



Data Sheet

AR01232MS-SC12-WP-R

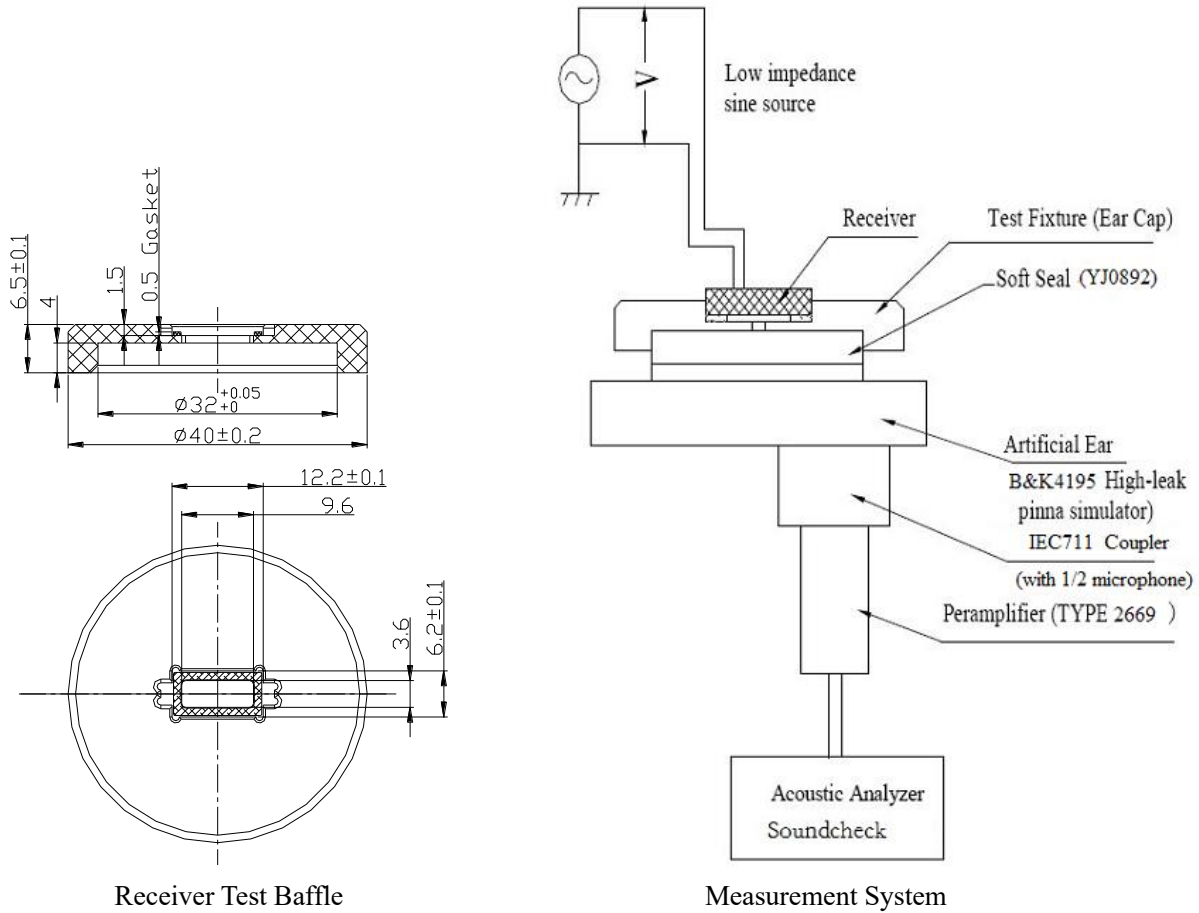
Features:

- Custom-molded poly cone designed for voice articulation
- High 116 dB output with 800mV in Artificial Ear (1cm)
- High energy neodymium motor
- Only 2 mm thick
- Dustproof and waterproof IP67-rated face

