

**PART NUMBER:** CMC-5044PF-A

**DESCRIPTION:** electret condenser microphone

## SPECIFICATIONS

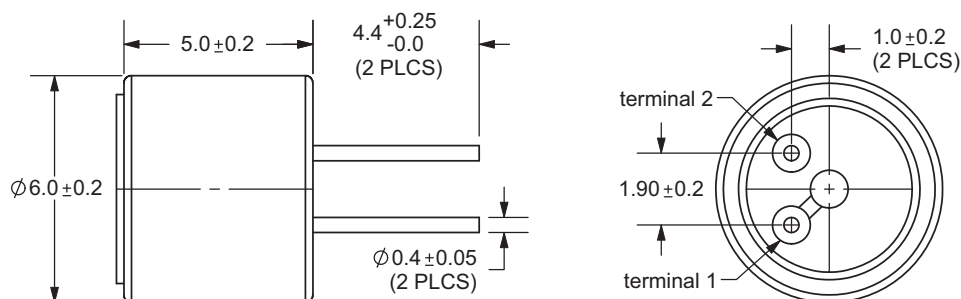
|                               |                                            |                                 |
|-------------------------------|--------------------------------------------|---------------------------------|
| directivity                   | omnidirectional                            |                                 |
| sensitivity (S)               | -44 ±3 db                                  | f = 1KHz, 1Pa 0dB = 1V/Pa       |
| sensitivity reduction (ΔS-Vs) | -3 dB                                      | f = 1KHz, 1Pa Vs = 2 ~ 1.5 V dc |
| operating voltage             | 2 V dc (standard), 10 V dc (max.)          |                                 |
| output impedance (Zout)       | 2.2 KΩ                                     | f = 1KHz, 1Pa                   |
| operating frequency (f)       | 100 ~ 20,000 Hz                            |                                 |
| current consumption (IDSS)    | 0.5 mA max.                                | Vs = 2 V dc RL = 2.2KΩ          |
| signal to noise ratio (S/N)   | 56 dBA                                     | f = 1KHz, 1Pa A-weighted        |
| operating temperature         | -20 ~ +70° C                               |                                 |
| storage temperature           | -20 ~ +70° C                               |                                 |
| dimensions                    | ø6 x 5 mm                                  |                                 |
| weight                        | 0.30 g max.                                |                                 |
| material                      | Al                                         |                                 |
| terminal                      | pin type (Au plating, hand soldering only) |                                 |
| RoHS                          | yes                                        |                                 |

note:

We use the "Pascal (Pa)" indication of sensitivity as per the recommendation of I.E.C. (International Electrotechnical Commission). The sensitivity of "Pa" will increase 20dB compared to the "ubar" indication. Example: -60dB (0dB = 1V/ubar) = -40dB (1V/Pa)

