

SPECIFICATION FOR APPROVAL

承 認 書

Description : Piezo Audio Transducer

Kingstate Part No. : KMTG1740

Customer's Model No. : _____

Specification No. : POD-5307

Number Of The Edition : 1.2

CUSTOMER'S APPROVED SIGNATURE

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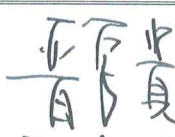
 **KINGSTATE** 志豐電子股份有限公司 **KINGSTATE ELECTRONICS CORP.**

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Approved by	Checked by	Issued by
 2016.05.31	 5/31	Xuejiuchao 05/31/16`

A. SCOPE 範疇

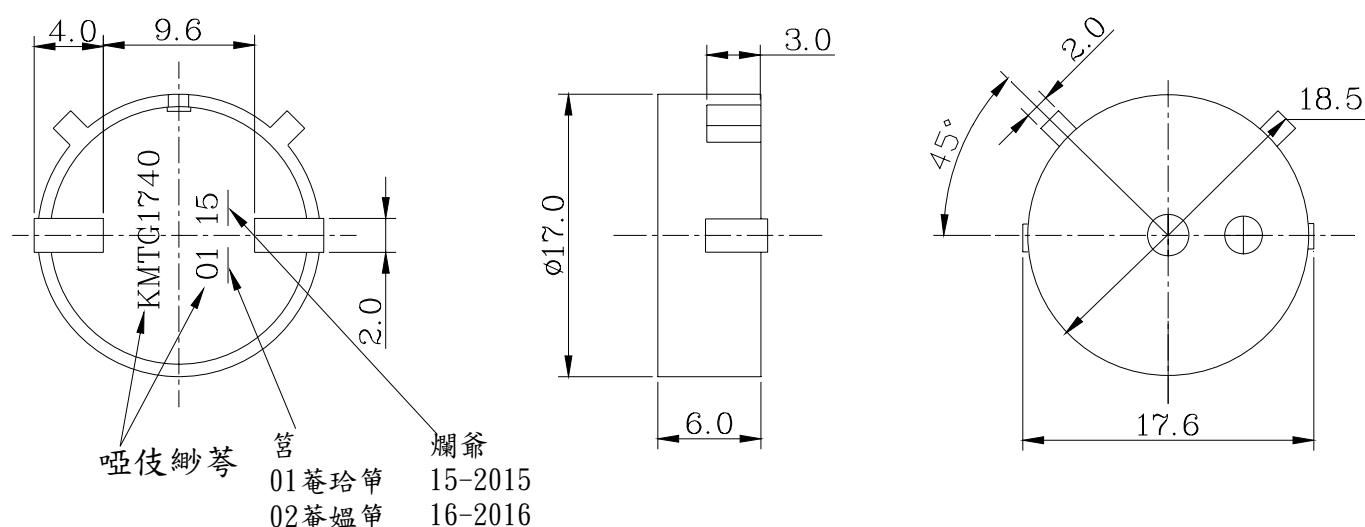
This specification applies piezo audio transducer, **KMTG1740**

此規格書適用於壓電式蜂鳴器, **KMTG1740**

B. SPECIFICATION 規格

No.	Item	Unit	Specification	Condition
1	Max input Voltage 最大操作電壓	Vp-p	MAX 30	
2	Current consumption 消耗電流	mA	MAX 12	at 12Vp-p,square wave,4.0KHz.
3	Sound pressure level 輸出音壓	dB	Min 90	at 10cm/12Vp-p,square wave,4.0KHz
4	Electrostatic capacity 靜電容量	pF	15,000 ± 30%	at 120Hz/1V
5	Operating temp. 操作溫度	℃	-40 ~ +105	
6	Storage temp. 儲存溫度	℃	-40~ +120	
7	Dimension 尺寸	mm	φ17.0xH6.0	See appearance drawing 請參照外觀尺寸圖
8	Weight (MAX) 重量	gram	2	
9	Material 材質		PPS (Black)	
10	Terminal 端子		SMD type (鍍全錫/Plating Sn)	See appearance drawing 請參照外觀尺寸圖
11	Environmental Protection Regulation 環保法規		HSF	
12	Storage life 保存期限	month	6	6 months preservation at room temp.(25±3℃), Humidity40% 在室溫下25±3℃,濕度40%以下可保存6個月.

