

**MODEL:** CMEJ-0413-42-SMT-TR | **DESCRIPTION:** ELECTRET CONDENSER MICROPHONE**FEATURES**

- omnidirectional
- low profile
- surface mount

**ELECTRICAL**

| parameter                            | conditions/description                                   | min | typ | max    | units      |
|--------------------------------------|----------------------------------------------------------|-----|-----|--------|------------|
| directivity                          | omnidirectional                                          |     |     |        |            |
| sensitivity [S]                      | at 1 kHz [0 dB = 1 V/Pa]                                 | -45 | -42 | -39    | dB         |
| supply voltage [V <sub>DD</sub> ]    |                                                          | 1.0 | 2.0 | 10     | V          |
| current consumption                  | V <sub>DD</sub> = 2.0 V, R <sub>L</sub> = 2.2 k $\Omega$ |     |     | 0.5    | mA         |
| sensitivity reduction                | V <sub>DD</sub> = 2.0 ~ 1.5 V                            |     |     | 3      | dB         |
| frequency [f]                        |                                                          | 100 |     | 10,000 | Hz         |
| signal to noise ratio [S/N]          | at 1 kHz, P <sub>in</sub> = 1 Pa [A-weighted]            |     | 60  |        | dBA        |
| total harmonic distortion [THD]      | at 94 dB SPL, 1 kHz                                      |     |     | 1      | %          |
|                                      | at 115 dB SPL, 1 kHz                                     |     |     | 3      | %          |
| acoustic overload point [AOP]        | at 1 kHz                                                 |     |     | 115    | dB SPL     |
| output impedance [Z <sub>out</sub> ] | at 1 kHz                                                 |     |     | 2.2    | k $\Omega$ |

Notes: 1. All specifications measured at 20 $\pm$ 2°C, humidity at 60~70%, unless otherwise noted.

**ENVIRONMENTAL**

| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | -40 |     | 70  | °C    |
| storage temperature   |                        | -40 |     | 85  | °C    |
| operating humidity    | non-condensing         | 30  |     | 85  | %     |
| storage humidity      | non-condensing         | 30  |     | 75  | %     |
| RoHS                  | yes                    |     |     |     |       |

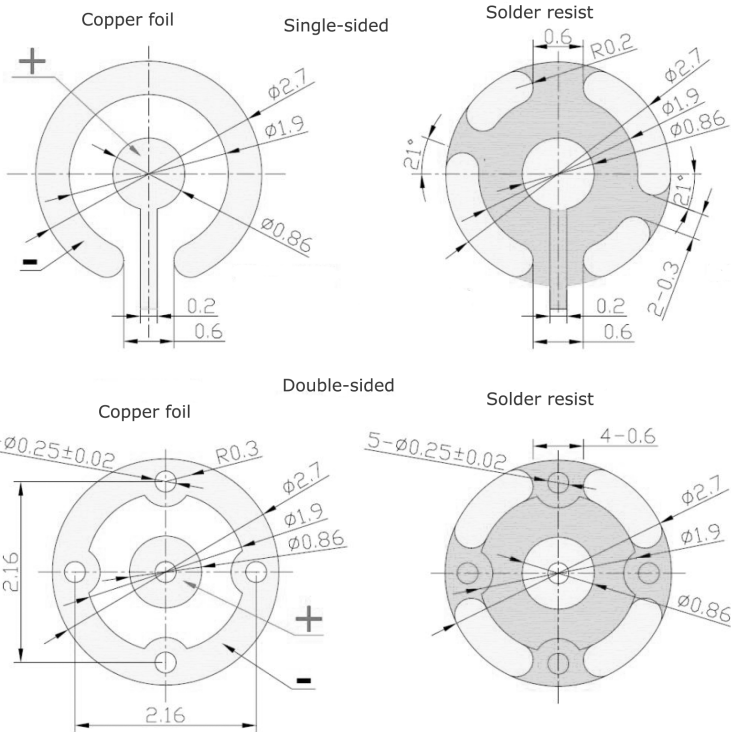
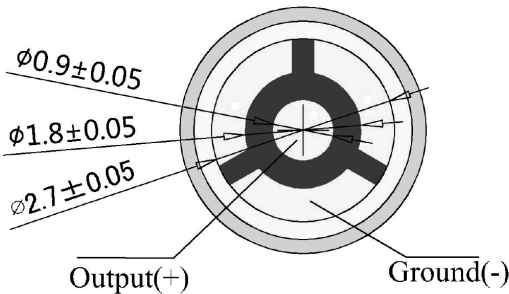
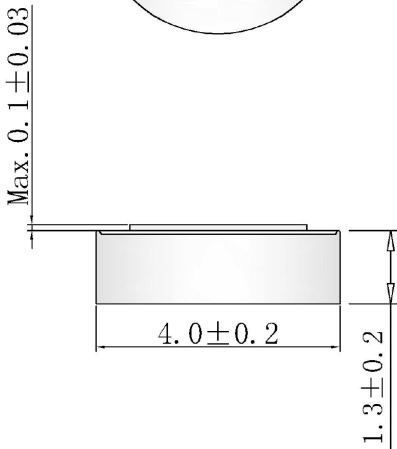
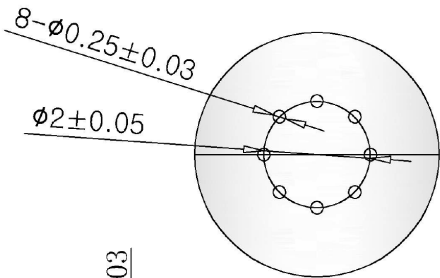
MECHANICAL

