CUDEVICES



# **MODEL:** CMA-4544PF-W | **DESCRIPTION:** ELECTRET CONDENSER MICROPHONE

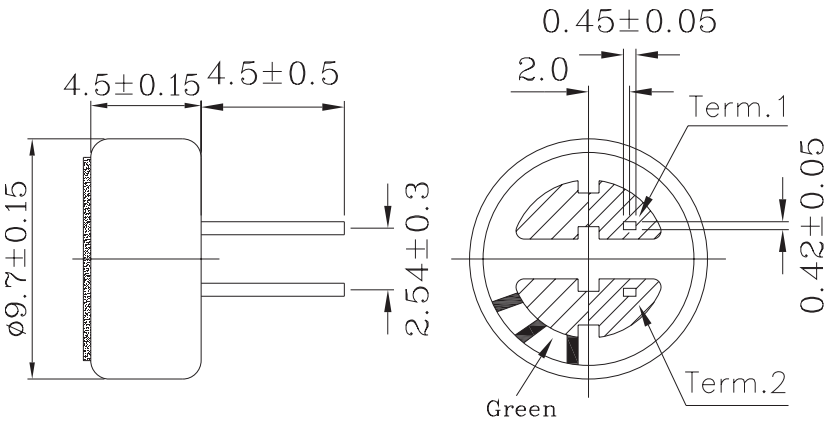
## SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| directivity | omnidirectional | | | | |
| sensitivity (S) | f = 1 kHz, 1 Pa, 0 dB = 1 V/1 Pa | -46 | -44 | -42 | dB |
| operating voltage | | | 3 | 10 | Vdc |
| output impedance (Zout) | f = 1 kHz, 1 Pa | | 2.2 | | KΩ |
| sensitivity reduction (ΔS-Vs) | f = 1 kHz, 1 Pa, Vs = 3.0 to 2.0 Vdc | | -3 | | dB |
| frequency (f) | | 20 | | 20,000 | Hz |
| current consumption (IDSS) | Vs = 3.0 Vdc, RL = 2.2 KΩ | | | 0.5 | mA |
| signal to noise ratio (S/N) | f = 1 kHz, 1 Pa, A-weighted | | 60 | | dBA |
| operating temperature | | -20 | | 70 | °C |
| storage temperature | | -20 | | 70 | °C |
| dimension | ø9.7 x 4.5 mm | | | | |
| weight | | | | 0.8 | g |
| material | Al | | | | |
| terminal | pin type (hand soldering only) | | | | |
| RoHS | yes | | | | |

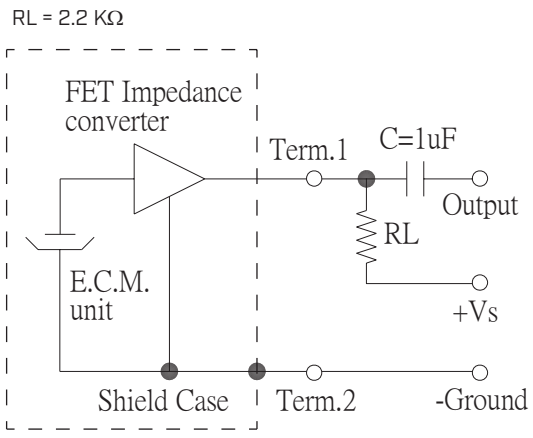
Note: We use the "Pascal (Pa)" indication of sensitivity as per the recomendation of I.E.C. (International Electrotechnical Commission). The sensitivity of "Pa" will increase 20dB compared to the "ubar" indication. Example: -60dB (0dB = 1V/ubar) = -40dB (1V/Pa)

## MECHANICAL DRAWING

unit: mm

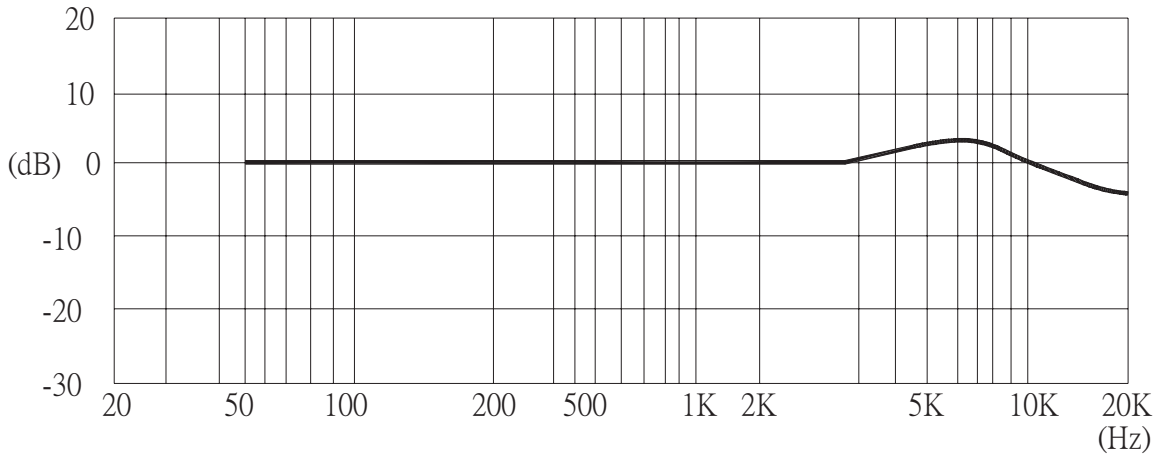



## MEASUREMENT CIRCUIT




Schematic Diagram

## FREQUENCY RESPONSE CURVE

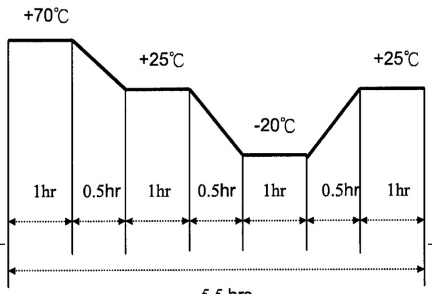



1.000V/PA

## 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. |
| terminal mechanical strength | Apply to the terminal 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

