SPECIFICATION FOR APPROVAL

承　認　書

Description	:	**Piezo Audio Transducer**
Kingstate Part No.	:	**KPEG114**
Customer's Model No.	:	
Specification No.	:	**PKD-7239**
Number Of The Edition	:	**1.1**

CUSTOMER'S APPROVED SIGNATURE		

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

KINGSTATE

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Approved by	Checked by	Issued by
3/22/05'	3/22/05'	Fei 3/21/05'

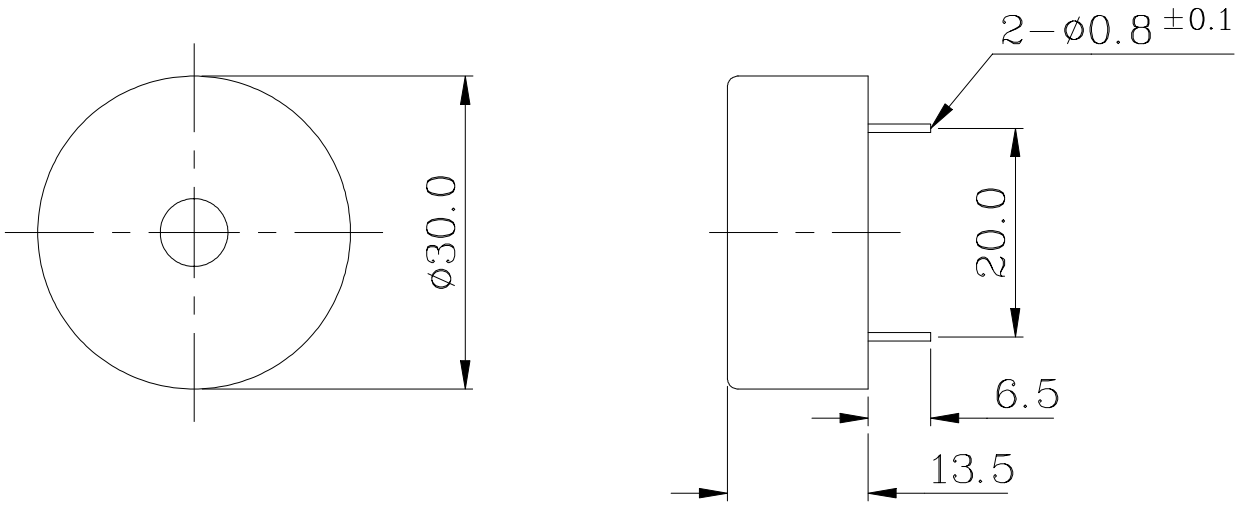
A.SCOPE 範疇

This specification applies piezo audio transducer, **KPEG114**
此規格書適用於壓電式蜂鳴器 **KPEG114**

