

# SPECIFICATION FOR APPROVAL

## 承認書

Description : **Micro Dynamic Speaker**

Kingstate Part No. : **KDMG20008**

Customer's Model No. :

Specification No. : **PKD-7269**

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.

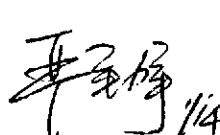
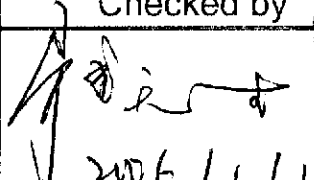


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| Approved by                                                                         | Checked by                                                                                        | Issued by       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------|
|  | <br>2006/11/13 | Fei<br>1/11/06' |

## A. SCOPE 範疇

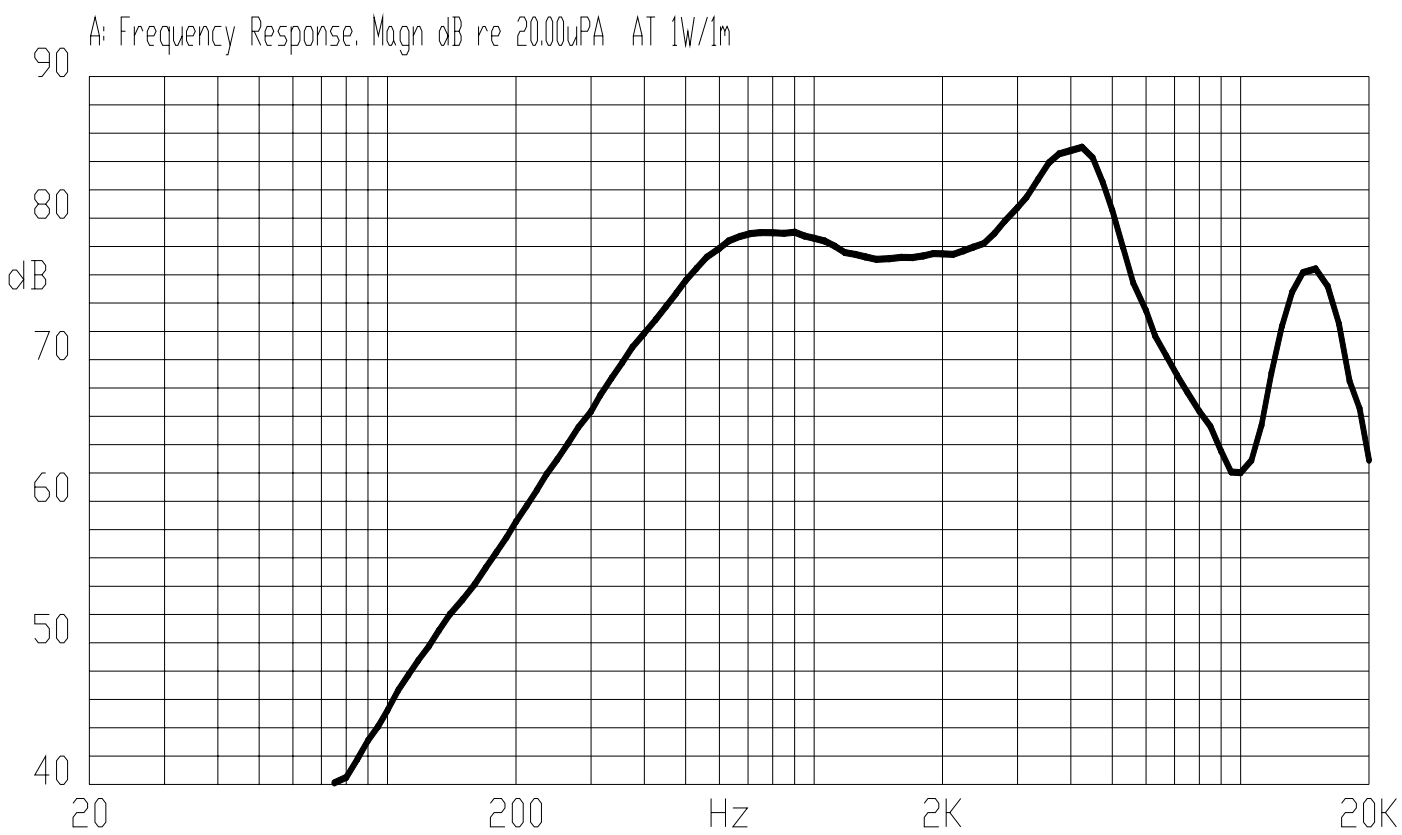
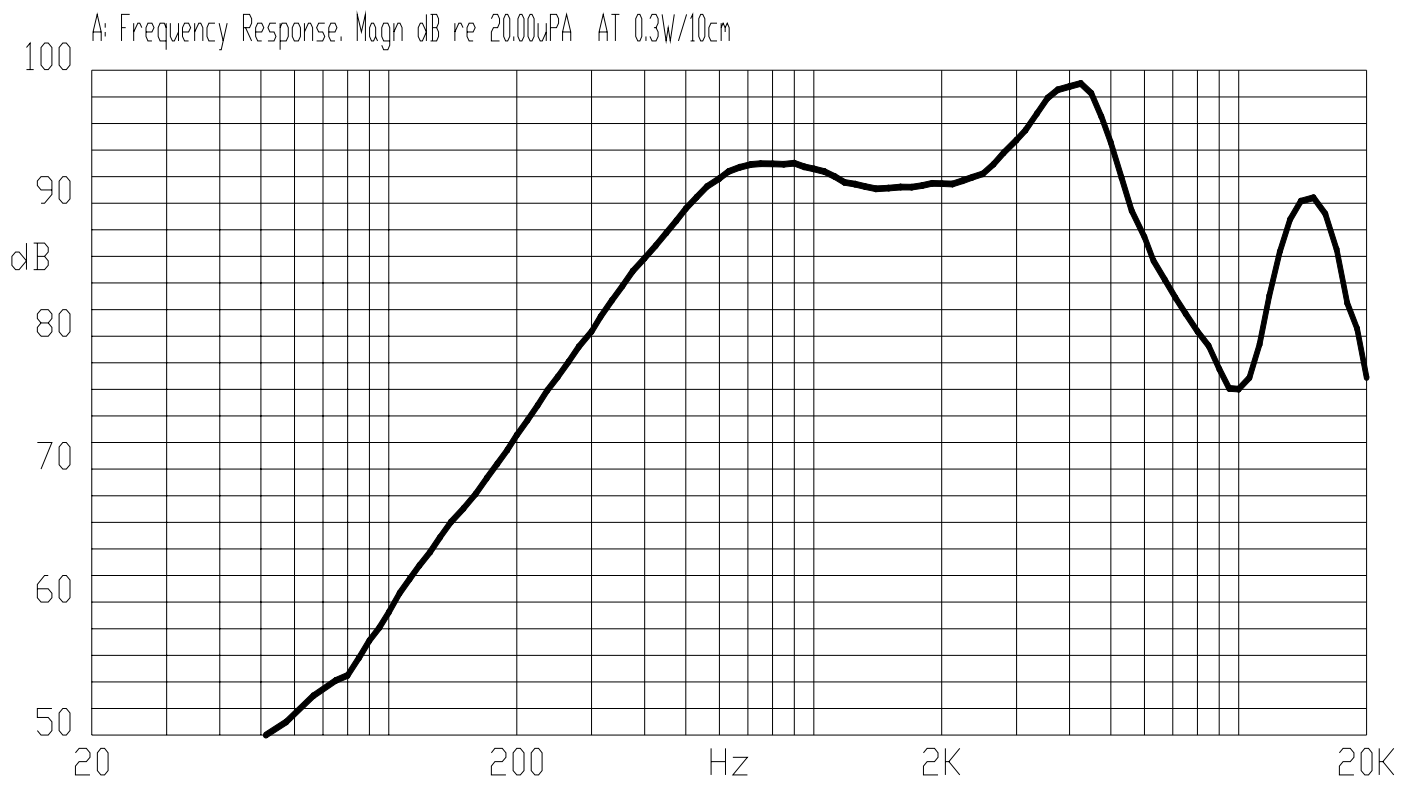
This specification applies speaker, **KDMG20008**

