

1. Purpose and The Scope

This document contains the specific specifications (electrical and mechanical), inspection standard and the reliability standard for the purpose of the customer's approval.

2. Description

Dynamic Receiver

3. Applications

Feature Telephone, Cordless Phone, rockie talkie, Mobile Phone etc.

4. Product Origin

In China

5. Test Conditions

Test should be made under the conditions of room temperature (20 ± 10 °C) normal humidity (60 ± 20 %) and normal atmospheric pressure. In the case, however, that the judgment is questionable the test conditions are to be changed to room temperature 20 ± 2 °C, relative humidity 60 ~ 70 % and normal atmospheric pressure

6. Ozone guarantee

Certificate on the elimination of ozone layer destroying substances such as Freon.

7. Quality protection

The specifications of the mentioned model are based on this document. Other specifications outside than this document must be discussed with us before we insert into this approval document. It means that we will not guarantee the specifications outside than this approval document.

8. Warranty.

The warranty period will commence upon the date of the receipt of the parts from db products limited. In the event that the warranty is not specified on the purchasing order, the warranty period shall be half year from the date of delivery.

The speaker by db products limited should not be exposed to extremely high temperatures for prolonged period of time. As excessive heat will degrade the internal structure of the unit, soldering should be conducted as quickly as possible.

Recommended temperature and time for soldering

Hand soldering (for ABS, Hi-Temp ABS, FR ABS, Nylon)

300 ° C Thermal iron 2 seconds

10. Washing conditions

The products mentioned with " remove after washing " could be washed by our recommended solvent.

11. Flux removing solvents

In the view of the recent requirement for total elimination of ozone-depleting chemicals, we have decided to recommend our customers to use deionized water for their cleaning process at the condition given below, instead of "CFC" that was conventionally used.

Cleaning solvent : deionized water

Solvent temperature : 55 ± 5 ° C

Immersion time : 5 ± 0.5 minutes

12 . Signal Input Polarity

If the voltage signal input v 0-p is applied to our transducer with the polarity reversed, a sound will be generated but it will not always meet the catalog specifications for the sound pressure level.

13. IEC-318 Requirement

DB products limited could guarantee the sound output are based on the iec-318 international standard. We don't have any G-cap is in between the receiver and the Artificial Ear

14. Input Voltage

The input voltage must be within the operating range. Outside than this range would damaged the internal structure.

It is because the over driven of the enamelled wire would melt the enamelled coating. Due to this matter, the short circuit would be happened. It is dangerous that the user must consult db products limited before they use it in outside operating range.

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15. Leakage of Air

The receiver must be tested without any air leakage on the edge of the housing. It will cause the low sound output between 300 to 1000 Hz.

16.Input Waveform

Our DB product limited studies all the specifications are based on the sine wave.

17. Specification

Items	Specifications	Conditions
-Impedance	32.0 ± 15.0 %	Tested at 1000 Hz / 1.0 V
-Rated Power	10.0 mW	
-Max. Power	20.0 mW	
-Sensitivity	113.0 ± 3.0 dB at 1000 Hz (179.0 mV / Sine Wave)	Measured with IEC 318 coupler with our testing set up (Please see drawing attached)
-Frequency Range	400 ~ 3400 Hz	
-MF Intensity Axial	> dB	At 1.0 KHz (0 dB = 1 A/M)
-MF Intensity Radial	> dB	At 1.0 KHz (0 dB = 1 A/M)
Distortion	5.0% Max	At 1000 Hz , 10.0 mW
-Operating Temperature	- 20.0 ~ + 60.0 ° C	
-Storage Temperature	- 20.0 ~ + 60.0 ° C	
-Housing Material	Metal	
-Weight		
Dimensions	See drawing attached	
Appearance		There should be no remarkable stains, rusts or flaws.

18. Inspection Standard

Item tested	Sym	Standard	AQL	Level	Inspection by means of	Remarks
-Sensitivity		Should be within 113.0 ± 3.0 dB	1	II	Audio Analyzer	Measured with the IEC 318 coupler (179.0 mV / Sine Wave)
-Impedance		32.0 ± 15.0 %	0.65	I	Impedance Meter	Measured at 1000 Hz / 1.0 V
-Outer Diameter		Ø 13.0 ± 0.2 (mm)	1.5	S-3	Electronic Calipers	To be measured at the maximum dia.
-Height		2.7 ± 0.3 (mm)	1.5	S-3	Electronic Calipers	To be measured a t the maximum height on the body only.
Rust			1	II	Visual	Any rust should not be accepted.
Stain			1.5	II	Visual	There should be no remarkable stains.
Adhesion			1.5	II	Visual	Adhesion should be made sufficiently and there should be no outflow of adhesive agent.
Other Appearance			1.5	II	Visual	

