**PART NUMBER:** CMC-5042PF-AC **DESCRIPTION:** electret condenser microphone

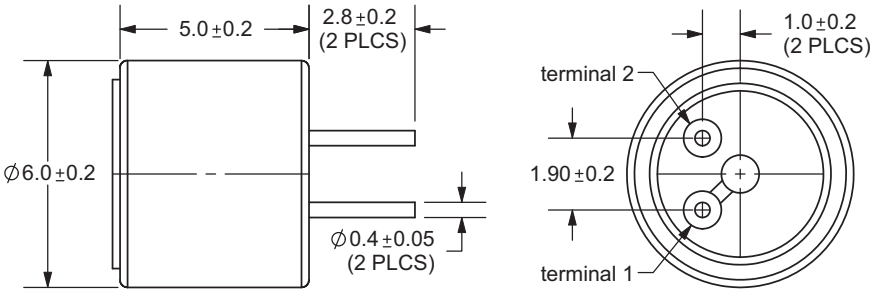
## SPECIFICATIONS

| | | |
|---|---|---|
| directivity | omnidirectional | |
| sensitivity (S) | -42 ±3 dB | f = 1KHz, 1Pa 0dB = 1V/Pa |
| sensitivity reduction (ΔS-Vs) | -3 dB | f = 1KHz, 1Pa Vs = 2.0 ~ 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 ($I_{DSS}$) | 0.5 mA max. | Vs = 2.0 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 | ø6.0 x 5.0 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 recomendation 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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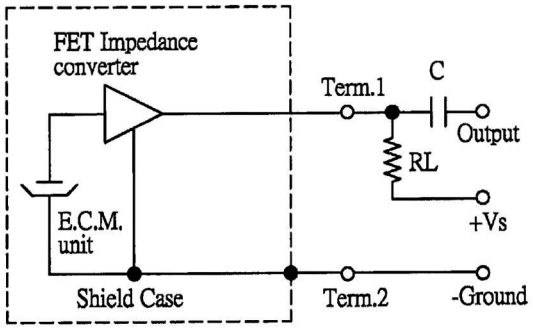
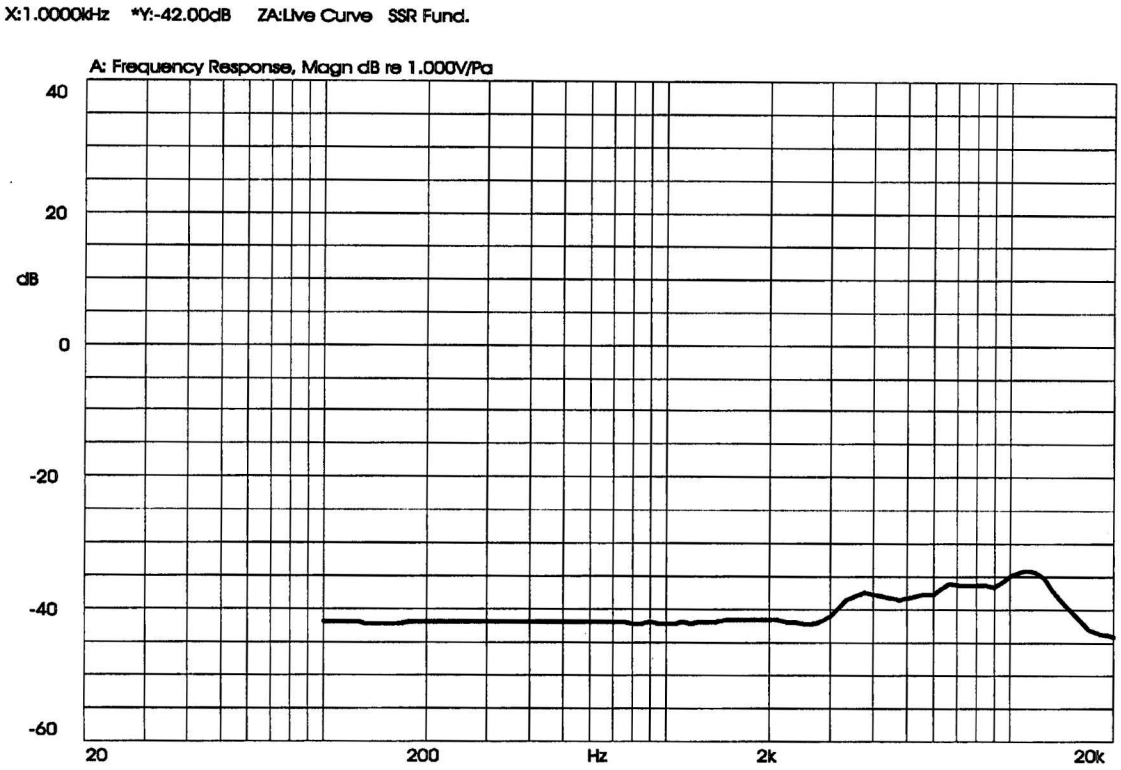
## MEASUREMENT CIRCUIT