此規格書適用於喇叭，**KDMG20008**

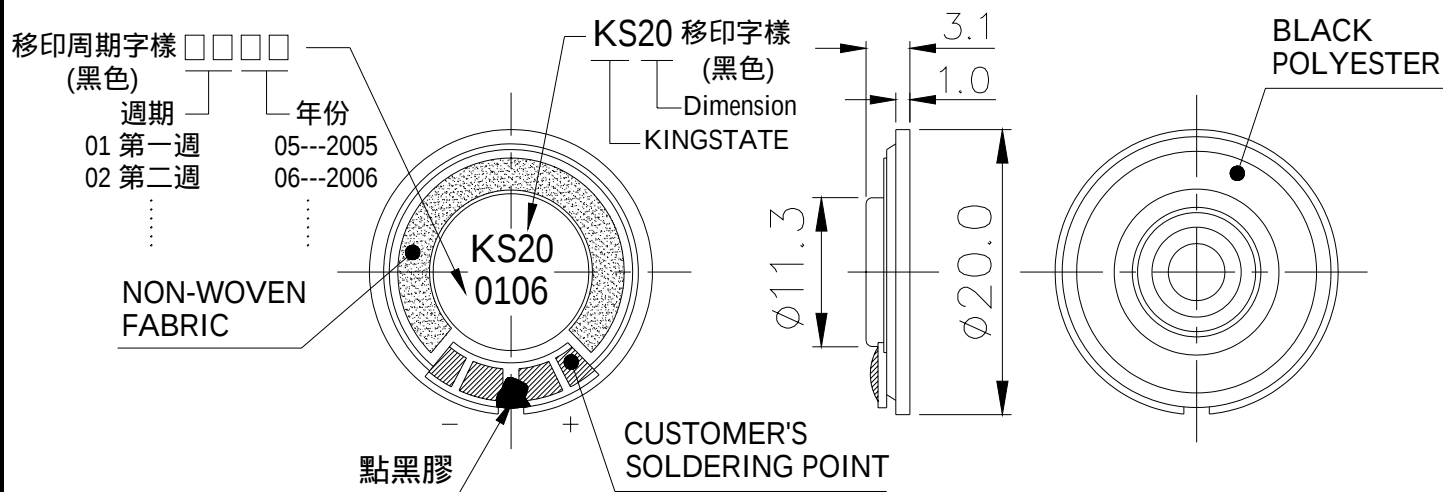
## B. SPECIFICATION 規格

| No. | Item                                           | Symbol   | Unit  | Specification                                                                            | Condition                                                                                   |
|-----|------------------------------------------------|----------|-------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 1   | Dimension<br>尺寸                                |          | mm    | $\phi 20.0 \times 3.1$                                                                   |                                                                                             |
| 2   | Power Rating<br>功率                             |          | W     | Rated. 0.3 / MAX. 0.5                                                                    | 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    | $560 \pm 20\%$                                                                           | At 1.0V                                                                                     |
| 5   | Output S.P.L.<br>音壓位準                          |          | dB    | $92 \pm 3\text{dB}(0.3\text{w}/10\text{cm})$<br>$78 \pm 3\text{dB}(1\text{w}/1\text{m})$ | At 1.0k,1.2k,1.5k,2.0kHz<br>(Average figures)                                               |
| 6   | Frequency Rang<br>有效頻寬                         |          | Hz    | Fo---7K                                                                                  | Output S.P.L. $\pm 10\text{dB}$                                                             |
| 7   | Distortion<br>失真                               |          | %     | 5% Max.                                                                                  | At 1.0kHz , 0.3W                                                                            |
| 8   | Voice Coil<br>音圈                               |          | mm    | $\phi 8.7 \times \phi 0.055 \times H1.3 \times 8\Omega$                                  |                                                                                             |
| 9   | Magnet<br>磁石                                   |          | mm    | $\phi 8.0 \times 1.0$                                                                    | Nd-Fe-B(銲鐵銲)                                                                                |
| 10  | Flux Density<br>磁通密度                           |          | Gauss | $4800 \pm 10\%$                                                                          | Min.                                                                                        |
| 11  | Operating temp.<br>操作溫度                        |          |       | - 20 ~ +55                                                                               |                                                                                             |
| 12  | Buzze & Rattle<br>異常音                          |          |       |                                                                                          | Not be audible at 1.54V sine<br>wave between Fo ~ 7KHz<br>輸入 1.54V 正弦波從 Fo 到<br>7KHz 之間無異常音 |
| 13  | Weight<br>重量                                   |          | g     | 2.3                                                                                      |                                                                                             |
| 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