C. APPEARANCE DRAWING 外觀尺寸圖



Tol : ± 0.5

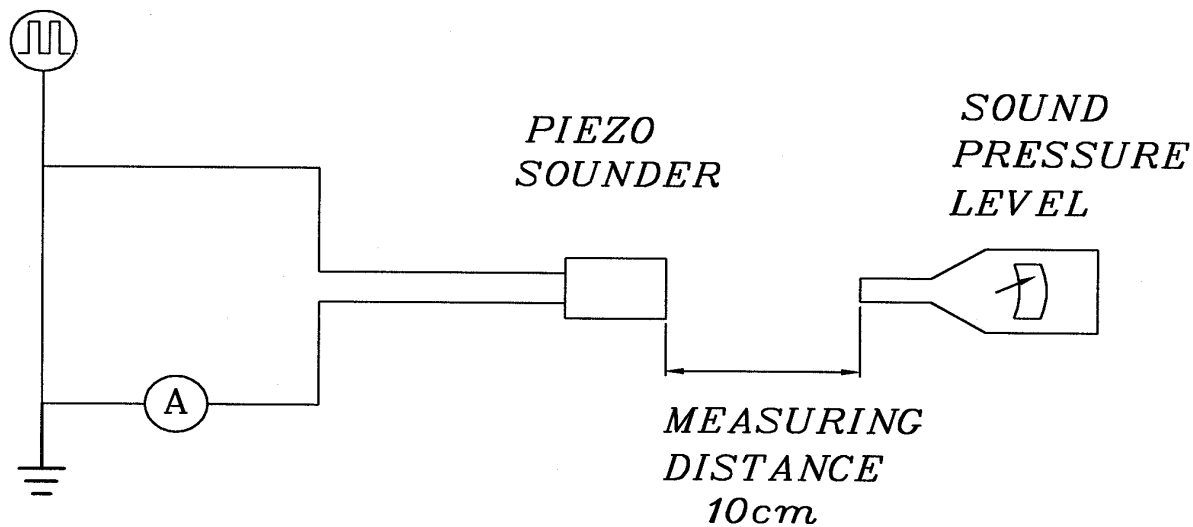
Unit : mm

D. MEASURING METHOD 測量方法

S.P.L. Measuring Circuit 音壓測試接線圖

Input Signal: 12Vp-p, 4.0kHz, Square Wave

輸入信號: 12Vp-p, 4.0kHz, 方波



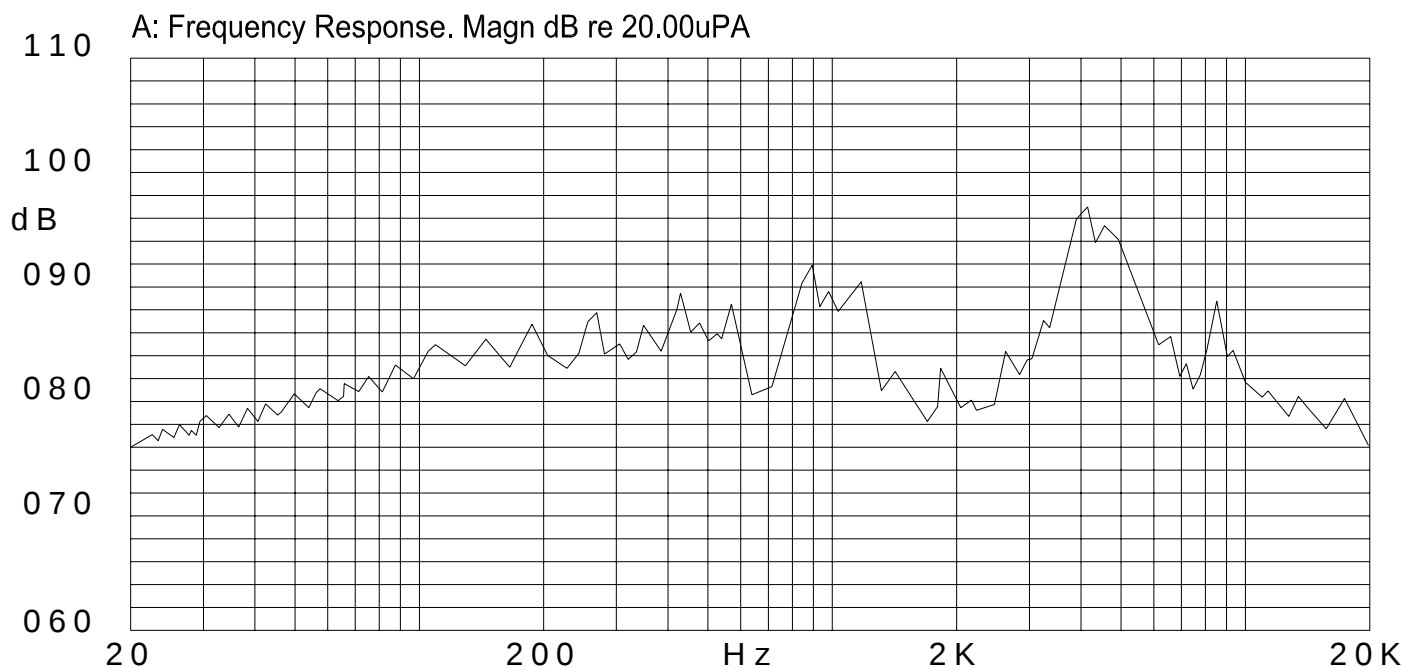
Mic : RION S.P.L meter UC30 or equivalent

