

# SPECIFICATION FOR APPROVAL

## 承 認 書

Description : Micro Dynamic Speaker

Kingstate Part No. : TRAG25004B-20

Customer's Model No. : \_\_\_\_\_

Specification No. : DOD-6954

Number Of The Edition : 1.2

### CUSTOMER'S APPROVED SIGNATURE

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

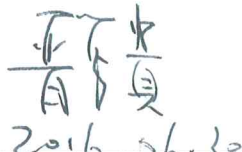



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Approved by	Checked by	Issued by
 2016.06.30	 6/28/16'	Evan 06/28/16'

## A. SCOPE 範疇

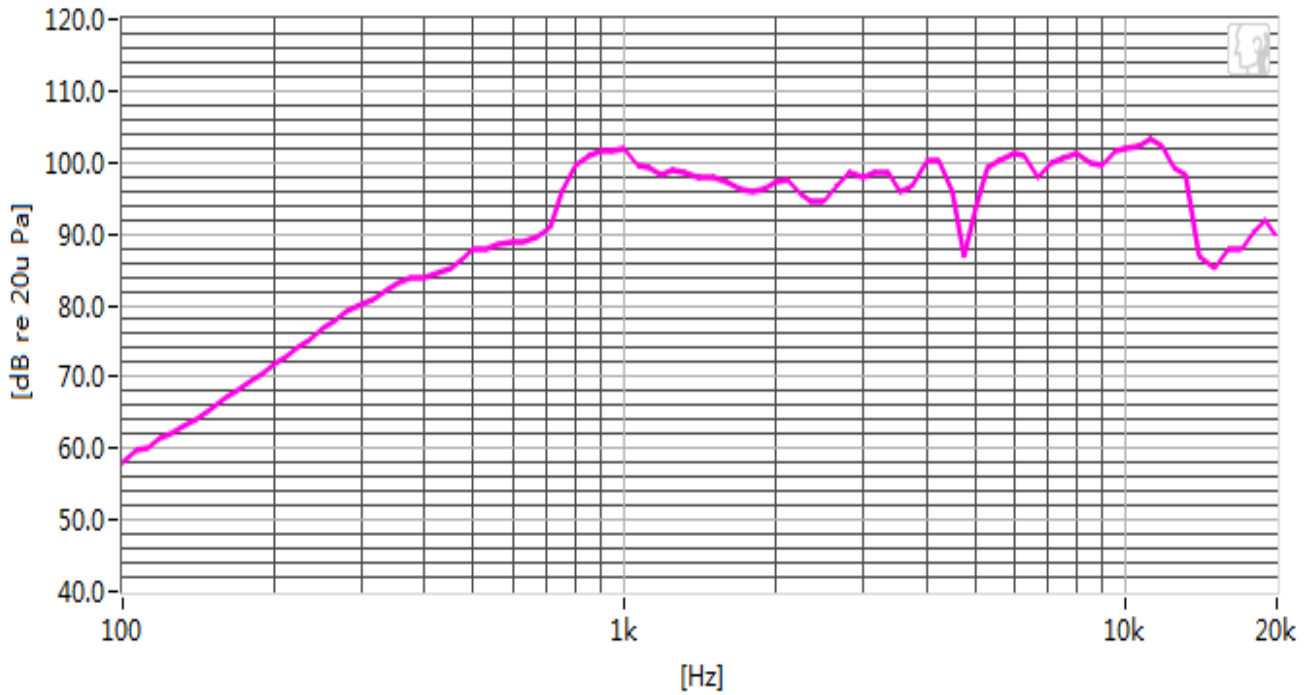
This specification applies speaker, TRAG25004B-20

