

# SPECIFICATION FOR APPROVAL

## 承 認 書

Description : Micro Dynamic Speaker

Kingstate Part No. : KAAG20008C-05

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

Specification No. : DOD-6878

Number Of The Edition : 1.1

CUSTOMER'S APPROVED SIGNATURE		

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Approved by	Checked by	Issued by

## A.SCOPE 範疇

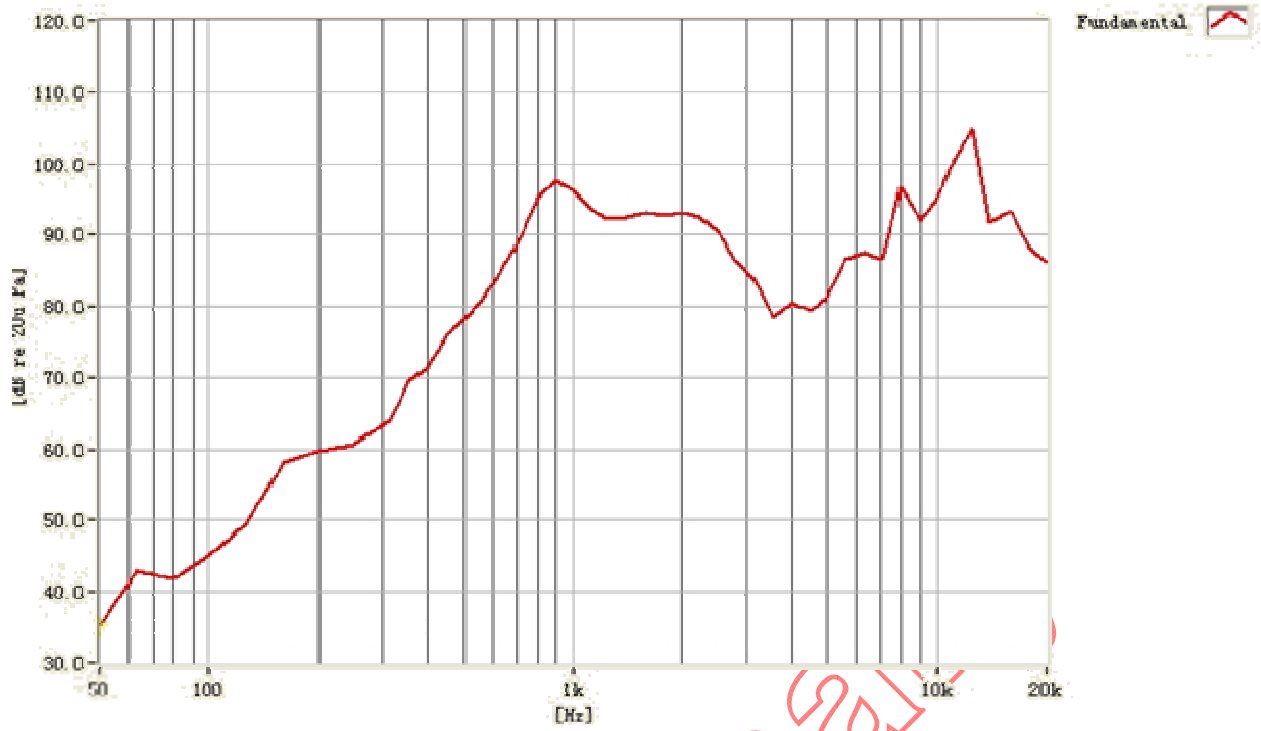
This specification applies speaker,KAAG20008C-05

