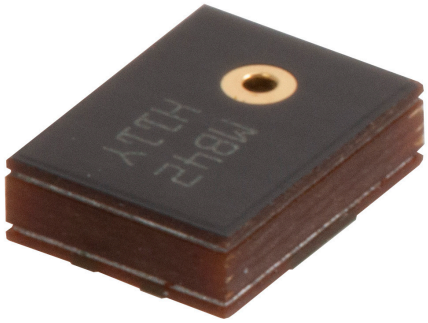
CUI DEVICES



# **MODEL:** CMM-3526AT-38165-TR | **DESCRIPTION:** MEMS MICROPHONE

**FEATURES**
- analog
- top port
- reflow solder compatible
- omnidirectional



RoHS

## ELECTRICAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| directivity | omnidirectional | | | | |
| sensitivity (S) | at 1 V/Pa, 1 kHz | -39 | -38 | -37 | dB |
| supply voltage ($V_{DD}$) | | 1.5 | 1.8 | 3.6 | V |
| current consumption ($I_{DSS}$) | | | 150 | 170 | µA |
| sensitivity reduction | no change across the voltage range | | | | dB |
| frequency (f) | | 100 | | 10,000 | Hz |
| signal to noise ratio (S/N) | 20 kHz bandwidth, A-weighted | | 65 | | dBA |
| total harmonic distortion (THD) | at 94 dB SPL, 1 kHz, Rload > 2 k | | 0.1 | | % |
| acoustic overload point (AOP) | at 10% THD, 1 kHz, Rload > 2 k | | 123 | | dB SPL |
| output impedance (Zout) | at 1 kHz | | 200 | | Ω |
| dc output | | | 0.7 | | V |
| PSRR | 200 mVp-p sine wave @ 1 kHz, $V_{DD}$ = 1.8 V | | 70 | | dB |
| PSR | 100 mVp-p square wave @ 217 Hz, $V_{DD}$ = 1.8 V | | -100 | | dBV(A) |

Notes: 1. All specifications measured at 25°C, humidity at 45±5%, unless otherwise noted.

## ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | | -30 | | 85 | °C |
| storage temperature | in packaging | -40 | | 100 | °C |
| RoHS | yes | | | | |

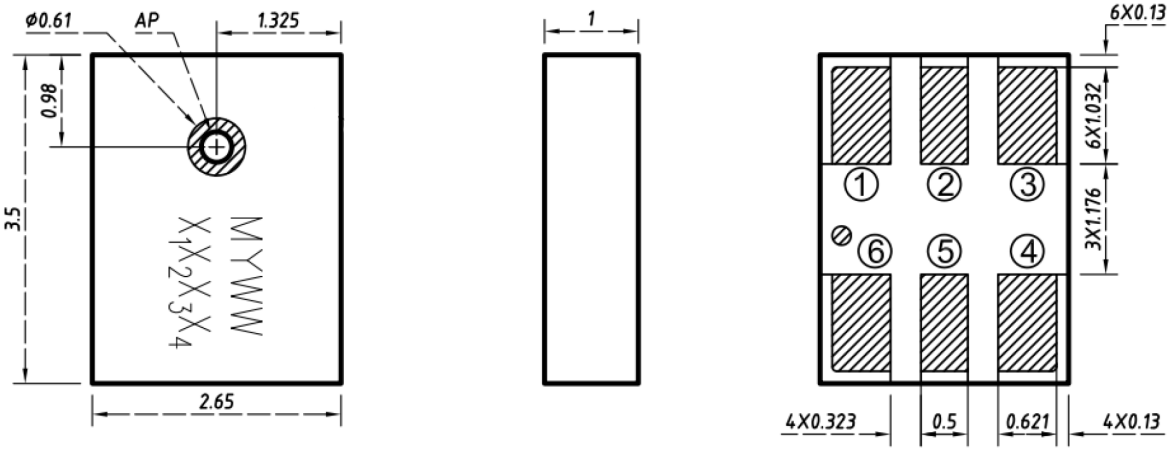
## MECHANICAL

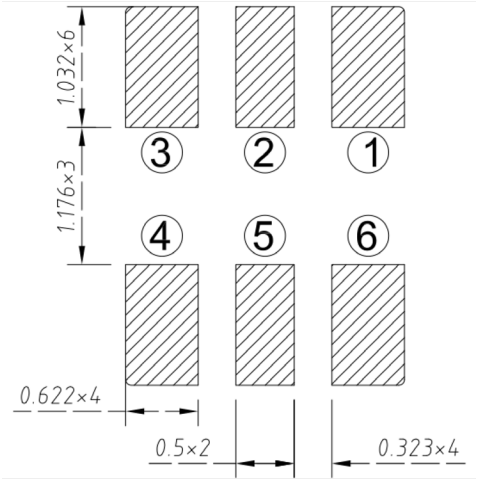
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | 3.5 x 2.65 x 1.0 | | | | mm |
| acoustic port | top | | | | |
| terminals | surface mount | | | | |
| weight | | | 0.025 | | g |