| parameter     | conditions/description | min | typ  | max | units |
|---------------|------------------------|-----|------|-----|-------|
| dimensions    | Ø4.0 x 1.3             |     |      |     | mm    |
| acoustic port | top                    |     |      |     |       |
| terminals     | surface mount          |     |      |     |       |
| weight        |                        |     | 0.07 |     | g     |

MECHANICAL DRAWING

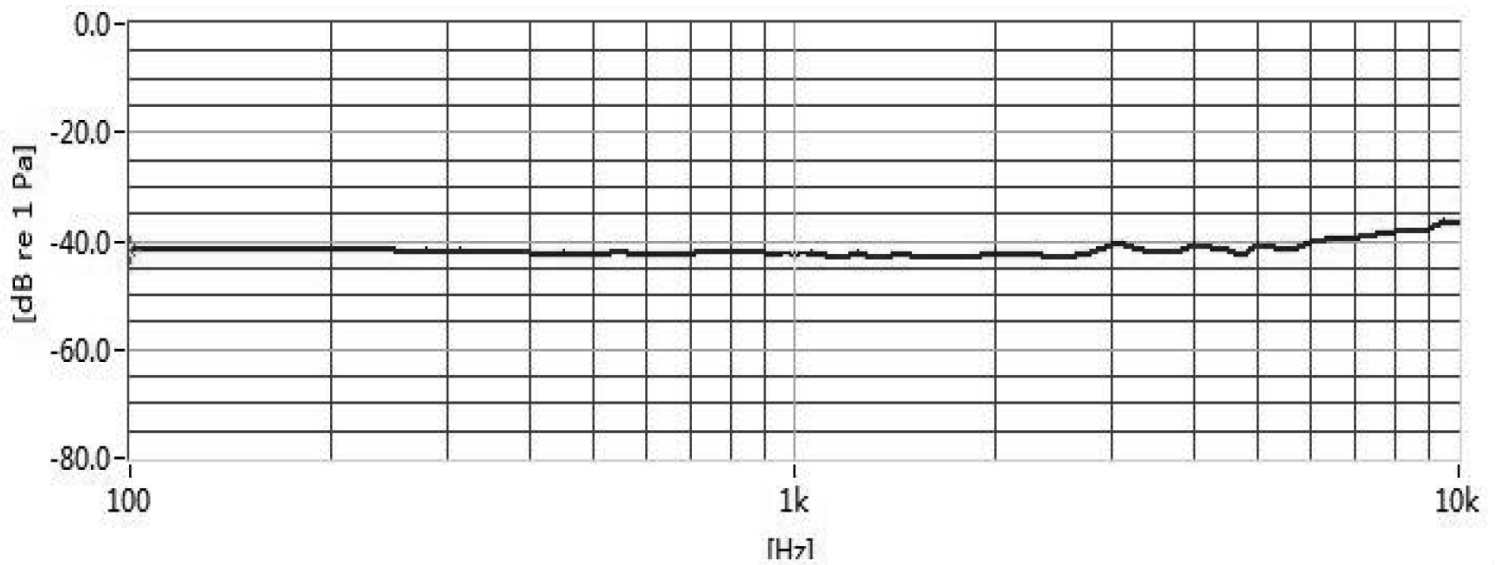
units: mm  
tolerance: ±0.2 mm

| TERMINAL CONNECTIONS |            |
|----------------------|------------|
| TERM.                | FUNCTION   |
| 1                    | Output (+) |
| 2                    | GND (-)    |