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

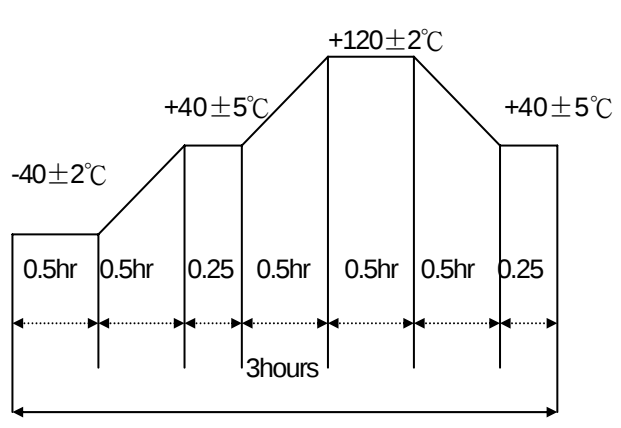
E. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線



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 rosin for 5 seconds and then immersed in solder bath of $+270\pm 5^{\circ}\text{C}$ for 3 ± 1 seconds. 端子部份浸入松香溶液 5 秒後,再浸入 $+270\pm 5^{\circ}\text{C}$ 熔融焊錫槽中 3 ± 1 秒.	90% min. lead terminals shall be wet with solder. (Except the edge of terminal) 浸入端子部份附著焊錫 90%以上.(末端斷面不算)
2	Soldering Heat Resistance 焊錫耐熱性	Lead terminal are immersed up to 1.5mm from sounder's body in solder bath of $+300\pm 5^{\circ}\text{C}$ for 3 ± 0.5 seconds or $+260\pm 5^{\circ}\text{C}$ for 10 ± 1 seconds. 距離端子根部 1.5mm 的位置,浸入 $+300\pm 5^{\circ}\text{C}$ 的焊錫槽 3 ± 0.5 秒,或 $+260\pm 5^{\circ}\text{C}$ 的焊錫槽 10 ± 1 秒.	No interference in operation 操作上無任何不良.
3	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 10% compared with initial ones. The SPL should be in $\pm 10\text{dB}$ compared with initial one.
4	Drop test 落下測試	The part only shall be dropped from a height of 70cm onto a 10mm thick wooden board 3 times in 3 axes (X.Y.Z). (a total of 9 times). 單體從 70 公分高處, X.Y.Z.3 個方向,各 3 回,落於 10mm 厚木板上.	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 $\pm 10\text{dB}$ 內.