B. SPECIFICATION 規格

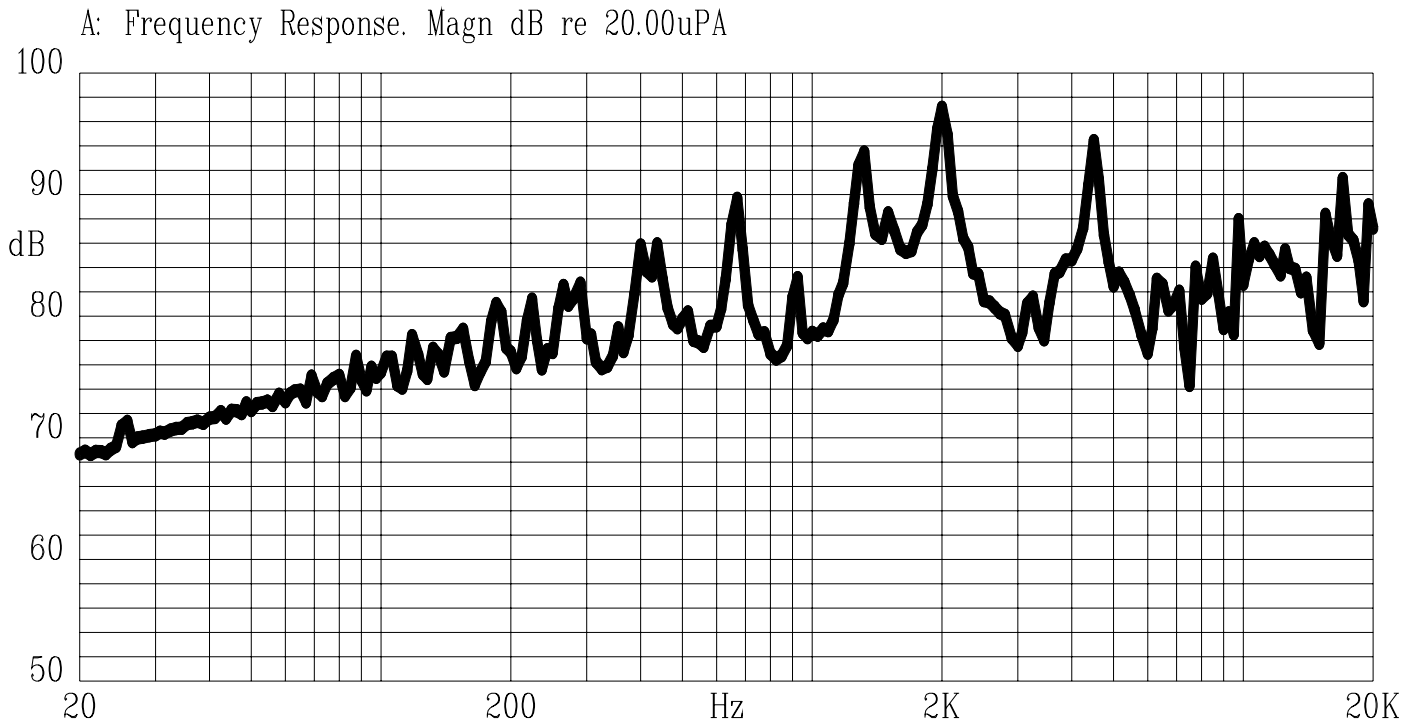
No.	Item	Unit	Specification	Condition
1	Operating Volt. 操作電壓	Vp-p	MAX 30	
2	Current consumption 消耗電流	MA	MAX 11	at 10Vp-p,square wave,2.0KHz.
3	Sound pressure level 輸出音壓	dB	MIN 93	at 10cm/10Vp-p,square wave,2.0KHz.
4	Electrostatic capacity 靜電容量	pF	45,000±30%	at 1KHz/1V
5	Operating temp. 操作溫度	ºC	-30 ~ +85	
6	Storage temp. 儲存溫度	ºC	-40 ~ +95	
7	Dimension 尺寸	mm	ψ30.0x H 13.5	See appearance drawing 請參照外觀尺寸圖
8	Weight (MAX) 重量	gram	4.3	
9	Material 材質		ABS UL-94 1/16" HB HIGH HEAT (BLACK)	
10	Terminal 端子		Pin type (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