## APPEARANCE DRAWING

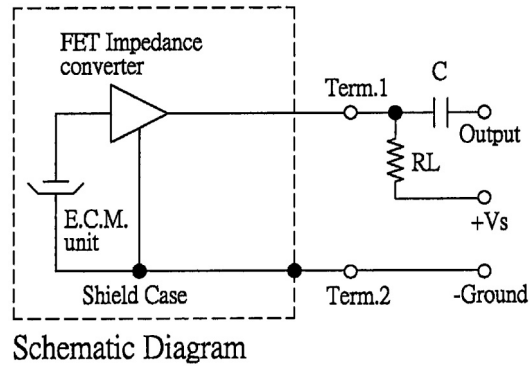
tolerances not shown: ±0.3mm



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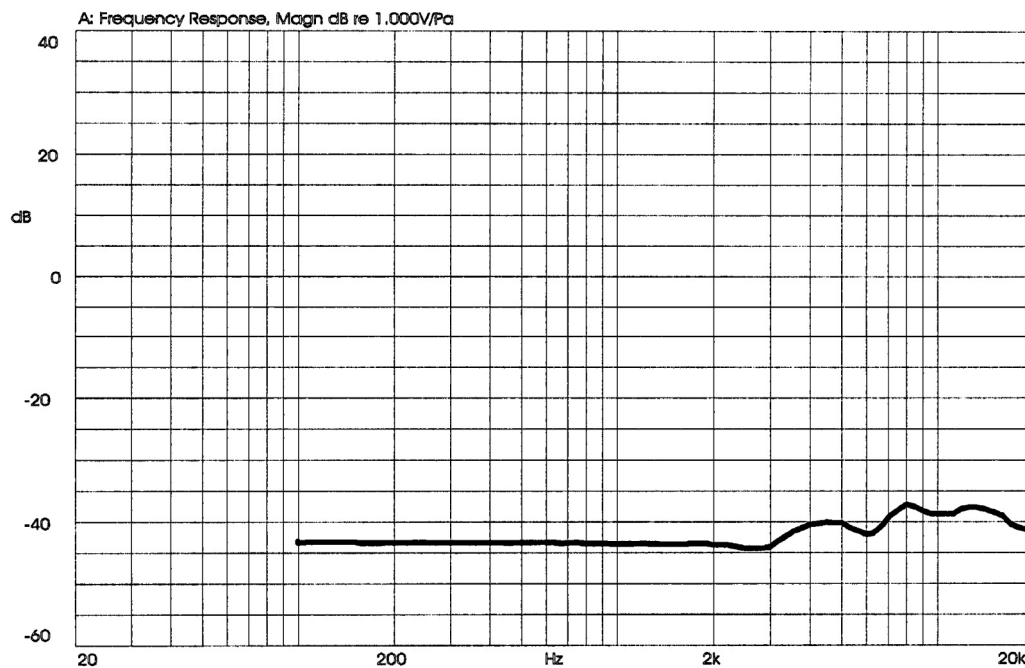
## MEASUREMENT CIRCUIT



**RL=2.2K $\Omega$**

## FREQUENCY RESPONSE CURVE

X:1.0000kHz \*Y:-44.00dB ZA:Live Curve SSR Fund.



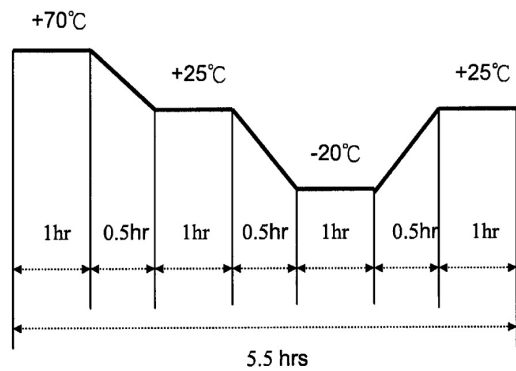
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## MECHANICAL CHARACTERISTICS

| item                      | test condition                                                                                                                                                               | evaluation standard                                                                                     |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| soldering heat resistance | Soldering iron of $270 \pm 5^{\circ}\text{C}$ should be placed on the terminal for $2 \pm 0.5$ seconds.                                                                      | No interference in operation.                                                                           |
| PCB wire pull strength    | The pull force will be applied to double lead wire:<br>Horizontal 4.9N (0.5kg) for 30 seconds                                                                                | No damage or cutting off.                                                                               |
| vibration                 | The part will be measured after applying a vibration amplitude of 1.5 mm with 10 to 55 Hz band of vibration frequency to each of the 3 perpendicular directions for 2 hours. | After any tests, the sensitivity should be within $\pm 3\text{dB}$ compared to the initial measurement. |
| drop test                 | The part will be dropped from a height of 1 m onto a 20 mm thick wooden board 3 times in 3 axes (X, Y, Z) for a total of 9 drops.                                            |                                                                                                         |

## ENVIRONMENT TEST

| item             | test condition                                                                                                                                                   | evaluation standard                                                                                                                                                                        |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| high temp. test  | After being placed in a chamber at $+70^{\circ}\text{C}$ for 72 hours.                                                                                           | The part will be measured after being placed at $+25^{\circ}\text{C}$ for 6 hours. After any tests, the sensitivity should be within $\pm 3\text{dB}$ compared to the initial measurement. |
| low temp. test   | After being placed in a chamber at $-20^{\circ}\text{C}$ for 72 hours.                                                                                           |                                                                                                                                                                                            |
| humidity test    | After being placed in a chamber at $+40^{\circ}\text{C}$ and $90 \pm 5\%$ relative humidity for 240 hours.                                                       |                                                                                                                                                                                            |
| temp. cycle test | <p>The part shall be subjected to 10 cycles. One cycle will consist of:</p>  |                                                                                                                                                                                            |