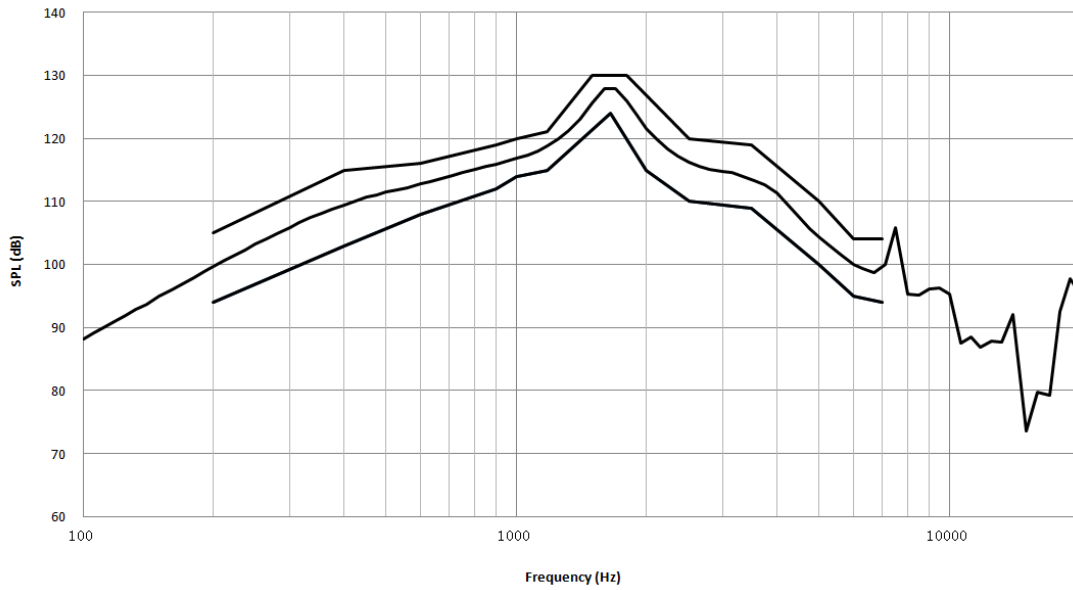
Specifications

Parameters	Values	Units
Rated Input Power	20	mWatts
Max Input Power	30	mWatts
Impedance	32 ± 15%	Ohms
Sensitivity (SPL @ 1kHz) 800mV in Type 3.2 HL Ear	117 ± 3	dB Pa/V
Resonant Frequency (800mV in free air)	450 ± 20%	Hz
Frequency Range	300 ~ 7,000	Hz
Frame Material	PPA	-
Magnet Material	NdFeB	-
Diaphragm Material	Mylar	-
Weight	0.4	Grams
Environmental Protection Rating	ROHS/REACH	-
Ingress Protection	IP67	-
Buzz, Rattle, etc.	Should not be audible with 20mW sine wave from 300 Hz to 7 kHz	-
Polarity	When positive voltage is applied to the positive terminal, the diaphragm will move outward	-
Operating Temperature	-40 ~ +80	°C

Measurement Method (measured with 800mV, Temperature: 15 ~ 35°C, Relative Humidity: 45%~85%)



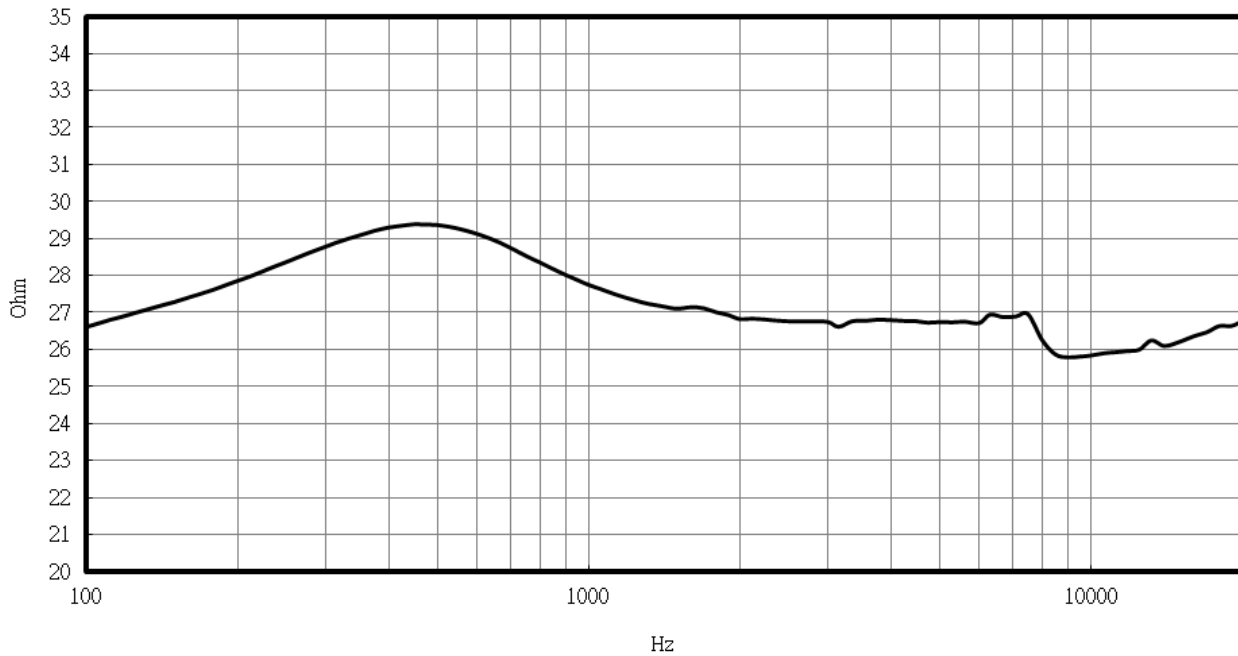
Frequency Response (measured at 800 mV in Type 3.2HL Ear)