19. Reliability Test

Item	Method of the test	Standard
Operating Temperature	Driving from the lowest operating temperature to the highest operating temperature within 30 minutes for 2 cycles then expose to the room temp for 2 hours	All specifications must be satisfied after the test.
Storage in high temperature	Storage in test box for 96 hours under the highest operating temperature then expose to the room temp for 2 hours	
Storage in low temperature	Storage in test box for 96 hours under the lowest operating temperature then expose to the room temp for 2 hours	
Load Test	Rated power white noise is applied for 96 hours.	
Temperature cycle test	Make the test for 5 cycles without applying power as fig 1, then expose to the room temp for 2 hours.	
Temperature / Humidity cycle test	Make the test for 10 cycles without applying power as fig 2. then expose to the room temp for 2 hours	
Vibration test	Make the test for the directions of X, Y, and Z as fig 3 for 2 hours each (total 6 hours). to-and-fro sweep time (from 10 to 55 Hz and then 55 to 10) is 1 minute.	
Drop test	Drop a buzzer naturally from the height of 700 mm onto the surface of 10 mm thick wooden board. Two directions; that is, upper and side of the buzzer are to be applied for this drop test. Fig.4	

20 . Equipment List

Name	Model
Audio Analyzer	Bruel & kjaer
Acoustic Chamber	Bruel & kjaer
Audio Calibrator	Bruel & kjaer
Artificial Ear	Bruel & kjaer
Amplifier	Bruel & kjaer

fig.1 Temperature Cycle Test

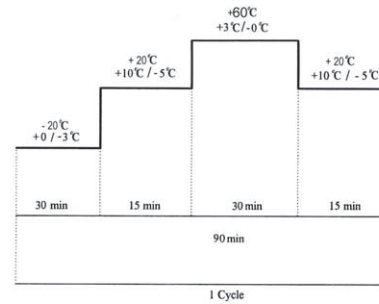


fig. 2 Temperature / Humidity cycle test

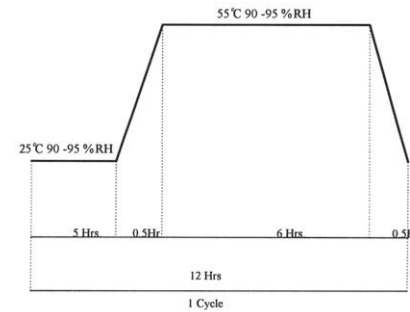


fig. 3 Vibration Test

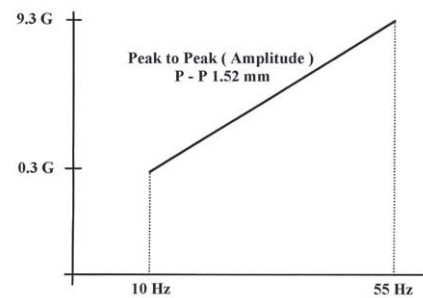
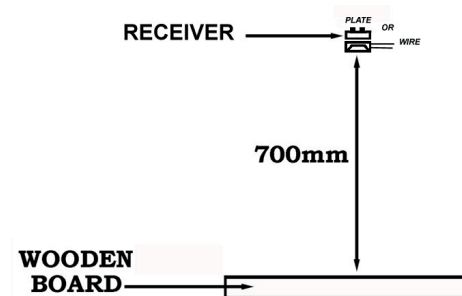
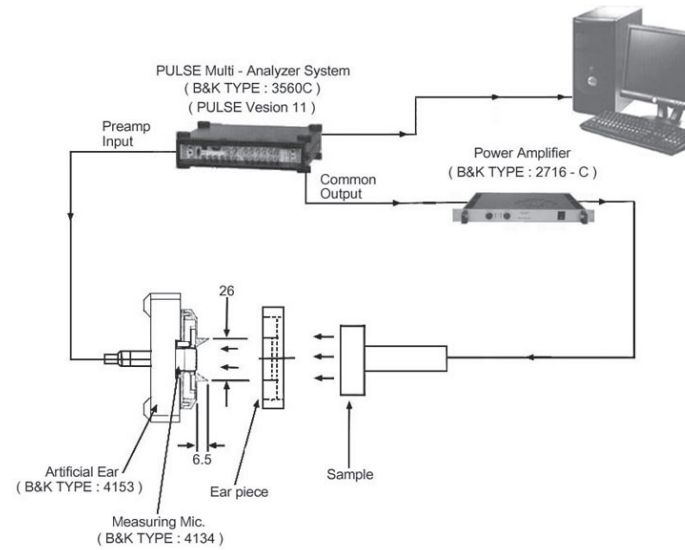


