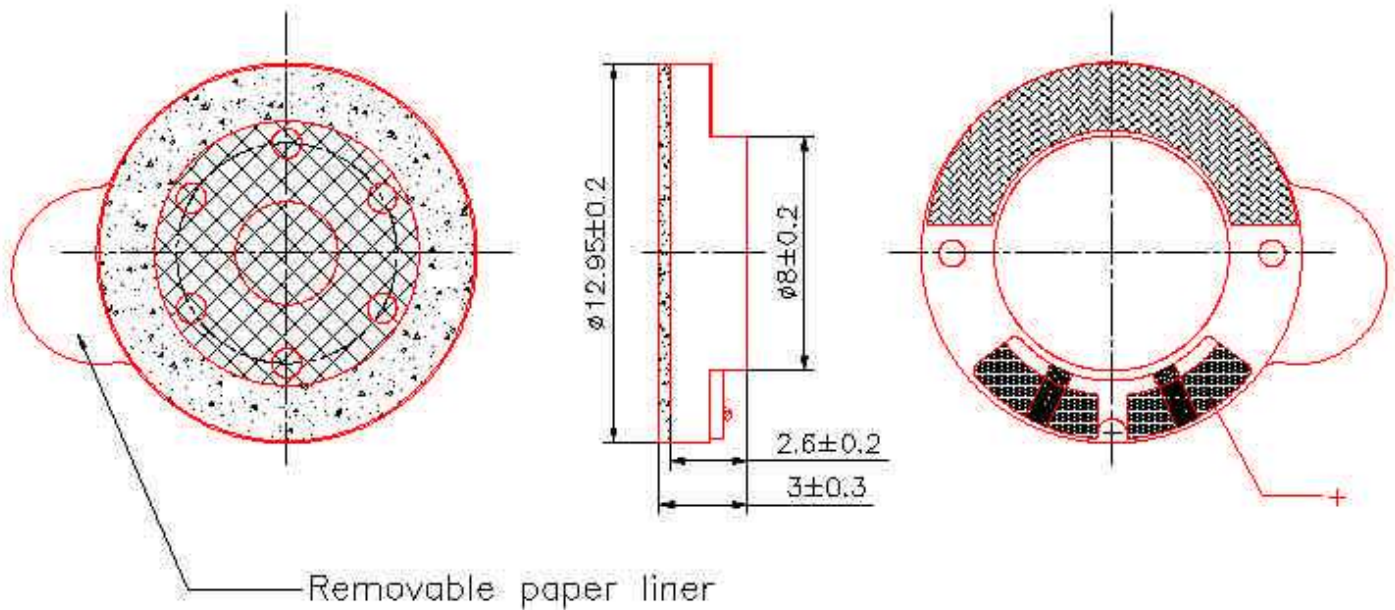




1.	<b>MODEL:</b>	<b>13CSF08QS DYNAMIC SPEAKER</b>
2.	Dimension	Outer Diameter <b>13 mm.</b>
		Height <b>Refer to Fig 1</b> mm. Weight <b>1.0 g</b>
3.	Magnet	Materials <b>NdFeB</b> Size: F 5.8 * 0.7 mm.
4.	Impedance	<b>8 Ω ± 15 %</b> At <b>1000</b> Hz.
5.	Power Rating	Normal <b>0.3 W.</b> Maximum <b>0.5 W.</b>
6.	Lowest Resonant Frequency	<b>900 ; 20% Hz</b> at 1.0V measured by SUNLILAB® 7117C
7.	Output Sound Pressure (S.P.L.)	<b>78 ± 3 db / 0.3Watt · 0.3Meter</b> , Measured by B&K Type 2012 At 800, 1000, 1200 ,1500 HZ Average
8.	Frequency Range	<b>650 ~ 20,000</b> Hz. Average SPL -10db Refer to Fig. 2
9.	Distortion	<b>5% Maximum</b> at 1500 Hz <b>0.3W.</b>
10.	Abnormal Sound Test	Must be Normal Tested By <b>1.55 Volts.</b> Sine Wave.
11.	Load Test	White Noise With IEEE-219 Weighted filter <b>1.55 Volts(RMS.) 24hrs.</b>
12.	Storage Temperature	<b>- 25°C ~ + 65°C</b>
13.	Operating Temperature	<b>- 20°C ~ + 60°C</b>