此規格書適用於喇叭, TRAG25004B-20

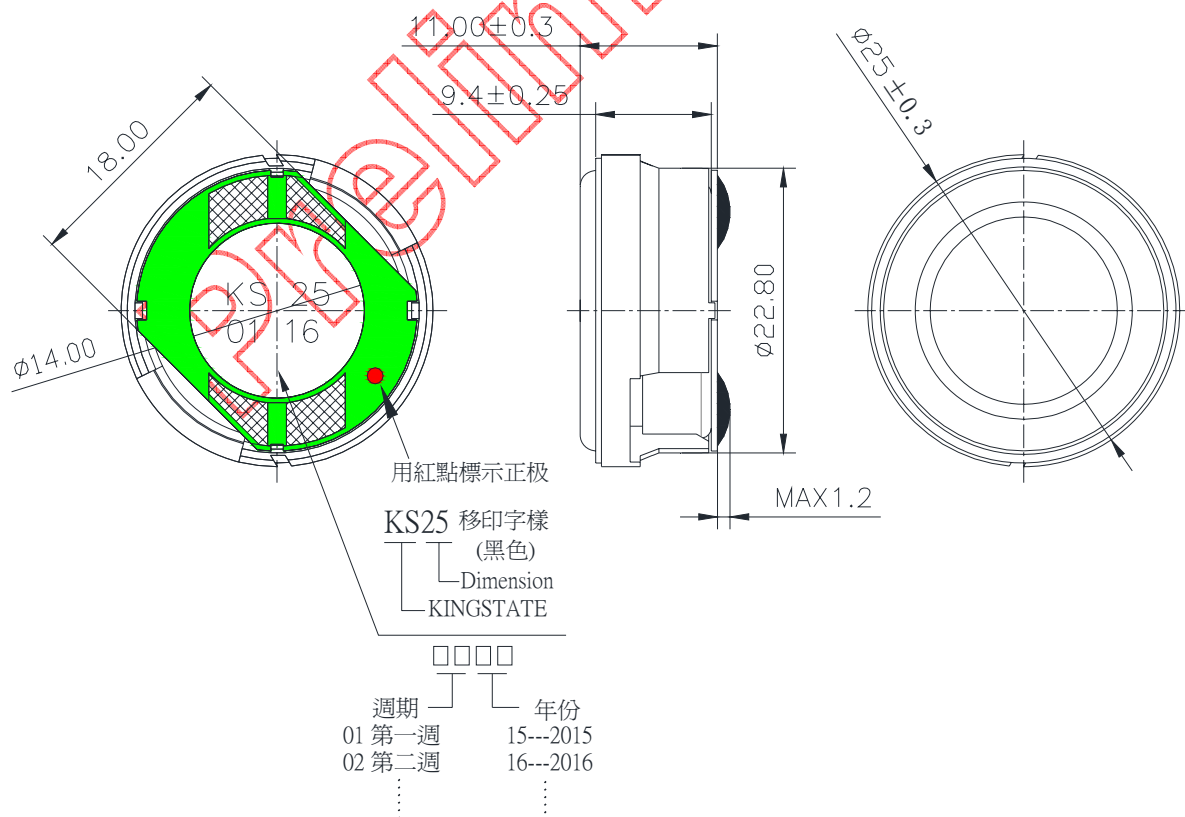
## B. SPECIFICATION 規格

No.	Item	Symbol	Unit	Specification	Condition
1	Dimension 尺寸		mm	25*11	
2	Power Rating 功率		W	Rated.2.0/ MAX2.5	Maximum Power:IEC-60268-5 Filter 60s On/120s Off 10 Cycles (Room TEMP.)
3	Impedance 阻抗	$\Omega$	ohm	$4 \pm 15\%$	At 1.5KHz
4	Resonance Frequency 低音諧振	Fo	Hz	$400 \pm 20\%$ Hz	At 1.0V
5	Output S.P.L. 音壓位準		dB	$78 \pm 3$ dB(1W/50cm)	At 0.8K,1.0K 1.2K,1.5KHz (Average figures)
6	Frequency Range 有效頻寬		Hz	F0--20K	Output S.P.L. -10dB
7	Distortion 失真		%	5% Max.	1KHz, 1.0W
8	Diaphragm 振膜		mm	N/A	Paper+Foam
9	Magnet 磁石		mm	N/A	Nd-Fe-B
10	Flux Density 磁通密度		Gauss	N/A	
11	Operating temp. 操作溫度		°C	-20 ~ +60	
12	Storage temp. 存儲溫度		°C	-30 ~ +70	
13	Buzzer & Rattle 異常音				Not be audible at 2.83V sine wave between From Fo~20K 輸入 2.83V 正弦波從 Fo 到 20K 之間無異常音
14	Weight 重量		g	12.5	
15	Material 材質			ABS	
16	Environmental Protection Regulation 環保法規			RoHs2.0	

