ALPHA REFERENCE NO.

SP09020374

Uniservice Co Ltd

SPECIFICATION

PART NO.	· ALPHA MODEL NAME
1.	RV24AF-10E6-20K-XXX-10J9
	A1K-below A1M

MODEL NAME

MODEL NO.

APPRO	VAL	-
	,	

PREPARED BY	REVIEWED BY	APPROVED BY
徐	傳	王
98. 2. 26	98. 2. 26	2009.2.26
夏妮	仕維	茂松

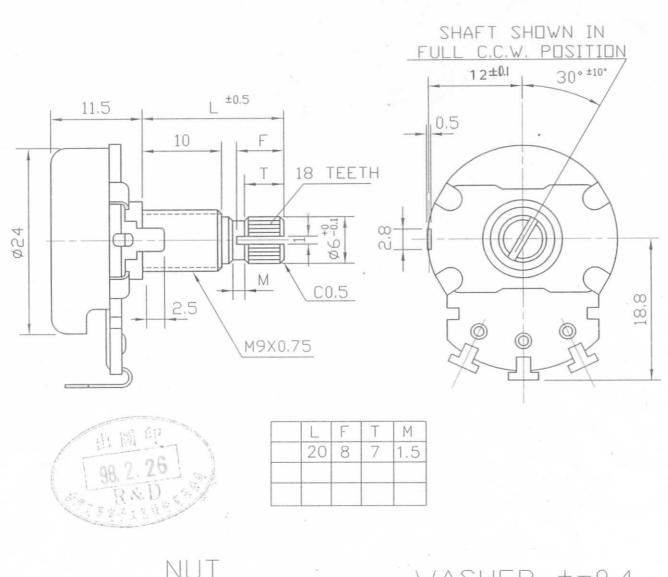


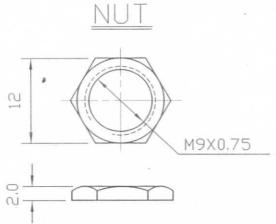
台灣艾華電子工業股份有限公司桃園市中正路1221~1223號9樓

TAIWAN ALPHA ELECTRONIC CO., LTD.

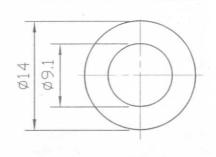
9F, NO.-1221, Chung Cheng Rd., Taoyuan, Taiwan TEL:886-3-3577799 FAX:886-3-3577700

E-mail:sales@taiwanalpha.com.tw URL:http://www.taiwanalpha.com





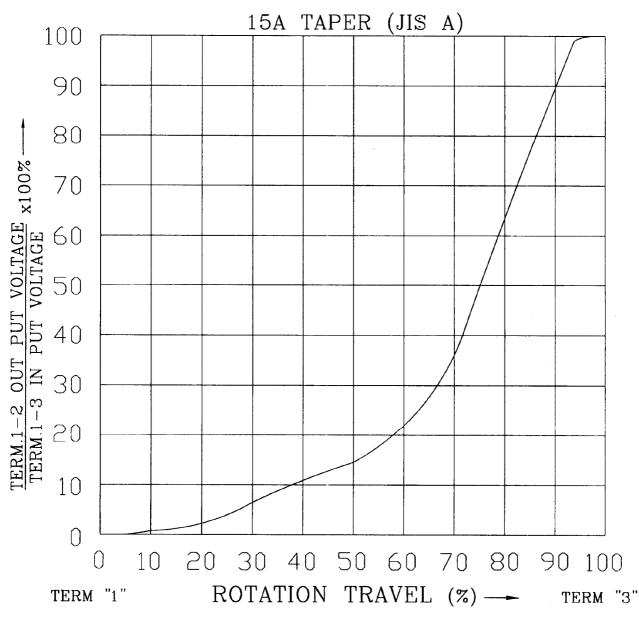




						-10J	9	
				RV2	4AF-10E6-0	(L)K-X*XX-1		
NO. DATE		DESCRIPTION	ON		MODEL NAME			
TOL UNLESS OTH	ERWISE STATED	DIMENSION	SCALE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NO.	
above 10	10 ±0.3 ~ 30 ±0.5 ~100 ±1.0 ±5°	mm	2:1	96. 5. 2	河 % 文建志	楊 7		

