

# SPECIFICATION FOR APPROVAL

## 承認書

Description : Piezo Audio Transducer

Kingstate Part No. : KMTG1261

Customer's Model No. : \_\_\_\_\_

Specification No. : PKD-7173

Number Of The Edition : 1.2

CUSTOMER'S APPROVED SIGNATURE		



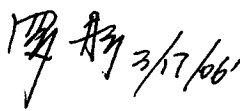
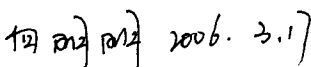
志豐電子股份有限公司 KINGSTATE ELECTRONICS CORP.

Address: 10F, No. 69-11, Sec. 2, Chung Cheng E. Rd., Tamshui County, Taipei Hsien, Taiwan, R.O.C.

International sales dept.: TEL:886-2-2809-5651 FAX:886-2-2809-7151

Domestic sales dept.: TEL:886-2-2809-0668 FAX:886-2-28096748

<http://www.kingstate.com.tw>

Approved by	Checked by	Issued by
 3/17/06	 2006. 3.17	Fei 3/16/06

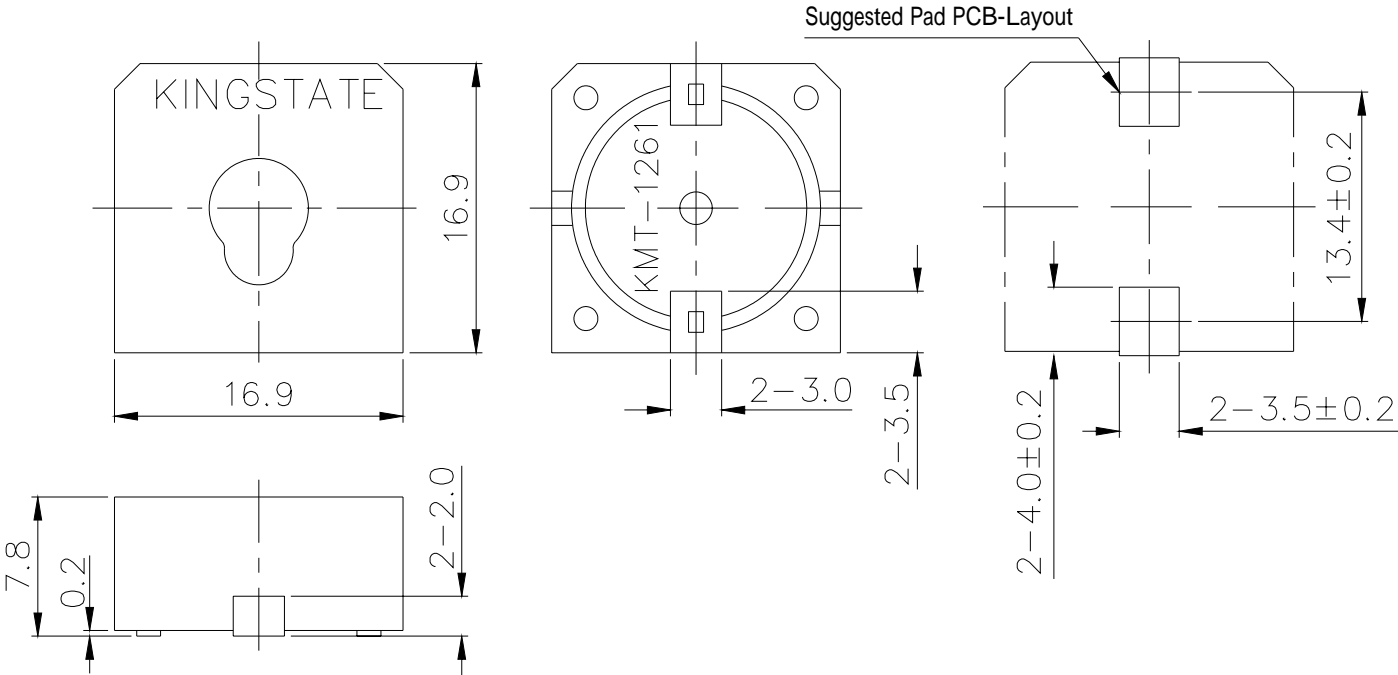
A. SCOPE 範疇

This specification applies piezo audio transducer, **KMTG1261**  
此規格書適用於壓電式蜂鳴器, **KMTG1261**