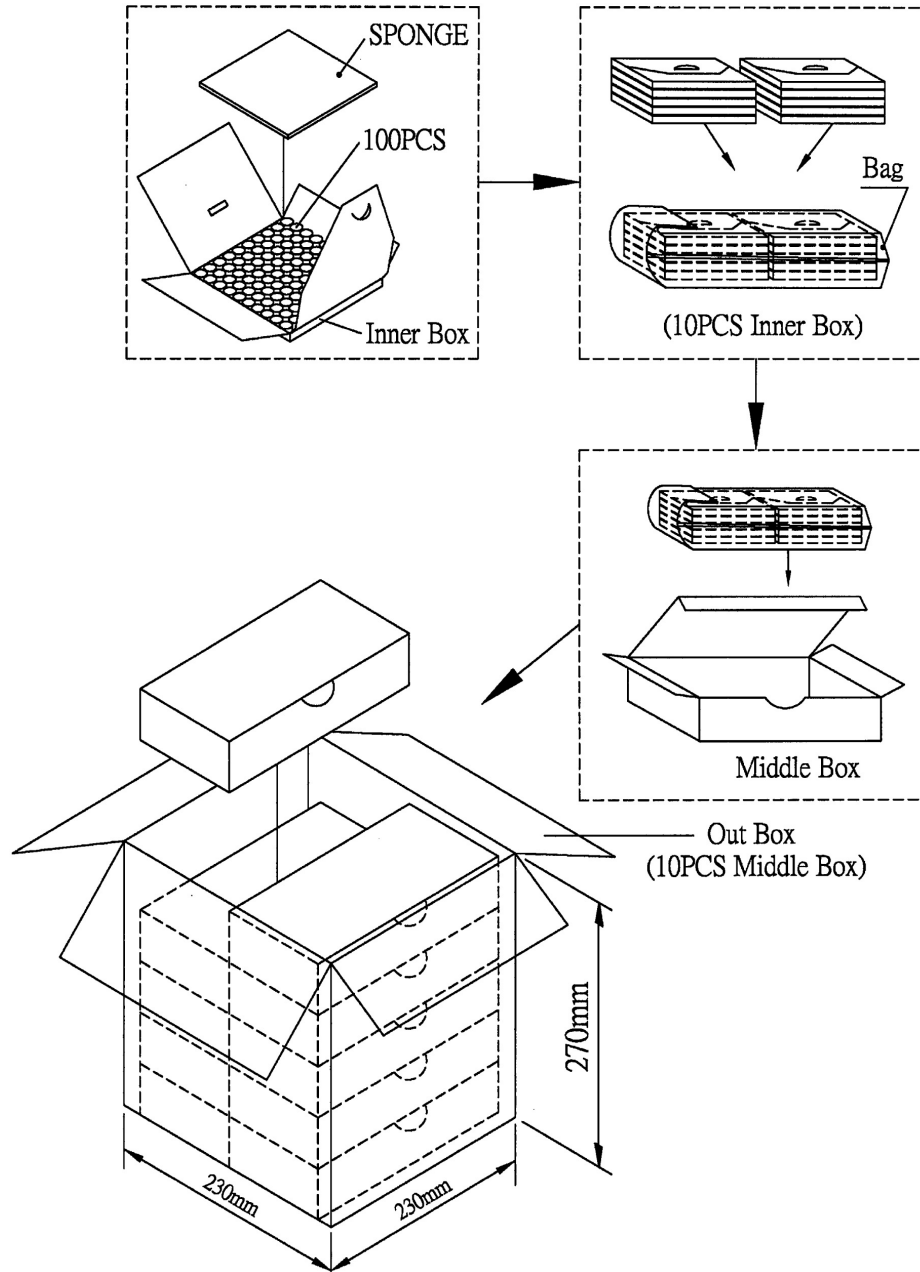
## TEST CONDITIONS

|                          |                                               |                       |                            |
|--------------------------|-----------------------------------------------|-----------------------|----------------------------|
| standard test condition  | a) temperature: $+5 \sim +35^{\circ}\text{C}$ | b) humidity: 45 - 85% | c) pressure: 860-1060 mbar |
| judgement test condition | a) temperature: $+25 \pm 2^{\circ}\text{C}$   | b) humidity: 60 - 70% | c) pressure: 860-1060 mbar |

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## PACKAGING



|            |                   |                       |
|------------|-------------------|-----------------------|
| Inner Box  | 85mmx85mmx8mm     | 1x100PCS=100PCS       |
| Middle Box | 205mmx106mmx52mm  | 100PCSx10=1,000PCS    |
| Out Box    | 230mmx230mmx270mm | 1,000PCSx10=10,000PCS |