2. TOTAL ROTATION ANGLE degree 300 ±5° 2. TAP RESISTANCE & TOLERANCE terminal 1-4 3. TOTAL TRAVEL STROKE mm ±0.5 3. RATED WATTAGE temp 0~50°C 0.25 4. NUT WIRING STRENGTH twisting moment less than 9 kg.cm 5. SCREW TIGHTENING FORCE torsional moment less than kg.cm 6. ROTATION TORQUE speed 60 deg/sec. 5~60 g.cm & TOLERANCE 10	± 20 %
CUSTOMER'S DRAWING NO. CUSTOMER'S DRAWING	± %
1. OUTSIDE DIMENSION append fig. 2. TOTAL ROTATION ANGLE degree 300 ±5° 2. TOTAL ROTATION ANGLE degree 300 ±5° 3. TOTAL TRAVEL STROKE mm ±0.5 4. NUT WIRING STRENGTH twisting moment less than 9 kg cm 5. SCREW TIGHTENING FORCE torsional moment less than kg cm 6. ROTATION TORQUE speed 60 deg/sec. 5~60 g cm 7. SLDING FORCE speed 20mm/sec g cm 10. SHAFT LEVER STRENGTH pulling pushing more than kg cm 10. SHAFT LEVER WOBBLE within mm (bending moment g cm 10. SHAFT LEVER STOP STRENGTH more than 500 g cm / 10 ± 1 sec soldering heat 350°C/3sec. 200g.cm/10 ± 1 sec 11. TERMINAL STRENGTH g cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE g cm 13. SWITCH WORKING TORQUE (FORCE) g cm 14. SWITCH WORKING TORQUE (FORCE) g cm 15. SWITCH CIRCUIT SHAFT LEVER STANCE terminal 1-3 1K	± %
2. TOTAL ROTATION ANGLE degree 300 ±5′ 3. TOTAL TRAVEL STROKE mm 50.5 4. NUT WIRING STRENGTH twisting moment less than y kg.cm 5. SCREW TIGHTENING FORCE torsional moment less than kg.cm 6. ROTATION TORQUE speed 60 deg/sec. 5-60 g.cm 7. SLIDING FORCE speed 20mm/sec 8. SHAFT LEVER STRENGTH pulling pushing more than y kg.cm 10. SHAFT LEVER STOP STRENGTH more than y kg.cm 11. TERMINAL STRENGTH 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING TORQUE (FORCE) 15. SWITCH CIRCUIT 2. TAP RESISTANCE & TOLERANCE terminal 1-4 G. 3. RATED WATTAGE temp 0-50°C 0.25 4. MAXIMUM WORKING VOLTAGE 5. RESISTANCE TAPER MEASURING POINT A 50 6. RESIDUAL RESISTANCE terminal 1/3 side less than 7. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 9. SHAFT LEVER WOBBLE more than y kg 7. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 10. SHAFT LEVER STOP STRENGTH more than y kg 7. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 10. SHAFT LEVER STOP STRENGTH more than y kg 7. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 10. SHAFT LEVER STOP STRENGTH more than y kg 7. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 10. SHAFT LEVER STOP STRENGTH more than y kg 7. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 10. WITHSTAND VOLTAGE AC 500 V 1 11. TRACKING ERROR 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE MΩ less than 13. SWITCH RATING 13. SWITCH RATING 14. SWITCH WORKING TORQUE (FORCE) 15. SWITCH CIRCUIT 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SLIDE NOISE - less than	± %
3. TOTAL TRAVEL STROKE mm ±0.5 4. NUT WIRING STRENGTH twisting moment less than 9 kg.cm 5. SCREW TIGHTENING FORCE torsional moment less than kg.cm 6. ROTATION TORQUE speed 60 deg/sec. 5-60 g.cm 7. SLIDING FORCE speed 20mm/sec g.cm 8. SHAFT LEVER STRENGTH pulling pushing more than kg 9. SHAFT LEVER WOBBLE within mm (bending moment g.cm) 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec rose is change within ±2% 11. TERMINAL STRENGTH g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE g.cm 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT 3. RATED WATTAGE temp 0-50°C 0.25 4. MAXIMUM WORKING VOLTAGE 4. MAXIMUM WORKING VOLTAGE 5. RESISTANCE TAPER MEASURING POINT & 50.25 4. MAXIMUM WORKING VOLTAGE 5. RESISTANCE TAPER MEASURING POINT & 50.25 4. MAXIMUM WORKING VOLTAGE 5. RESISTANCE TAPER MEASURING POINT & 50.25 5. RESISTANCE TAPER MEASURING POINT & 50.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 4 side less than 10.25 6. RESIDUAL RESISTANCE terminal 4 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE terminal 1/3 side less than 10.25 6. RESIDUAL RESISTANCE te	,,,