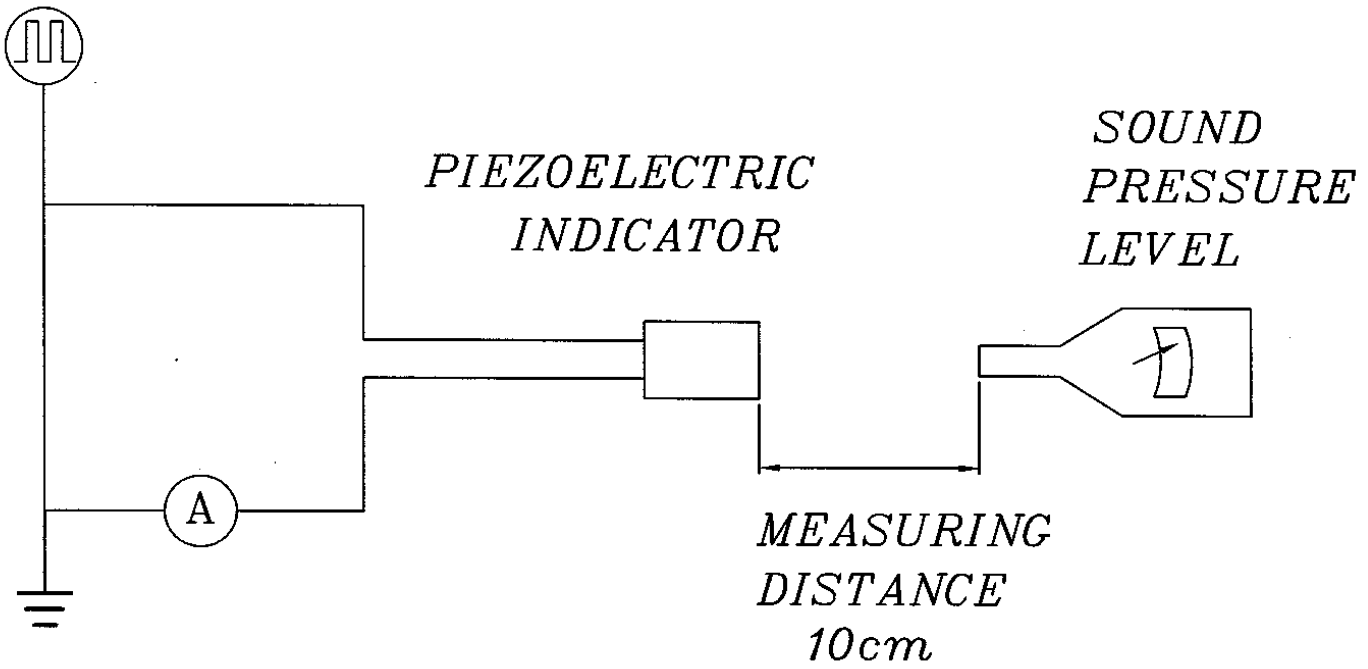


E. MEASURING METHOD 測量方法

S.P.L. Measuring Circuit 音壓測試接線圖

Input Signal: 10Vp-p,2.0kHz, Square Wave

輸入信號: 10Vp-p,2.0kHz,方波



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

Mic : RION 噪音計 UC30 或同等品

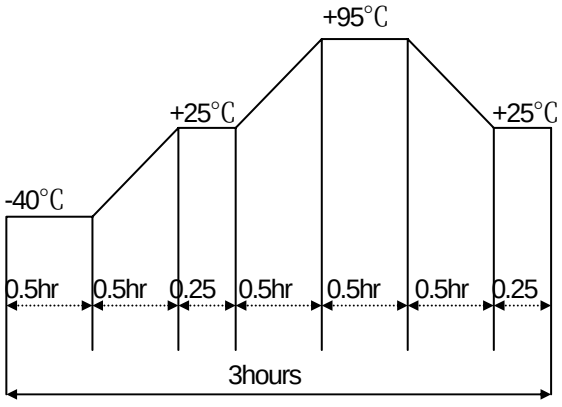
S.G : Hewlett Packard 33120A Function Generator or equivalent

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

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±5℃ for 3±1 seconds. 端子部份浸入松香溶液 5 秒後,再浸入+270±5℃溶融焊錫槽中 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 +260±5℃ for 3±1 seconds. 距離端子根部 1.5mm 的位置,浸入+260±5℃的焊錫槽 3±1 秒.	No interference in operation. 操作上無任何不良.
3	Terminal Strength Pulling 端子強度	The force 10 seconds of 9.8N(1.0kg) is applied to each terminal in axial direction. 各端子的軸方向施以 9.8N(1.0kg) 的力量 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 10% compared with initial ones .The SPL should be in ± 10dB compared with initial one. 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.
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 +95℃ for 240 hours 置於+95℃環境中 240 小時	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. 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.
2	Low temp. test 低溫測試	After being placed in a chamber with –40℃ for 240 hours 置於-40℃ 環境中 240 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at +40℃ and 90±5% relative humidity for 240 hours 置於+40℃, 相對濕度 90±5% 環境中 240 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: 	

