

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 : 1.4

CUSTOMER'S APPROVED SIGNATURE

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Approved by	Checked by	Issued by
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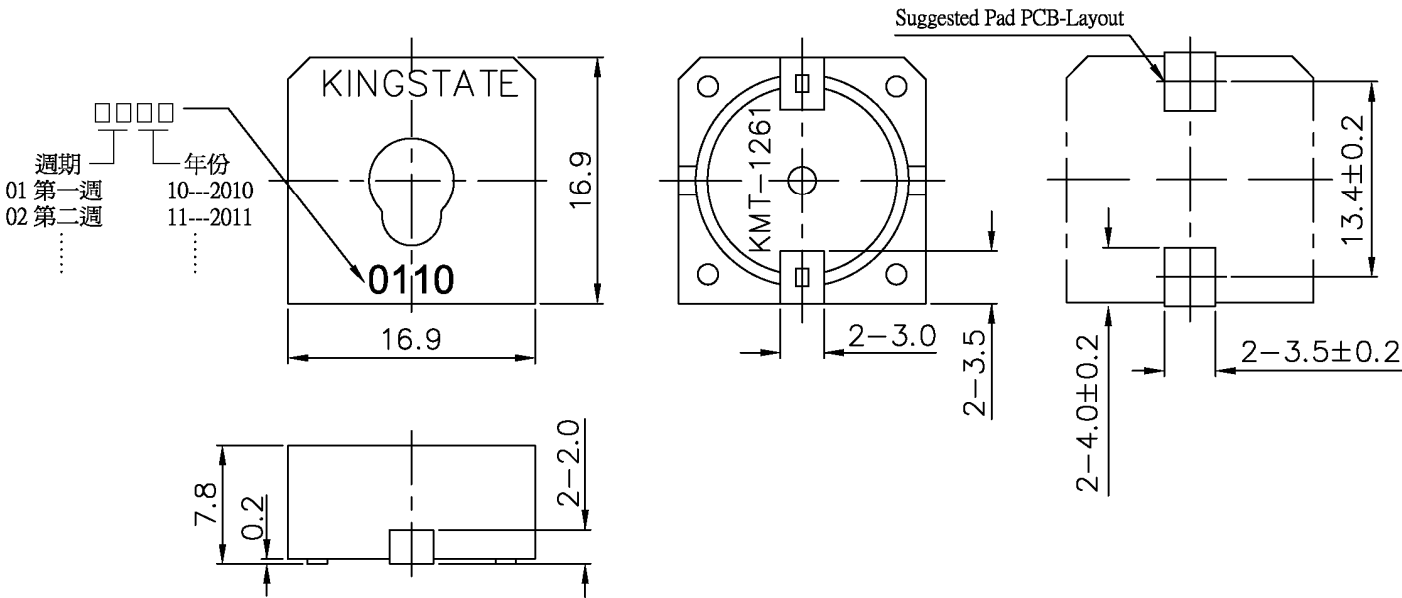
A. SCOPE 範疇

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

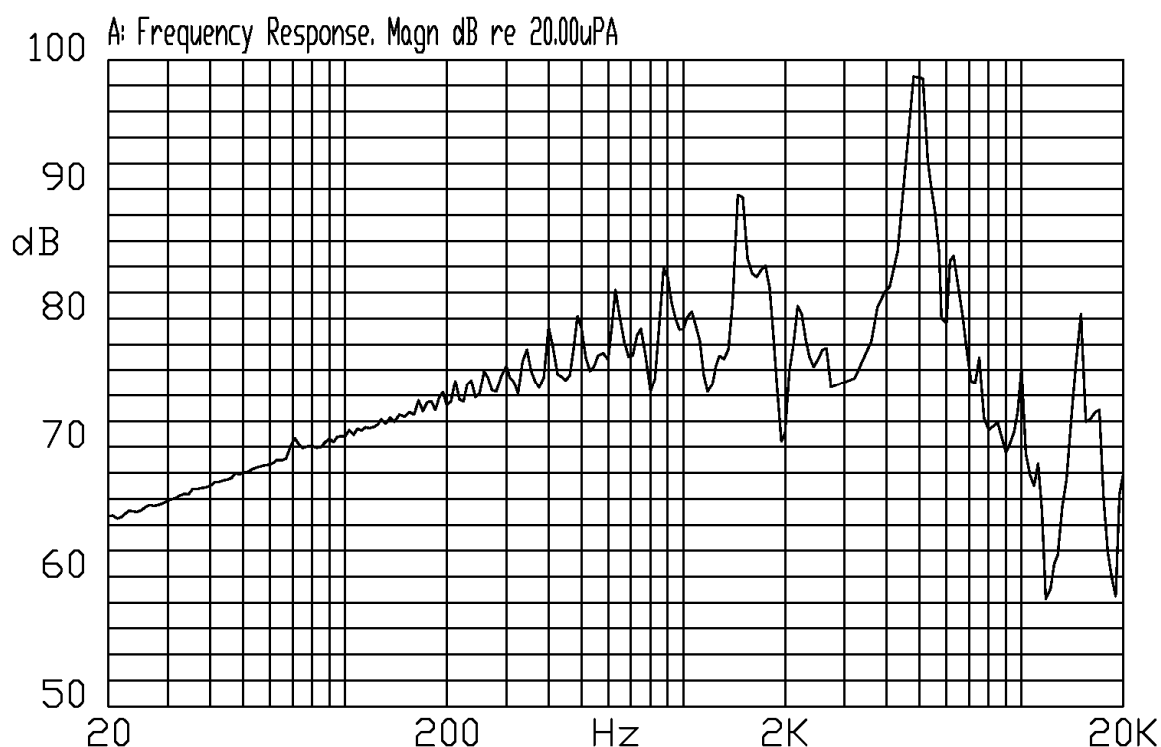
No.	Item	Unit	Specification	Condition
1	Operating Volt. 操作電壓	Vp-p	MAX 20	
2	Current consumption 消耗電流	mA	MAX 11	at 10Vp-p,square wave,5.0KHz.
3	Sound pressure level 輸出音壓	dB	MIN 90	at 10cm/10Vp-p,square wave,5.0KHz.
4	Electrostatic capacity 靜電容量	pF	19,000 ± 30%	at 1KHz/1V
5	Operating temp. 操作溫度	℃	-30 ~ +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 (鍍化金/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

