

# SPECIFICATION FOR APPROVAL

## 承 認 書

Description : **Magnetic Buzzer**

Kingstate Part No. : **KSSG10A**

Customer's Model No. :

Specification No. : **TKS-1583**

Number Of The Edition : **1.1**

CUSTOMER'S APPROVED SIGNATURE		



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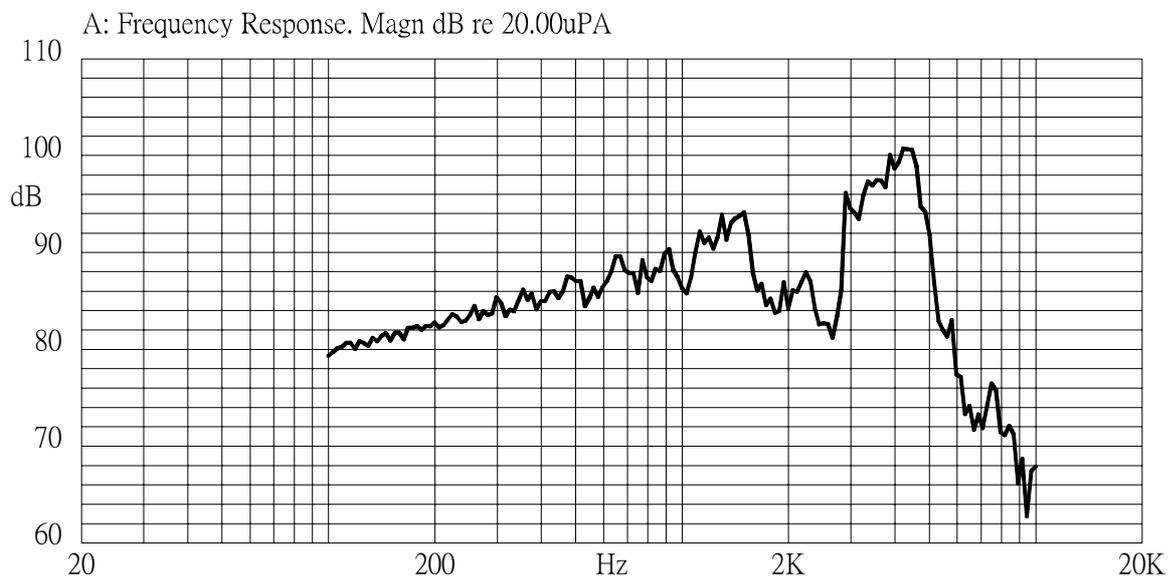
## A. SCOPE 範疇

This specification applies magnetic buzzer, **KSSG10A**  
 此規格書適用於電磁式蜂鳴器, **KSSG10A**