4. NUT WIRING STRENGTH twisting moment less than 9 kg.cm 5. SCREW TIGHTENING FORCE torsional moment less than kg.cm 6. ROTATION TORQUE speed 60 deg/sec. 5~60 g.cm 7. SLIDING FORCE speed 20mm/sec g.cm 8. SHAFT LEVER STRENGTH pulling pushing more than kg 9. SHAFT LEVER WOBBLE within mm (bending moment g.cm) 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec 11. TERMINAL STRENGTH more than 500 g.cm / 10 ± 1 sec 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE g.cm 15. SWITCH CIRCUIT SHAFT LEVER STANCE MΩ less than 16. ROTATION TORQUE g.cm less than kg.cm 17. TAP RESIDUAL RESISTANCE terminal 1/3 side less than 4. MAXIMUM WORKING VOLTAGE 5. RESISTANCE TAPER MEASURING POINT 4. MAXIMUM WORKING VOLTAGE 5. RESISTANCE TAPER MEASURING POINT 5. RESISTANCE TAPER MEASURING POINT & TOLERANCE terminal 1/3 side less than 6. RESIDUAL RESISTANCE terminal 1/3 side less than 7. TAP RESIDUAL RESISTANCE terminal 4 side less than 8. SLIDE NOISE speed 60° / 1 sec less than 10. WITHSTAND VOLTAGE AC 500 V 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE MΩ less than 13. SWITCH RATING 14. WR LIFE 15,000 ± TIMES 15. RESISTANCE CHANGE: within ± 16. RESIDUAL RESISTANCE ME TOLERANCE TAPER MEASURING POINT 4. MAXIMUM WORKING VOLTAGE A. MAXIMUM WORKING VOLTAG	137
5. SCREW TIGHTENING FORCE torsional moment less than kg.cm	٧V
6. ROTATION TORQUE speed 60 deg/sec. 5-60 g.cm 7. SLIDING FORCE speed 20mm/sec g.cm 8. SHAFT LEVER STRENGTH pulling pushing more than kg 9. SHAFT LEVER WOBBLE within mm (bending moment g.cm) 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec soldering heat 350±5°C/3sec. 200g.cm/10±1sec resist change within ± 2% 11. TERMINAL STRENGTH g.cm 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT SHAFT SHAFT SHAFT SHAFT SHAFT SHAFT SHAFT SILDE NOISE speed 60 deg/sec. 5-60 g.cm 4. VR LIFE 15,000 ± TIMES RESISTANCE change: within ± SLIDE NOISE speed 60 or 1 sec less than 10. RESIDUAL RESISTANCE terminal 1/3 side less than 10. RESIDUAL RESISTANCE terminal 1/3 side less than 10. RESIDUAL RESISTANCE terminal 1/3 side less than 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec p. INSULATION RESISTANCE more than 100 MΩ(DC) 10. WITHSTAND VOLTAGE AC 500 V 1 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE MΩ less than 13. SWITCH RATING 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ±	V
7. SLIDING FORCE speed 20mm/sec g.cm 8. SHAFT LEVER STRENGTH pulling pushing more than kg 9. SHAFT LEVER WOBBLE within mm (bending moment g.cm) 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec more than 500 g.cm / 10 ± 1 sec soldering heat 350±5°C/3sec. 200g.cm/10±1sec resist change within ± 2% 11. TERMINAL STRENGTH soldering heat 350±5°C/3sec. 200g.cm/10±1sec resist change within ± 2% 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT SHAFT 6. RESIDUAL RESISTANCE terminal 1/3 side less than 7. TAP RESIDUAL RESISTANCE more than 1/3 side less than 9. INSULATION RESISTANCE more than 100 MΩ(DC 10. WITHSTAND VOLTAGE 10. WITHSTAND VOLTAGE 10. WITHSTAND VOLTAGE 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE MΩ less than 13. SWITCH RATING 13. SWITCH RATING 13. SWITCH RATING 14. SWITCH RATING 15. SUBSTANCE CHANGE: within ± STIMES 15. SUBSTANCE CHANGE: within ± STIMES 15. SUBSTANCE CHANGE: within ± STIMES 16. RESIDUAL RESISTANCE terminal 1/3 side less than 17. TAP RESIDUAL RESISTANCE terminal 4 side less than 17. TAP RESIDUAL RESISTANCE more terminal 4 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 4 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 4 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3 side less than 18. SLIDE NOISE 1. SWITCH RESISTANCE MORE terminal 1/3	%point