## MECHANICAL DRAWING

units: mm
tolerance:
length, width, height: ±0.10 mm
acoustic port: ±0.05mm
unless otherwise specified: ±0.15 mm

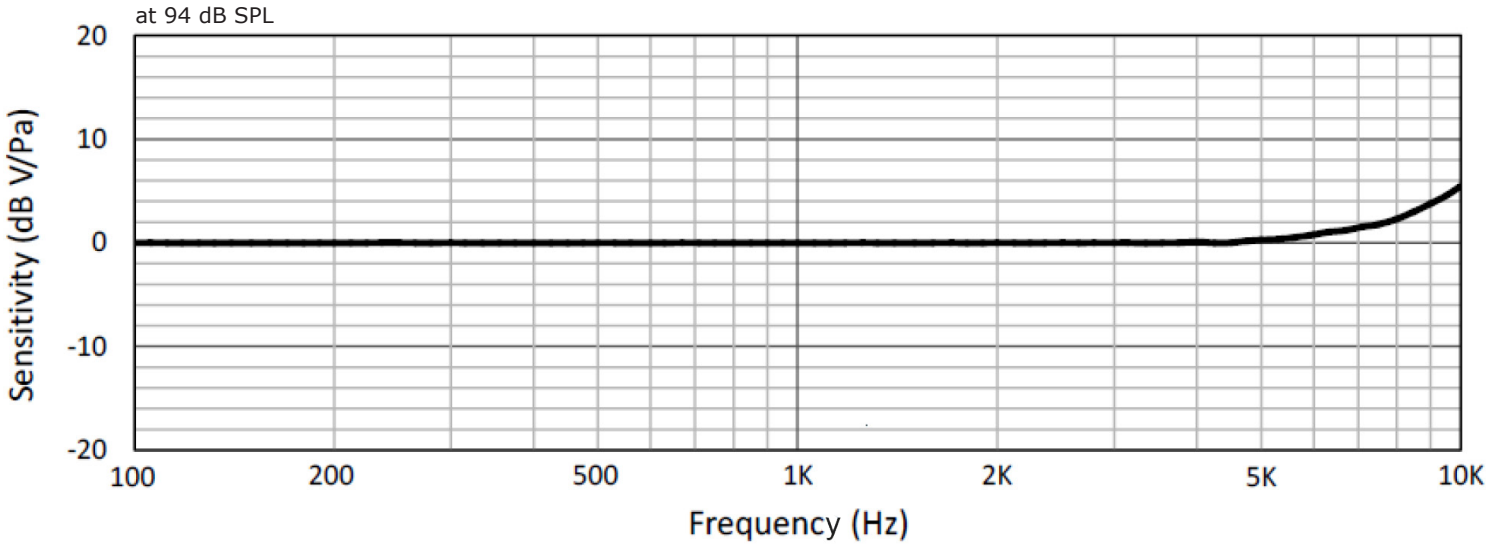
| TERMINAL CONNECTIONS | |
|---|---|
| TERM. | FUNCTION |
| 1 | GND |
| 2 | GND |
| 3 | GND |
| 4 | output |
| 5 | GND |
| 6 | VDD |