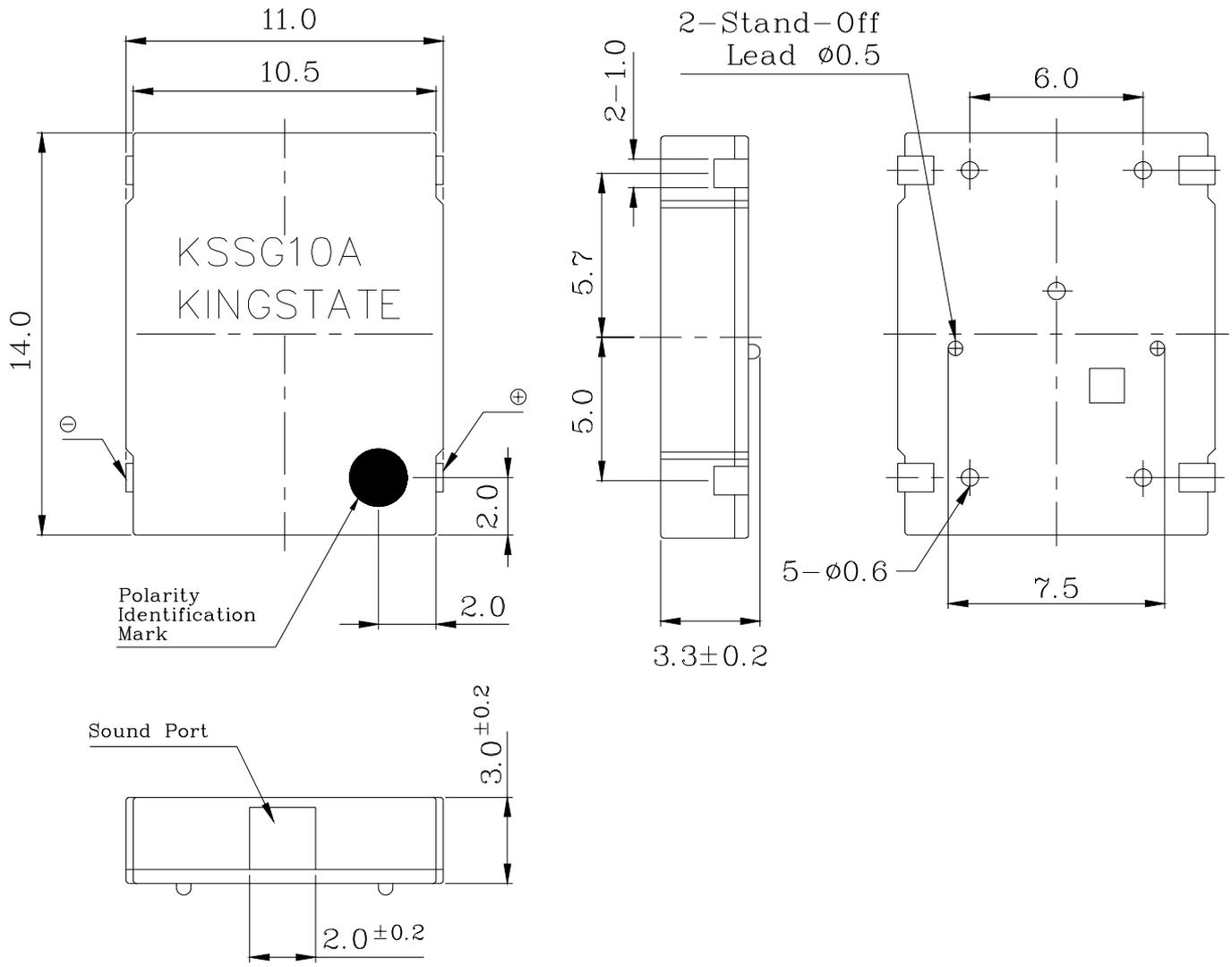
## B. SPECIFICATION 規格

No.	Item	Unit	Specification	Condition
1	Rated Voltage 額定電壓	Vo-p	5.0	
2	Operating Volt. 操作電壓	Vo-p	4.0~7.0	
3	Mean Current 平均耗電流	mA	Max.90	Applying rated voltage,3200Hz square wave, 1/2duty 施以額定電壓,3200Hz,方波, 50%負載
4	Coil Resistance 直流阻抗	$\Omega$	$43.0 \pm 6.5$	
5	Coil Impedance 交流阻抗	$\Omega$	81	See Impedance Measurements graph. 請參照交流阻抗量測圖
6	Sound Output 輸出音壓	dBA	Min.87 (Typical 93)	Distance at 10cm(A-weight free air). Applying rated voltage 3200Hz,square wave, 1/2duty 在自由音場 10 公分處,施以額定電壓,3200Hz,方波, 50%負載
7	Rated Frequency 額定頻率	Hz	3200	
8	Operating Temp. 操作溫度	$^{\circ}\text{C}$	-40 ~+85	
9	Storage Temp. 儲存溫度	$^{\circ}\text{C}$	-50 ~+85	
10	Dimension 尺寸	mm	W11.0 x L14.0 x H3.0	See attached drawing. 請參照外觀尺寸圖
11	Weight 重量	gram	1.0	
12	Material 材質		LCP	
13	Terminal 端子		SMD type (Sn)	See attached drawing. 請參照外觀尺寸圖
14	Environmental Protection Regulation 環保法規		ROHS	

