

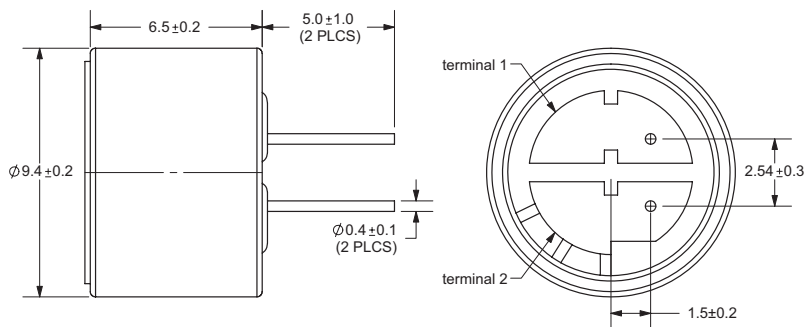
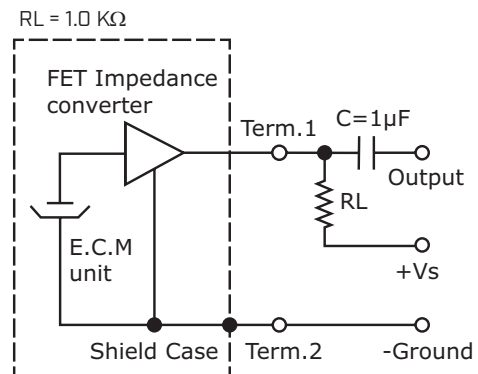
**MODEL:** CMB-6544PF | **DESCRIPTION:** ELECTRET CONDENSER MICROPHONE**SPECIFICATIONS**

| parameter                               | conditions/description              | min | typ | max    | units      |
|---|-------------------------------------|-----|-----|--------|------------|
| directivity                             | omnidirectional                     |     |     |        |            |
| sensitivity [S]                         | f = 1 kHz, 1 Pa, 0 dB = 1 V/1 Pa    | -47 | -44 | -41    | dB         |
| operating voltage                       |                                     |     | 4.5 | 10     | Vdc        |
| output impedance [Zout]                 | f = 1 kHz, 1 Pa                     |     | 1   |        | K $\Omega$ |
| sensitivity reduction [ $\Delta S$ -Vs] | f = 1 kHz, 1 Pa, Vs = 4.5 ~ 1.5 Vdc |     | -3  |        | dB         |
| frequency [f]                           |                                     | 20  |     | 20,000 | Hz         |
| current consumption [LDSS]              | Vs = 4.5 Vdc, RL = 1 K $\Omega$     |     |     | 0.5    | mA         |
| signal to noise ratio [S/N]             | f = 1 kHz, 1 Pa, A-weighted         |     | 60  |        | dBa        |
| operating temperature                   |                                     | -40 |     | 70     | °C         |
| storage temperature                     |                                     | -40 |     | 70     | °C         |
| dimension                               | $\phi 9.4 \times 6.5$ mm            |     |     |        |            |
| weight                                  |                                     |     |     | 0.7    | g          |
| material                                | AL                                  |     |     |        |            |
| terminal                                | pin type (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)

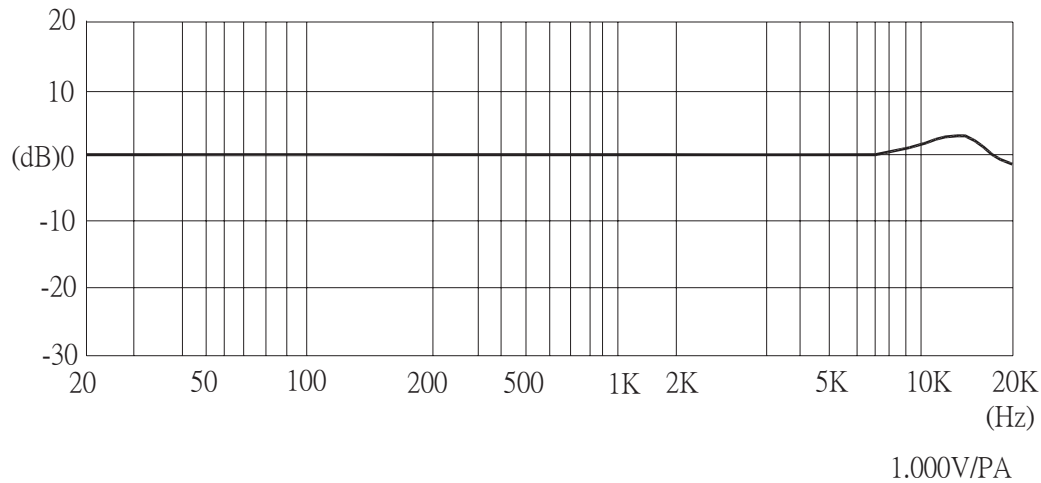
**MECHANICAL DRAWING**

unit: mm

**MEASUREMENT CIRCUIT**

Schematic Diagram

## FREQUENCY RESPONSE CURVE



## 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 should be applied to double lead wire:<br>Horizontal 4.9 N (0.5 kg) for 30 seconds  | No damage or cutting off.   |
| vibration test            | The part should be measured after a vibration amplitude of 1.5 mm with 10~55 Hz band of vibration frequency to each of the 3 perpendicular directions for 2 hours. | After any tests, the sensitivity should be within ±3 dB of the initial sensitivity. |
| drop test                 | The part without packaging is subjected to 3 drops on each axis from the height of 1 m onto a 20 mm thick wooden board.  |   |

