

# SPECIFICATION FOR APPROVAL

## 承 認 書

Description : Micro Dynamic Speaker  
Kingstate Part No. : KDMG28008-05  
Customer's Model No. : \_\_\_\_\_  
Specification No. : PKD-7248  
Number Of The Edition : 1.4

| CUSTOMER'S APPROVED SIGNATURE |  |  |
|-------------------------------|--|--|
|                               |  |  |

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

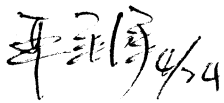



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| Approved by   | Checked by   | Issued by        |
|---|--|------------------|
|  |  | Qin<br>04/23/07' |

## A. SCOPE 範疇

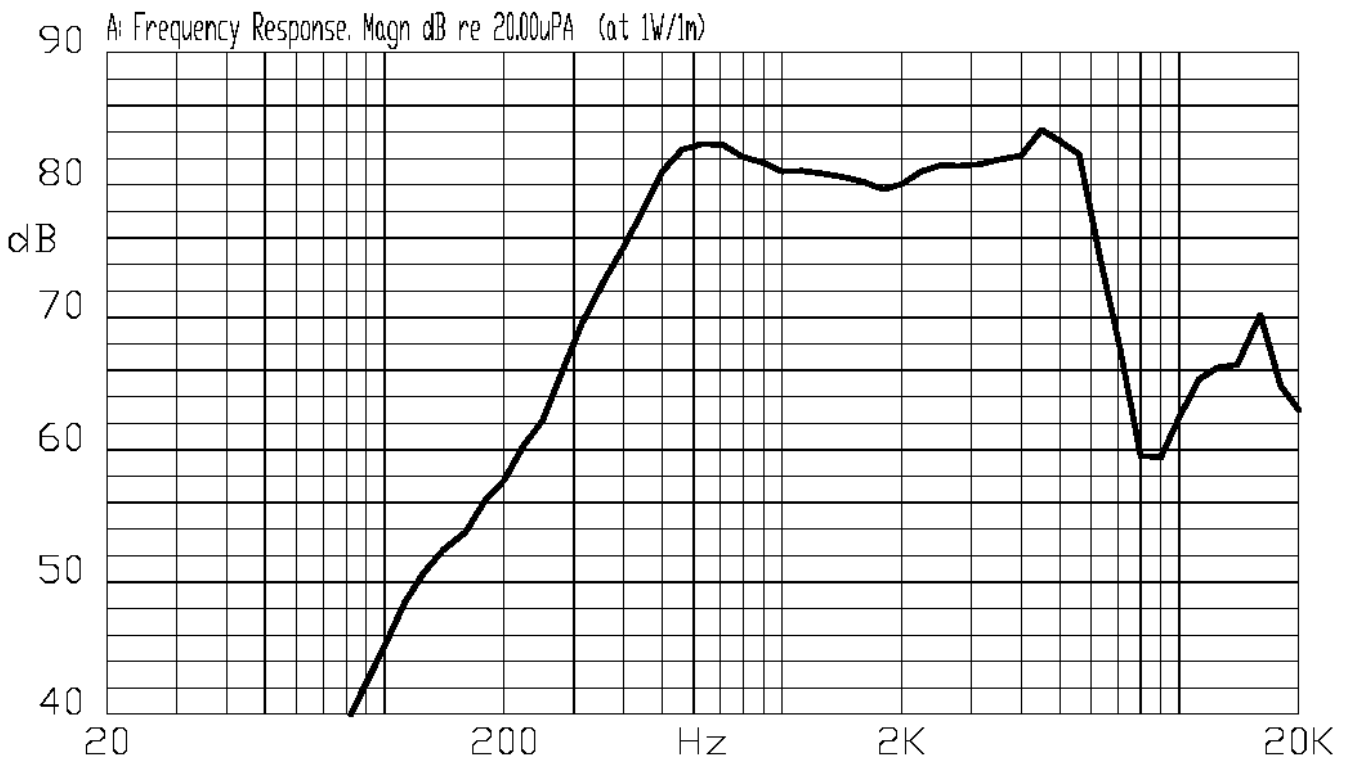
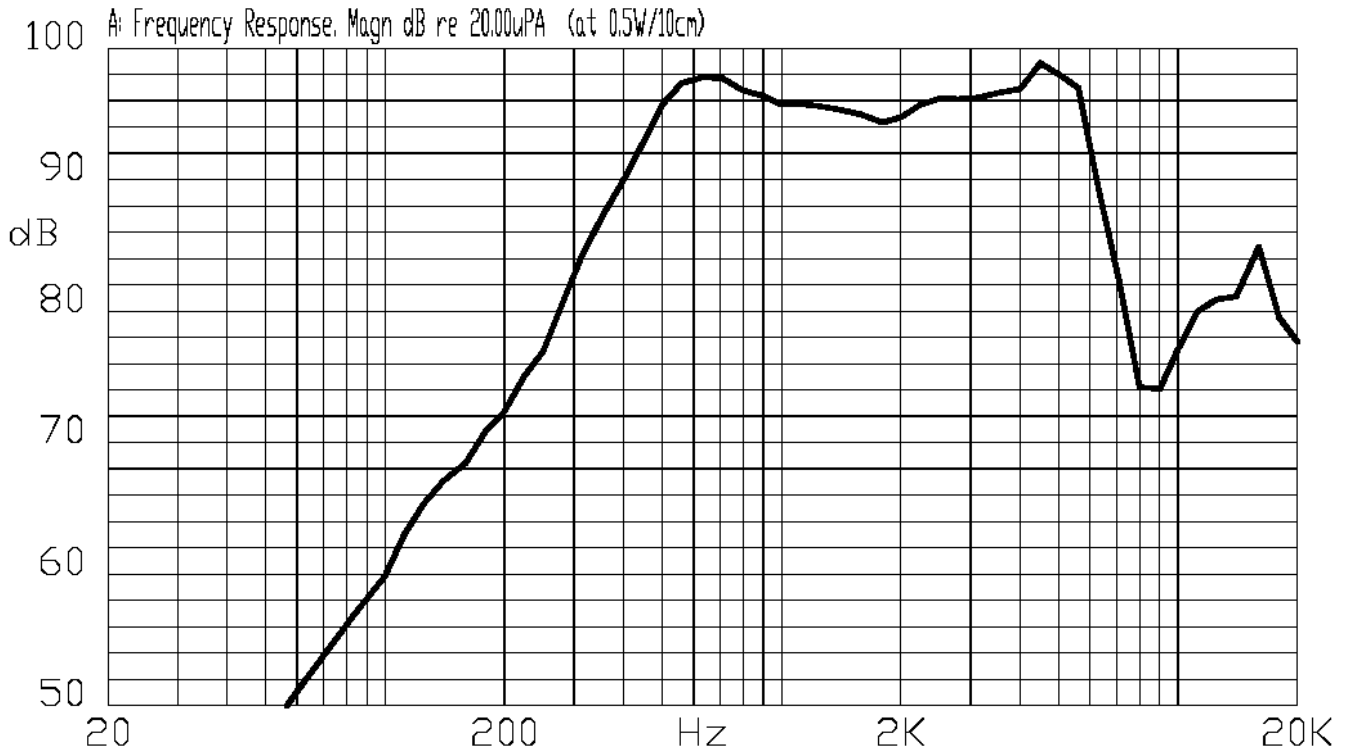
This specification applies speaker, **KDMG28008-05**