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

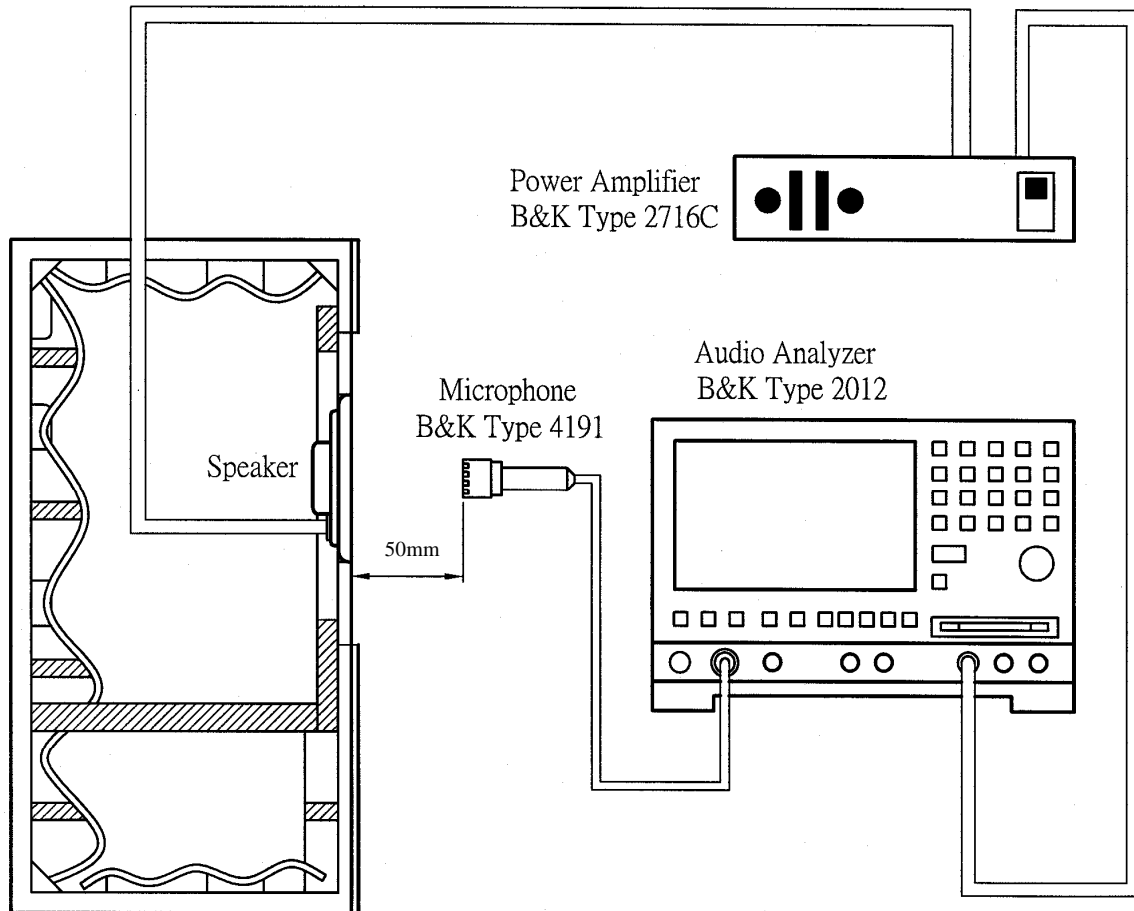


### D. APPEARANCE DRAWING 外觀尺寸圖



**Tol:  $\pm 0.3$**   
**Unit: mm**

## E. MEASUREMENT CIRCUIT 測量線路

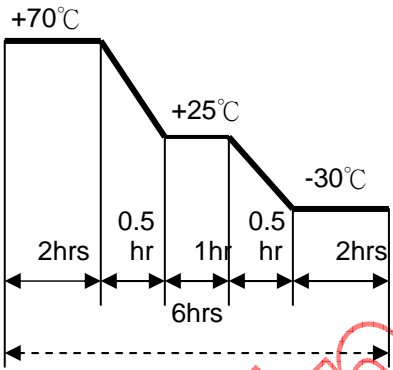


JIS C5531  
940mm x 640mm x 1240mm

## 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 $+270\pm 5^{\circ}\text{C}$ for $3\pm 0.5$ seconds. 裸線部份浸入松香溶液 5 秒後,再浸入 $+270\pm 5^{\circ}\text{C}$ 溶融焊錫槽 $3\pm 0.5$ 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	Vibration Test 振動測試	Speaker 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.	No obstacle to be harmful to normal operation; damages, cracks, rusts and distortions. Should not be audible at 2.83V sine wave between $F_0 \sim 20\text{KHz}$
3	Drop Test 落下測試	Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm 將揚聲器置於盒中,自 75 公分高度落在 40mm 木板上共 10 次	測試後無任何障礙防礙正常操作.且在輸入 2.83V 正弦波從 $F_0$ 到 20KHz 之間無異常音.

