MODEL: SP-2309
PRODUCT: Dynamic Speaker
EDITION: B/2017

Soberton Inc.

THIS SPECIFICATION COVERS OUR PRODUCT OF DYNAMIC SPEAKER

SPEAKER ELECTROACOUSTIC CHARACTERISTICS

sound pressure level	85dB(1.0W/0.1M) ±3dB @AVE 1.0 KHz, 1.2 KHz, 1.5KHz, 2.0 KHz
frequency response curve	As shown in Fig.3
resonance frequency (F0)	1500 ±20%Hz
rated noise power	0.1W
short-term max. power	0.15W
frequency range	F0 ~ 20KHz.
distortion	Less than 5% @ 1 KHz, input rated power
buzz, rattle, etc.	Not audible at 0.89V Sine wave between F0 ~ 20 KHz
test setup	Measuring conditions and procedures shown in Fig 1 & Fig 2
AC impedance	8Ω ±15%
magnet	Rare earth permanent (NdFeB) magnet φ6.4x1.5mm
polarity	When positive voltage is applied to the terminal marked (+), diaphragm should be moved to the front.
dimension	ø 23.0 x 8.5 mm
weight	3.2g

GENERAL REQUIREMENTS

operating temperature range	-20°C ~ +60°C	
storage temperature range	-30°C ~ +70°C	
standard test conditions		
	temperature	5°C ~ 35°C
	relative humidity	45% ~ 85%(RH)
	air pressure	860 mbar ~ 1060 mbar

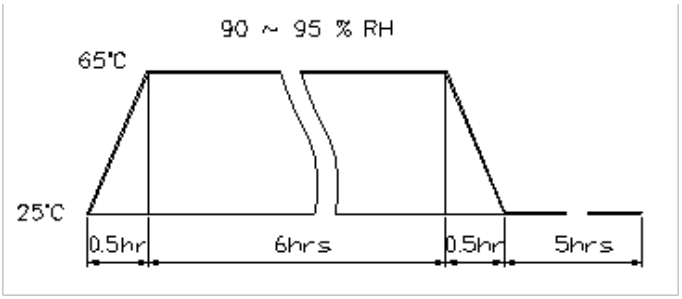
RELIABILITY TESTS

After these tests , the change of S.P.L will be within ±3dB

HIGH TEMPERATURE TEST	
high temperature	+85°C±3°C
duration	96 hours (leave 3 hours in normal temperature and then check)
LOW TEMPERATURE TEST	
low temperature	-40°C±3°C (leave 3 hours in normal temperature and then check)
duration	96 hours
HUMIDITY TEST	
temperature	+40°C±3°C
relative humidity	92%~95%
duration	96 hours
VIBRATION	
10Hz ~55Hz ~10Hz sine-wave sweep 15 minutes 5G(constant)	
X, Y, Z	3 directions, 2 hours each, total 6 hours

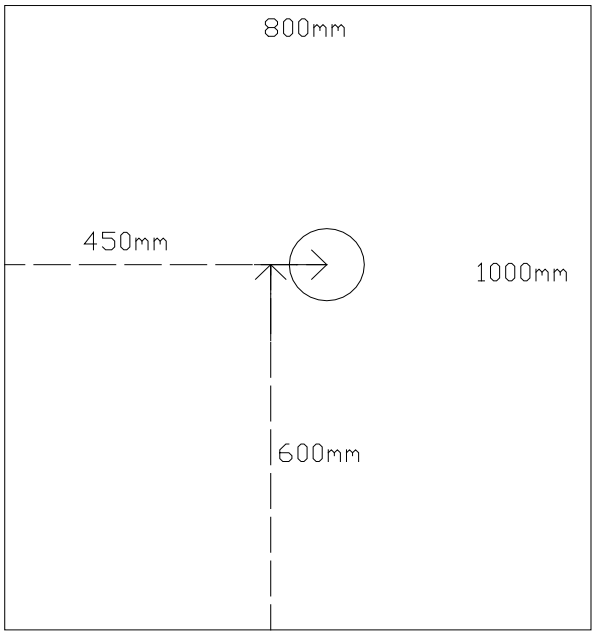
THERMAL CYCLE TEST

The part will be subjected to 5 cycles. One cycle shall be 12 hours and consist of:
low temperature: -40˚C±3˚C
high temperature: +85˚C±3˚C
cycle: one hour/cycle each and then keep 5 cycle in a room temperature