此規格書適用於喇叭, **KDMG28008-05**

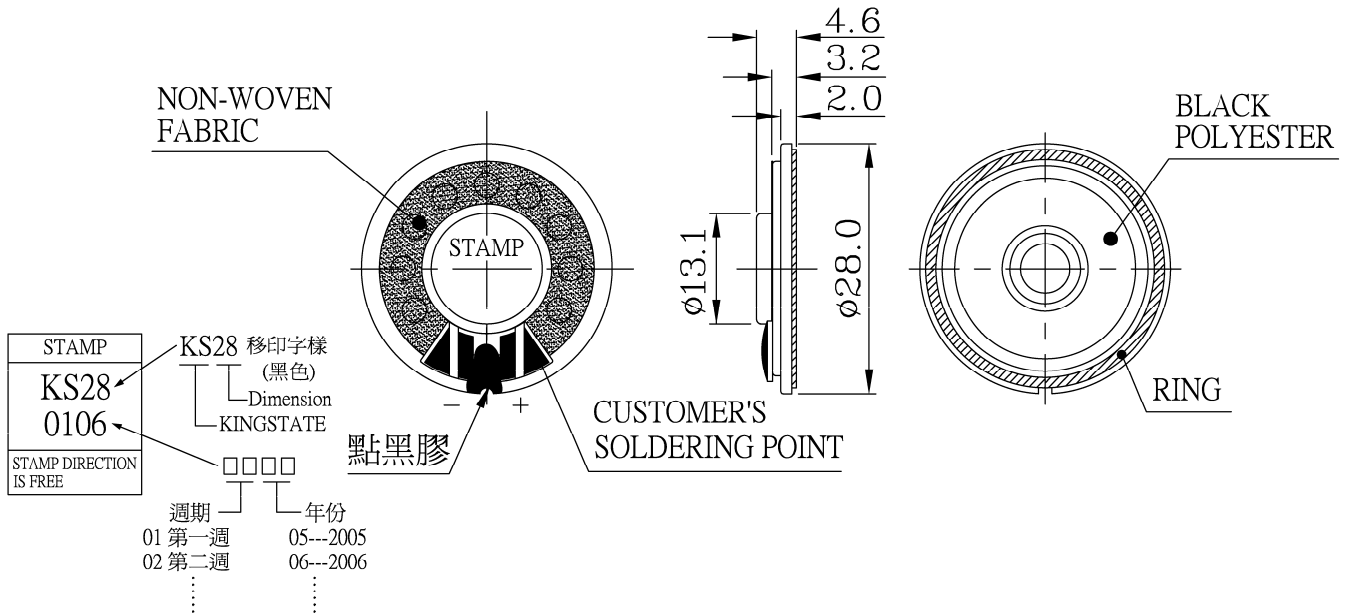
## B. SPECIFICATION 規格

| No. | Item   | Symbol   | Unit               | Specification  | Condition  |
|-----|--|----------|--------------------|--|--|
| 1   | Dimension<br>尺寸                                |          | mm                 | $\varnothing 28.0 \times 4.6$  |  |
| 2   | Power Rating<br>功率                             |          | W                  | Rated. 0.5/ MAX. 1.0   | Maximum Power:IEC-60268-5<br>Filter 60s On/120s Off<br>10 Cycles (Room TEMP.)                  |
| 3   | Impedance<br>阻抗                                | $\Omega$ | ohm                | $8 \pm 15\%$   | At 1.0kHz 1.0V   |
| 4   | Resonance Frequency<br>低音諧振                    | Fo       | Hz                 | $600 \pm 20\%$   | At ,1.0V   |
| 5   | Output S.P.L.<br>音壓位準                          |          | dB                 | $95 \pm 3\text{dB}(0.5\text{w}/10\text{cm})$<br>$79 \pm 3\text{dB}(1\text{w}/1\text{m})$ | At 1.0k,1.2k,1.5k,2.0kHz<br>(Average figures)  |
| 6   | Frequency Rang<br>有效頻寬                         |          | Hz                 | Fo---6.0K  | Output S.P.L. $\pm 10\text{dB}$  |
| 7   | Distortion<br>失真                               |          | %                  | 10% Max.   | At 1.0kHz , 0.5W   |
| 8   | Voice Coil<br>音圈                               |          | mm                 |  |  |
| 9   | Magnet<br>磁石                                   |          | mm                 |  | Nd-Fe-B(鈹鐵錳)   |
| 10  | Flux Density<br>磁通密度                           |          | Gauss              |  | Min.   |
| 11  | Operating temp.<br>操作溫度                        |          | $^{\circ}\text{C}$ | -20 ~ +55  |  |
| 12  | Buzzer & Rattle<br>異常音                         |          |                    |  | Not be audible at 2.0V sine<br>wave between Fo ~ 6.0KHz 輸入<br>2.0V 正弦波從 Fo 到 6.0KHz<br>之間無異常音. |
| 13  | Weight<br>重量                                   |          | g                  | 4.5  |  |
| 14  | Material<br>材質                                 |          |                    | Metal  |  |
| 15  | Environmental<br>Protection Regulation<br>環保法規 |          |                    | RoHS   |  |