## G. ENVIRONMENTAL TEST 環境試驗

No.	Item	Test conditions	Evaluation standard
1	High temp. Test 高溫測試	After being placed in a chamber at +70°C for 96 hours 置於+70°C環境中 96 小時	Being placed for 6 hours at +25°C, speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.83V sine wave between Fo ~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB. 經測試後，靜置於+25°C (室溫)環境中 6 小時後，測試後無任何障礙防礙正常操作.且在輸入 2.83V 正弦波從 Fo 到 20KHz 之間無異常音. Fo 與原規格值相同,輸出音壓變化量在±3dB 內.
2	Low temp. Test 低溫測試	After being placed in a chamber at -30°C for 96 hours. 置於-30°C環境中 96 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at +40°C and 90±5% RH relative humidity for 96 hours. 置於+40°C, 相對濕度 90±5%環境中 96 小時	
4	Temp. cycle test 溫度循環測試	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: 	

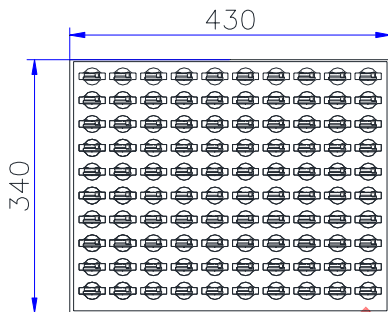
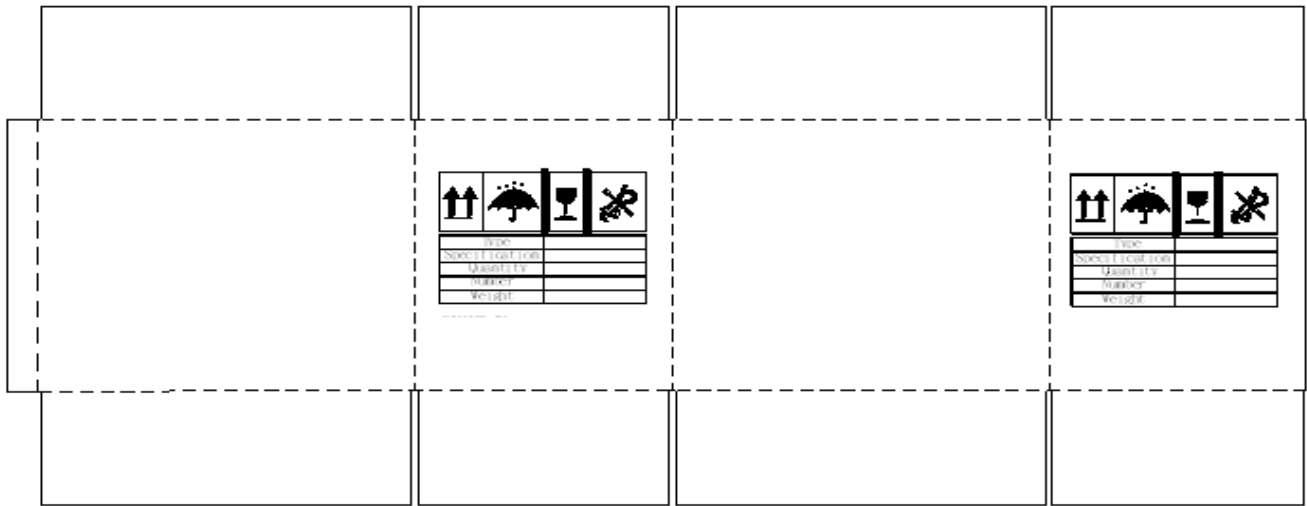
## H. RELIABILITY TEST 信賴性試驗