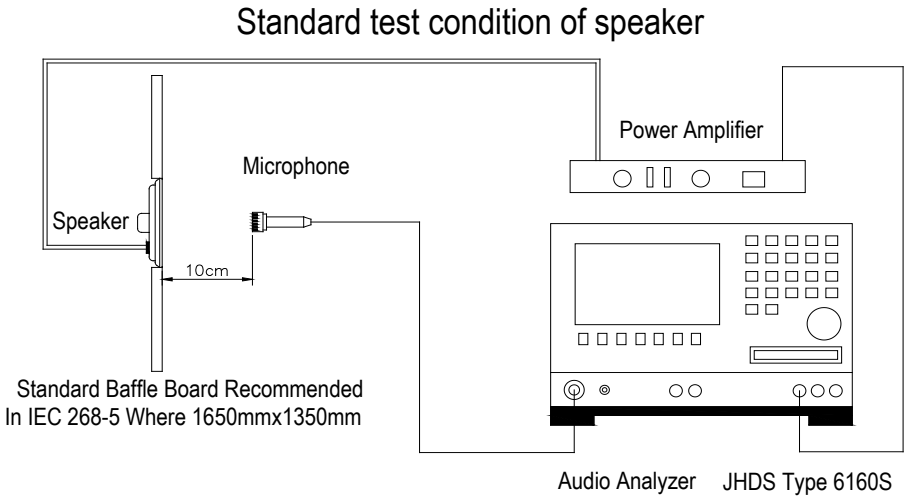


FIX DROP TEST	
Fix on jig then drop from 152cm height to the concrete floor	
X,Y, Z	6 directions 5 times each, total 30 times
FREE DROP TEST	
Free drop from 100cm height to the concrete floor	
X,Y, Z	6 directions, 1 time each, total 6 times
LOAD TEST	
Rated Power White noise is applied for 96 hours	
TERMINAL STRENGTH TEST	
Capable of withstanding 1kg load for 30 seconds without resulting in any damage or rejection	
MAX POWER TEST	
Max power 1 minute on - 2 minutes off for 10 cycles	

MEASURING METHOD (SPEAKER MODE) (Fig 1)