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



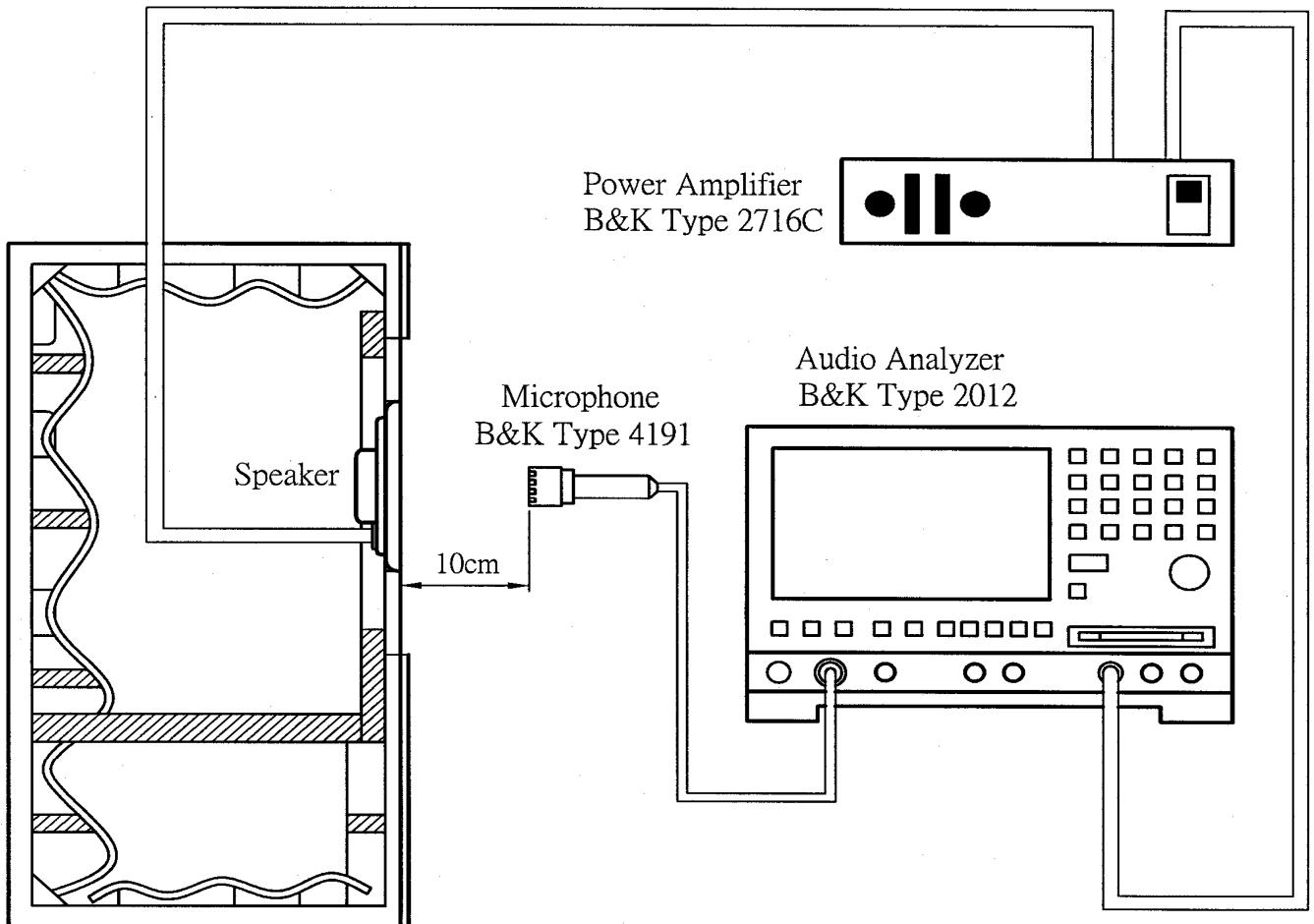
## D. APPEARANCE DRAWING 外觀尺寸圖



Tol: ± 0.3

Unit: mm

## E. MEASUREMENT CIRCUIT 測量線路



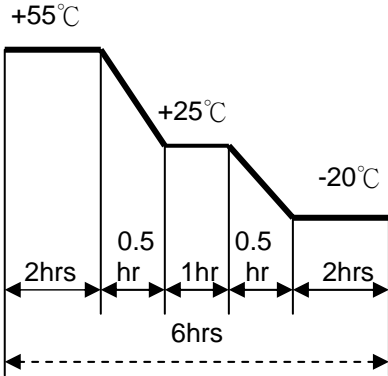
JIS C5531

940mm x 640mm x 1240mm

## F. MECHANICAL CHARACTERISTICS 機械特性

| No. | Item                               | Test condition   | Evaluation standard  |
|-----|------------------------------------|--|--|
| 1   | PCB Wire Pull Strength<br>PCB 線材拉力 | The pull force shall be applied to double lead wire :<br>Horizontal 3.0N(0.306kg) for 30 seconds.<br>雙線材水平方向施以 3.0N(0.306kg)的力量, 30 秒.   | No damage and cutting off<br>不鬆動, 不脫落.   |
| 2   | Vibration Test<br>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 perpendicular directions for 2 hours.<br>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;<br>damages, cracks, rusts and distortions.<br>Should not be audible at 2.0V sine wave between Fo ~ 6.0KHz |
| 3   | Drop Test<br>落下測試                  | Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm.<br>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 2.0V 正弦波從 Fo 到 6.0KHz 之間無異常音.   |