No.	Item	Test conditions	Evaluation standard
1	Load test 連續負荷	2W white noise is applied for 96 hours, at room temp. 在室溫下,輸入功率 2W, 白雜音連續操作 96 小時.	Being placed for 1 hours at +25°C, speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.83V sine wave between Fo ~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB. 經測試後，靜置於+25°C (室溫)環境中 1 小時後，測試後無任何障礙防礙正常操作.且在輸入 2.83V 正弦波從 Fo 到 20KHz 之間無異常音. Fo 與原規格值相同,輸出音壓變化量在±3dB 內.

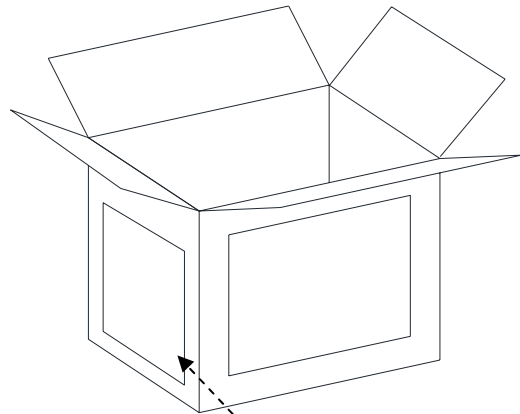
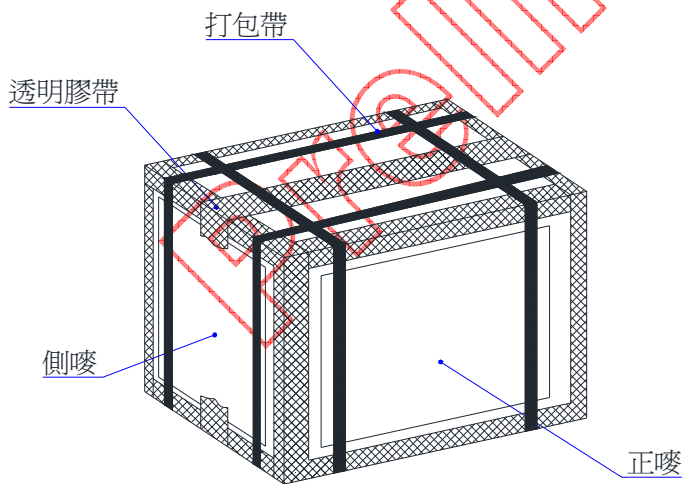
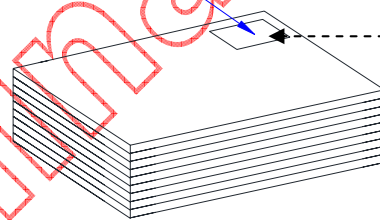
### TEST CONDITION.

Standard Test Condition :	a) Temperature : +15 ~ +35°C	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般測試條件 :	a) 溫度 : +15 ~ +35°C	b) 濕度 : 45-85%	c) 氣壓 : 860-1060mbar
Judgment Test Condition	a) Temperature : +20 ± 3°C	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
爭議時測試條件:	a) 溫度 : +20 ± 3°C	b) 濕度 : 60-70%	c) 氣壓 : 860-1060mbar



# I. PACKING STANDARD 包裝規格



每一盤貼一標籤



Tray	430*340	10*10=100pcs/盤
Unit	430*340	100pcs*9=900pcs/捆
Carton Box	450*360*345	900pcs*1=900pcs/箱

Lot No.	XXXXXXXXXXXX
Model No.	XXXXXXXXXXXX
Quantity.	XXXX Pcs
Date:	WW YY 
 KINGSTATE ELECTRONICS CORP.	