B. SPECIFICATION 規格

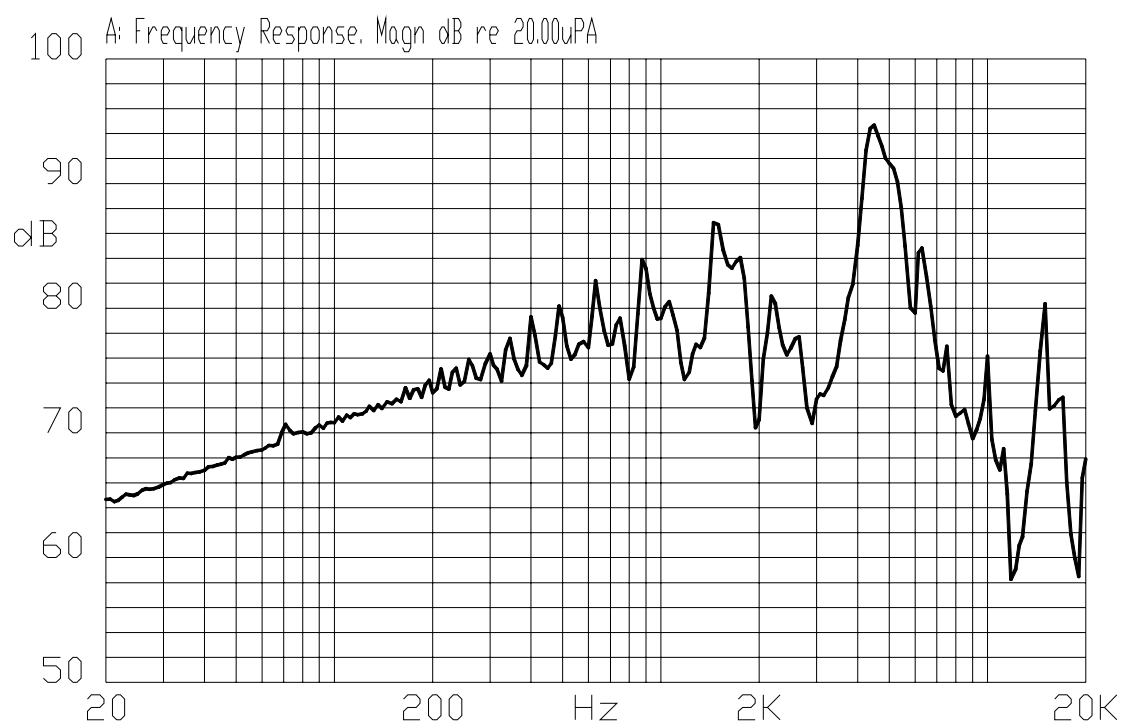
No.	Item	Unit	Specification	Condition
1	Operating Volt. 操作電壓	Vp-p	MAX 20	
2	Current consumption 消耗電流	mA	MAX 10	at 10Vp-p,square wave,5.0KHz.
3	Sound pressure level 輸出音壓	dB	MIN 88	at 10cm/10Vp-p,square wave,5.0KHz.
4	Electrostatic capacity 靜電容量	pF	15,000 ± 30%	at 1KHz/1V
5	Operating temp. 操作溫度		-30 ~ +70	
6	Storage temp. 儲存溫度		-40 ~ +80	
7	Dimension 尺寸	mm	L16.9xW16.9xH7.8	See appearance drawing 請參照外觀尺寸圖
8	Weight (MAX) 重量	gram	2.6	
9	Material 材質		PPS UL-94 V-0 ( BLACK )	
10	Terminal 端子		SMD type (鍍金/Plating Au)	See appearance drawing 請參照外觀尺寸圖
11	Environmental Protection Regulation 環保法規		RoHS	