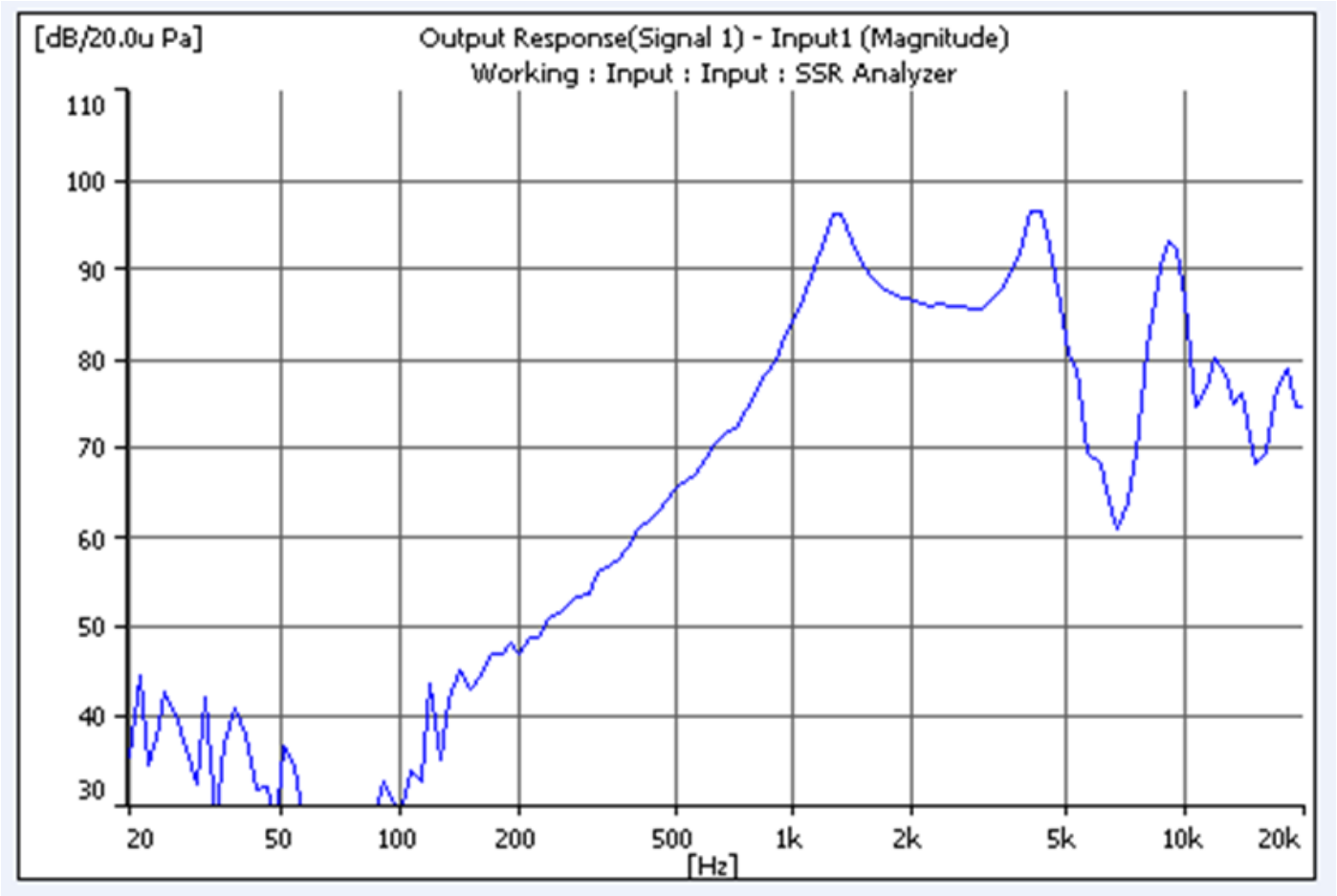


BLOCK DIAGRAM FOR MEASUREMENT METHOD (Fig. 2)



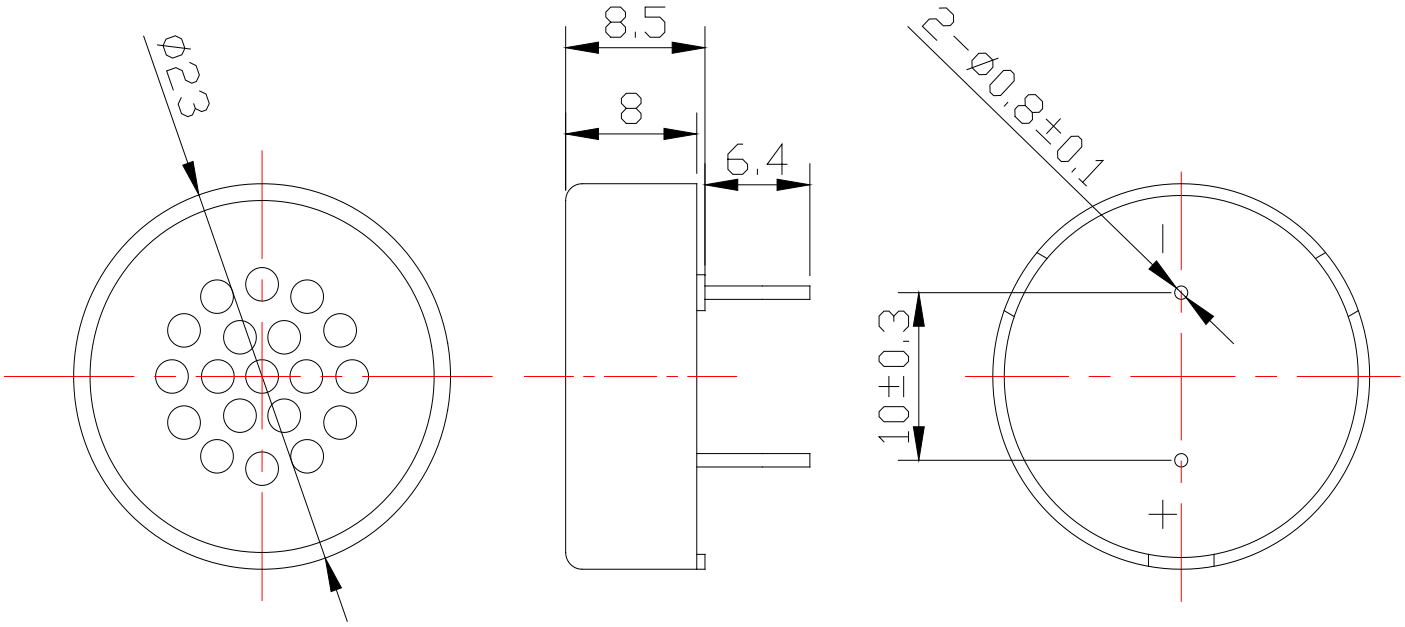
FREQUENCY RESPONSE CURVE (Fig. 3)