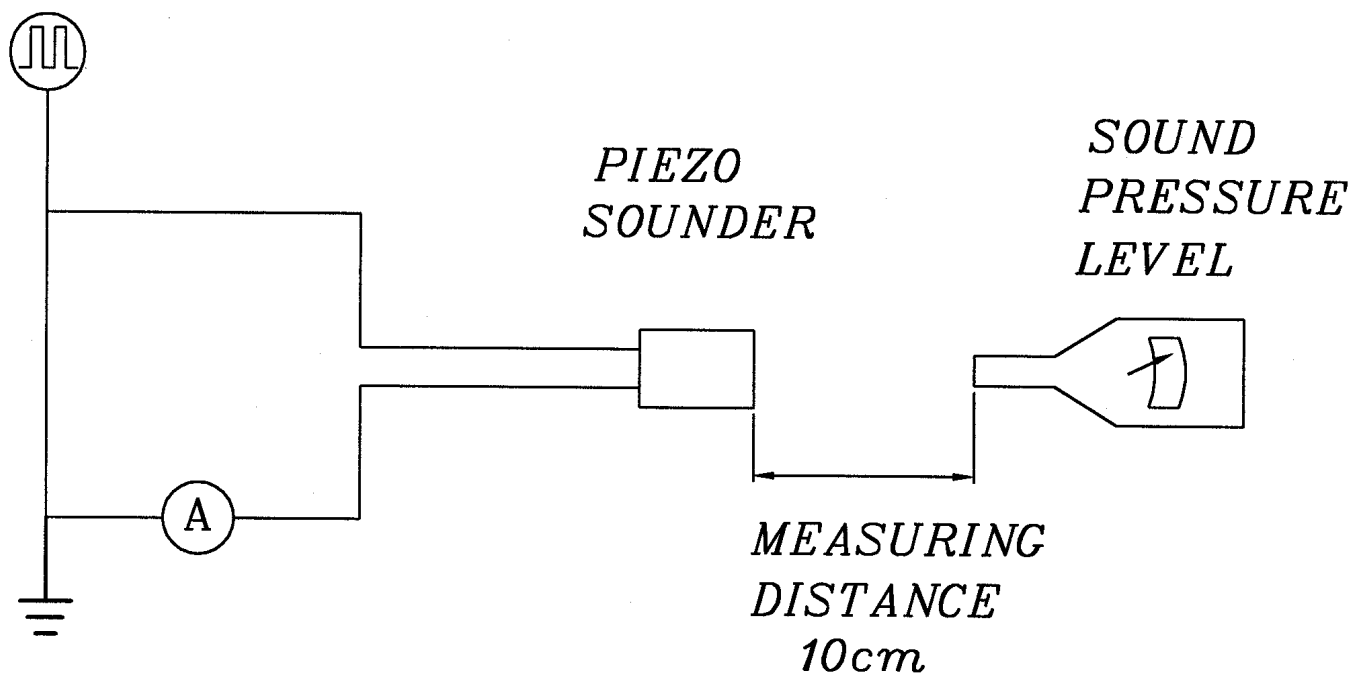


E. MEASURING METHOD 測量方法

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

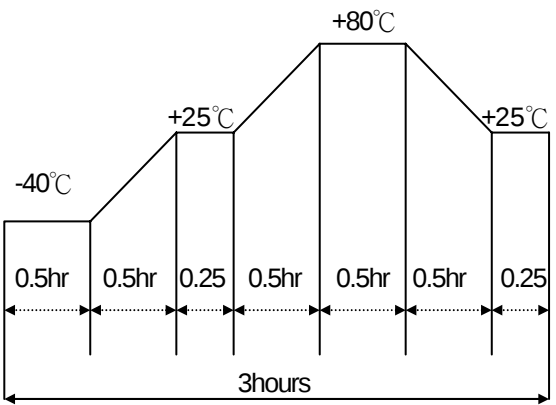
S.G : Hewlett Packard 33120A Function Generator or equivalent

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 $+270\pm5^{\circ}\text{C}$ for 3 ± 1 second. 端子置於錫膏內,錫膏溫度: $+270\pm5^{\circ}\text{C}$. 焊接時間: 3 ± 1 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. 產品依照迴焊溫度曲線測試迴焊耐熱性.	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 $9.8\text{N}(1.0\text{kg})$ shall be applied behind the part for 10 seconds. 將端子焊在 PC 板上後, 對單體施以 $9.8\text{N}(1.0\text{kg})$ 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 $\pm 10\text{dB}$ 