C. APPEARANCE DRAWING 外觀尺寸圖



Tol : ± 0.5  
Unit: mm

## D. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線

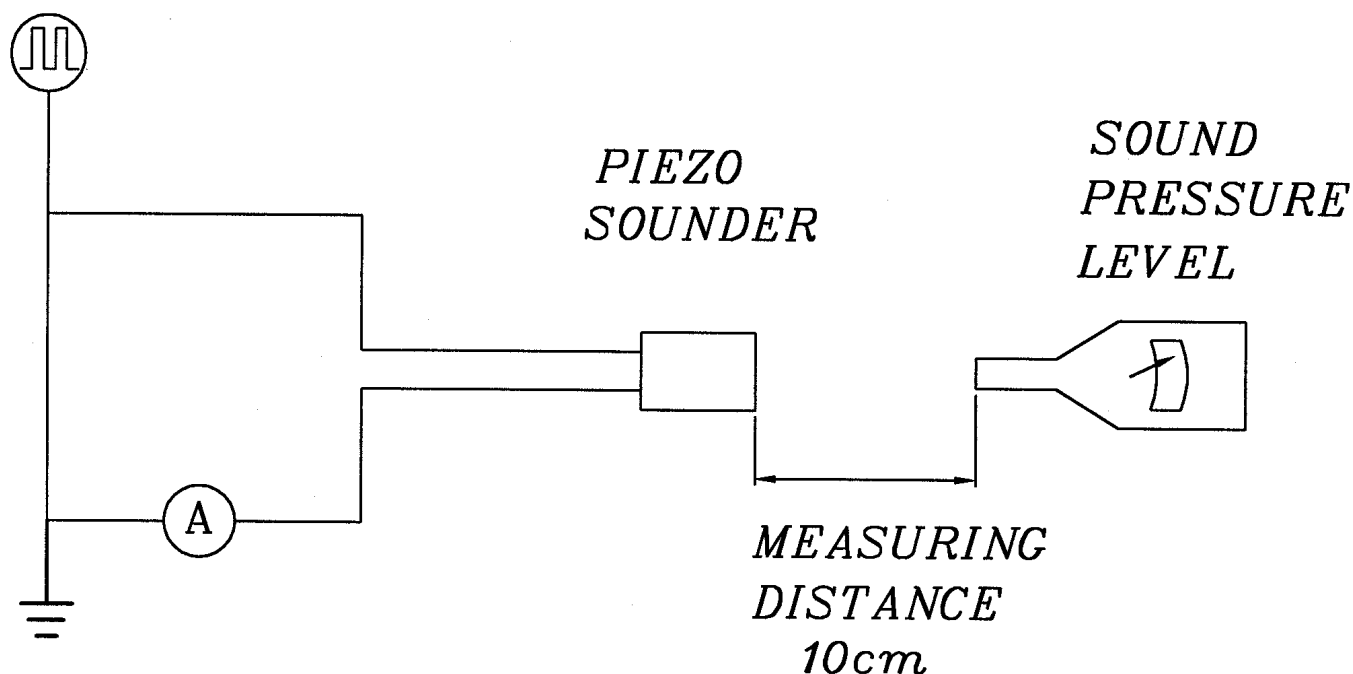


## E. MEASURING METHOD 測量方法

S.P.L. Measuring Circuit 音壓測試接線圖

Input Signal: 10Vp-p, 5kHz, Square Wave

輸入信號: 10Vp-p, 5kHz, 方波



Mic : RION S.P.L meter UC30 or equivalent

Mic : RION 噪音計 UC30 或同等品

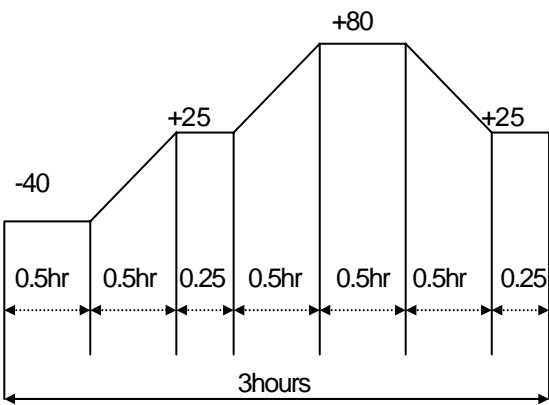
S.G : Hewlett Packard 33120A Function Generator or equivalent

