



SPECIFICATION OF PRODUCT

產品承認書

CUSTOMER: BROTHER

DESCRIPTION : SPEAKER

SANCO P/N: ESP2313MN-R08W0.25P

DATE : 2013-06-27

CUSTOMER	APPROVER	CHECKER
	WU SHAO CHANG	LI TAO

NINGBO SANCO ELECTRONICS CO.,LTD.

Add: Rm10-9, No.580 Ningdong Road, Huanhe Business centre #2 building Ningbo, China

Tel: +86-574-83851068

Fax: +86-574-83851096 Cell: +86-13957856201

Email: sales@sancoelectronics.com Website: www.sancobuzzer.com

1. CONDITION.

Test and measurement will be carried out under normal condition of temperature within 5°C to 35°C, relative humidity within 45% to 85% and air pressure of 860 mbar to 1060 mbar.

Should uncertainly arise in data obtained from the above atmosphere, control of temperature at 20°C ± 2°C and relative humidity within 60% and 70%, with air pressure remaining unchanged, to be enforced.

2. ELECTRICAL AND ACOUSTICAL SPECIFICATION.

2-1	Rated Input Power.	0.25W
2-2	Max Input Power.	0.5W
2-3	Rated Impedance.	8Ω ± 15%
2-4	Sound Pressure Level. (S.P.L)	92dB(0.1W/0.1m) ± 3 dB at AVE 1.0K 1.2K 1.5 2.0K Hz
2-5	Resonance Frequency (Fo).	1300±20%Hz
2-6	Frequency Range.	F0~5kHz.
2-7	Distortion	Less than 5% at 1KHz input Rated Power
2-8	Magnet	Rare earth permanent (NdFeB) magnet Φ8*1m
2-9	Buzz, Rattle, etc.	Should not be audible at 1.41V sine Wave between Fo to 20KHz
2-10	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.
2-11	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.
2-12	Weight.	g
2-13	Temperature	Operating temperature: -30°C to +70°C Storage temperature: -40°C to +85°C

3. MEASURING METHOD

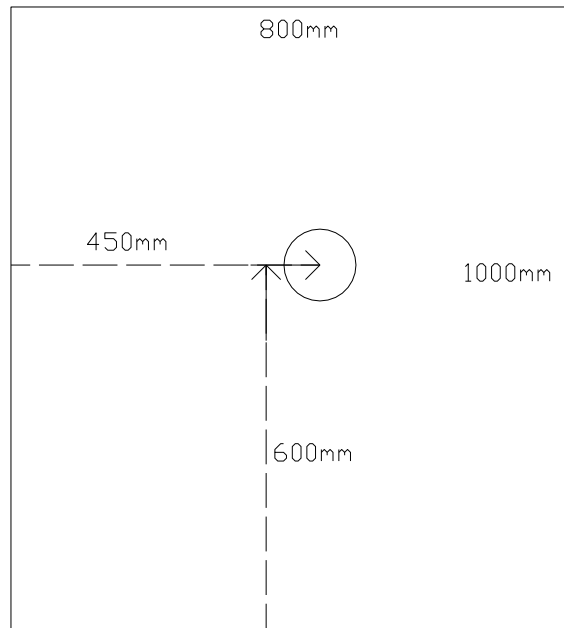


FIG.1

3. 1Block Diagram For Measurement Method.