## C. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線

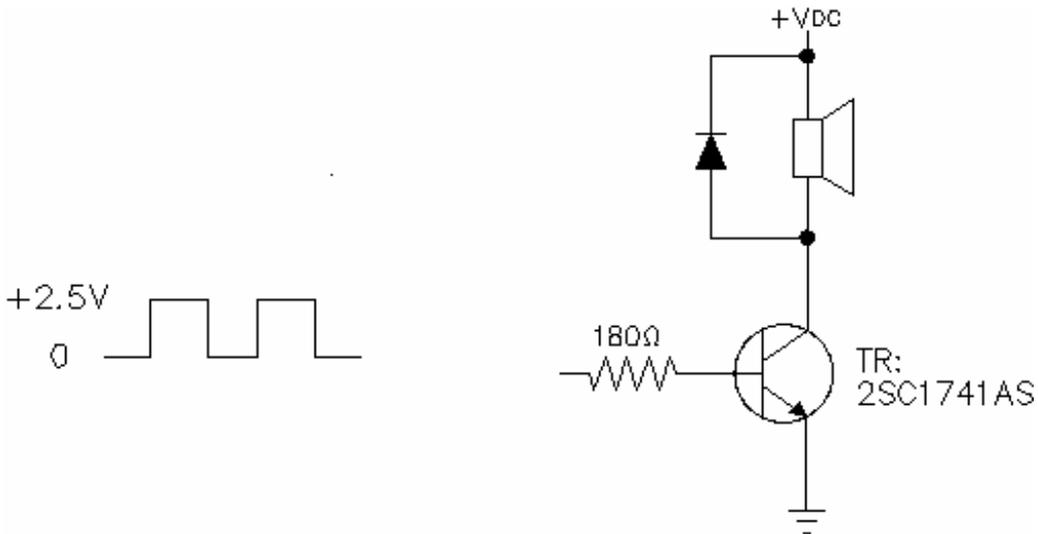


**D. APPEARANCE DRAWING 外觀尺寸圖**



**Tol : ± 0.5**  
**Unit : mm**

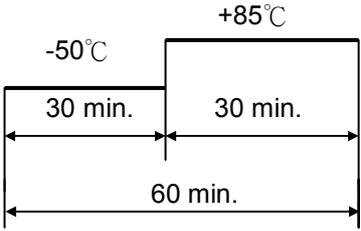
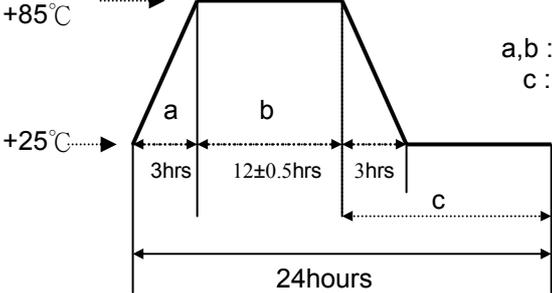
**E. MEASUREMENT METHOD 測量方式**



## 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 $+270\pm 5^{\circ}\text{C}$ for $3\pm 1$ second. 端子置於錫膏內,錫膏溫度: $+270\pm 5^{\circ}\text{C}$ . 焊接時間: $3\pm 1$ 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 thermostability. 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 $9.8\text{N}(1\text{kg})$ shall be applied behind the part for $10\pm 1$ seconds. 將端子焊在 PC 板上後,對單體施以 $9.8\text{N}(1\text{kg})$ 拉力 $10\pm 1$ 秒. (此欄依各產品端子數需求異動)	No damage and cutting off 端子不鬆動, 不脫落
4	Vibration 振動測試	Buzzer shall be measured after being applied vibration of amplitude of $1.5\text{mm}$ with $10$ to $55\text{hz}$ band of vibration frequency to each of 3 per-pendicular directions for 2 hours. 振動週波數 $10\sim 55\text{HZ}$ 、全振幅 $1.5\text{mm}$ 於 X.Y.Z 3 個方向,各 2 小時.	After the test the part shall meet specifications with-out any damage in appearance and the SPL should be in $\pm 10\text{dBA}$ compared with initial one.
5	Drop test 落下測試	The part only shall be dropped from a height of $75\text{cm}$ onto a $40\text{mm}$ 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 $40\text{mm}$ 厚木板上.	經測試後,單體除音壓外,外觀及電氣特性須符合規格. 輸出音壓變化量須在 $\pm 10\text{dBA}$ 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 $+85^{\circ}\text{C}$ for 96 hours. 置於 $+85^{\circ}\text{C}$ 環境中 96 小時	After the test the part shall meet specifications with-out any degradation in appearance and performance except SPL. after 4 hours at $+25^{\circ}\text{C}$ . The SPL shall be $\pm 10\text{dBA}$ or more. 經測試後,靜置於 $+25^{\circ}\text{C}$ (室溫) 環境中 4 小時後,單體除音壓外,外觀及電氣特性須符合規格. 輸出音壓為 $\pm 10\text{dBA}$ 以上.
2	Low temp. test 低溫測試	After being placed in a chamber at $-50^{\circ}\text{C}$ for 96 hours. 置於 $-50^{\circ}\text{C}$ 環境中 96 小時	
3	Thermal Shock 熱衝擊試驗	The part shall be subjected to 10 cycles. One cycle shall consist of; 對單體施以熱衝擊試驗 10 次循環,其循環內容如圖示 	
4	Temp./ Humidity Cycle 溫度/溼度循環測試	The part shall be subjected to 10 cycles. One cycle shall be 24 hours and consist of; 單體承受溫度/溼度循環測試 10 次,其循環內容如圖示  a,b : 90~98%RH c : 80~98%RH	