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 $\pm 10\text{dB}$ 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 $+80^{\circ}\text{C}$ for 240 hours 置於 $+80^{\circ}\text{C}$ 環境中 72 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 at -40°C for 240 hours 置於 -40°C 環境中 72 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at $+40^{\circ}\text{C}$ and $90\pm 5\%$ relative humidity for 240 hours 置於 $+40^{\circ}\text{C}$, 相對濕度 $90\pm 5\%$ 環境中 72 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: 	

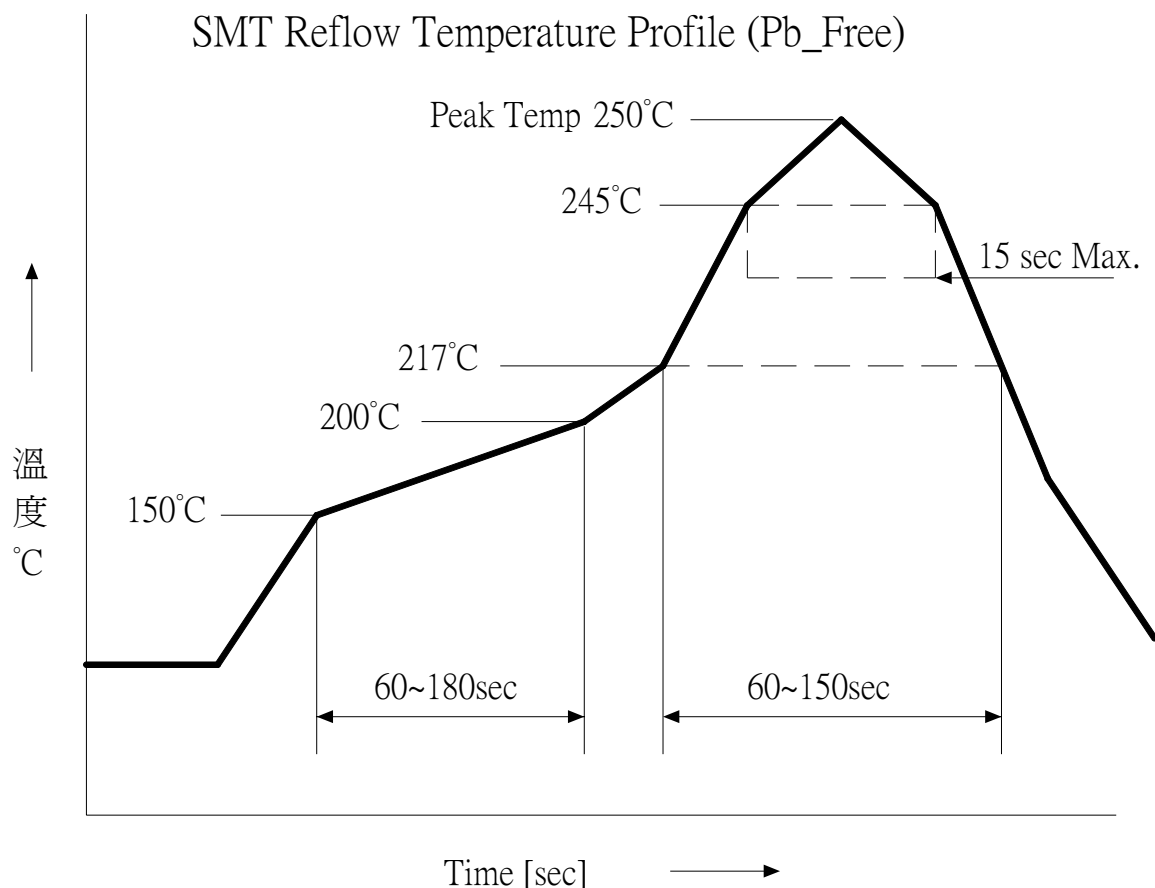
H. RELIABILITY TEST 信賴性測試

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 +55°C with rated voltage applied. 在+55°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