Standard test condition of speaker

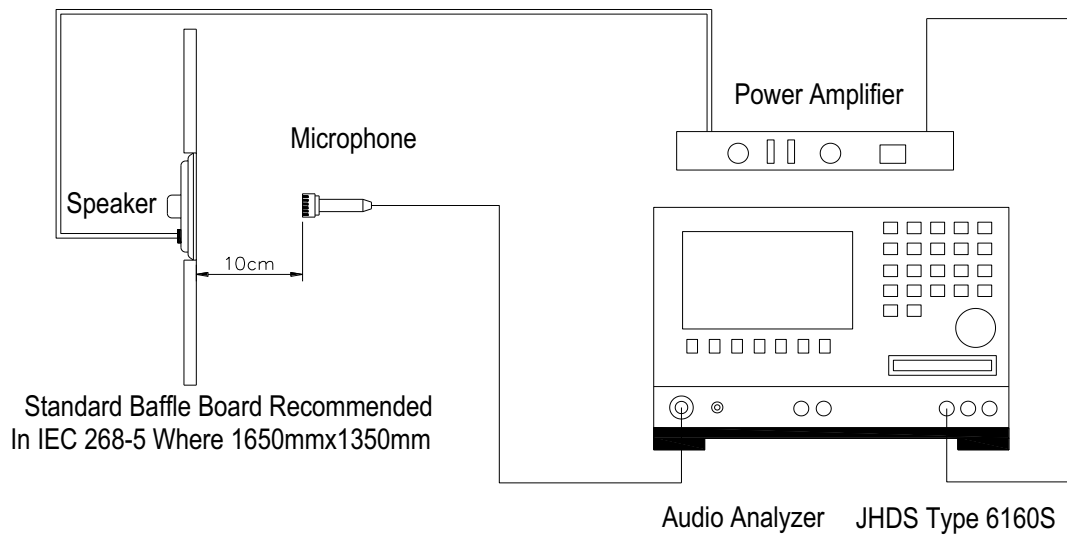
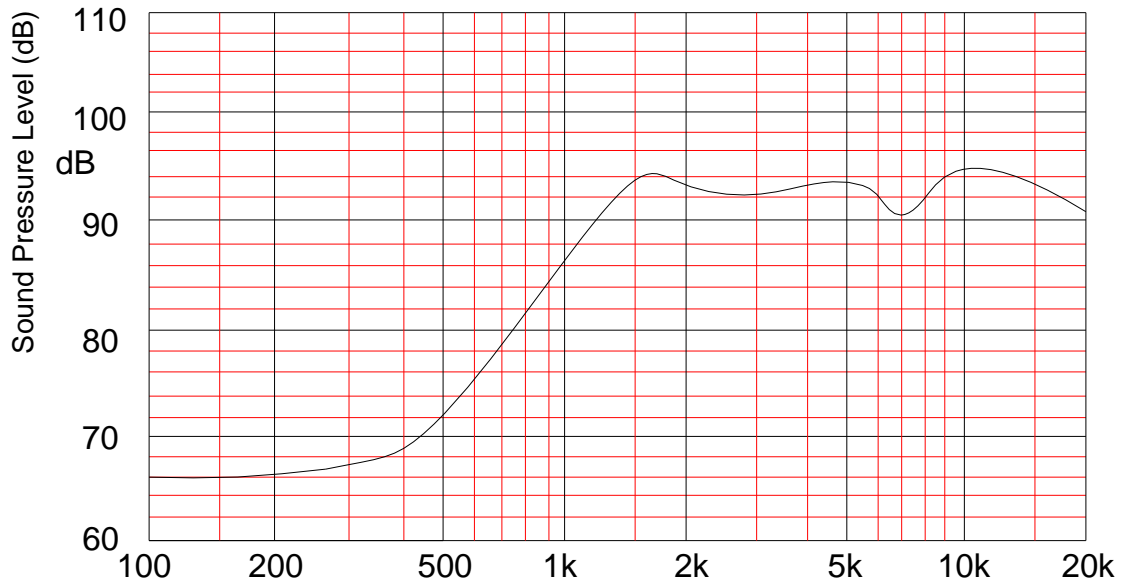


FIG.2

4. Frequency Response :

The swept sine-wave frequency response of a Loud speaker should ideally not deviate more than indicated per Fig.3