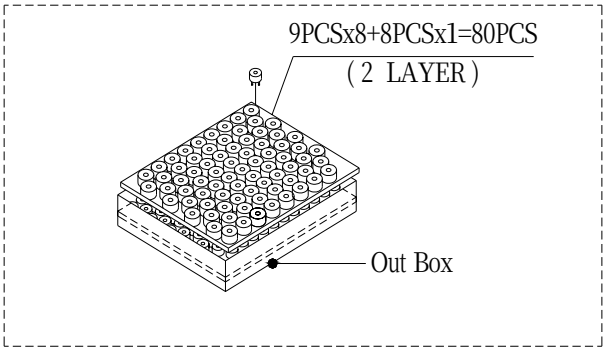
H. RELIABILITY TEST 信賴性測試

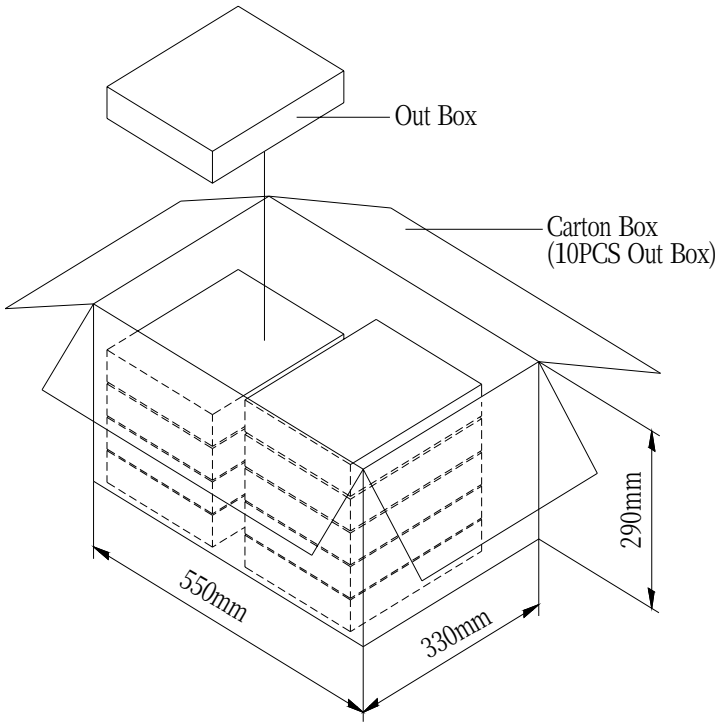
No.	Item	Test condition	Evaluation standard
1	Operating life test 壽命測試	1.Continuous life test 高溫壽命測試(連續) 48 hours continuous operation at +70°C with rated voltage applied. 在+70°C環境下,以額定電壓連續操作 48 小時 2.Intermittent life test 室溫壽命測試(間歇) A duty cycle of 1 minute on,1 minutes off, a minimum of 5000 times 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 ~ +35ºC	b) Humidity : 45-85%	c) Pressure : 860-1060mpa
一般測試條件	:	a) 溫度 : +5 ~ +35ºC	b) 濕度 : 45-85%	c) 氣壓 : 860-1060mpa
Judgement Test Condition	:	a) Temperature : +25 ± 2ºC	b) Humidity : 60-70%	c) Pressure : 860-1060mpa.
爭議時測試條件	:	a) 溫度 : +25 ± 2ºC	b) 濕度 : 60-70%	c) 氣壓 : 860-1060mpa

I. PACKING STANDARD 包裝規格





Out Box	310mmx248mmx49mm	2x80PCS=160PCS
Carton Box	550mmx330mmx290mm	160PCSx10=1,600PCS