Schematic Diagram

**RL=2.2KΩ**

## FREQUENCY RESPONSE CURVE



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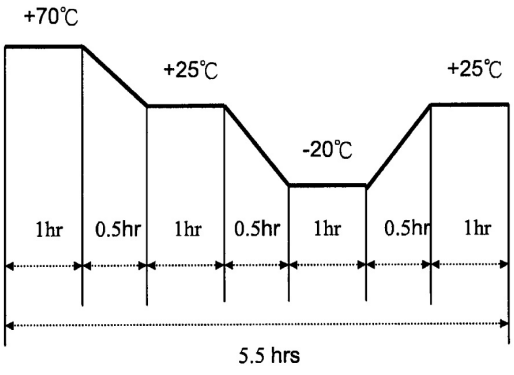
## MECHANICAL CHARACTERISTICS

| item | test condition | evaluation standard |
|---|---|---|
| soldering heat resistance | Soldering iron of 270 ±5°C should be placed on the terminal for 2 ±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 ±3dB 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°C for 72 hours. | The part will be measured after being placed at +25°C for 6 hours. After any tests, the sensitivity should be within ±3dB compared to the initial measurement. |
| low temp. test | After being placed in a chamber at -20°C for 72 hours. | |
| humidity test | After being placed in a chamber at +40°C and 90±5% relative humidity for 240 hours. | |
| temp. cycle test | The part shall be subjected to 10 cycles. One cycle will consist of:<br>  | |

## TEST CONDITIONS

| | | | |
|---|---|---|---|
| standard test condition | a) temperature: +5 ~ +35°C | b) humidity: 45 - 85% | c) pressure: 860-1060 mbar |
| judgement test condition | a) temperature: +25 ±2°C | b) humidity: 60 - 70% | c) pressure: 860-1060 mbar |

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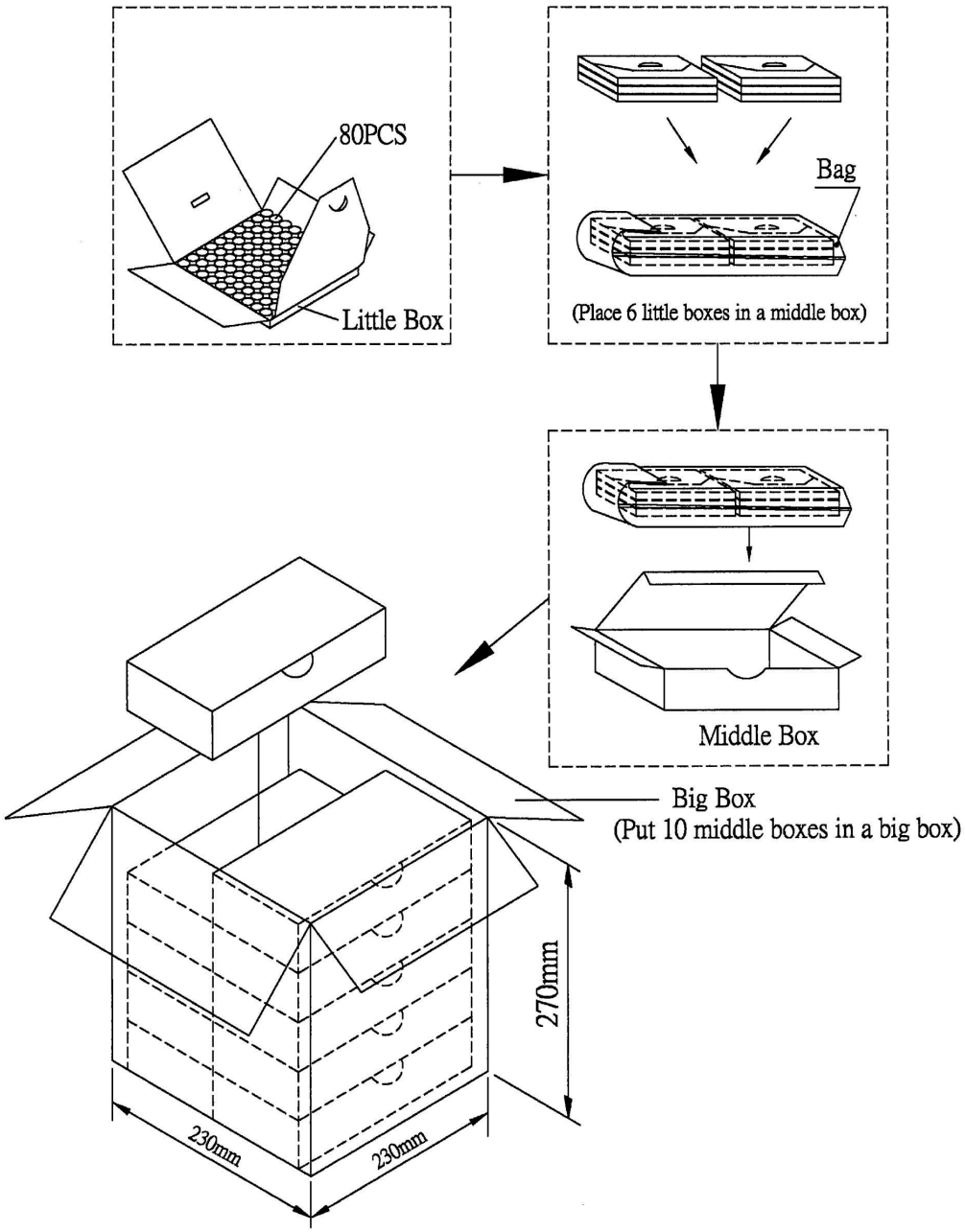
## PACKAGING




| | | |
|---|---|---|
| Little Box | 100mmx100mmx11mm | 1x80PCS=80PCS |
| Middle Box | 205mmx106mmx52mm | 80PCSx6=480PCS |
| Big Box | 230mmx230mmx270mm | 480PCSx10=4,800PCS |