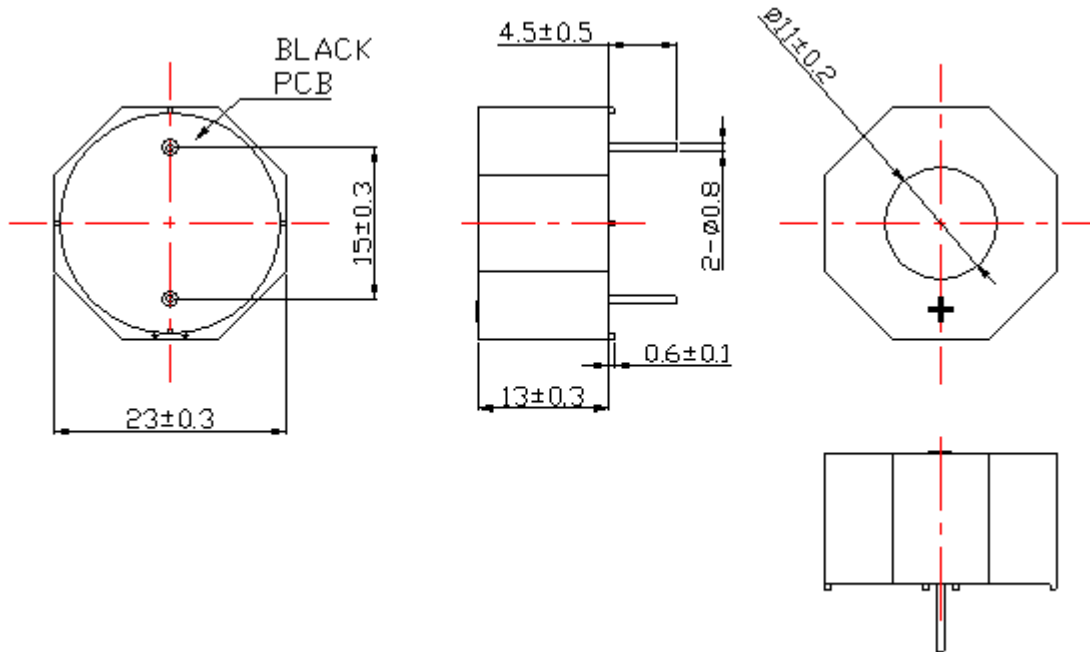
5. ENVIRONMENT TEST

ITEM		SPECIFICATIONS
01	High temp. Test	Keep 96 hours at $+85^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 96 hours at $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ relative humidity 92-95% and leave 3 hours in normal temperature and then checked.
04	Temp./Humidity cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p> <p style="text-align: center;"> 65°C $90 \sim 95 \% \text{ RH}$ 25°C 0.5hr 6hrs 0.5hr 5hrs </p>
05	Thermal cycle test.	Low temperature: $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$, temperature: $+85^{\circ}\text{C} \pm 3^{\circ}\text{C}$, cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	10~55~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.
07	Fix drop test	Fix on jig. Then drop from 152cm height to the concrete floor X,y, z 6 direction. 5 times each, total 30 times.
08	Free drop test	Free drop from 100cm height to the concrete floor X,Y, Z 6 direction. 1 times each, total 6 times.
09	Load test	Rated Power White noise is applied for 96 hours
10	Max Power test	Max power 1 min. on - 2 min. off 10 cycles.
11	Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.

Criterion :