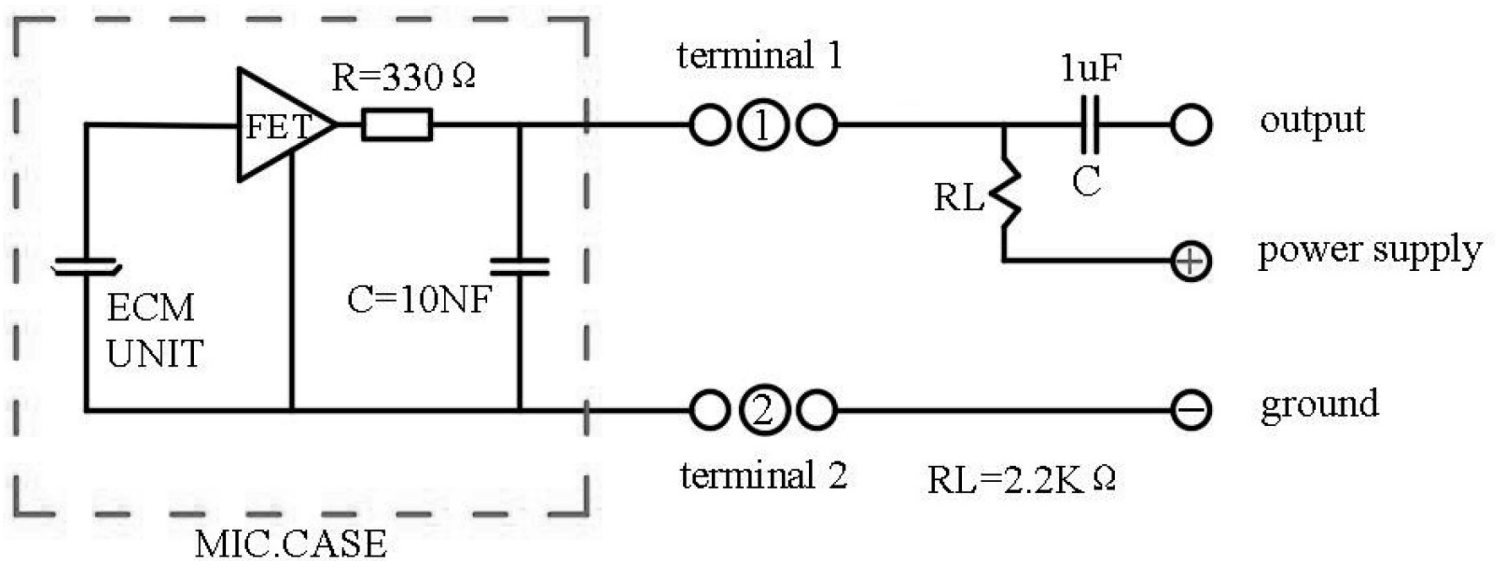


Recommended PCB Layout  
Top View

## FREQUENCY RESPONSE CURVE



## APPLICATION CIRCUIT

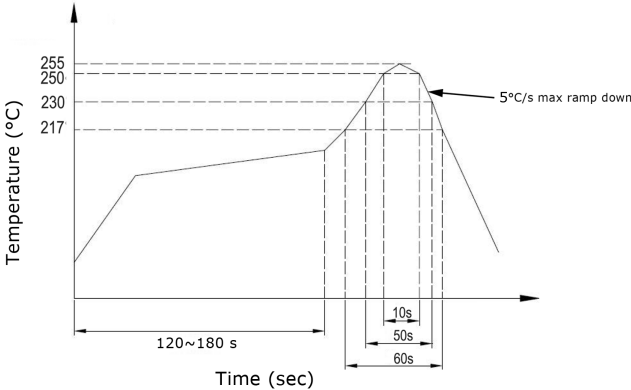


SOLDERABILITY

| parameter        | conditions/description | min | typ | max | units |
|------------------|------------------------|-----|-----|-----|-------|
| reflow soldering | see reflow profile     |     | 255 | 260 | °C    |