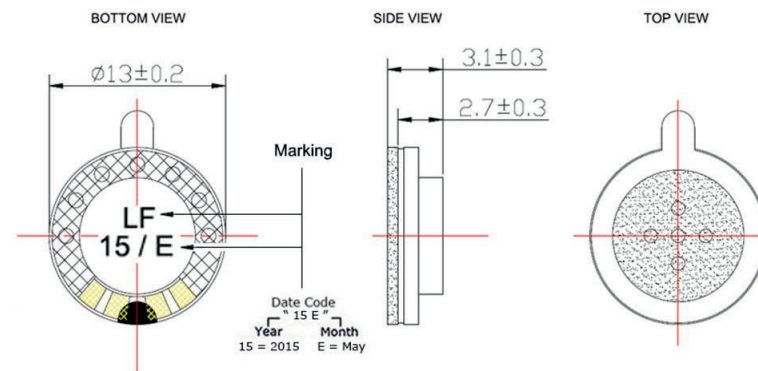
fig. 4 Drop Test



21. Measurement Setup



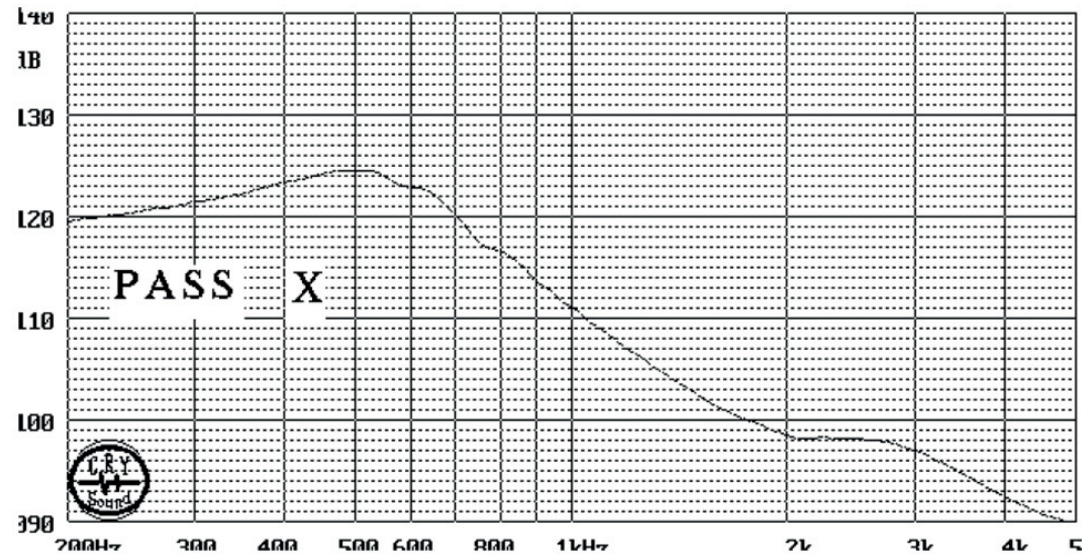
22. Mechanical Draw



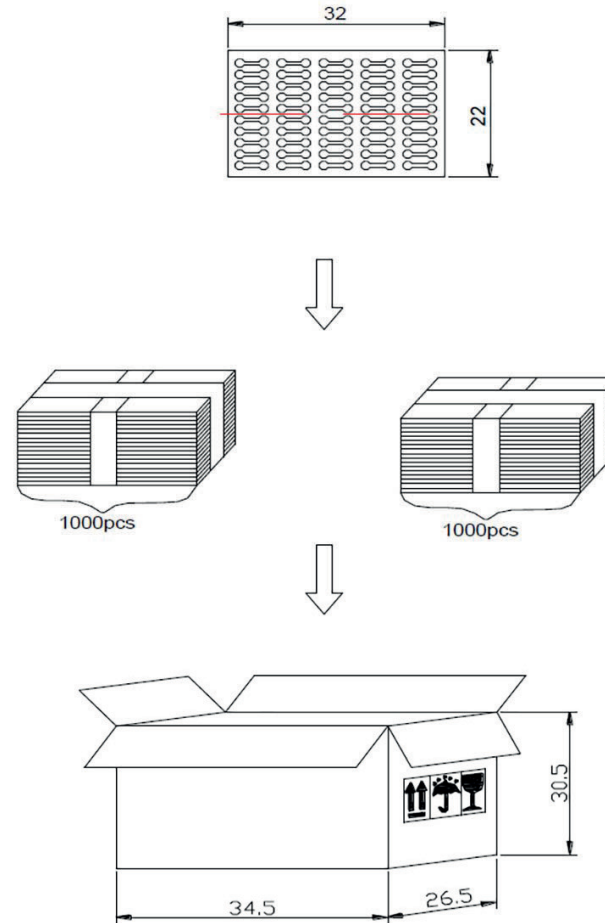
Unit: mm

Tolerance: ± 0.5 mm

23. Frequency Response Curve



24. Packing Information



Remark:
100pcs per tray
10 trays for unit, 2 units per carton
Total:2000 pcs per box
Size:34.5*26.5*30.5cm