此規格書適用於喇叭, KAAG20008C-05

## B. SPECIFICATION 規格

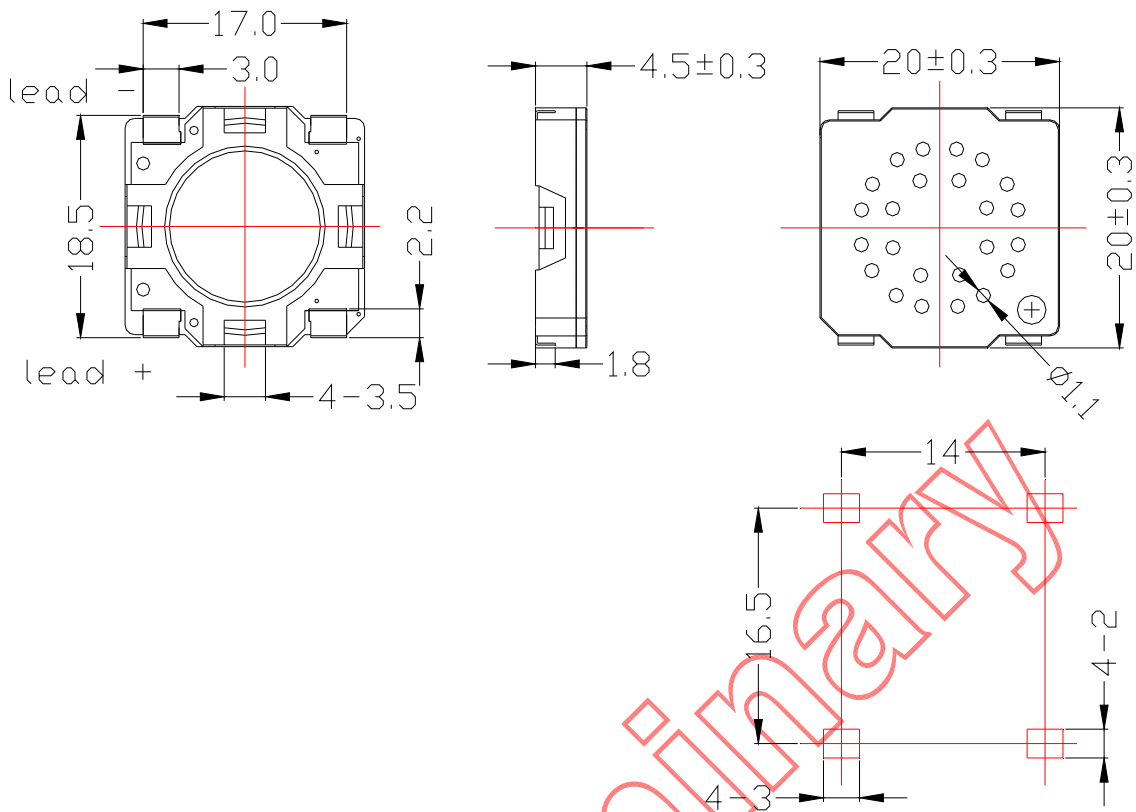
No.	Item	Symbol	Unit	Specification	Condition
1	Dimension 尺寸		mm	L20*W20*H4.5	
2	Power Rating 功率		W	Rated. 0.5/ MAX.0.8	Maximum Power:IEC-60268-5 Filter 60s On/120s Off 10 Cycles (Room TEMP.)
3	Impedance 阻抗	$\Omega$	ohm	$8 \pm 15\%$	At 1.0V
4	Resonance Frequency 低音諧振	F0	Hz	$850 \pm 20\%$	
5	Output S.P.L. 音壓位準		dB	$90\text{dB}(0.1\text{W}/0.1\text{m}) \pm 3 \text{ dB}$	at AVE 0.8K 1.0K 1.2K 1.5K Hz
6	Frequency Range 有效頻寬		Hz	F0~20kHz.	
7	Distortion 失真		%	<5%.	at 2KHz input Rated Power
8	Diaphragm 振膜		mm	N/A	PI
9	Magnet 磁石		mm	6.7*1.1	Rare earth permanent (SMCO) magnet
10	Flux Density 磁通密度		Gauss	N/A	
11	Operating temp. 操作溫度		$^{\circ}\text{C}$	-40 to +85	
12	Storage temp. 存儲溫度		$^{\circ}\text{C}$	-40 to +85	
13	Buzzer & Rattle 異常音				Should not be audible at 2.0V sine Wave between Fo to 20KHz
14	Weight 重量		g		
15	Material 材質			LCP	
16	Environmental Protection Regulation 環保法規			HSF	