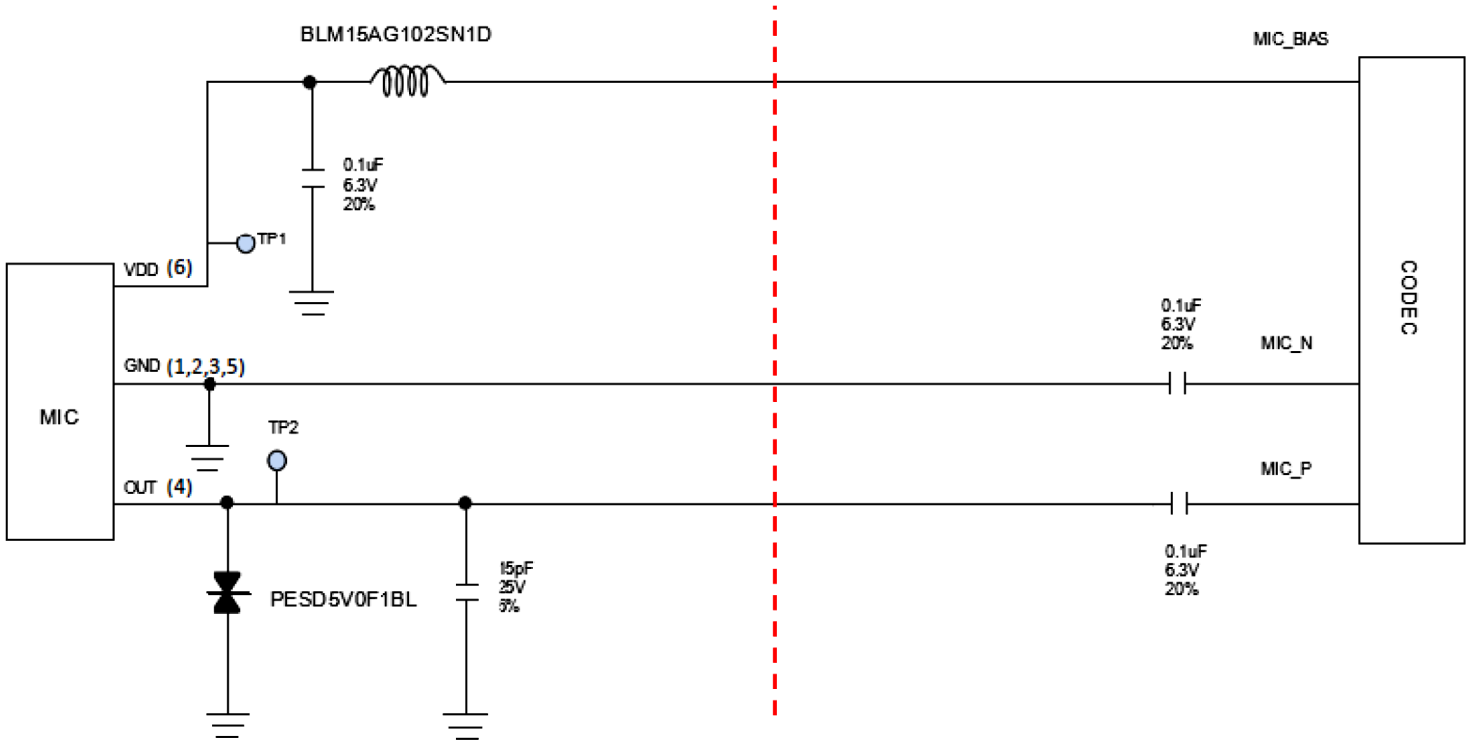




Recommended PCB Layout
Top View

## FREQUENCY RESPONSE CURVE




## INTERFACE CIRCUIT

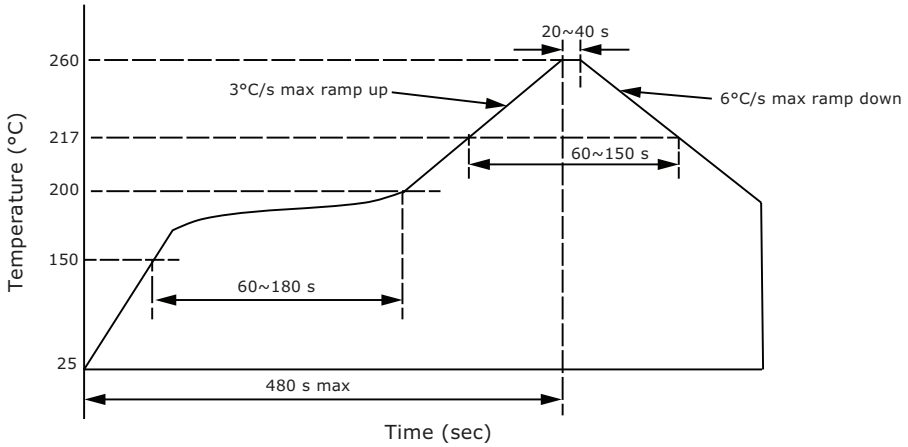



Note: 2. It is recommended that the components on the left side of red line be placed close to MIC, and components on the right side of red line be placed close to CODEC.

## SOLDERABILITY

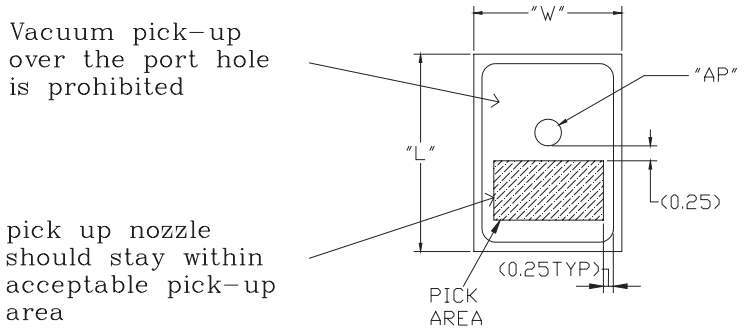
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| reflow soldering[3] | see reflow profile | | | 260 | °C |

Note: 3. Not recommended to exceed 3 reflow cycles.




