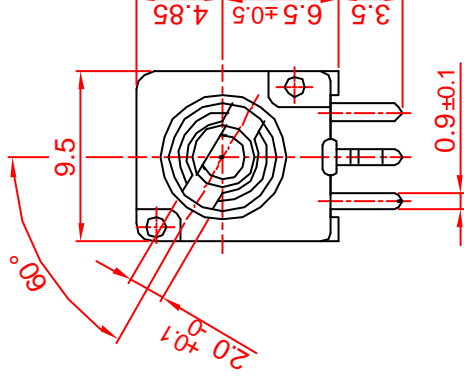
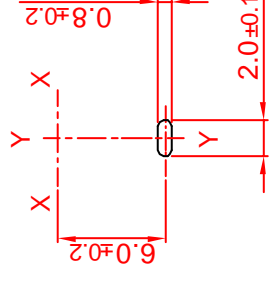


**P.W.B. MOUNTING DETAIL
TOLERANCES ±0.1
VIEWED FROM MOUNTING SIDE**



**INNER, OUTER SHOWN IN
FULL C.C.W. POSITION**



LOCATING LUG DETAIL

RoHS Compliance

CODE NO.	Pot\Rotary\9mm\9M\Spec	MODLE NAME	9MM2HB-B-25F-B50K-002-6H
PATH :		DRAWING NO.	9M-104
TOLERANCES	APPROVED SIGNATURES	CHECKED BY	APPROVED BY
L 10 ±0.3		周貴榮	周貴榮
10 < L 100 ±0.5		鐘學峰	周貴榮
100 < L ±0.8			
angular dimension ±5°			
Third Angle Projection			
2007.12.13	Zhong xue feng 首次出圖	2007.12.13	2007.12.13
△		SCALE	1/1
△		UNIT	m/m
△		VERSION	A
△		可正欣有限公司 TOP-UP INDUSTRY CORP.	

90雙軸2連回轉式可變電阻器製品規格書

90 DUAL SHAFT QUAD UNIT ROTARY POTENTIOMETERS SPECIFICATIONS

1. 一般事項 General

1.1 適用範圍：此規範適用於電子機器之可變電阻器。

Application: This specification is applied to potentiometers used for electronic equipment .

1.2 使用溫度範圍 Operating temperature: -10~+55°C

1.3 試驗狀態：若無特別規定限制，則以溫度5~35°C，相對濕度45~85%，氣壓860~1060mbar之標準狀態測之。
但對此標準狀態之測定值發生判定疑問或有特別要求則以基準狀態(溫度20±2°C,相對濕度65±5%,氣壓860~1060mbar)為準測定。

Test conditions : the standard test conditions shall be 5~35°C in temperature ,45~85%RH and 860~1060mbar in atmospheric , should any doubt arise in judgement , tests shall be conducted at 20±2°C , 65±5%RH and 860~1060mbar .

2. 構造、尺寸 Construction and dimensions 依組立圖 Refer to attached drawing

3. 電氣性能 Electrical characteristics

NO.	項目 Item	試驗條件 Test conditions	規格 Specifications
3-1	全阻抗值 Total resistance	軸置于端子1或3終端，測定端子1-3間的阻抗值 Measurement shall be made by the resistance between terminal 1 and 3 with shaft setted at terminal 1 or 3 .	外軸(Outer shaft):R1 內軸(Inner shaft):R2 R<250KΩ許容差±20% R≥250KΩ許容差±30% R<250KΩ Tolerance ±20% R≥250KΩ Tolerance ±30%
3-2	額定電力 Power rating	端子1和3間所能連續負荷之最大電力 Power rating is based on continuous full load operation at the maximum voltage between terminal 1 and terminal 3 .	0.05W
3-3	額定電壓 Rated voltage	額定電壓 Rated voltage $E=\sqrt{PR}$ (V) 額定電力 P: Power rating (W) 公稱全阻抗值R: Nominal total resistance (Ω) 當額定電壓超過最高使用電壓的時候，最高使用電壓即為額定電壓。 When the rated voltage exceeds the maximum operating voltage , the maximum operating voltage shall be the rated voltage .	
3-4	最高使用電壓 Max operating voltage		A.C 50V D.C 10V

					APPD.	CHKD.	DSGD.	DOCUMENT NO. : 9MM2HB-B-25F-B50K-002-6H	
△	2007.11.30	規格書內容更改	zhouguirong	周貴榮	余倩	周貴榮	VERSION : C		
△	2005.5.24	品名更改:原9MM2HB-B-6H	GongJunli				PAGE : 1 OF 5		
SYMB	DATE	APPD	CHKD	DSGD	2007.11.30	2007.11.30	2007.11.30	DRAWING NO.	9M-102