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 $+120^{\circ}\text{C}$ for 120 hours 置於 $+120^{\circ}\text{C}$ 環境中 120 小時	Being placed for 4 hours at $+25^{\circ}\text{C}$, 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 $\pm 10\text{dB}$ compared with initial one. 經測試後, 靜置於 $+25^{\circ}\text{C}$ (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 $\pm 10\text{dB}$ 內.
2	Low temp. test 低溫測試	After being placed in a chamber with -40°C for 120 hours 置於 -40°C 環境中 120 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at $+40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ and 90~95% relative humidity for 120 hours 置於 $+40^{\circ}\text{C}\pm 2^{\circ}\text{C}$, 相對濕度 90~95% 環境中 120 小時	
4	Temp. cycle test 溫度循環試驗	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: 	

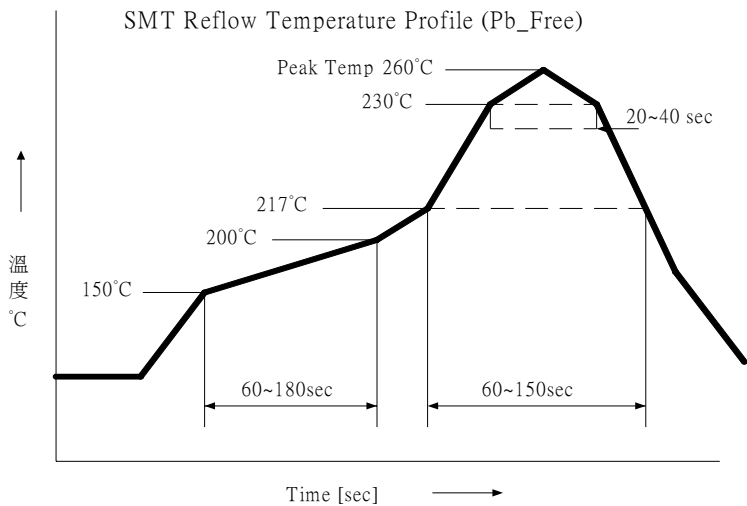
H. RELIABILITY TEST 信賴性測試

No.	Item	Test condition	Evaluation standard
1	Operating life test 壽命測試	1.Continuous life test 高溫壽命測試(連續) 48 hours continuous operation at +90°C with rated voltage applied. 在+90°C環境下,以額定電壓連續操作 48 小時. 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°C)and rated voltage applied. 在室溫下(+25±2°C),以額定電壓操作,通電 1 分鐘/斷電 1 分鐘,測試 5000 次循環.	Being placed for 4 hours at +25°C, 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. 經測試後,靜置於+25°C (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.

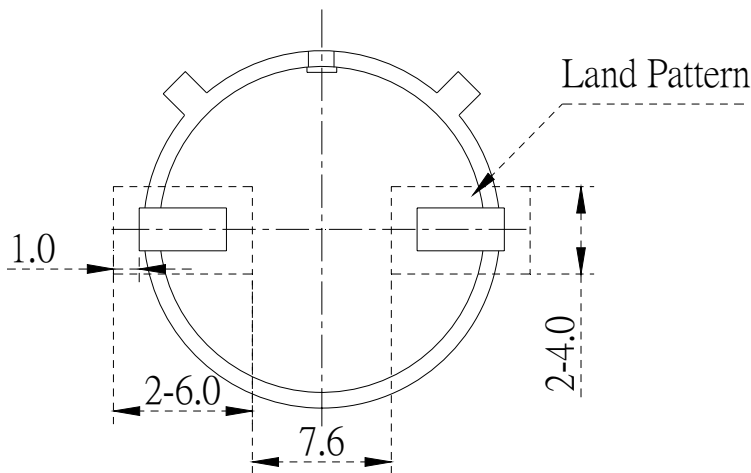
TEST CONDITION.

