

SPECIFICATION FOR APPROVAL

承認書

Description : Piezo Audio Indicator

Kingstate Part No. : KPEG651A

Customer's Model No. : _____

Specification No. : PKD-7975

Number Of The Edition : 1.2

CUSTOMER'S APPROVED SIGNATURE		



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A. SCOPE 範疇

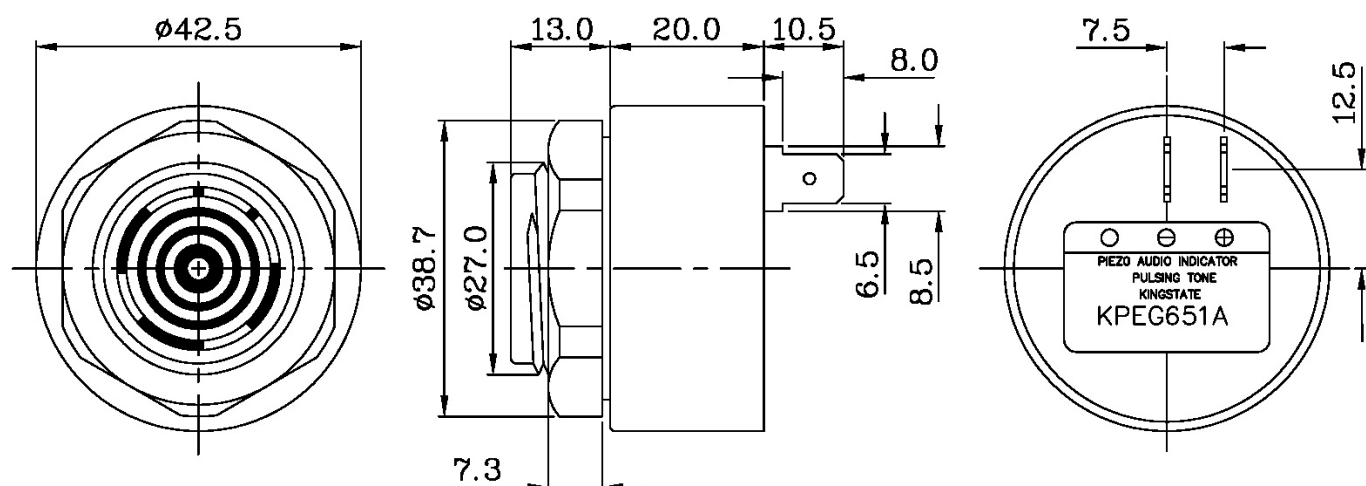
This specification applies piezo audio indicator, **KPEG651A**

此規格書適用於壓電式蜂鳴器, **KPEG651A**

B. SPECIFICATION 規格

No.	Item	Unit	Specification	Condition
1	Resonant frequency 共振頻率	KHz	2.8 ± 0.5	
2	Operating Volt. range 操作電壓範圍	VDC	6 ~ 28	
3	Current consumption 消耗電流	mA	MAX 9	at 12VDC
4	Sound pressure level 輸出音壓	dB	MIN 87	at 30cm/12VDC
5	Tone 聲音		Fast Pulse (3.0Hz $\pm$ 20%) 快斷續音	at 12VDC
6	Operating temp. 操作溫度	°C	-30 ~ +85	
7	Storage temp. 儲存溫度	°C	-40 ~ +95	
8	Dimension 尺寸	mm	$\phi 42.5 \times H33.0$	See appearance drawing 請參照外觀尺寸圖
9	Weight (MAX) 重量	gram	36.5	
10	Material 材質		ABS UL-94 1/16" HB HIGH HEAT (BLACK)	
11	Terminal 端子		Pin type	See appearance drawing 請參照外觀尺寸圖