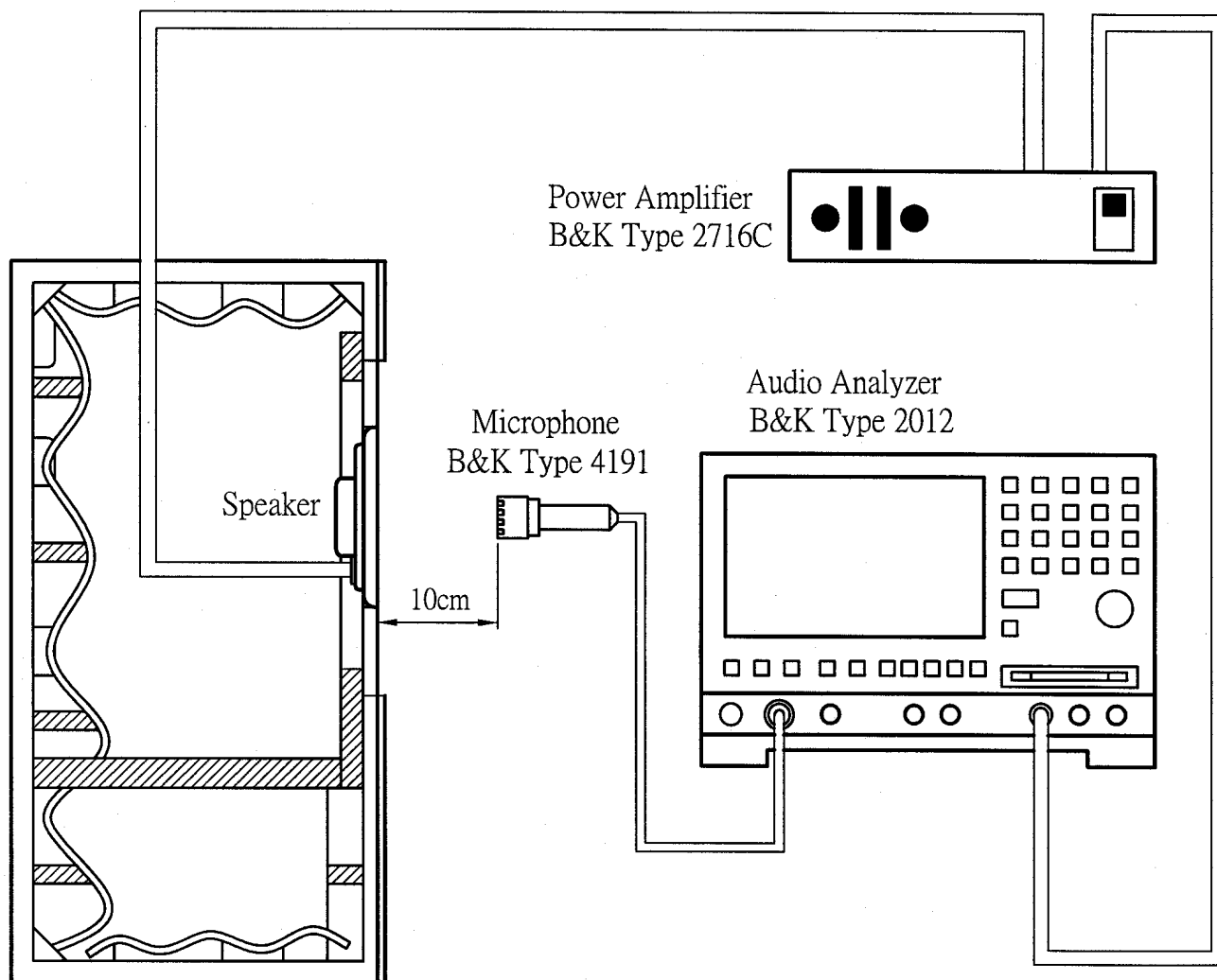
## D. APPEARANCE DRAWING 外觀尺寸圖



**Tol:  $\pm 0.5$**

**Unit: mm**

## E. MEASUREMENT CIRCUIT 測量線路



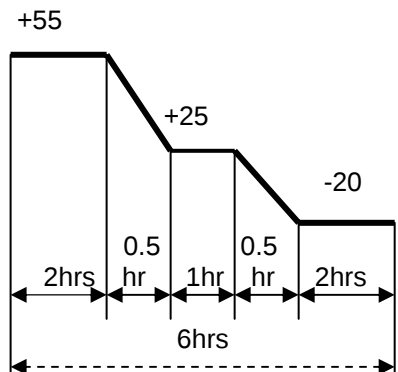
JIS C5531

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; damages, cracks, rusts and distortions.<br>Should not be audible at 1.54V sine wave between Fo ~ 7KHz |
| 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 1.54V 正弦波從 Fo 到 7KHz 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 for 96 hours<br>置於+55 環境中 96 小時                                                                                                                     | Being placed for 6 hours at +25 , speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc.<br>Should not be audible at 1.54V sine wave between Fo ~ 7KHz. Fo should meet initial one. S.P.L. deviation of unit should be within $\pm 3\text{dB}$<br>經測試後,靜置於+25 (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 1.54V 正弦波從 Fo 到 7KHz 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<br>低溫測試     | After being placed in a chamber at -20 for 96 hours.<br>置於-20 環境中 96 小時                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3   | Humidity test<br>相對濕度測試    | After being placed in a chamber at +40 and 90 $\pm$ 5% RH relative humidity for 96 hours.<br>置於+40 , 相對濕度 90 $\pm$ 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 $\pm$ 10 / 3 $\pm$ 1 Sec |

## I. RELIABILITY TEST 信賴性試驗

| No. | Item              | Test conditions                                                                           | Evaluation standard                                                                                                                                                                                                                                                                                                                                                                           |
|-----|-------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Load test<br>連續負荷 | 0.3W white noise is applied for 24 hours, at room temp.<br>在室溫下,輸入功率 0.3W, 白雜音連續操作 24 小時. | Being placed for 1 hours at +25℃, speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc.<br>Should not be audible at 1.54V sine wave between Fo ~ 7KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB.<br>經測試後,靜置於+25℃ (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 1.54V 正弦波從 Fo 到 7KHz 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 | b) Humidity : 45-85% | c) Pressure : 860-1060mbar |
| 一般測試條件 :                  | a) 溫度 : +5 ~ +35          | b) 濕度 : 45-85%       | c) 氣壓 : 860-1060mbar       |
| Judgement Test Condition  | a) Temperature : +25 ± 2  | b) Humidity : 60-70% | c) Pressure : 860-1060mbar |
| 爭議時測試條件:                  | a) 溫度 : +25 ± 2           | b) 濕度 : 60-70%       | c) 氣壓 : 860-1060mbar       |

## J. PACKING STANDARD 包裝規格