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

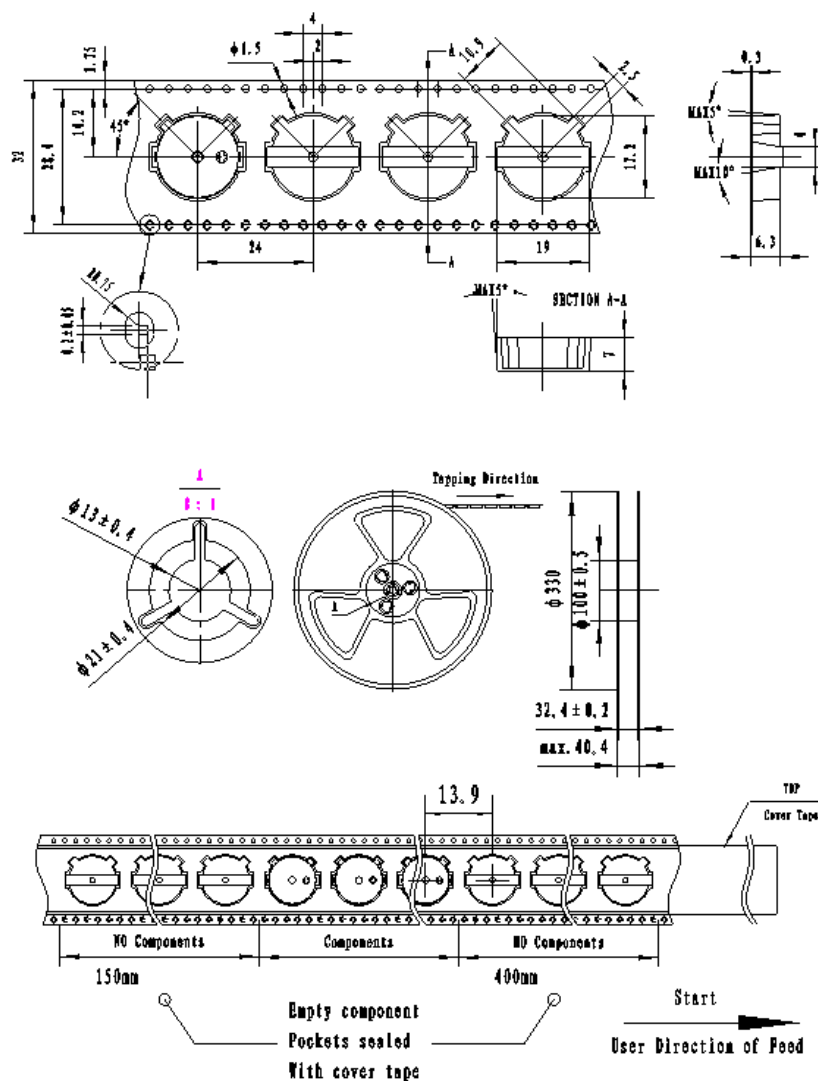
I. Recommended Temperature Profile for Reflow Oven 推薦迴流焊曲線



J. Recommended land pattern 建議基板設計尺寸圖

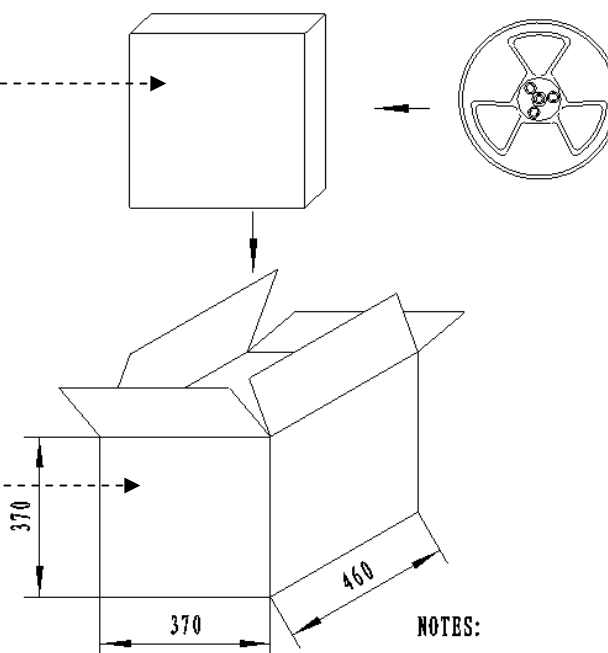


K. PACKING STANDARD 包裝規格



Lot No.	XXXXXXXXXX
Part No.	XXXXXXXXXX
Quantity	XXXX PCS
Date:	DD MM YY
	HSF
	KINGSTATE ELECTRONICS CORP.

* The label stuck on inner boxes and the outer of carton.



NOTES:

1. 400PCS per box
2. Total 10 boxes per carton
3. Total 4000 PCS carton
4. volume: 37 × 37 × 46cm