SPECIFICATION FOR APPROVAL

承　認　書

Description	:	**Piezo Audio Indicator**
Kingstate Part No.	:	**KPEG253**
Customer's Model No.	:	
Specification No.	:	**PKD-7589**
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
12/29/05	12/28/05	**Qin 12/28/05'**

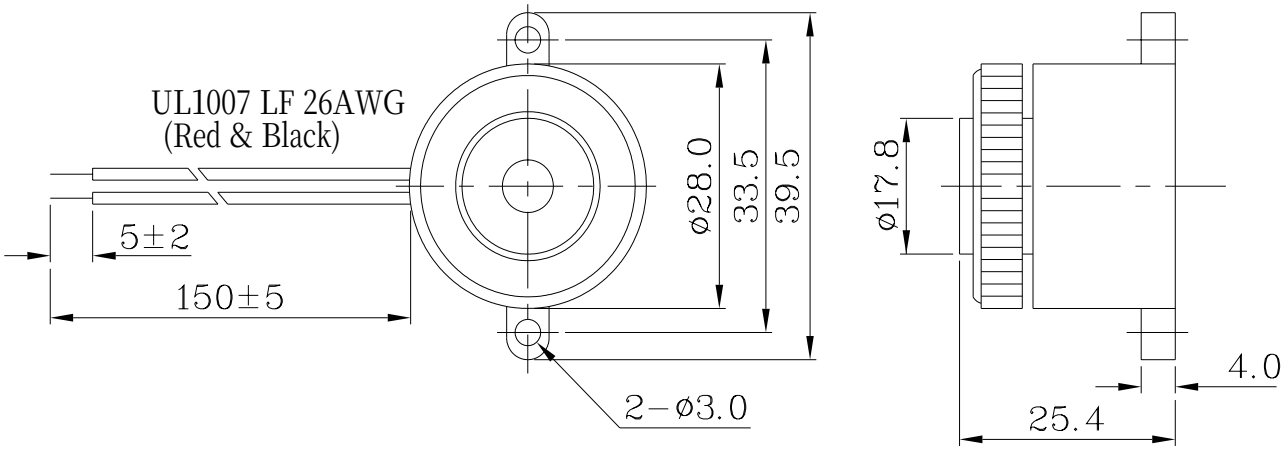
A. SCOPE 範疇

This specification applies piezo audio indicator, **KPEG253**
此規格書適用於壓電式蜂鳴器, **KPEG253**

B. SPECIFICATION 規格

No.	Item	Unit	Specification	Condition
1	Resonant frequency 共振頻率	KHz	3.5 ± 0.5	
2	Operating Volt. range 操作電壓範圍	VDC	4 ~ 28	
3	Current consumption 消耗電流	mA	MAX 6	at 12VDC
4	Sound pressure level 輸出音壓	dB	MIN 87	at 30cm/12VDC
5	Rated Voltage 額定電壓	VDC	12	
6	Tone 聲音		Slow Pulse(1.2Hz±20%) 慢斷續音	
7	Operating temp. 操作溫度	℃	-30 ~ +85	
8	Storage temp. 儲存溫度	℃	-40 ~ +95	
9	Dimension 尺寸	mm	φ28.0 x H25.4	See appearance drawing 請參照外觀尺寸圖
10	Weight (MAX) 重量	gram	10.2	
11	Material 材質		ABS UL-94 1/16" HB HIGH HEAT (BLACK)	
12	Terminal 端子		Wire type	See appearance drawing 請參照外觀尺寸圖
13	Environmental Protection Regulation 環保法規		RoHS	