## HANDLING RECOMMENDATIONS

1. Not recommended to blow air heavily over acoustic port as debris could impact mic function.
2. Not suitable for wash process after reflow.
3. Not recommended to brush board with or without solvents after reflow process.
4. Not recommended to directly expose to ultrasonic processing or cleaning.
5. Not recommended to inserty any object in port of device at any time.
6. Not recommended to apply over 30 psi of air pressure into the port hole.
7. Not recommended to pull a vacuum over port hole.
8. Not recommended to apply a vacuum when repackaging into sealed bag a rate faster than 0.5 atm/sec.
9. Not recommended to clean table or carried plate with air guarding system that could induce particle floating inside mic.

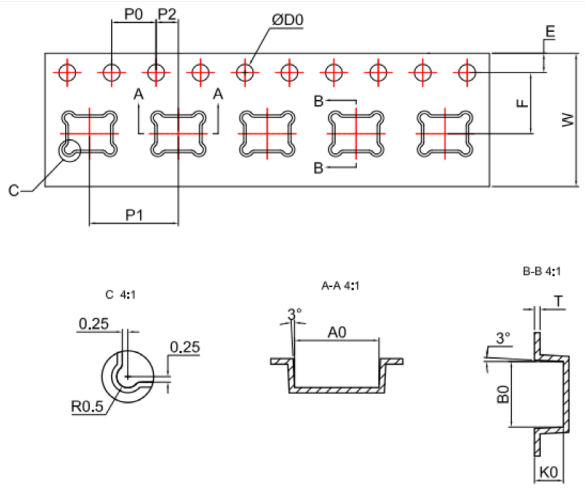


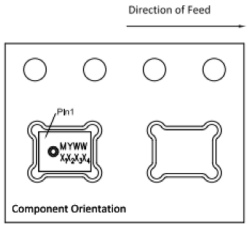

Recommended Vacuum Nozzle Pickup
Top View

## PACKAGING

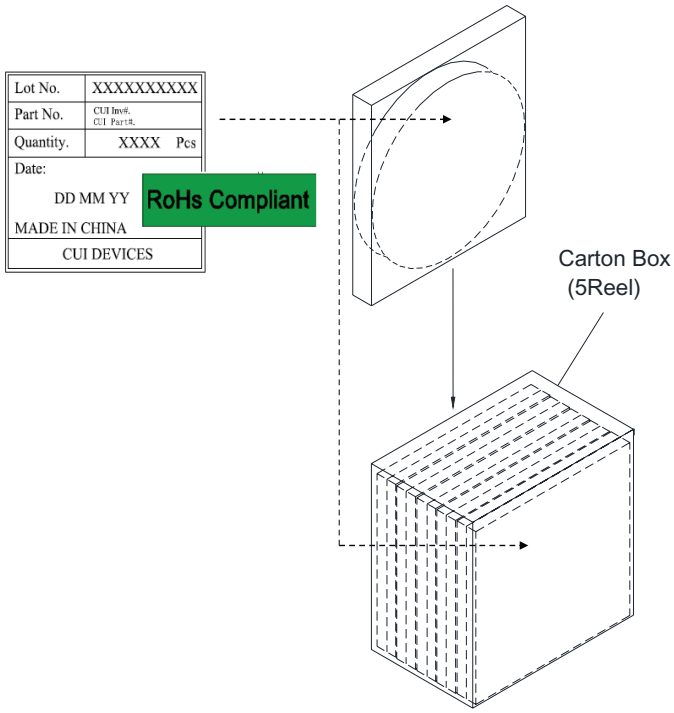
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| MSL | Class 1 | | | | |
| reel size | Ø7 inches | | | | |
| reel QTY[4] | 1,100 pcs per reel | | | | |
| carton size | 310 x 210 x 165 mm | | | | |
| carton QTY | 5,500 pcs | | | | |

Note: 4. The leader tape of the reel, and the beginning tape fixed into the reel center, will leave 25 blank cavities each.




| Item | W | E | F | ØD0 | K0 |
|---|---|---|---|---|---|
| DIM(mm) | 12.0±0.30 | 1.75±0.10 | 5.50±0.10 | 1.50+0.10/-0 | 1.25±0.10 |
| Item | P0 | 10P0 | P1 | A0 | B0 |
| DIM(mm) | 4.0±0.10 | 40.0±0.20 | 8.0±0.10 | 3.80±0.10 | 2.95±0.10 |
| Item | P2 | T | -- | -- | -- |
| DIM(mm) | 2.0±0.10 | 0.25±0.05 | -- | -- | -- |



## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 03/09/2022 |

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

CUI DEVICES

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