## H. RELIABILITY TEST 信賴性測試

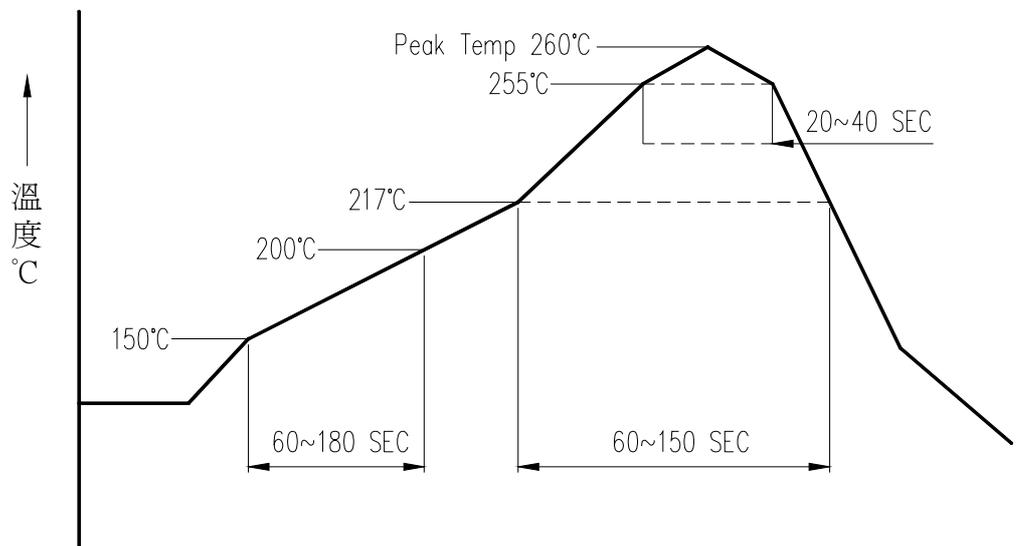
No.	Item	Test condition	Evaluation standard
1	Operating life test 壽命測試	<p>1. Continuous life test 高溫壽命測試(連續) The part shall be subjected to 72 hours at +55°C with 5V ,3200Hz applied. 在+55°C環境下,輸入 5V ,3200Hz 連續操作 72 小時.</p> <p>2. Intermittent life test 室溫壽命測試(間歇) A duty cycle of 1 minute on, 1 minutes off, a minimum of 10000 times at room temp.( +25±10°C) with 5V ,3200Hz applied. 在室溫下(+25±10°C), 輸入 5V ,3200Hz 通電 1 分鐘/斷電 1 分鐘,測試 10000 次循環.</p>	<p>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 ±10dBA compared with initial one.</p> <p>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 A 內.</p>

### 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

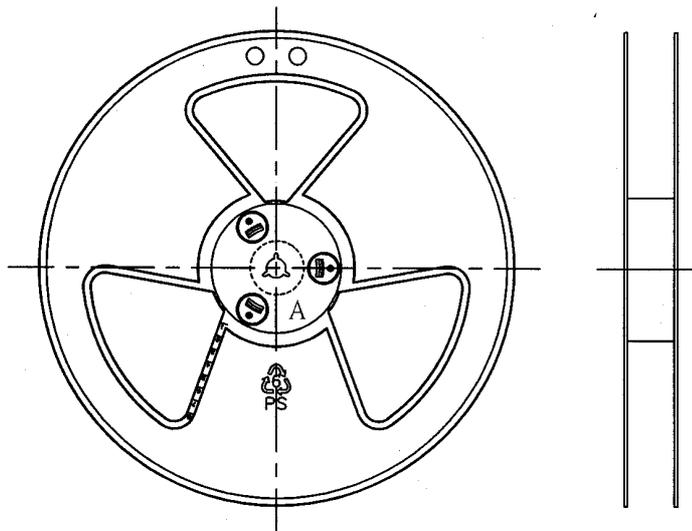
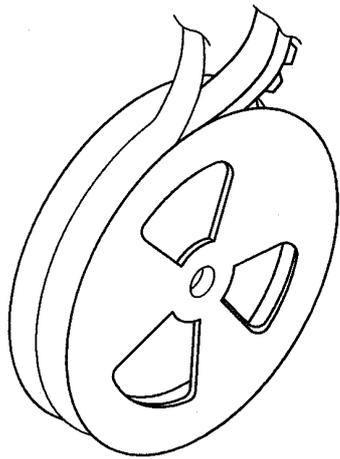
SMT Reflow Temperature Profile (Pb-Free)