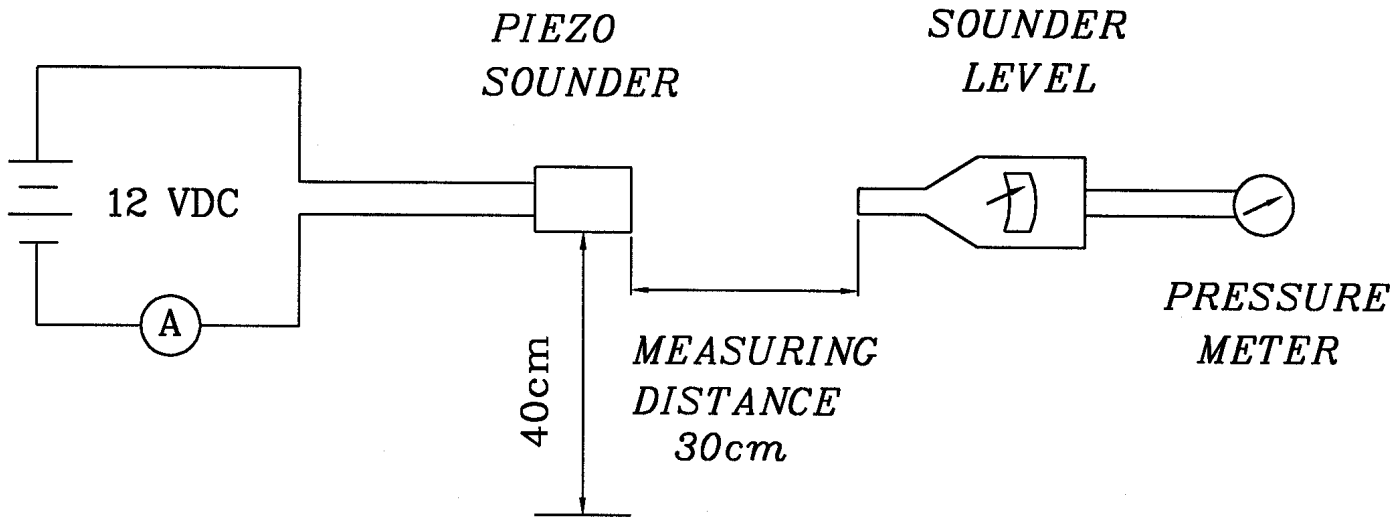
C. APPEARANCE DRAWING 外觀尺寸圖



Tol : ± 0.5
Unit: mm

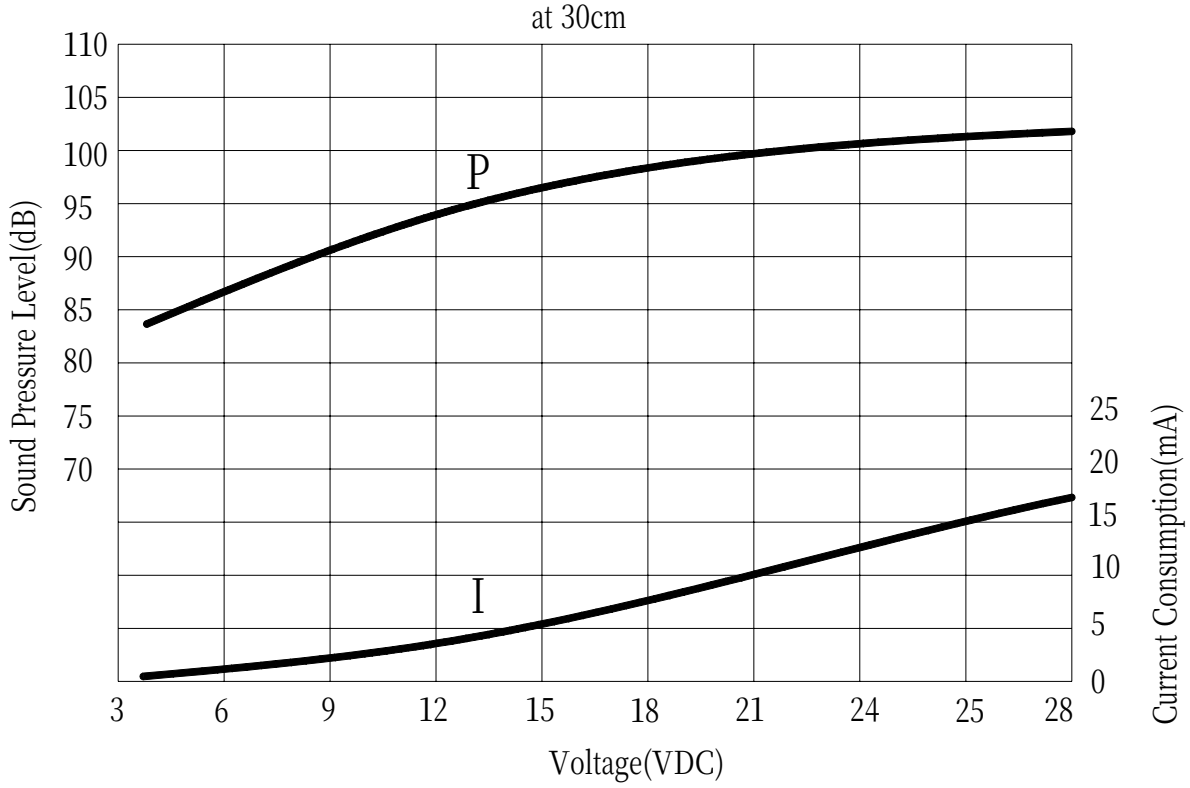
D. Measuring Method 測量方法

S.P.L. Measuring Circuit　音壓測試接線圖



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. VOLTAGE: SOUND PRESSURE LEVEL / VOLTAGE: CURRENT CONSUMPTION CHARACTERISTICS 電壓與音壓/電壓與耗電流之特性