Frequency (Hz)	Lower limit (dB)	Frequency (Hz)	Upper limit (dB)
200	93	200	102
400	103	400	110
600	108	600	115
900	112	900	119
1000	114	1000	120
1180	116	1180	122
1650	125	1500	130
2000	115	1800	130
2500	111	2500	121
3500	106	3500	116
5000	97	5000	107
6000	93	6000	103
7000	93	7000	103

Impedance Response (measured at 800 mV in Type 3.2HL Ear)

Test Condition : 800mVrms, Type 3.2HL Ear

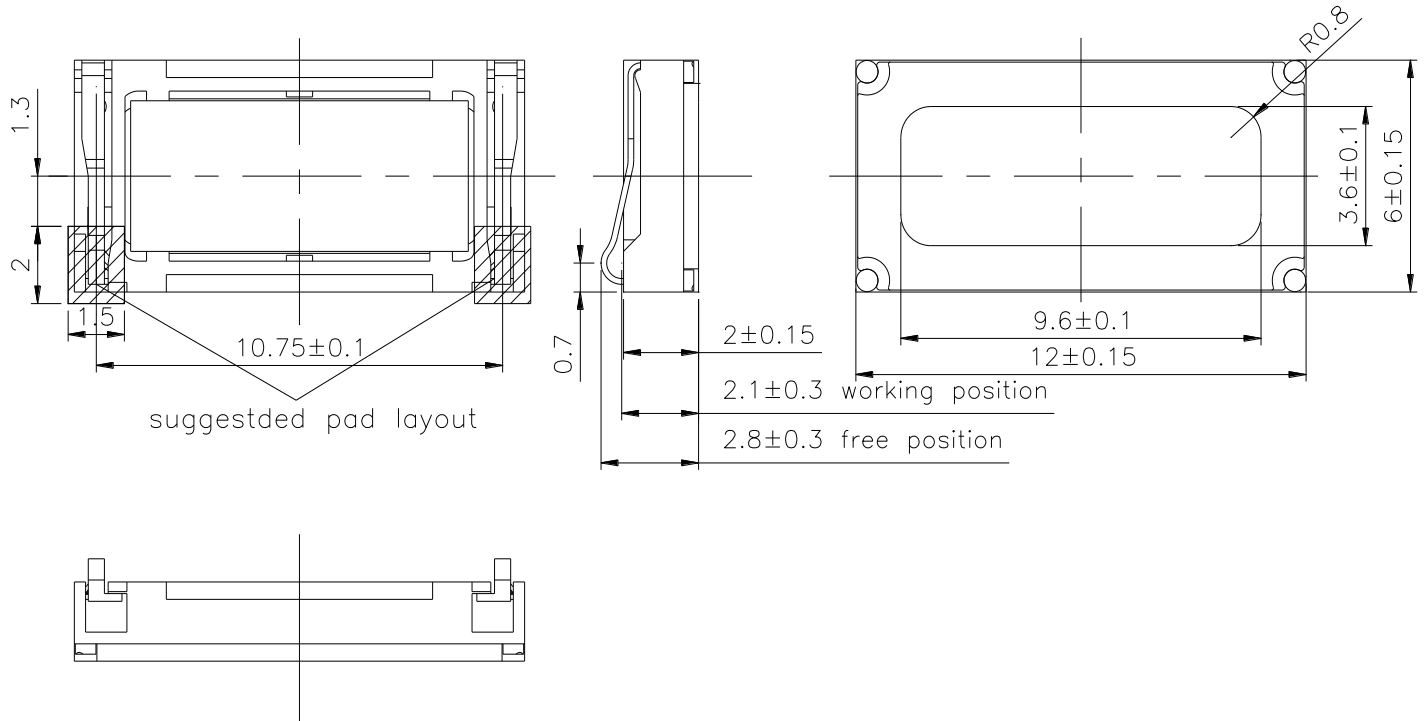


Reliability Testing

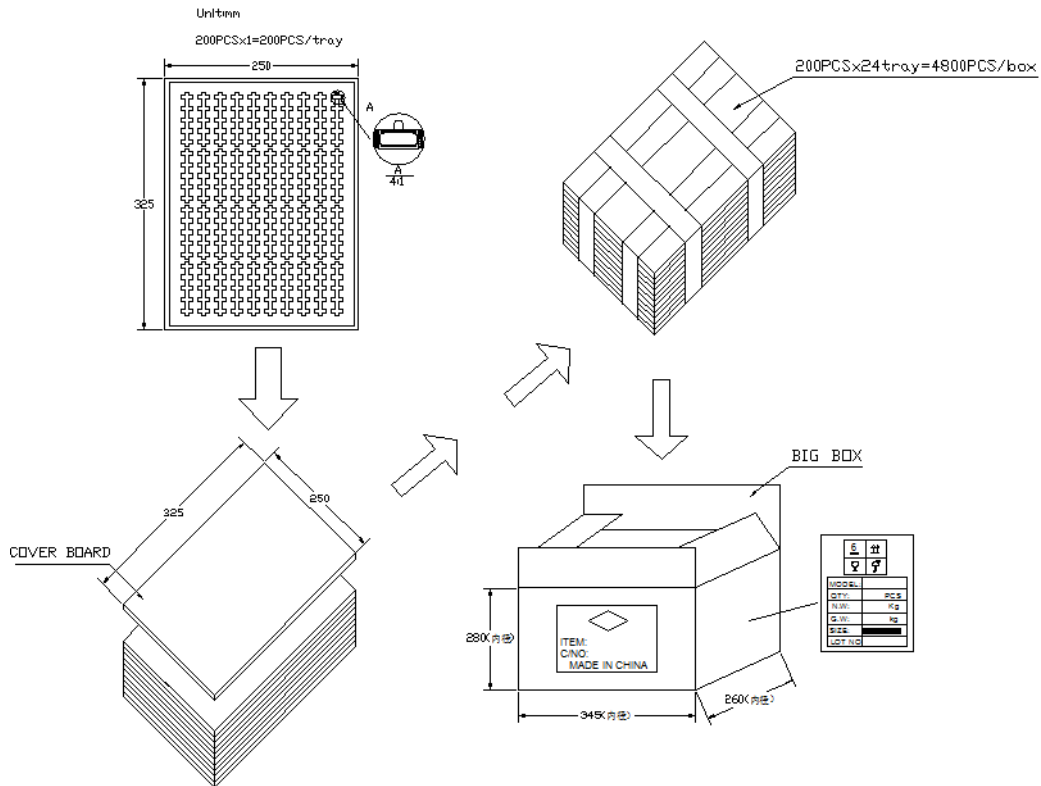
Type of Test	Test Specifications
High Temperature Test	96 hours at +80°C ± 3°C followed by three hours in normal room temperature
Low Temperature Test	96 hours at -40°C ± 3°C followed by three hours in normal room temperature
Humidity Test	96 hours at +40°C ± 3°C with relative humidity at 95% followed by 3 hours in normal room temperature
Temperature Cycle Testing	The part shall be subjected to 5 cycles using the following procedure: Low temperature: -40°C±3°C High temperature:+80°C±3°C Cycle: 1 hour/cycle each
Vibration Test	10 to 55 to 10 Hz sine sweep, 15 minutes per cycle @ 5G constant. 2 hours in each axis X, Y, and Z.
Drop Test	Drop the speakers onto a 20mm thick board 10 times from a height of 100cm, once each side
Load Test and Max Power Test	White noise is applied at the speakers rated power for 96 hours at room temperature; max power is applied for 1 minute on, 2 minutes off; 10 cycles.

After each test, the speaker's SPL shall be ±3 dB of the original SPL

Dimensions (Positive is the left spring contact in the suggested pad layout)



Packaging



Specifications Revisions

Revision	Description	Date
-	Released from Engineering	11/20/2017
A	Revised SPL Rating	2/27/2020

Note:

1. Unless otherwise specified:
 - A. All dimensions are in millimeters.
 - B. Default tolerances are $\pm 0.5\text{mm}$ and angles are $\pm 3^\circ$.
2. Specifications subject to change or withdrawal without notice.