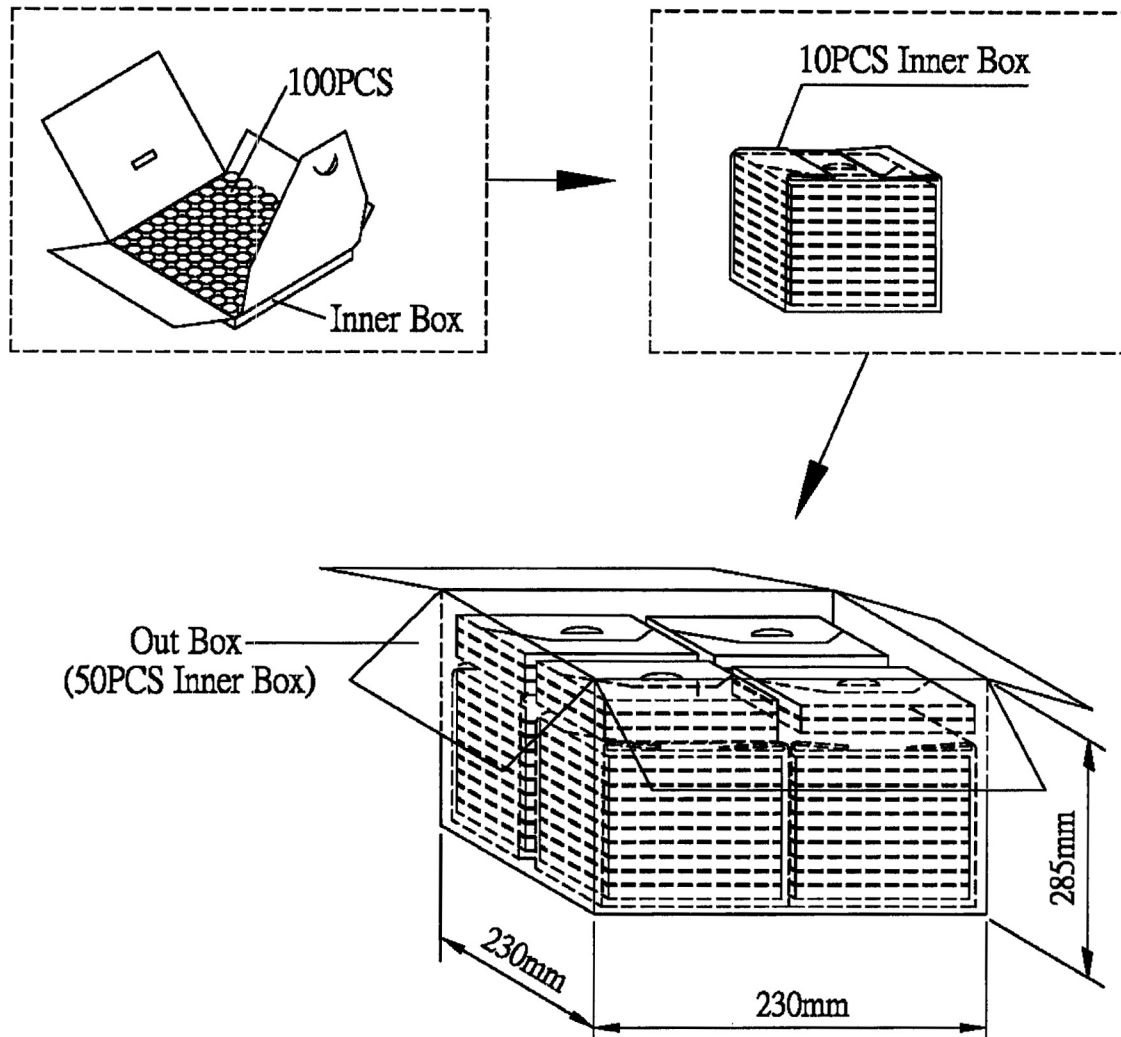
## ENVIRONMENT TEST

| item                   | test condition  | evaluation standard  |
|------------------------|---|--|
| high temperature test  | After being placed in a chamber at +70°C for 72 hours.                | After any tests and 6 hours of conditioning at +25°C, the sensitivity should be within ±3 dB of the initial sensitivity. |
| low temperature test   | After being placed in a chamber at -20°C for 72 hours.                |  |
| thermal shock          | After being placed in a chamber at +40°C and 90 ±5% RH for 240 hours. |  |
| temperature cycle test | The part will be subjected to 10 cycles. One cycle will consist of:   |  |
| <p>5.5 hrs</p>         |   |  |

## TEST CONDITIONS

|                           |                            |                       |                              |
|---------------------------|----------------------------|-----------------------|------------------------------|
| standard test conditions  | a) Temperature: +5 ~ +35°C | b) Humidity: 45 ~ 85% | c) Pressure: 860 ~ 1060 mbar |
| judgement test conditions | a) Temperature: +25 ±2°C   | b) Humidity: 60 ~ 70% | c) Pressure: 860 ~ 1060 mbar |

## PACKAGING



|           |                   |                    |
|-----------|-------------------|--------------------|
| Inner Box | 100mmx100mmx8mm   | 1x100PCS=100PCS    |
| Out Box   | 230mmx230mmx285mm | 100PCSx50=5,000PCS |

## REVISION HISTORY

| rev. | description  | date       |
|------|--|------------|
| 1.0  | initial release  | 05/15/2008 |
| 1.01 | new template applied   | 09/15/2011 |
| 1.02 | updated drawing  | 06/26/2012 |
| 1.03 | widened operating temperature and storage temperature ranges | 01/22/2014 |
| 1.04 | brand update   | 01/17/2020 |
| 1.05 | logo, datasheet style update                                 | 08/05/2022 |

The revision history provided is for informational purposes only and is believed to be accurate.



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