S.G : Hewlett Packard 33120A 函數信號產生器或同等品

## F. MECHANICAL CHARACTERISTICS 機械特性

No.	Item	Test Condition	Evaluation standard
1	Solderability 焊錫附著性	Lead terminals are immersed in solder bath of $+270\pm5$ for $3\pm1$ second. 端子置於錫膏內, 錫膏溫度: $+270\pm5$ . 焊接時間: $3\pm1$ 秒.	95% surface of lead pads must be covered with fresh solder 錫膏須覆蓋端子上方 95%
2	Soldering Heat Resistance 焊錫耐熱性	The product is followed the reflow temperature curve to test its reflow thermo stability. 產品依照回焊溫度曲線測試回焊耐熱性.	No interference in operation. 操作上無任何不良.
3	Terminal Mechanical Strength 端子強度	Lead pads shall be soldered on the pc board, and the force $9.8N(1.0kg)$ shall be applied behind the part for 10 seconds. 將端子焊在 PC 板上後, 對單體施以 $9.8N(1.0kg)$ 拉力 10 秒.	No damage and cutting off 端子不鬆動, 不脫落
4	Vibration 振動試驗	Buzzer shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours. 振動週波數 10 ~ 55HZ、全振幅 1.5mm 於 X.Y.Z 3 個方向, 各 2 小時.	The value of oscillation frequency/ current consumption should be in $\pm 10\%$ compared with initial ones. The SPL should be in $\pm 10dB$ compared with initial one. 諧振頻率與消耗電流變化量須在 $\pm 10\%$ 內. 輸出音壓變化量須在 $\pm 10dB$ 內.
5	Drop test 落下測試	The part only shall be dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X.Y.Z). (a total of 9 times). 單體從 75 公分高處, X.Y.Z.3 個方向, 各 3 回, 落於 40mm 厚木板上.	

## G. ENVIRONMENT TEST 環境測試

No.	Item	Test Condition	Evaluation standard
1	High temp. test 高溫測試	After being placed in a chamber at $+80$ for 240 hours 置於 $+80$ 環境中 72 小時	Being placed for 4 hours at $+25$ , buzzer shall be measured. The value of oscillation frequency/ current consumption should be in $\pm 10\%$ compared with initial ones. The SPL should be in $\pm 10dB$ compared with initial one. 經測試後, 靜置於 $+25$ (室溫) 環境中 4 小時後, 諧振頻率與消耗電流變化量須在 $\pm 10\%$ 內. 輸出音壓變化量須在 $\pm 10dB$ 內.
2	Low temp. test 低溫測試	After being placed in a chamber at $-40$ for 240 hours 置於 $-40$ 環境中 72 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at $+40$ and $90\pm 5\%$ relative humidity for 240 hours 置於 $+40$ , 相對濕度 $90\pm 5\%$ 環境中 72 小時	
4	Temp. cycle test 溫度循環試驗	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of: 單體承受溫度循環測試 5 次, 其循環內容如圖示:</p> 	