C. APPEARANCE DRAWING 外觀尺寸圖

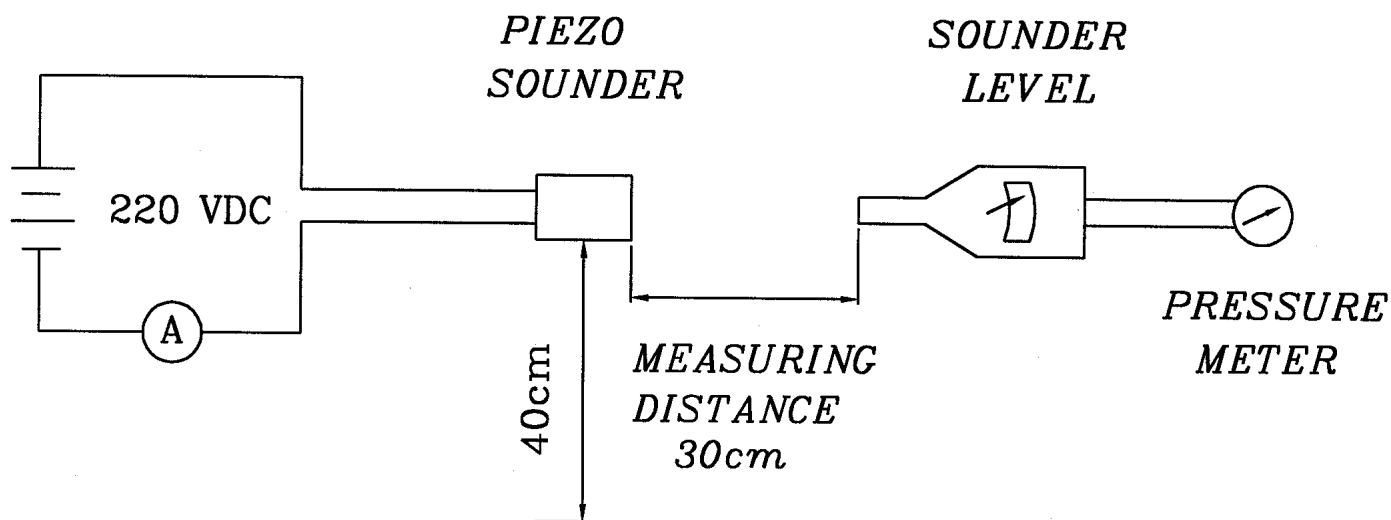


Tol : ± 0.5

Unit : mm

D. MEASURING METHOD 測量方法

S.P.L. Measuring Circuit 音壓測試接線圖



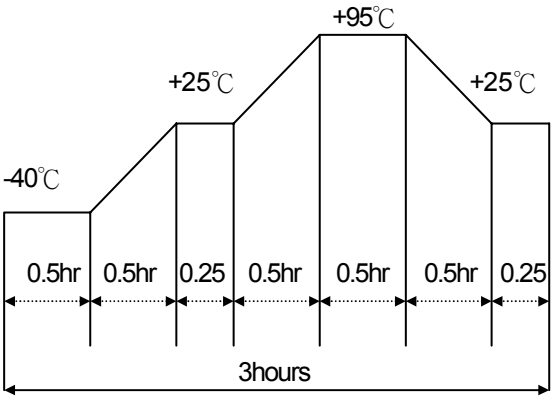
Mic : RION S.P.L meter UC30 or equivalent

Mic : RION 噪音計 UC30 或同等品

E. MECHANICAL CHARACTERISTICS 機械特性

No.	Item	Test Condition	Evaluation standard
1	Solder ability 焊錫附著性	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+230\pm5^{\circ}\text{C}$ for 3 ± 0.5 seconds. 端子部份浸入松香溶液 5 秒後,再浸入 $+230\pm5^{\circ}\text{C}$ 熔融焊錫槽中 3 ± 0.5 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 $+300\pm5^{\circ}\text{C}$ for 3 ± 0.5 seconds or $+260\pm5^{\circ}\text{C}$ for 10 ± 1 seconds. 距離端子根部 1.5mm 的位置,浸入 $+300\pm5^{\circ}\text{C}$ 的焊錫槽 3 ± 0.5 秒,或 $+260\pm5^{\circ}\text{C}$ 的焊錫槽 10 ± 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 is applied to each terminal in axial direction. 各端子的軸方向施以 9.8N 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 perpendicular 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.
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.	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.