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



Preliminary

## D. APPEARANCE DRAWING 外觀尺寸圖

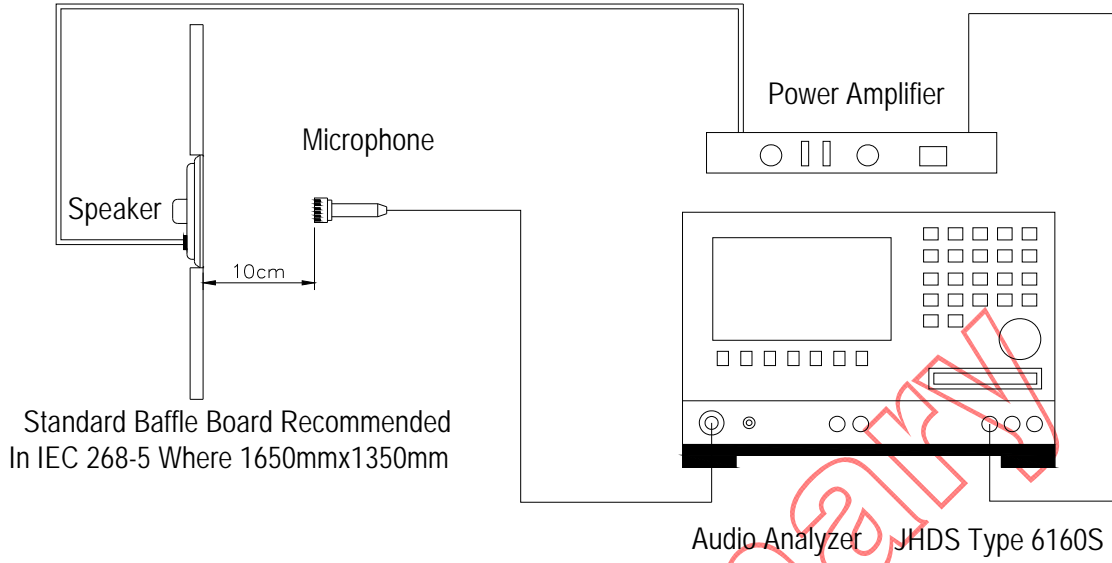


Unit:mmTol:±0.5

8	LEADS	4	PLATE WITH SN	
7	Cap	1	LCP	
6	Diaphragm	1	PI	
5	VOICE COIL	1	Cu	
4	Plate	1	SPCC	
3	Magnet	1	SmCo	
2	PCB Terminal	1	Cu	
1	Frame	1	LCP	
<b>The material must be meet to GU-001</b>				
PART NO.	PART NAME	Q'TY	MATERIAL	REMARK

**E. MEASUREMENT CIRCUIT 測量線路**

Standard test condition of speaker

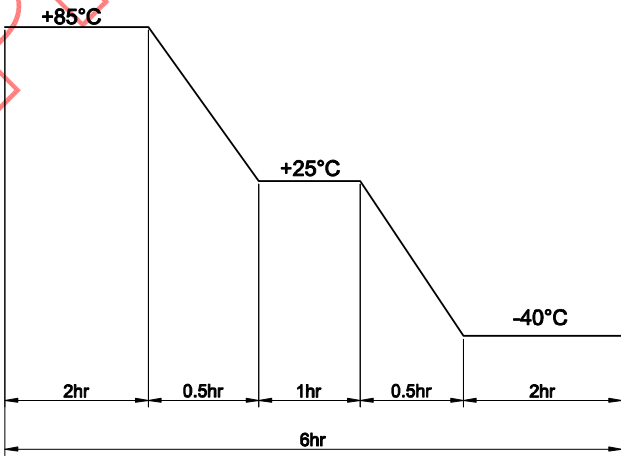


Preliminary

## 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	Lead Wire Pull Strength 線材拉力	The pull force shall be applied to double lead wire : Horizontal 3.0N(0.306kg) for 30seconds. Vertical 2.0N(0.204kg) for 30seconds. 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 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 2.0V sine wave between 20Hz ~ 5KHz
4	Drop Test 落下測試	Drop the speakers contained in normal box onto the board 40mm thick 18 times from the height of 150cm 將揚聲器置於盒中, 自 150 公分高度落在 40mm 木板上共 18 次.	測試後無任何障礙防礙正常操作.且在輸入 2.0V 正弦波從 Fo 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 $+85^{\circ}\text{C}$ for 96 hours 置於 $+85^{\circ}\text{C}$ 環境中 96 小時	Being placed for 6 hours at $+25^{\circ}\text{C}$ , speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.0V sine wave between FoHz ~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within $\pm 3\text{dB}$ . 經測試後, 靜置於 $+25^{\circ}\text{C}$ (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 2.0V 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 $\pm 3\text{dB}$ 內.
2	Low temp. Test 低溫測試	After being placed in a chamber at $-40^{\circ}\text{C}$ for 96 hours. 置於 $-40^{\circ}\text{C}$ 環境中 96 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% RH relative humidity for 96 hours. 置於 $+40^{\circ}\text{C}$ , 相對濕度 90 $\pm$ 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	Rate Power Pink noise is applied for 96 hours at room temp	<p>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 2.0V sine wave between Fo~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB.(in 1cc closed box)</p> <p>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 2.0V 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.</p>

### TEST CONDITION.

Standard Test Condition :

一般測試條件 :

Judgement Test Condition

爭議時測試條件:

a) Temperature : +15 ~ +35°C b) Humidity : 45-85% c) Pressure : 860-1060mbar

a) 溫度: +15 ~ +35°C b) 濕度: 45-85% c) 氣壓: 860-1060mbar

a) Temperature : +20 ± 3°C b) Humidity : 60-70% c) Pressure : 860-1060mbar

a) 溫度: +20 ± 3°C b) 濕度: 60-70% c) 氣壓: 860-1060mbar

## H.PACKING STANDARD 包裝規格

Each minimum package unit of products shall be in a carton box and it shall be clearly marked with Part Number, quantity and outgoing inspection number. There shall be no mechanical damage on products during transportation and/or in storage.

外箱須標示最小包裝單位，並註明產品型號、數量及檢驗批號。必須是物品儲藏或運輸過程中可防止造成損傷的包裝。