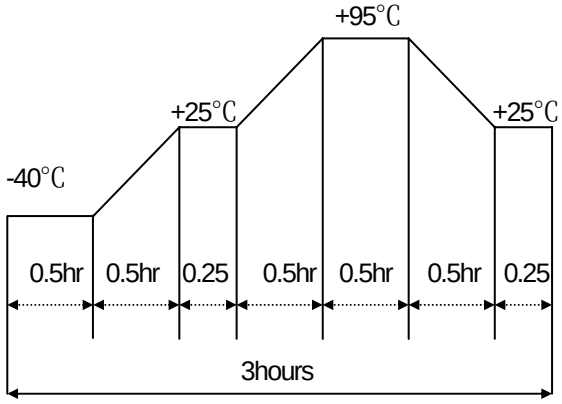


F. MECHANICAL CHARACTERISTICS 機械特性

No	Item	Test Condition	Evaluation standard
1	Solderability 焊錫附著性 (Connector excepted) 端子類不適用此項	Stripped wires of lead wires are immersed in rosin for 5 seconds and then immersed in solder bath of +270±5℃ for 3±0.5 seconds. 裸線部份浸入松香溶液5秒後,再浸入+270±5℃溶融焊錫槽3±0.5秒.	90% min. stripped wires shall be wet with solder.(Except the edge of terminal) 浸入裸線部份附著焊錫 90%以上.(末端斷面不算)
2	Lead Wire Pull Strength 線材拉力	The pull force shall be applied to double lead wire： Horizontal 3.0N(0.306kg) for 30 seconds. Vertical 2.0N(0.204kg) for 30 seconds. 雙線材水平方向施以 3.0N(0.306kg)的力量，垂直方向施以2.0N(0.204kg)的力量,各30秒	No damage and cutting off. 線材不鬆動,不脫落.
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 ±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.
4	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 at –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:	



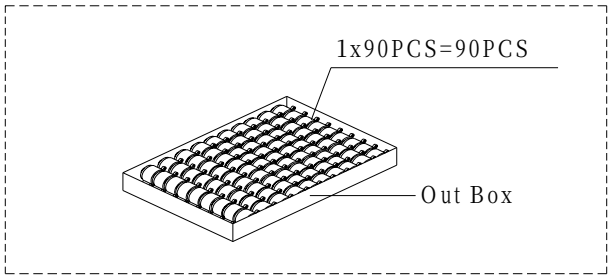
H. RELIABILITY TEST 信賴性測試

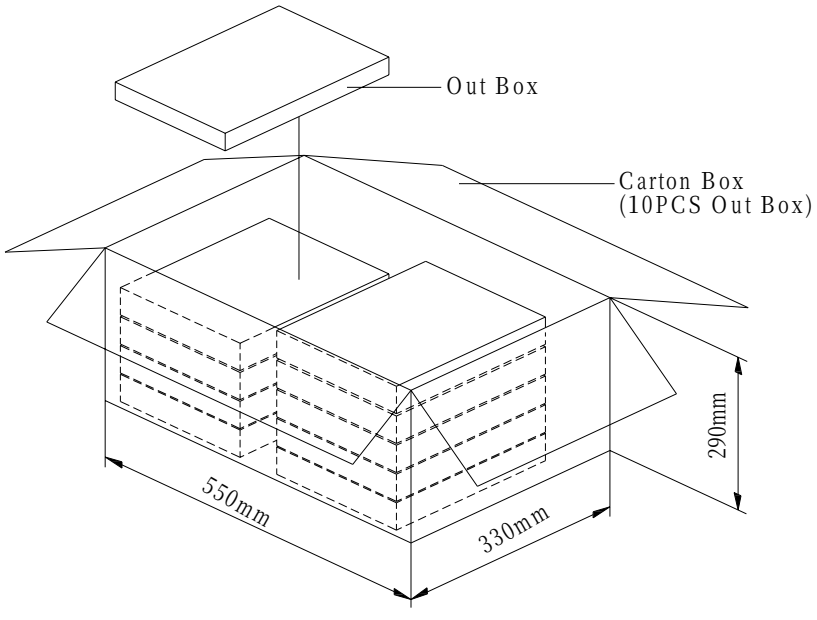
No.	Item	Test condition	Evaluation standard
1	Operating life test 壽命測試	1.Continuous life test 高溫壽命測試(連續) 48 hours continuous operation at +70°C with rated voltage applied. 在+70°C環境下,以額定電壓連續操作 48 小時 2.Intermittent life test 室溫壽命測試(間歇) A duty cycle of 1 minute on, 1 minutes off, a minimum of 5000 times 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 ~ +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. PACKING STANDARD 包裝規格





Out Box	310mmx248mmx49mm	1x90PCS=90PCS
Carton Box	550mmx330mmx290mm	90PCSx10=900PCS