



# Loudspeaker

**36.0 × 16.3 mm**

**CC36L163AN4**

## Revision

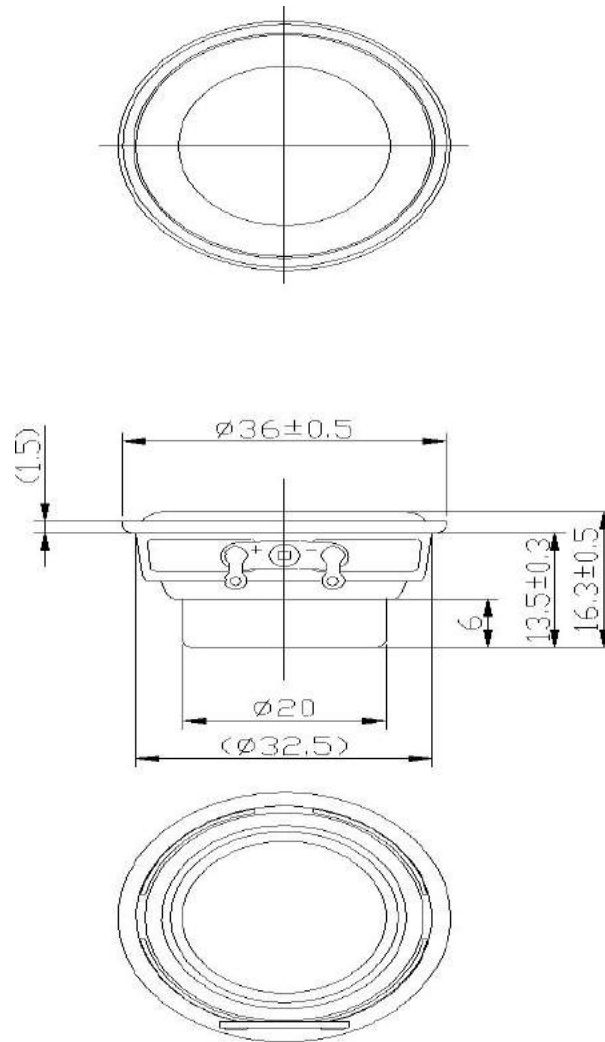
| Date       | Version | Status | Changes       | Approver |
|------------|---------|--------|---------------|----------|
| 2018/12/25 | V0.1    | Draft  | First release | AX       |
|            |         |        |               |          |

| Parameter                     | Conditions/Description  | Values  | Units |
|-------------------------------|---|---------|-------|
| Rated Input Power             |   | 2.0     | W     |
| Max Input Power               | IEC-60268-5, filter 60s on/120s off, 10 cycles at room temp     | 3.0     | W     |
| Rated Impedance               | at 2.0 kHz  | 4±15%   | Ω     |
| Sound Pressure Level (S.P.L.) | at 0.6K 0.8K 1.0K 1.2K Hz in 1.0W/0.5M average (0dB SPL=20μPa)  | 80±3    | dB    |
| Resonant Frequency (Fo)       | at 1.0 V  | 190±20% | Hz    |
| Frequency Range               | Output S.P.L. -10dB   | Fo~13K  | Hz    |
| Distortion                    | at 1K Hz, input 1.0W,   | < 5%    | -     |
| Magnet                        | NdFeB   |         | mm    |
| Buzz, Rattle, etc.            | must be normal at sine wave between Fo ~ 5K Hz                  | 2.83    | V     |
| Polarity                      | cone will move forward with positive dc current to "+" terminal |         |       |
| Weight                        |   |         | g     |
| Operating Temperature         |   | -20~+60 | °C    |
| Storage Temperature           |   | -30~+70 | °C    |

Notes: All specifications measured at 5~35°C, humidity at 45~85%, under 86~106 kPa pressure, unless otherwise noted.