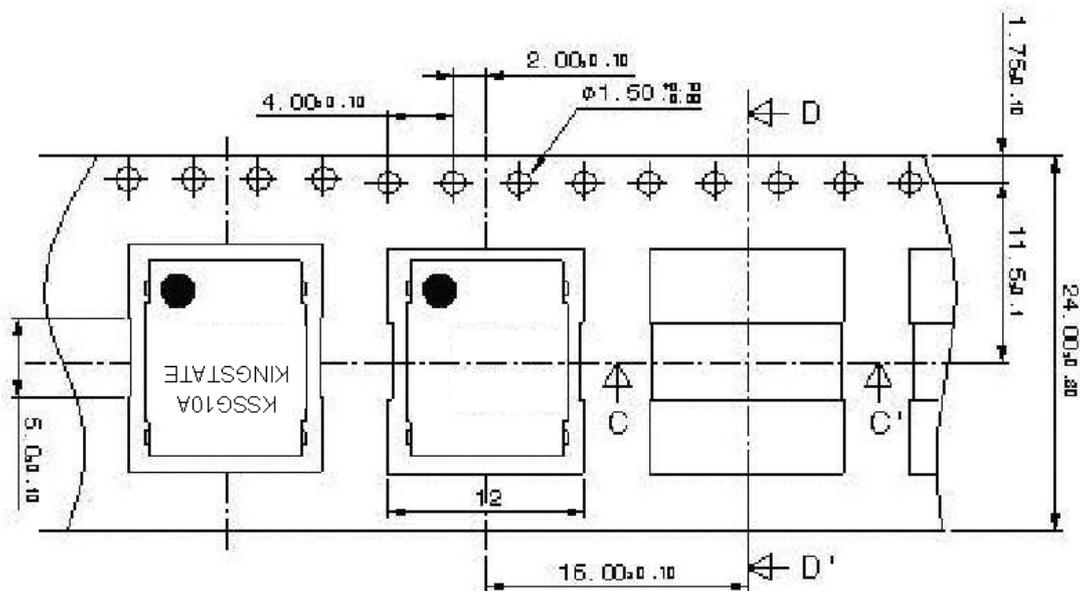
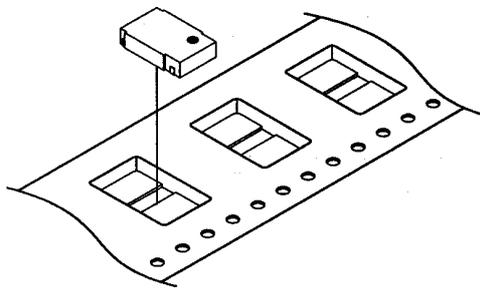
Average ramp-up rate	<3°C/sec
Preheat temperature 150°C to 200°C	60~180 sec
Temperature maintained above 217°C	60~150 sec
Peak temperature	260°C
Temperature >255°C	20~40 sec
Ramp-down rate	<6°C/sec



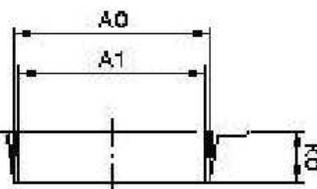
# K. PACKING STANDARD 包裝規格



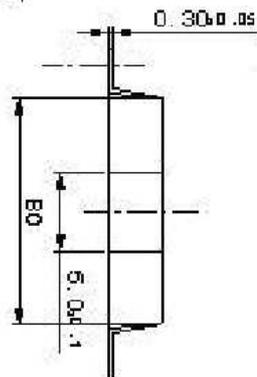
1 Reel : 1000PCS



- A0 : 12.00 ± 0.10
- A1 : 11.50 ± 0.10
- B0 : 14.50 ± 0.10
- K0 : 3.30 ± 0.10



DETAIL C-C'



DETAIL D-D'