90雙軸2連回轉式可變電阻器製品規格書

90 DUAL SHAFT QUAD UNIT ROTARY POTENTIOMETERS SPECIFICATIONS

NO.	項目 Item	試驗條件 Test conditions	規格 Specifications			
3-5	阻抗變化特性 Taper	電壓法測定 (*記號表示自第3端子測起) Measurement shall be made by the resistance law method. (*With respect to terminal 3)				
		變化特性 taper	測定位置 test point	$\frac{V1-2}{V1-3}$	$\frac{V2-3}{V1-3}$	
		05A	150°	√	—	0~10%
		10A	150°	√	—	6~15%
		15A	150°	√	—	10~25%
		25A	150°	√	—	18~34%
		30A	150°	√	—	25~35%
		1B, 2B, 3B	150°	√	—	40~60%
		4B	90 ±5°	√	—	5~15%
			150°	√	—	40~60%
			210 ±5°	√	—	85~95%
		05C	*150°	—	√	0~10%
		10C	*150°	—	√	6~15%
		15C	*150°	—	√	10~25%
		25C	*150°	—	√	18~34%
30C	*150°	—	√	25~35%		
3-6	殘留阻抗 Residual resistance	滑動子置于全回轉角度的終端時, 端子1-2間, 端子2-3間的阻抗值測定。 The resistances at each end of the mechanical rotation between terminal 1 and 2, terminal 2 and 3 shall be measured.				
		公稱全阻抗值(KΩ) Nominal total resistance (KΩ)				
		$R \leq 10$	20Ω MAX. 20Ω 以下			
		$10 < R < 50$	30Ω MAX. 30Ω 以下			
		$50 \leq R$	全阻值的0.1% 以下 0.1% MAX. of total resistance			
3-7	旋轉雜音 Rotational noise	端子1-3間印加直流電壓20V(額定電壓20V以下時, 則印加此額定電壓), 以30回/分的轉速所測定之雜音。 Applying 20V D.C between the terminals 1 and 3 (When the rated voltage is small than the 20V D.C, it shall be applied the rated voltage.)And then the noise shall be measured by the specified speed 30 cycles / min .	100mV 以下 100mV MAX.			

					APPD.	CHKD.	DSGD.	DOCUMENT NO.	
								9MM2HB-B-25F-B50K-002-6H	
					周貴榮	余倩	周貴榮	VERSION :	C
								PAGE :	2 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2007.11.30	2007.11.30	2007.11.30	DRAWING NO.	9M-102

90雙軸2連回轉式可變電阻器製品規格書

90 DUAL SHAFT QUAD UNIT ROTARY POTENTIOMETERS SPECIFICATIONS

NO.	項目 Item	試驗條件 Test conditions	規格 Specifications
3-8	絕緣阻抗 Insulation resistance	施加 250V之直流電壓, 1分鐘後測試. 測試位置: 端子和外蓋間 Test voltage : 250V D.C measure after 1 m Test position :Between terminal and cover	100MΩ 以上 100MΩ MIN.
3-9	耐電壓 Voltage proof	以300V之交流電壓, 測試1分鐘 測試位置: 端子和外蓋間 Applying 300V A.C measure for 1 min . Applied position : Between terminal and cover.	不可有損傷, 電弧, 絕緣, 破壞 Without damage to parts, arcing or breakdown .

4. 機械性能: Mechanical characteristic

NO.	項目 Item	試驗條件 Test conditions	規格 Specifications
4-1	全回轉角度 Total rotational angle		300° ±5°
4-2	回轉轉矩 Operating torque	回轉速度60° /秒, 但指針之瞬間下滑不計. Rotational speed 60° /sec, but torque met indicator dropping in an instant shall be excepted .	20~250 gf-cm
4-3	軸止動強度 Shaft stopper strength	在1端子側或3端子側施加回轉力矩5Kgf-c 1秒鐘. A torsion moment of 5Kgf-cm shall be applied at shaft in terminal 1 or terminal 3 for 1 sec .	操作部和關連部不可有變形, 破損 Without deformation or breaks in the operating part and contact part .
4-4	軸承螺絲固定 強度 Bushing mount strength		10Kgf-cm 以上, 在10Kgf-cm以下使用 10Kgf-cm MIN. Don't over 10Kgf-cm when operating .
4-5	焊錫耐熱 Resistance to soldering heat	請參照DIP焊錫條件(Items 6) Condition of DIP soldering (Items 6)	全阻抗值變化在初期的±5%以內, 端子不可有接觸不良或明顯鬆動 Change in total resistance is relative to the value before test ±5% . Without excessive looseness of terminals and failure contact .