## G. ENVIRONMENTAL TEST 環境試驗

| No. | Item                       | Test conditions   | Evaluation standard  |
|-----|----------------------------|---|--|
| 1   | High temp. Test<br>高溫測試    | After being placed in a chamber at +55°C for 96 hours<br>置於+55°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.<br>Should not be audible at 2.0V sine wave between Fo ~ 6.0KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB<br>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 2.0V 正弦波從 Fo 到 6.0KHz 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<br>低溫測試     | After being placed in a chamber at -20°C for 96 hours.<br>置於-20°C 環境中 96 小時   |  |
| 3   | Humidity test<br>相對濕度測試    | After being placed in a chamber at +40°C and 90±5%RH relative humidity for 96 hours.<br>置於+40°C, 相對濕度 90±5%環境中 96 小時  |  |
| 4   | Temp. cycle test<br>溫度循環測試 | The part shall be subjected to 5 cycles. One cycle shall be consist of:<br>單體承受溫度循環測試 5 次, 其循環內容如圖示:<br> |  |

## H. Recommended Temperature Profile For Hand Soldering 建議手焊溫度

|                    |
|--------------------|
| Hand Soldering     |
| 370±10°C / 3±1 Sec |

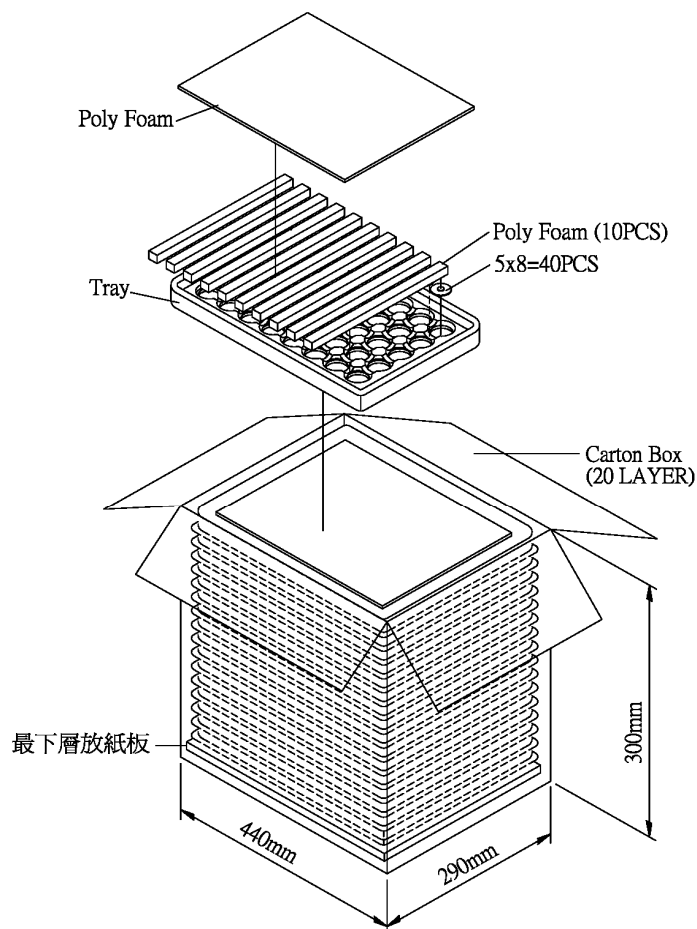
# I. RELIABILITY TEST 信賴性試驗

| No. | Item              | Test conditions   | Evaluation standard  |
|-----|-------------------|---|--|
| 1   | Load test<br>連續負荷 | 0.5W white noise is applied for 24 hours, at room temp.<br>在室溫下,輸入功率 0.5W, 白雜音連續操作 24 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.<br>Should not be audible at 2.0V sine wave between Fo ~ 6.0KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB.<br>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 6.0KHz 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 : +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       |
| Judgment 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       |

# J. PACKING STANDARD 包裝規格



|             |                   |                 |
|-------------|-------------------|-----------------|
| Paper Plate | 420mmx270mmx22mm  | 1x40PCS=40PCS   |
| Carton Box  | 440mmx290mmx300mm | 40PCSx20=800PCS |