After these test , the change of S.P.L shall be within $\pm 3 \text{ dB}$

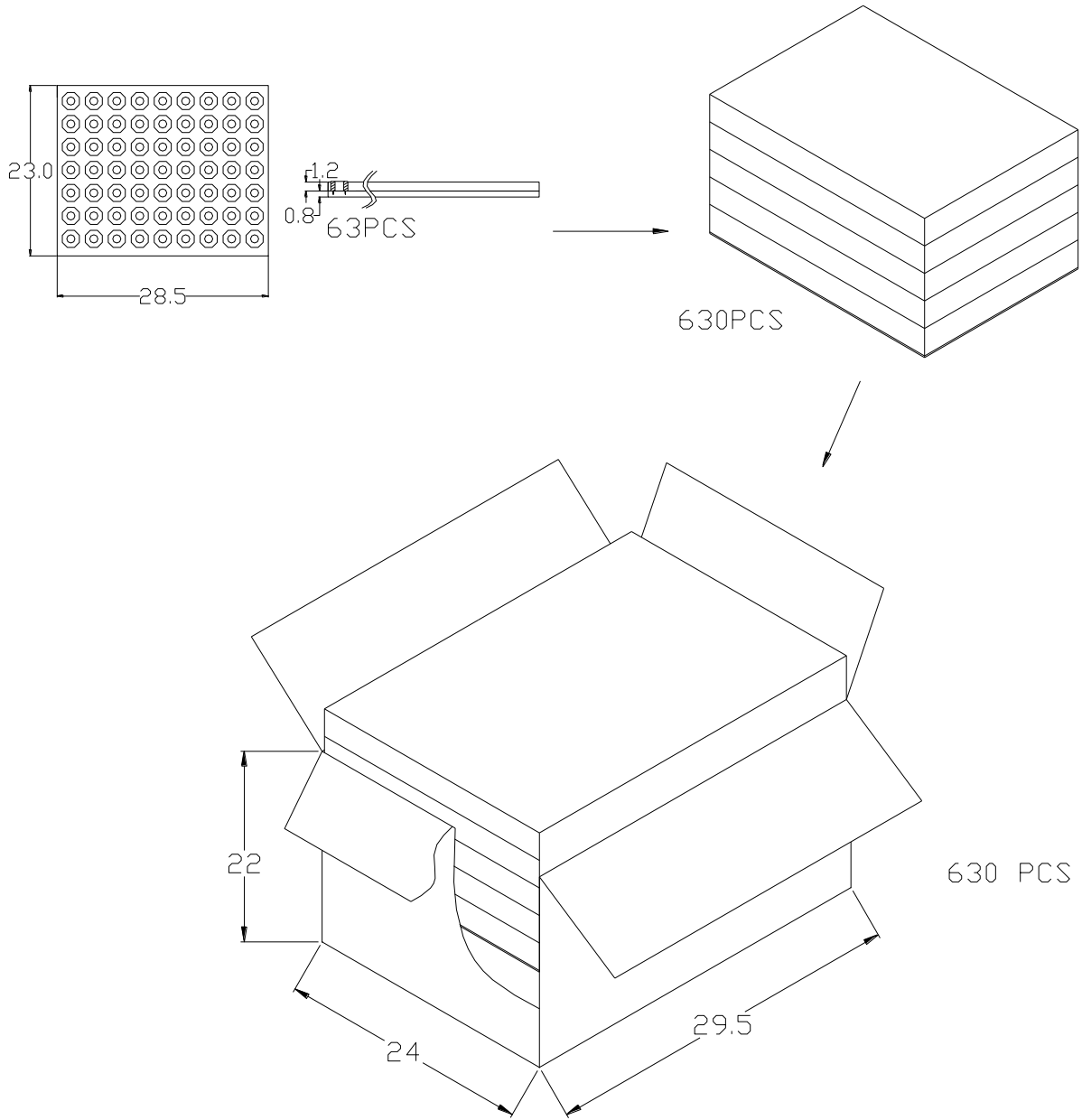
6.Dimensions



Unit:mm Tol: ± 0.5

8				
7	Housing	1	PBT	
6	Diaphragm	1	Pet	
5	VOICE COIL	1	Cu	
4	Plate	1	SPCC	
3	Magnet	1	NdFeB	
2	PCB Terminal	1	FR4	
1	Frame	1	Spcc	
The material must be meet to GU-001				
PART NO.	PART NAME	Q'TY	MATERIAL	REMARK

7.PACKING



Unit:cm