



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

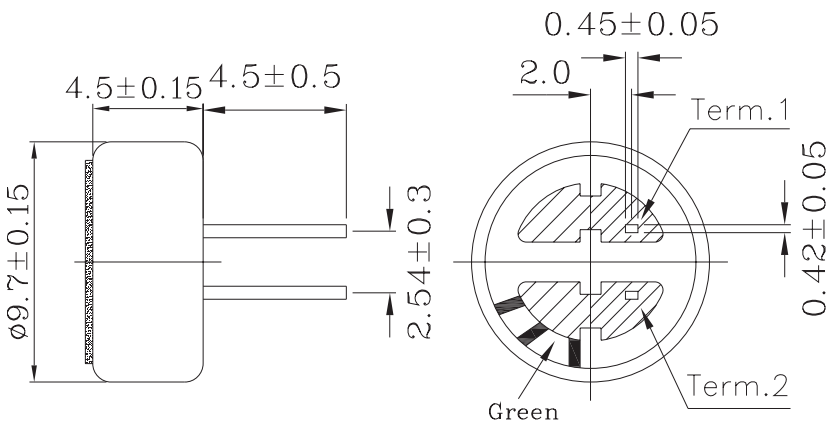
SPECIFICATIONS

| 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 | ∅9.7 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 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)

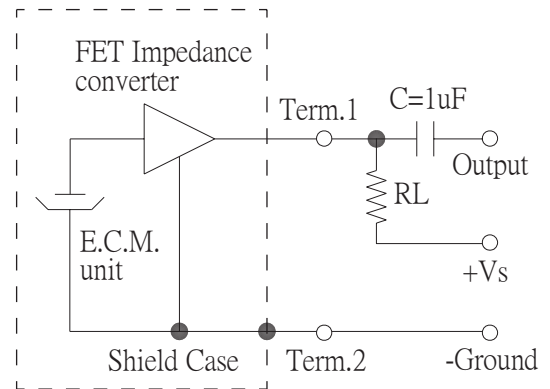
MECHANICAL DRAWING

unit: mm



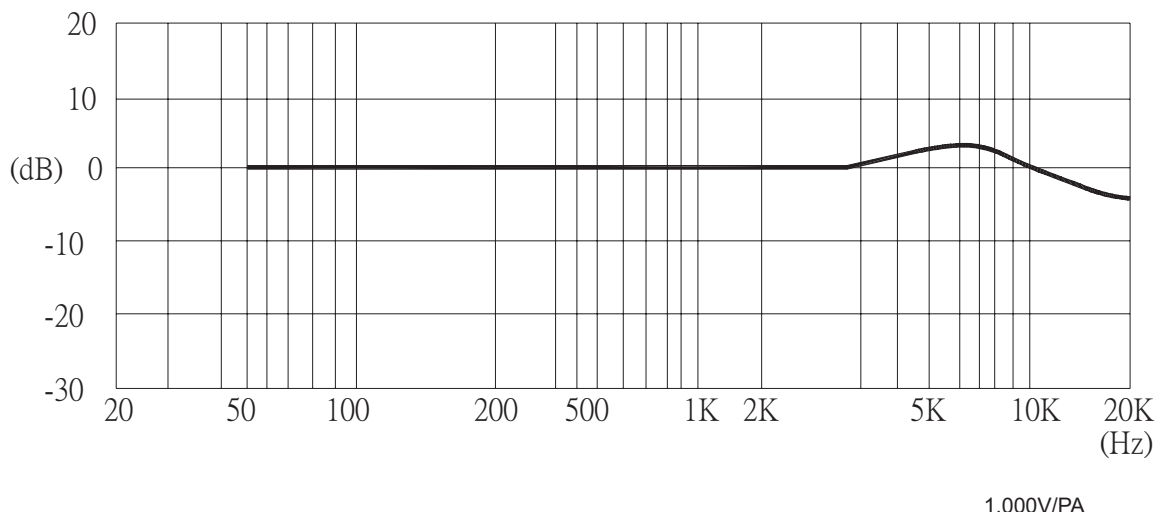
MEASUREMENT CIRCUIT

RL = 2.2 KΩ



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. |
| 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. | |

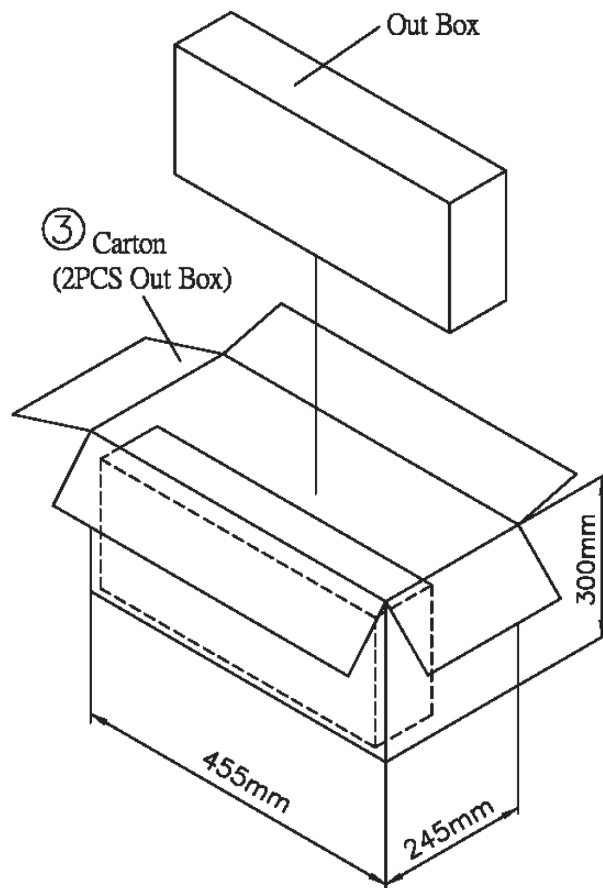
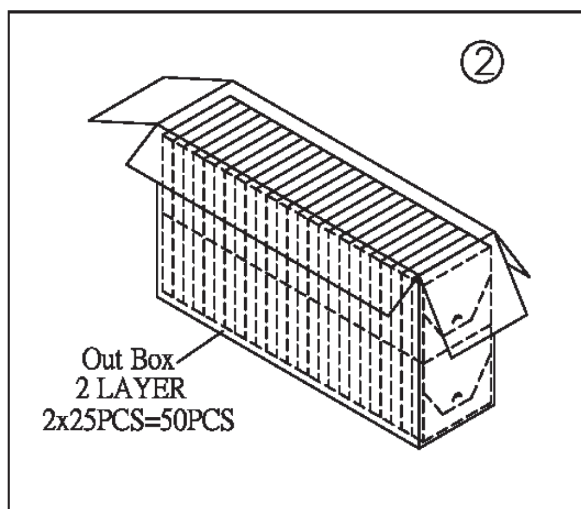
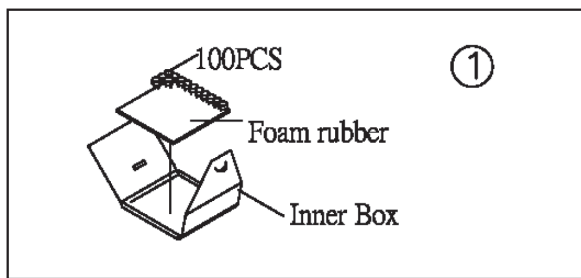
ENVIRONMENT TEST

| 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 |
| 1.04 | CUI Devices rebranded to Same Sky | 09/11/2024 |

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



Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

[sameskydevices.com](https://www.sameskydevices.com)