					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								9MM2HB-B-25F-B50K-002-6H	
					周貴榮	余倩	周貴榮	VERSION :	C
								PAGE :	3 OF 5
SYMB	DATE	APPD	CHKD	DSGD	2007.11.30	2007.11.30	2007.11.30	DRAWING NO.	9M-102

90雙軸2連回轉式可變電阻器製品規格書

90 DUAL SHAFT QUAD UNIT ROTARY POTENTIOMETERS SPECIFICATIONS

NO.	項目 Item	試驗條件 Test conditions	規格 Specifications		
4-6	軸之張力壓力 強度 Shaft push-pull strength	在軸之方向加壓力或張力之靜負荷10Kgf, 10秒 Push and pull static load 10Kgf shall be applied in the shaft direction for 10 sec .	電氣性能須滿足 Electrical characteristics shall be satisfied .		
4-7	軸松動 Shaft wobble	在固定狀態時, 距離固定面30mm位置施 加500gf-cm之力矩 (軸長未滿30mm時, 依此例計算) The potentiometer is fixed condition. A torsion momet of 500gf-cm shall be applied at the point of 30mm from the mounting surface. If the shaft length is less than 30mm the vaiue shall be ealculated proportional ly.			
		軸受長 Bushing length	外軸 Outer shaft	內軸 Inner shaft	
		5	0.6mm P-P以下(MAX.)	0.8mm P-P以下(MAX.)	
		7	0.5mm P-P以下(MAX.)	0.8mm P-P以下(MAX.)	
		10以上 (MIN.)	0.4mm P-P以下(MAX.)	0.7mm P-P以下(MAX.)	

5. 耐久性能 Endurance

NO.	項目 Item	試驗條件 Test conditions	規格 Specifications		
5-1	回轉壽命 Rotational life	無負荷狀態, 軸回轉速度600回/小時, 有效 回轉角度的90%以上, 總次數15,000回以上. The moving contact without electrical load shall be rotated form one end stop to the other end returned to its original position extend over 90% or more effective angle . Rotation speed: 600 cycle / hour Total cycles: 15,000 cycles	全阻抗值的變化為初期值±15%以內 旋轉雜音: 150mV以下 其它須滿足(3項) (4項) Change in total resistance is relative to the value before test ±15% . Noise : 150mV MAX. Clause (3), (4) shall be satisfied .		

					APPD.	CHKD.	DSGD.	DOCUMENT NO. :	
								9MM2HB-B-25F-B50K-002-6H	
					周貴榮	余倩	周貴榮	VERSION :	C
								PAGE :	4 OF 5
SYME	DATE	APPD	CHKD	DSGD	2007.11.30	2007.11.30	2007.11.30	DRAWING NO.	9M-102

90雙軸2連回轉式可變電阻器製品規格書

90 DUAL SHAFT QUAD UNIT ROTARY POTENTIOMETERS SPECIFICATIONS

6. 焊錫條件 Condition of soldering

浸漬焊錫處理時,請確保在下列工作條件

Soldering shall be certified with following condition

6-1	使用基板：t1.6厚單面銅箔積層板。 Substrate to be soldered : copper clad laminate phenol board in one surface of 1.6mm thickness .
6-2	助焊劑：使用發泡式比重0.82以上的焊劑,發泡面高大致在基板厚度一半的位置,而助焊劑不可流入基板表面上 Solder flux : Flux of 0.82 specific weight in bubbling type solder flux coating apparatus shall be used and bubbling surface height shall be defined substantially as half thickness of substrate . Flux shall not flow up on the substrate surface
6-3	預熱：基板表面溫度100°C以下,時間2分鐘以內 Preheating : Surface temperature of the substrate shall be settled within 100°C in two minutes
6-4	焊錫：溫度 260 ± 5°C 以下, 5 秒以內(手焊溫度：350°C 以下, 3 秒以內) Soldering : 260°C MAX. within 5 sec. (Manual solder temperature 350°C MAX. within 3 sec.)

以上工程1回通過即可

Please use the above process only one times .

RoHS Compliance

					APPD.	CHKD.	DSGD.	DOCUMENT NO.:	
					周貴榮	余倩	周貴榮	9MM2HB-B-25F-B50K-002-6H	
				VERSION :				C	
				PAGE :				5 OF 5	
SYMB	DATE	APPD	CHKD	DSGD	2007.11.30	2007.11.30	2007.11.30	DRAWING NO.	9M-102

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