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



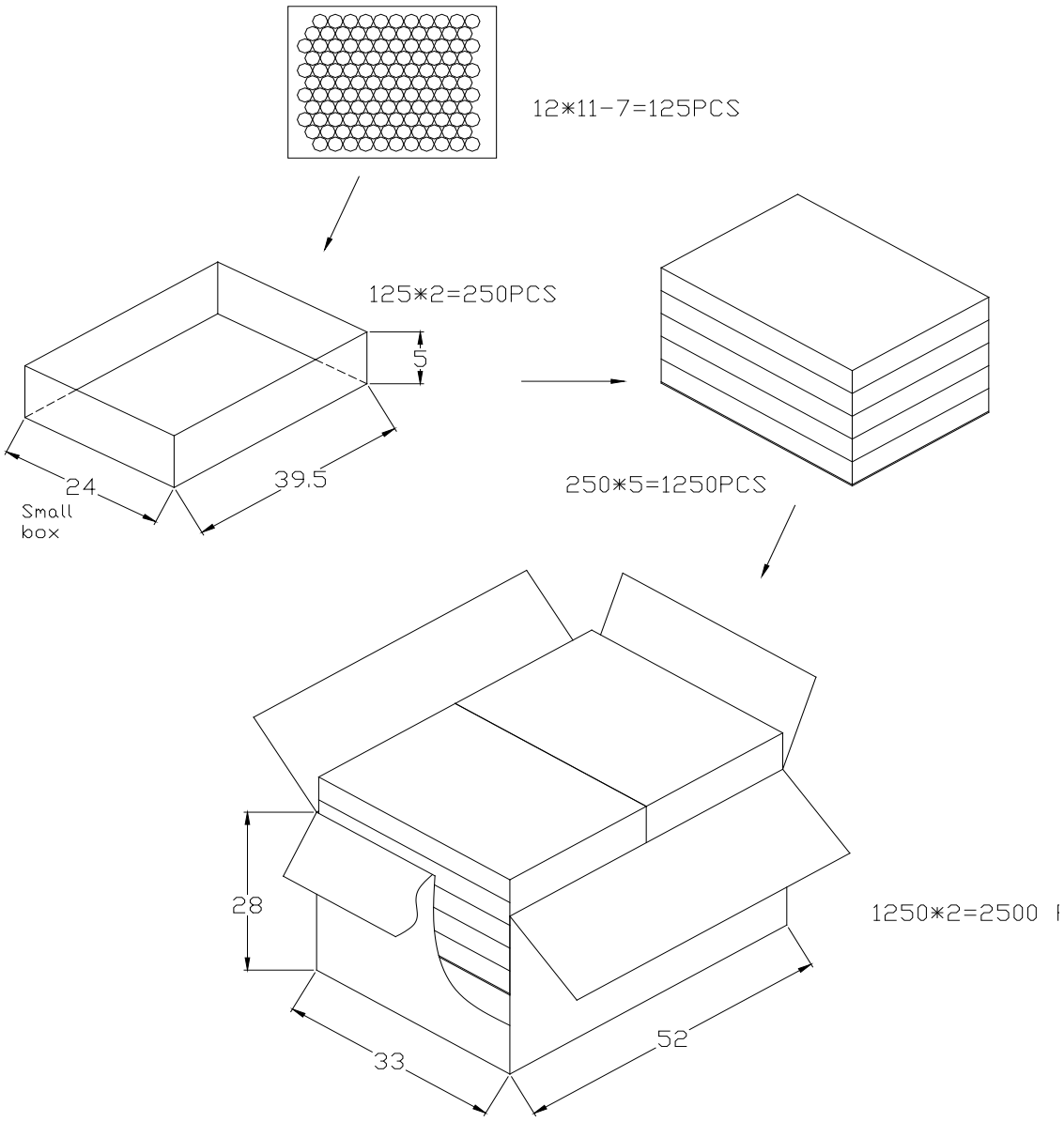
DIMENSIONS

Tolerance: ±0.5 unit: mm



no	item	quantity	material
1	Frame	1	ABS
2	PCB Terminal	1	FR4
3	Magnet	1	NdFeB
4	Plate	1	SPCC
5	Voice Coil	1	Cu
6	Diaphragm	1	PEN
7	Case	1	ABS777D

PACKING


12*11-7=125PCS
125*2=250PCS
5
24
39.5
Small
box
250*5=1250PCS
28
33
52
1250*2=2500 I