**MECHANICAL DRAWING**

Units: mm

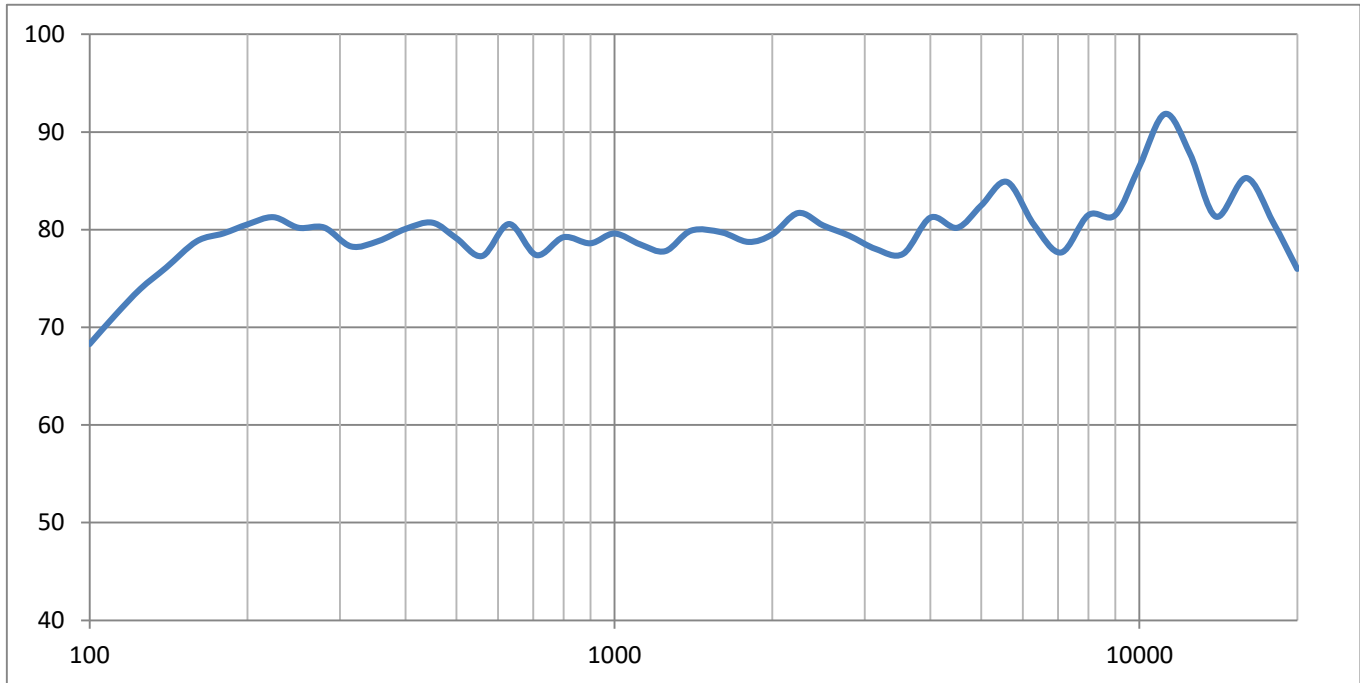
Tolerance:  $\pm 0.5\text{mm}$ **CONSTRUCTION DETAIL**

| PART NO. | PART NAME    | Q'TY | MATERIAL | REMARK |
|----------|--------------|------|----------|--------|
| 1        | Cap          | 1    | Paper    |        |
| 2        | Diaphragm    | 1    | PU+Paper |        |
| 3        | VOICE COIL   | 1    | Paper Cu |        |
| 4        | Plate        | 1    | SPCC     |        |
| 5        | Magnet       | 1    | NdFeB    |        |
| 6        | PCB Terminal | 1    | FR4      |        |
| 7        | Frame        | 1    | SPCC     |        |