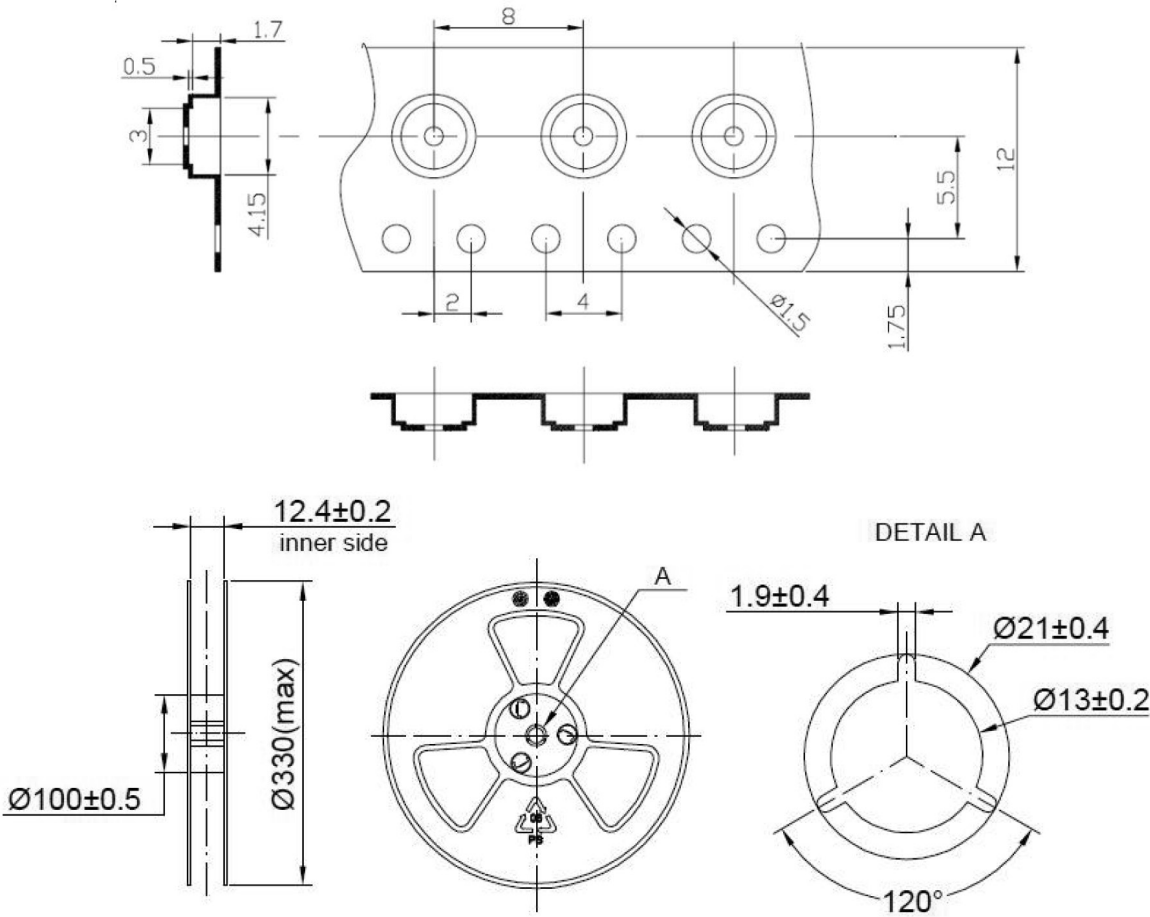
Note:

- 1. Vacuuming over acoustical hole is not allowed.
- 2. Not suitable for wash process.
- 3. Not recommended to exceed 2 reflow cycles.



PACKAGING

| parameter | conditions/description | min | typ | max | units |
|-----------|------------------------|-----|-----|-----|-------|
| reel size | Ø330 mm max            |     |     |     |       |
| reel QTY  | 4,000 pcs per reel     |     |     |     |       |



## REVISION HISTORY

| rev. | description                       | date       |
|------|-----------------------------------|------------|
| 1.0  | initial release                   | 06/07/2019 |
| 1.01 | brand update                      | 01/16/2020 |
| 1.02 | updated packaging                 | 06/29/2021 |
| 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.



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