8. SHAFT LEVER STRENGTH pulling pushing more than kg 9. SHAFT LEVER WOBBLE within mm (bending moment g.cm) 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec 11. TERMINAL STRENGTH more than 500 g.cm / 10 ± 1 sec 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT SHAFT SHAFT 7. TAP RESIDUAL RESISTANCE terminal 4 side less than 7. TAP RESIDUAL RESISTANCE terminal 4 side less than 8. SLIDE NOISE 9. INSULATION RESISTANCE 10. WITHSTAND VOLTAGE 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE 13. SWITCH RATING 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ±	~ 25 %
9. SHAFT LEVER WOBBLE within mm (bending moment g.cm) 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec 11. TERMINAL STRENGTH 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT SHAFT Within mm (bending moment g.cm) 6 kg.cm (static load) / 60 sec 9. INSULATION RESISTANCE more than 100 MΩ(DC) 10. WITHSTAND VOLTAGE AC 500 V 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE MΩ less than 13. SWITCH CONTACT RESISTANCE MΩ less than 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT SHAFT SHAFT SLIDE NOISE RESISTANCE CHANGE: within ± SLIDE NOISE - less than	20/20 Ω
10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec 11. TERMINAL STRENGTH more than 500 g.cm / 10 ± 1 sec 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT SHAFT SHAFT 10. SHAFT LEVER STOP STRENGTH more than 6 kg.cm (static load) / 60 sec 9. INSULATION RESISTANCE more than 100 MΩ(DC) 10. WITHSTAND VOLTAGE AC 500 V 1 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE MΩ less than 1 13. SWITCH RATING 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SLIDE NOISE: less than	Ω
11. TERMINAL STRENGTH more than 500 g.cm/10±1 sec soldering heat 350±5°C/3sec. 200g.cm/10±1sec resist change within ± 2% 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SUIDE NOISE: less than 15. SWITCH CIRCUIT 15. SUIDE NOISE: less than 15. SWITCH CIRCUIT 16. WITHSTAND VOLTAGE AC 500 V 10. WI	47 mV
11. TERMINAL STRENGTH Soldering heat 350±5°C/3sec. 200g.cm/10 ±1sec resist change within ± 2% 12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT 3. USABLE TEMPERATURE RANGE: from −10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SI IDE NOISE: less than 15. SUIDE NOISE: less than 15. SU	500 V)
resist change within ± 2% 12. CLICK POSITION & TORQUE 13. SWITCH WORKING ANGLE (STROKE) 14. SWITCH WORKING TORQUE (FORCE) 15. SWITCH CIRCUIT 16. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE 13. SWITCH RATING 18. SWITCH RATING 19. CLICK POSITION & TORQUE (FORCE) 19. CLICK POSITION & TORQUE (STROKE) 10. SWITCH CONTACT RESISTANCE 10. SWITCH RATING 11. TRACKING ERROR 12. SWITCH CONTACT RESISTANCE 13. SWITCH RATING 14. VR LIFE 15. O00 ± TIMES RESISTANCE CHANGE: within ± SLIDE NOISE: loss than	minute
12. CLICK POSITION & TORQUE g.cm 13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SUIDE NOISE: less than	
13. SWITCH WORKING ANGLE (STROKE) degree (mm) 14. SWITCH WORKING TORQUE (FORCE) g.cm 15. SWITCH CIRCUIT 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SI IDE NOISE: less than	$m\Omega$
14. SWITCH WORKING TORQUE (FORCE) 15. SWITCH CIRCUIT 3. USABLE TEMPERATURE RANGE: from -10°C to 70°C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SI IDE NOISE: less than	
3. USABLE TEMPERATURE RANGE: from -10 C to 70 C 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SI IDE NOISE: less than	
SHAFT 4. VR LIFE 15,000 ± TIMES RESISTANCE CHANGE: within ± SLIDE NOISE: less than	
SHAFT SLIDE NOISE : loss than	
SLIDE NOISE · less than	%
	mV
MATERIAL A SWLIFE + TIMES	
at M L F T CONTACT RESISTANCE: less than	mΩ
ALUMINU 20	111 22
MODEL NAME DRAWING NO. REFERENCE NO. REV	
RV24AF-10E6-20K-A1K-10J9 SP09020374	