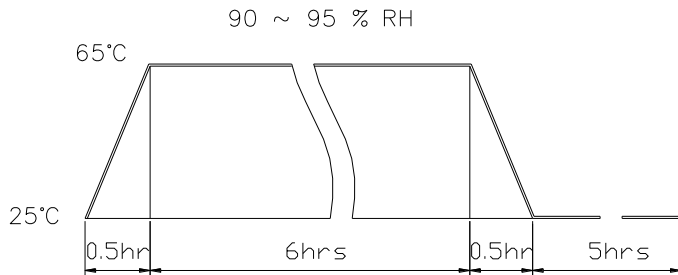
## RESPONSE CURVES

### Frequency Response Curve

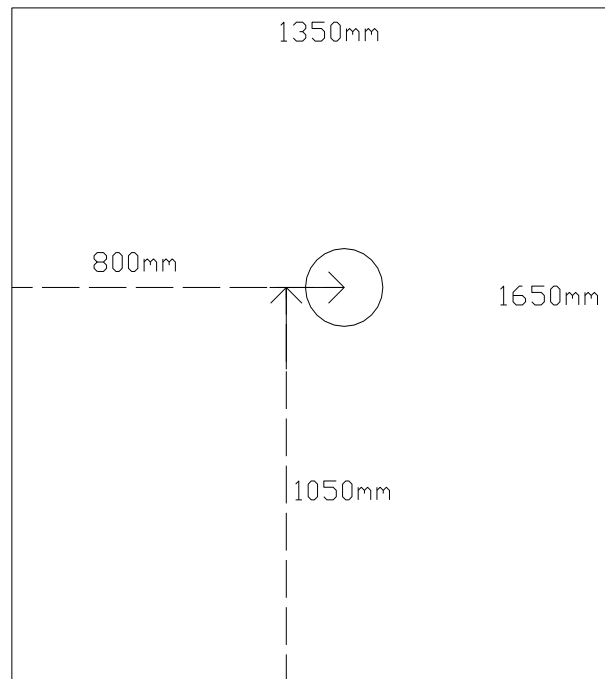
Test condition: 1.0W/0.5M,



## RELIABILITY TEST

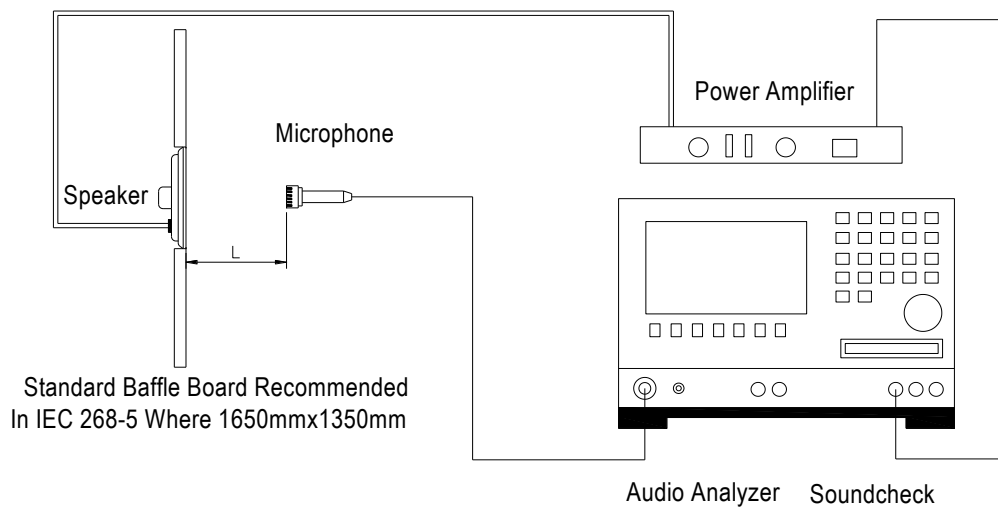
|   |                              |  |
|---|------------------------------|--|
| 1 | Reliability Test Performance | After any following test, parts should conform to original performance within $\pm 3$ dB tested with Rated Power, after 6 hours of recovery period.  |
| 2 | High Temperature Test        | 96 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$  |
| 3 | Low Temperature Test         | 96 hours at $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$  |
| 4 | Humidity Test                | 96 hours at $+30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 92-95% RH  |
| 5 | Temp./Humidity Cycle         | <p>The part shall be subjected 5 cycles. One cycle shall be 6 hours and consist of</p>  <p>The graph illustrates a temperature and humidity cycle. The temperature starts at 25°C, ramps up to 65°C over 0.5 hours, stays at 65°C for 6 hours, and then ramps down to 25°C over 0.5 hours. The humidity is 90 ~ 95 % RH during the 6-hour high-temperature plateau. After the cycle, there is a 5-hour recovery period at 25°C.</p> |
| 6 | Vibration Test               | <p>Frequency: 10~55~10Hz Oct/min      Amplitude: 1.5mm</p> <p>Duration: 2 hours each of 3 perpendicular directions</p>   |
| 7 | Drop Test                    | Drop the speaker contained in normal box onto the surface of 40mm thick board 10 times from the height of 75cm   |
| 8 | Operation Life Test          | Must perform normal with program White-Noise source at Rated Power for 96 Hours  |
| 9 | Termination Strength         | <p>Apply 3.0N(0.306kg) to each terminal in horizontal direction for 30 seconds;</p> <p>Apply 2.0N(0.204kg) to each terminal in vertical direction for 30 seconds;</p>  |

## MEASURING METHOD



**Fig. 1 Block Diagram for Measurement Method**

### Standard test condition of speaker



**L=50cm**

**Fig. 2 Speaker Test Condition**

## PACKAGING

units: cm

Remark:

96 pcs per box

4 units per box

Total:384 pcs per box

Size:39.5\*29.5\*26cm