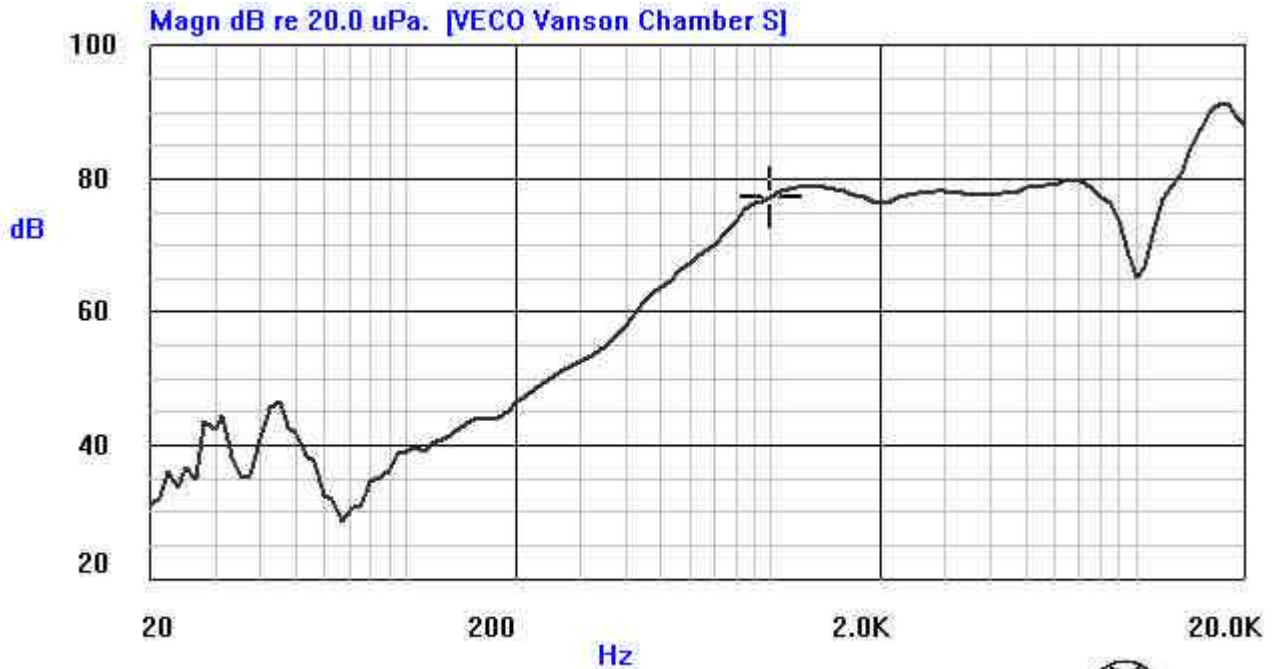
**PRELIMINARY**

Fig.1

### 14.Frequency Response Curve.

14.1 Speaker

Sound Pressure Level(SPL) :78 ; 3dB 0.3W/0.3M at (800,1k,1.2k,1.5k) AV

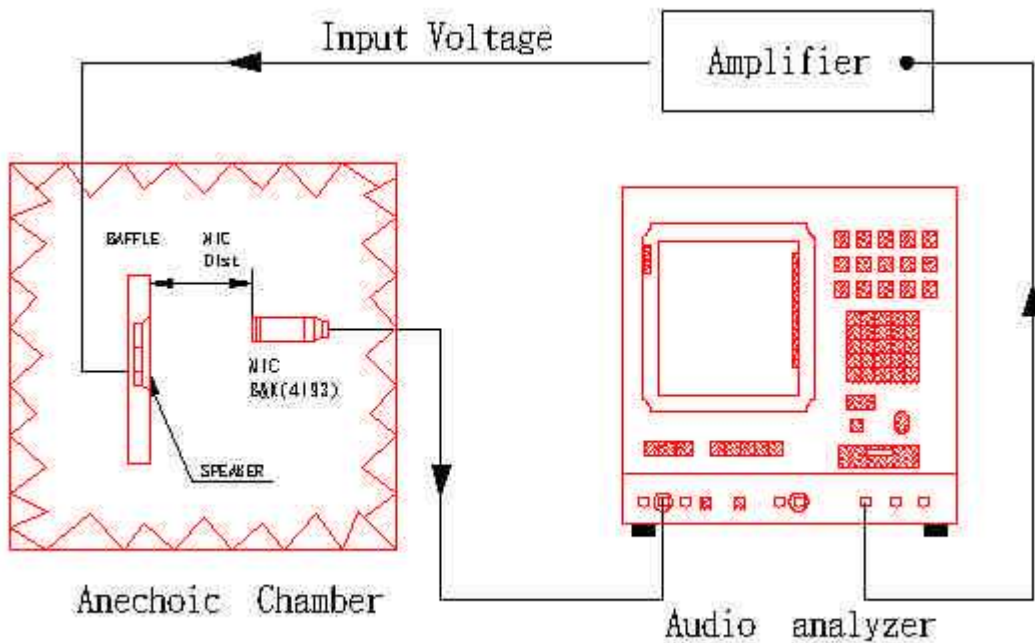


Current Curve: 0 X: 1000 Hz Y: 77.31 dB

Time[Y/M/D H:M:S]: 2004/11/9 1:58:6



INPUT: 0.3W  
MIC DIST: 0.3M  
BAFFLE: IEC6028-5



**PRELIMINARY**

Fig.2

## 15.Environment Test

### 15.1 Environment test – High temperature.

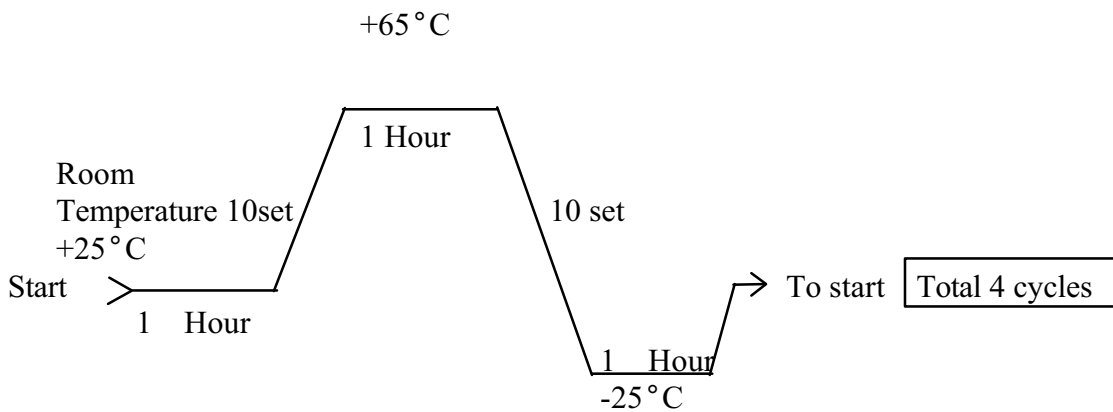
After exposure the speaker in the  $+ 65 \pm 3$  °C chamber for 24 hours, then leave the speaker at room temperature for 2 hour, the SPL should not deviate by  $\pm 3$  db, compare with pre-test measurement.

### 15.2 Environment test - Low temperature.

After exposure the speaker in the  $- 25 \pm 3$  °C chamber for 24 hours, then leave the speaker at room temperature for 2 hour, the SPL should not deviate by  $\pm 3$  db, compare with pre-test measurement.

### 15.3 Environment test-Temperature cycle.

After exposure the speaker in the chamber, temperature cycle setting as below shows, SPL should not Deviate by  $\pm 4$ db,compare with pre-test measurement.



### 15.4 Environment test – Humidity.

After exposure the speaker in the  $+ 40 \pm 3$  % relative humidity  $90\% \sim 95\%$  chamber for 24 hours, then leave the speaker at room temperature for 6 hours, the SPL should not deviate by  $\pm 3$ db, compare with pre-test measurement.

**PRELIMINARY**