F. 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°C for 240 hours 置於+95°C環境中 240 小時	Being placed for 4 hours at +25°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°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 240 hours 置於-40°C 環境中 240 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at +40°C and 90 $\pm$ 5% relative humidity for 240 hours 置於+40°C，相對濕度 90 $\pm$ 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： 	

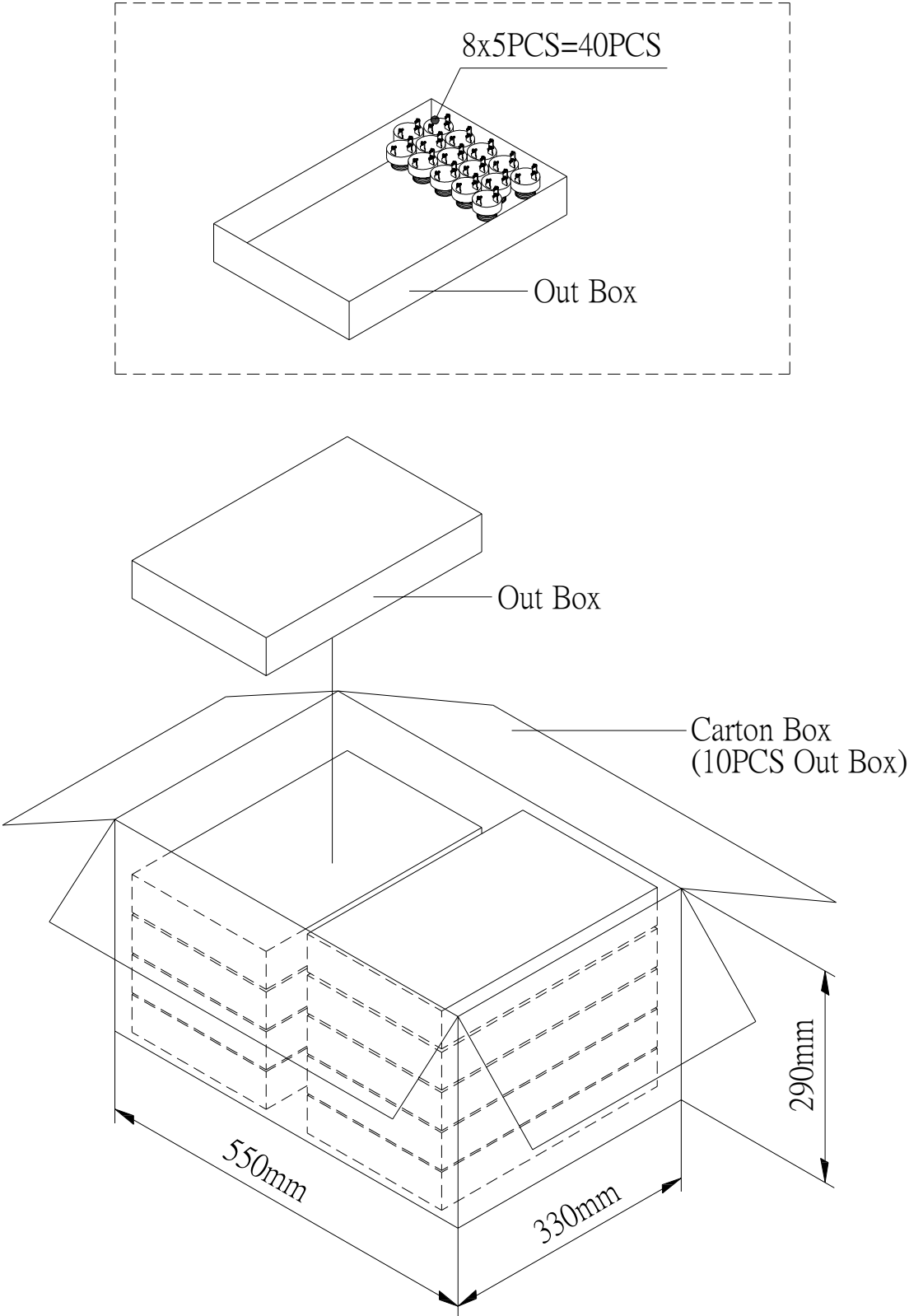
G. RELIABILITY TEST 信賴性測試

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 maximum rated voltage applied. 在+70°C環境下，以最大額定電壓連續操作 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 $\pm$ 2°C)and maximum rated voltage applied. 在室溫下(+25 $\pm$ 2°C)，以最大額定電壓操作，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 $\pm 10\%$ 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°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。

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 $\pm$ 2°C	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
爭議時測試條件	:	a) 溫度 : +25 $\pm$ 2°C	b) 濕度 : 60-70%	c) 氣壓 : 860-1060mbar

H. PACKING STANDARD 包裝規格



Out Box	310mmx248mmx49mm	1x40PCS=40PCS
Carton Box	550mmx330mmx290mm	40PCSx10=400PCS