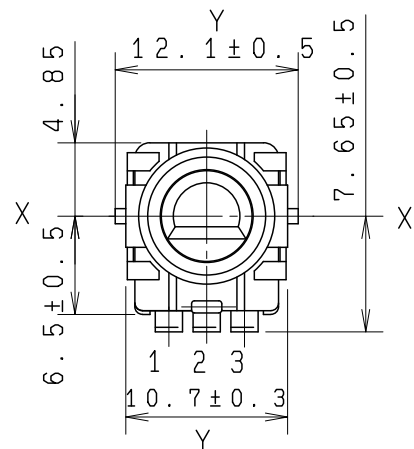
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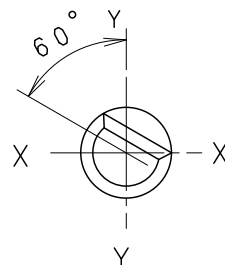
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|------|------|------|------|------|----------------------------|---------------|---------------|--------------|--|--|
| | | | | | ALPSALPINE CO.,LTD. | | | | | |
| | | | | | APPD. | CHKD. | DSGD. | TITLE | ご使用上の注意（共通）
Precautions in use (Common) | |
| | | | | | Oct. 15. 2015 | Oct. 15. 2015 | Oct. 15. 2015 | | | |
| | | | | | S.Urushihara | K. Sasaki | Y. Ashida | DOCUMENT NO. | | |
| SYMB | DATE | APPD | CHKD | DSGD | | | | C - 4 | (1 / 1) | |



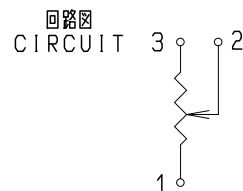
端子取付穴寸法図(挿入側より見た図)
(許容差 $\pm$ 0.1)
MOUNTING HOLE DETAIL
(TOLERANCE $\pm$ 0.1)
VIEWED FROM MOUNTING SIDE
P. W. B. 板厚 T=1.6



軸はセンタークリック位置を示す
SHAFT SHOWN IN
CENTER CLICK
POSITION



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: 7.0 g
NET WEIGHT

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	$\pm 5^\circ$

					150° CLICK	
PART NO.	NAME			MATERIAL NAME / CODE	FINISH	
					ALPSALPINE CO., LTD.	
				DSGN. 1-設計1課		
				Y. Saitoh 93-10-01		
				CHKD.		
				M. Satoh 93-10-01		
				APPD.		
				S. Aizawa 93-10-01		
SYMB	DATE	APPD	CHKD	DSGD	UNIT mm	NO. RK09L1142F20 TITLE 9形1軸単連VR組立図 FIGURE DOCUMENT NO. K091WOA13 01C