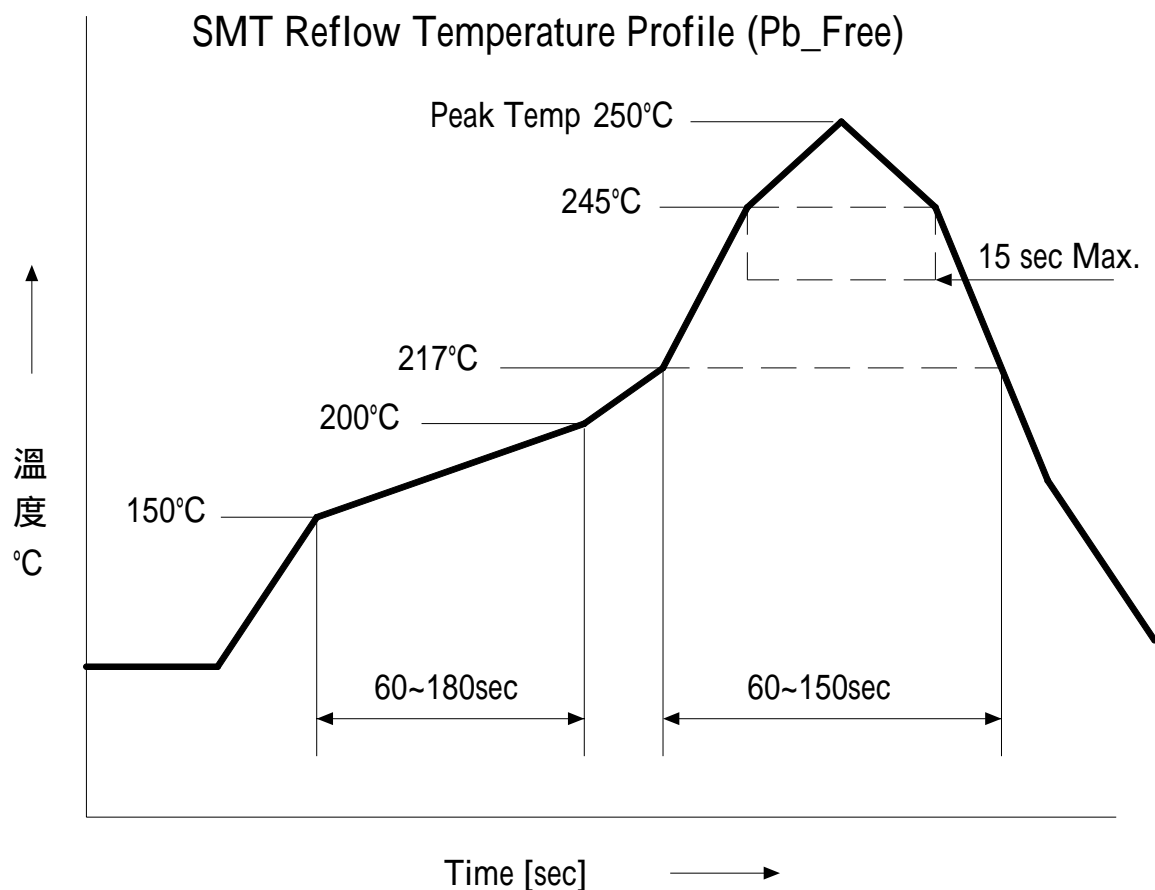
## H. RELIABILITY TEST 信賴性測試

No.	Item	Test condition	Evaluation standard
1	Operating life test 壽命測試	<p>1. Continuous life test 高溫壽命測試(連續) 48 hours continuous operation at +55 with rated voltage applied. 在+55 環境下,以額定電壓連續操作 48 小時.</p> <p>2. Intermittent life test 室溫壽命測試(間歇) A duty cycle of 1 minute on, 1 minutes off, a minimum of 5000 times at room temp.( +25 ±2 )and rated voltage applied. 在室溫下(+25 ±2 ), 以額定電壓操作, 通電 1 分鐘/斷電 1 分鐘,測試 5000 次循環.</p>	<p>Being placed for 4 hours at +25 , buzzer shall be measured. The value of oscillation frequency/ current consumption should be in ±10% compared with initial ones .The SPL should be in ±10dB compared with initial one.</p> <p>經測試後, 靜置於+25 (室溫) 環境中 4 小時後, 諧振頻率與消耗電流變化量須在±10%內. 輸出音壓變化量須在±10dB 內.</p>

### TEST CONDITION.

Standard Test Condition	:	a) Temperature : +5 ~ +35	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般測試條件	:	a) 溫度 : +5 ~ +35	b) 濕度 : 45-85%	c) 氣壓 : 860-1060mbar
Judgement Test Condition	:	a) Temperature : +25 ±2	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
爭議時測試條件	:	a) 溫度 : +25 ±2	b) 濕度 : 60-70%	c) 氣壓 : 860-1060mbar

## I. Recommended Temperature Profile For Reflow Oven 建議迴焊爐溫度曲線



Note: 245 is Less than 15 sec. ,but only pass the lead free reflow once.

備注 245 不可超過 15 秒, 且只能過無鉛回流焊一次.

## J. PACKING STANDARD 包裝規格