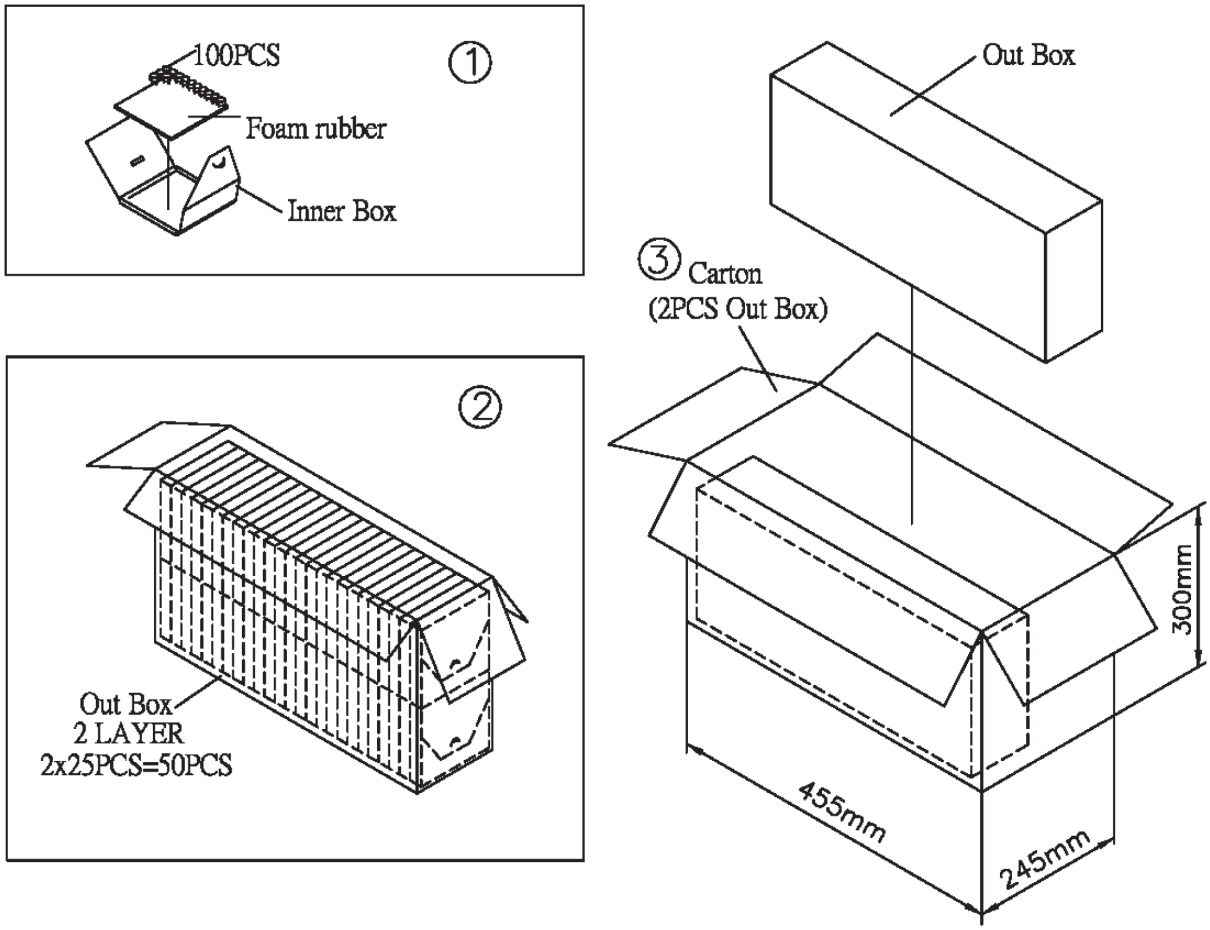
| item | test condition | evaluation standard |
|---|---|---|
| high temperature test | After being placed in a chamber at +70°C for 72 hours. | After any tests and 6 hours of conditioning at +25°C, the sensitivity should be within ±3 dB of the initial sensitivity. |
| low temperature test | After being 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:  | |



## 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 | 100mmx100mmx15mm | 100PCSx1=100PCS |
| Out Box | 435mmx120mmx280mm | 100PCSx50=5,000PCS |
| Carton Box | 455mmx245mmx300mm | 5,000PCSx2=10,000PCS |

## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 06/01/2008 |
| 1.01 | new template applied, updated drawing | 09/24/2013 |
| 1.02 | brand update | 01/17/2020 |
| 1.03 | logo, datasheet style update | 08/05/2022 |

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