STANDARD RESISTANCE TAPER



NO.	DATE		DESCRIPTION	ON]	MODEL NAME	
TOL.	TOL. UNLESS OTHERWISE STATED DIMENSION SCALE I			DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NO.	
less abo abo abo	ve 30 ~	10 ±0.3 30 ±0.5 100 ±1.0 ±5*	mm		何 90 8. 21 建志	王 90 8.21 茂松	<u>子</u> 90 8.21 茂松	

可變電阻無鉛焊錫共通規格書

Common Specification of Lead-Free Soldering for Potentiometers

以下焊錫條件以可變電阻置於單層 1.6mm 厚度之印刷電路板上測試爲基準.

The specification below is based on testing results of 1.6mm thickness single layer printed circuit board.

1. 手工焊錫條件:

For Manual Soldering:

1-1 操作溫度最高 350°C,操作時間 3 秒以內。

To be performed within 3 seconds at 350°C or below.

2. 自動或半自動機台焊錫條件:

For Automated or Semi-Automated Soldering Equipments:

2-1 使用發泡式且比重 0.82 以上的助焊劑,發泡高度以印刷電路板厚度一半為標準,且助焊劑不能流入可變電阻基板表面及印刷電路板表面。

Flux of 0.82 specific gravity, applied by foam fluxer, shall be used. Foam head shall be limited to the height which is half thickness of printed circuit board to be soldered. No flux should be allowed to run up onto resistive element board of potentiometer and the surface of printed circuit board.

- 2-2 預熱時間不超過兩分鐘,焊錫接面 (即印刷電路板底) 最高預熱溫度不超過 100°C。

 Regarding preheating, the entire flow duration should not exceed 2 minutes, and soldering surface temperature (undersurface of PCB) shall be settled within 100°C.
- 2-3 焊錫過程機台設定溫度在 260°C 以下、 4 秒以內。

Solder Dipping is to be performed within 4 seconds at 260°C or below.

- 3. 若可變電阻爲帶有檔位,請將主軸或滑柄先調整至其中一個檔位或中心檔位上才可以進行焊錫作業。
 For potentiometer with centre detent or multiple detents, its shaft or lever should be settled in relevant detent position prior to soldering process.
- 4. 手工焊錫、自動或半自動機台焊錫不得超過一回。

Regardless of soldering facility and method, solder dipping or solder smearing must not be carried out more than 1 time.

註:本項焊錫溫度條件不適用於回流焊接作業設備。

Remarks: This specification is not recommended for and applicable in reflow soldering.