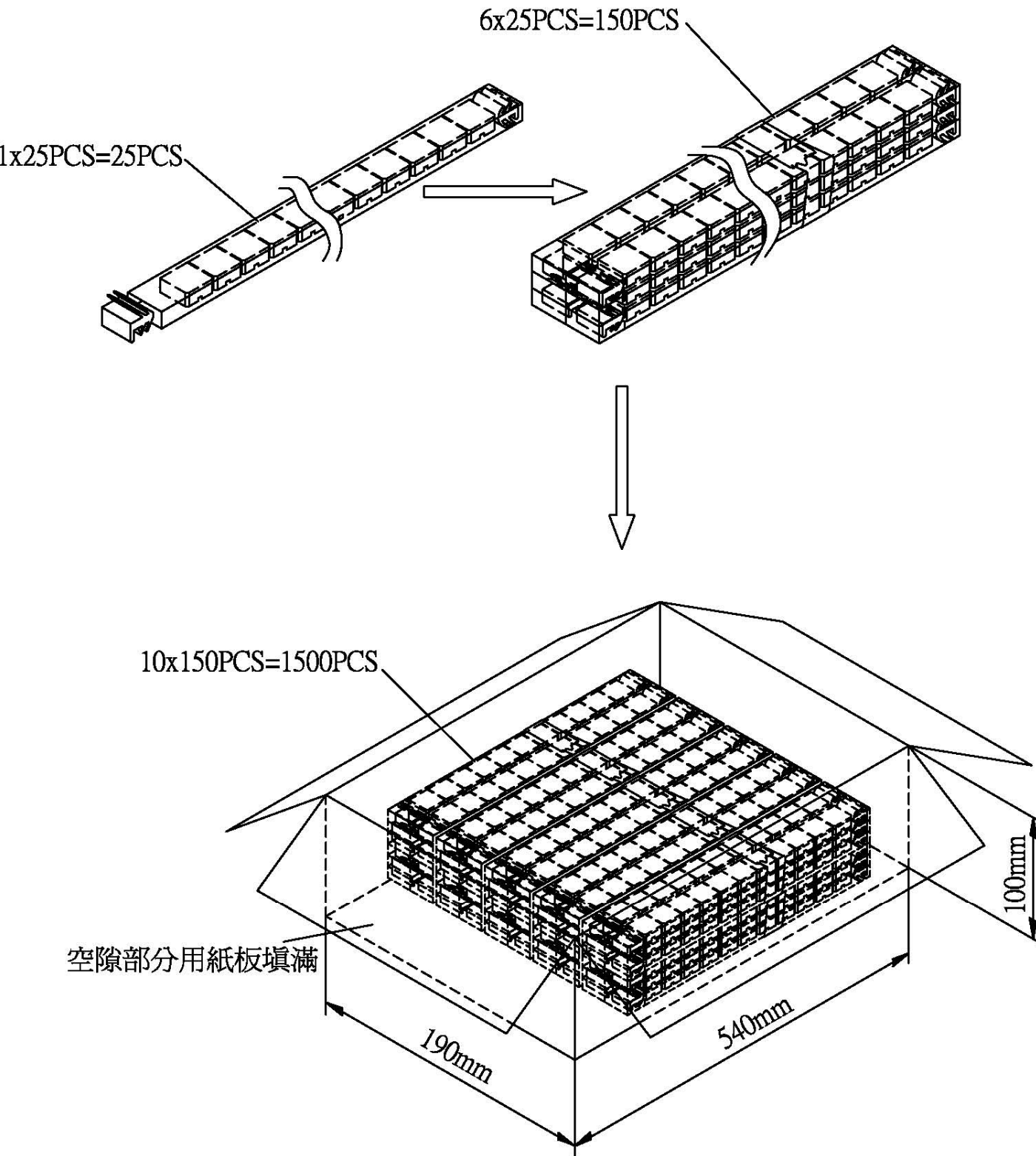
I. Recommended Temperature Profile For Reflow Oven 建議迴焊爐溫度曲線



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

備注: 245°C不可超過 15 秒, 且只能過無鉛迴流焊一次.

J. PACKING STANDARD 包裝規格



Tube	450mmx18.6mmx9.7mm	1x25PCS=25PCS
Six tube	450mmx37.2mmx29.1mm	6x25PCS=150PCS
Carton Box	540mmx190mmx100mm	150PCSx10=1500PCS